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Poverty and empowerment impacts of the Bihar Rural Livelihoods Project in India

March 2018

Impact
Evaluation
Report 71

Microfinance



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3ie accepted the final version of this report, *Poverty and empowerment impacts of the Bihar Rural Livelihoods Project in India*, as partial fulfilment of requirements of grant OW3.1243 awarded through Open Window 3.

The 3ie technical quality assurance team for this report comprises Rosaine Yegbemey, Emmanuel Jimenez, Kanika Jha, Stuti Tripathi, an anonymous external impact evaluation design expert reviewer and an anonymous external sector expert reviewer. The 3ie editorial production team for this report comprises Beryl Leach, Angel Kharya and Akarsh Gupta.

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3ie has received funding for the Policy Window from UK aid and the Bill & Melinda Gates Foundation and the William and Flora Hewlett Foundation, as well as other institutional donors. A complete listing of all of 3ie's donors can be found on the 3ie website.

Suggested citation: Hoffmann, V, Rao, V, Datta, U, Sanyal, P, Surendra, V and Majumdar, S 2018. *Poverty and empowerment impacts of the Bihar Rural Livelihoods Project in India*, 3ie Impact Evaluation Report 71. New Delhi: International Initiative for Impact Evaluation (3ie)

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3ie Impact Evaluation Report 71

March 2018



Summary

This study documents the impact of a government-sponsored livelihoods project using a mixed methods approach within a cluster-randomized trial. Key features of the project were the formation of women's self-help groups, and the provision of low-cost credit through these groups. The intervention led to a dramatic increase in self-help group membership and take-up of credit through these groups, and a corresponding decline in the use of informal credit. A reduction in average informal lending interest rates was also observed. Two years after initiation of the program, significant positive impacts on asset ownership among landless households were apparent. Impacts on various indicators of women's empowerment were mixed, and showed no clear direction when aggregated, nor was there any impact on consumption value. Given the reduction in debt service costs achieved, both directly through substitution into lower-cost sources of credit and the reduction in informal interest rates, impacts of the intervention on household welfare are expected to continue to accrue over time.

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Abbreviations and acronyms

AC	Area coordinator
ANCOVA	Analysis of covariance
CC	Community coordinator
CLF	Cluster-level federation
CM	Community mobilizer
CRP	Community resource person
DPIP	District Poverty Initiative Project
DTO	District training officer
FGD	Focus group discussion
Gol	Government of India
MFI	Microfinance institution
NRLM	National Rural Livelihoods Mission
PRI	<i>Panchayati Raj</i> institution
SC	Scheduled caste
ST	Scheduled tribe
SHG	Self-help group
VO	Village organization

1. Introduction

Livelihoods projects have been an important modality of development assistance in many parts of the developing world for at least two decades. Such projects aim to reach out to the rural poor and link them with sustainable livelihoods opportunities, and are in place or proposed in India, Afghanistan, Bangladesh, Sri Lanka, Malawi, Madagascar and Zambia. One such project is the Bihar Rural Livelihoods Project, initiated by the Government of Bihar in 2006. This program fell under the ambit of the National Rural Livelihoods Mission (NRLM) of India, which was launched by the (national) Ministry of Rural Development in 2011.¹ The NRLM aimed to build grassroots institutions for the poor, and to use these as a platform through which to link the poor to financial institutions and livelihoods opportunities at a total cost of over USD 5 billion.² Under the framework of the NRLM, various states in India have established their own livelihoods promotion societies to implement these larger goals.

As implemented in India, these programs build on the platform of small (10–15 members) women’s self-help groups (SHGs). Through these groups, members can access low-cost credit, learn about new income-generating opportunities, and acquire basic literacy and livelihoods training. In these programs, SHGs are federated into village organizations (VOs) and further into cluster-level federations (CLFs), each of which aims to facilitate collective action and political participation by the poor, and provide a structure for linkages to financial services and government entitlement programs.

While livelihoods projects have often been described as an exemplary method of reducing poverty and empowering women, only a few independent evaluations of such programs, in India or elsewhere, exist. Only one published randomized controlled trial of which we are aware evaluates the impacts of an SHG-based livelihoods intervention (Desai and Joshi 2014). The authors evaluated the impact of the Integrated Rural Livelihoods Program, implemented by the Self Employed Women’s Association in a rural district of Rajasthan, India. This program formed SHGs, which provided vocational and other training.. Women were encouraged to contribute savings to a revolving fund managed by the SHG and were linked to formal banks, but lending capital was not directly provided. After two years of exposure to the program, Desai and Joshi (2014) find that women report being more likely to participate in household decisions and civic life. They also report some evidence that non-farm employment is more likely among SHG members, but find no impact on income or consumption levels.

Two previous large-scale, government-implemented livelihoods programs, similar in design to the subject of the present evaluation, were the Andhra Pradesh District Poverty Initiative Project (DPIP), and the Madhya Pradesh DPIP. Both these projects targeted large segments of the poor and provided significant capital infusions to SHGs for use in a revolving loan fund. Deininger and Liu (2013) evaluate the Andhra Pradesh DPIP using propensity score matching with two rounds of panel data and controls drawn from a

¹ National Rural Livelihoods Mission, Ministry of Rural Development, India, <<http://nrlm.gov.in/>>

² The NRLM was succeeded in 2015 by Deen Dayal Upadhyaya Antyodaya Yojana, whose mandate extends to the urban poor.

random sample of *mandals* where the project had not yet entered.³ They find small but positive impacts with long-term program exposure on consumption, nutritional intake, and asset accumulation. Kumar (2007) evaluates the impact of the Madhya Pradesh DPIIP on governance and empowerment by comparing villages in Madhya Pradesh with neighboring villages in Uttar Pradesh using a difference in differences approach. She finds that DPIIP had a positive impact on information flows and political behavior, and in particular, that DPIIP villages were better able to target resources to disadvantaged groups. Casini and others (2017) document collective actions for public goods provision taken by SHGs mobilized by a non-governmental organization with the goal of providing financial intermediation. They use exogenous variation in the formation of SHGs over time to show a positive impact of such actions on the responsiveness of local government officials. There has been a fair amount of qualitative work on livelihoods projects, but this has, in most cases, been done by consultants to the project, so cannot be considered objective. One of the few independent studies is by Powis (2003), who finds that these programs have encouraged the emergence of local leaders who create parallel structures of authority to local governments.

Here we report the results of a mixed methods evaluation of the Bihar Rural Livelihoods Project, also known as Jeevika (the Hindi word for livelihood), consisting of quantitative analysis of a cluster-randomized controlled trial, and significant qualitative work. Similar to both the Madhya Pradesh DPIIP and Uttar Pradesh DPIIP, Jeevika was a large-scale public program that targeted poor women in rural areas, forming SHGs and VOs, and used these institutions as a platform for training, linkages to formal sector financial institutions, and the provision of lending capital. While the program targeted women from scheduled tribes (STs) and scheduled castes (SCs),⁴ and the landless, any adult woman residing in an area where the program was active could join. Jeevika was implemented in two phases: Phase I began in 2006 and Phase II began in 2011. The quantitative data are drawn from villages entered by the project under Phase II. The qualitative analysis examines villages from both Phases I and II, and discusses the differences in outcomes between these two periods.

Bihar is the third-largest, poorest, and most densely populated state in India, and its population comprises one sixth of India's poor. Bihar has done worse than other Indian states on reducing poverty incidence over the long term (noted for 1960–2000, in Datt and Ravallion 2002). Bihar is also similar culturally and economically to other states in India's Gangetic belt, including Uttar Pradesh, Eastern West Bengal, Odisha and Jharkhand. These states have a combined rural population of approximately 300 million people who were targeted by the National Rural Livelihoods Mission. Therefore, findings from this evaluation are informative not only for Bihar, but also for the entire Gangetic belt and the national expansion of livelihoods projects in India.

During the period covered by this evaluation, Jeevika's activities included SHG and VO formation, provision of low-cost credit, and delivery to SHG members of a curriculum covering women's empowerment, basic literacy and numeracy. Other development

³ Administrative sub-division in India, below a district; also known as a *tehsil* in certain Indian states.

⁴ Groups of formerly untouchable castes that are included in a schedule of the Indian Constitution in recognition of their historic marginalization and subordination.

interventions and livelihoods training were planned for delivery at a later stage of project implementation. The timing of project activities relative to the evaluation implies the limitation that we are not able to evaluate the impact of the full range of interventions typically included in a livelihoods project through this study. On the other hand, the opportunity to evaluate a smaller package of interventions is advantageous from the perspective of being able to attribute impacts to these interventions, as opposed to the more complex bundle of a typical livelihoods project. As such, this evaluation contributes to the substantial recent literature estimating household-level impacts of access to group-based lending (Angelucci et al. 2015; Attanasio et al. 2015; Berg et al. 2015; Banerjee et al. 2015a; Crépon et al. 2015). In general, this literature shows that even when an expansion in access to credit results in households taking on more overall debt, impacts can be quite limited in the short to medium run (Banerjee et al. 2015b). While it is common to see shifts in livelihood activities, typically away from wage labor and toward self-employment, total household income is not generally affected by credit access, at least in the short term, through credit access. Similarly, impacts on overall consumption are rare, while reallocation away from discretionary spending (temptation goods, entertainment and celebrations) is more commonly observed.

The pre-analysis plan registered for this study,⁵ included as Appendix A of this report, specifies,⁶ a total of 38 household-level outcomes in the following areas: self-help group participation, microcredit loan terms and usage, livelihood opportunities, asset position, access to other government schemes, women's empowerment, consumption, and subjective well-being. The plan also noted three village-level outcome variables on collective action and mutual support.

This report begins with an overview of the intervention structure, theory of change, and research hypothesis, followed by a discussion of the study site and timeline. We then continue with a discussion of the evaluation design and implementation, methods of analysis, and key results. The report concludes with a reflection on the internal and external validity of the evaluation, and policy implications.

2. Intervention, theory of change and research hypothesis

Engaging the poor in livelihoods programs through self-help groups is an important and widely used intervention. Over USD 5 billion have been committed to such projects by the Government of India (GoI) and World Bank, and similar initiatives are planned and ongoing in Sub-Saharan Africa. Despite this, at the start of this project, there had been no randomized impact evaluation of a large-scale livelihoods project. To fill this gap, researchers at the World Bank, University of Maryland (now International Food Policy Research Institute) and Wesleyan University (now Florida State University), in cooperation with the Bihar Rural Livelihoods Promotion Society, undertook a randomized evaluation of the Bihar Rural Livelihoods Project, also known as Jeevika. Jeevika was expected to reach 590,000 households across Bihar over a six-year period (World Bank 2007). The project began in 18 administrative blocks in 6 districts in 2006, and in 2010 began an expansion into 37 new blocks in 9 districts, providing an opportunity to

⁵ See <<https://www.socialscisearch.org/trials/570>>

⁶ Appendix A <<http://www.3ieimpact.org/sites/default/files/2019-01/appendix-a-ow1243-bihar-livelihoods.pdf>>

rigorously evaluate this flagship project. Jeevika's ultimate goal is to mobilize 15 million women through participation in 1.1 million SHGs by 2022.⁷

The intervention involves forming SHGs of 10 to 15 women, who are expected to attend weekly meetings during which a curriculum on women's empowerment, and basic literacy and numeracy is delivered. Members are asked to contribute savings each week to a group account. After meeting for at least three months and demonstrating consistent weekly savings, SHGs receive access to a lending capital of INR 50,000 (equivalent to approximately USD 875) through the VO, which has a formal bank account. Members are able to borrow from this pool at an interest rate of 2 per cent per month. This rate is less than half the interest rate prevailing in the informal sector at the start of the project. Loans are provided to individual members at SHG meetings, or members can accompany a signing officer of the group to the bank to access cash between meetings.

The primary goal of the program during the first two years of implementation is to facilitate financial inclusion (particularly access to low-cost credit), on the assumption that such access will allow the retirement of high-cost debt and thus enable the improvement of livelihoods. As the credit intervention and training were the only program components that had been rolled out by the time of follow-up data collection for this study, a large part of this evaluation focuses on credit access and credit market outcomes. Access to lower-cost credit is expected to allow accumulation of productive assets, improve food security, and ultimately increase household consumption levels. Given the large infusion of lending capital, the program also has the potential to impact local credit markets. This constitutes an additional, indirect channel by which households may realize savings on the cost of debt and thus increase consumption levels. As the intervention also had an explicit goal of empowering women, we took into consideration the impact of the program on women's mobility, decision-making role within the household, capacity for collective action, and aspirations.

We classify the hypotheses tested through the quantitative impact evaluation as direct impacts, indirect impacts, and downstream impacts of Jeevika. Primary impacts are first order, including outcomes such as participation in a self-help group and borrowing from a self-help group. One or more direct impacts are necessary but not sufficient for the intervention to lead to indirect effects on informal credit markets. Changes in downstream outcomes (such as wealth, household consumption and asset holdings, and women's empowerment) may follow from either primary or secondary impacts above. To be more explicit, we hypothesize that having access to the Jeevika program will increase household participation in SHGs, and increase their borrowing from SHGs. We further hypothesize that this should allow households to substitute away from informal credit, thereby reducing amounts borrowed from informal sources, and potentially also the interest rates on loans from informal sources. Given these impacts on household borrowing, we expect households to be able to increase their holding of productive assets and perhaps move into self-employment from labor, and ultimately increase their income and consumption. We also hypothesize that Jeevika will lead to increased empowerment of women, measured through indices of freedom of movement, household

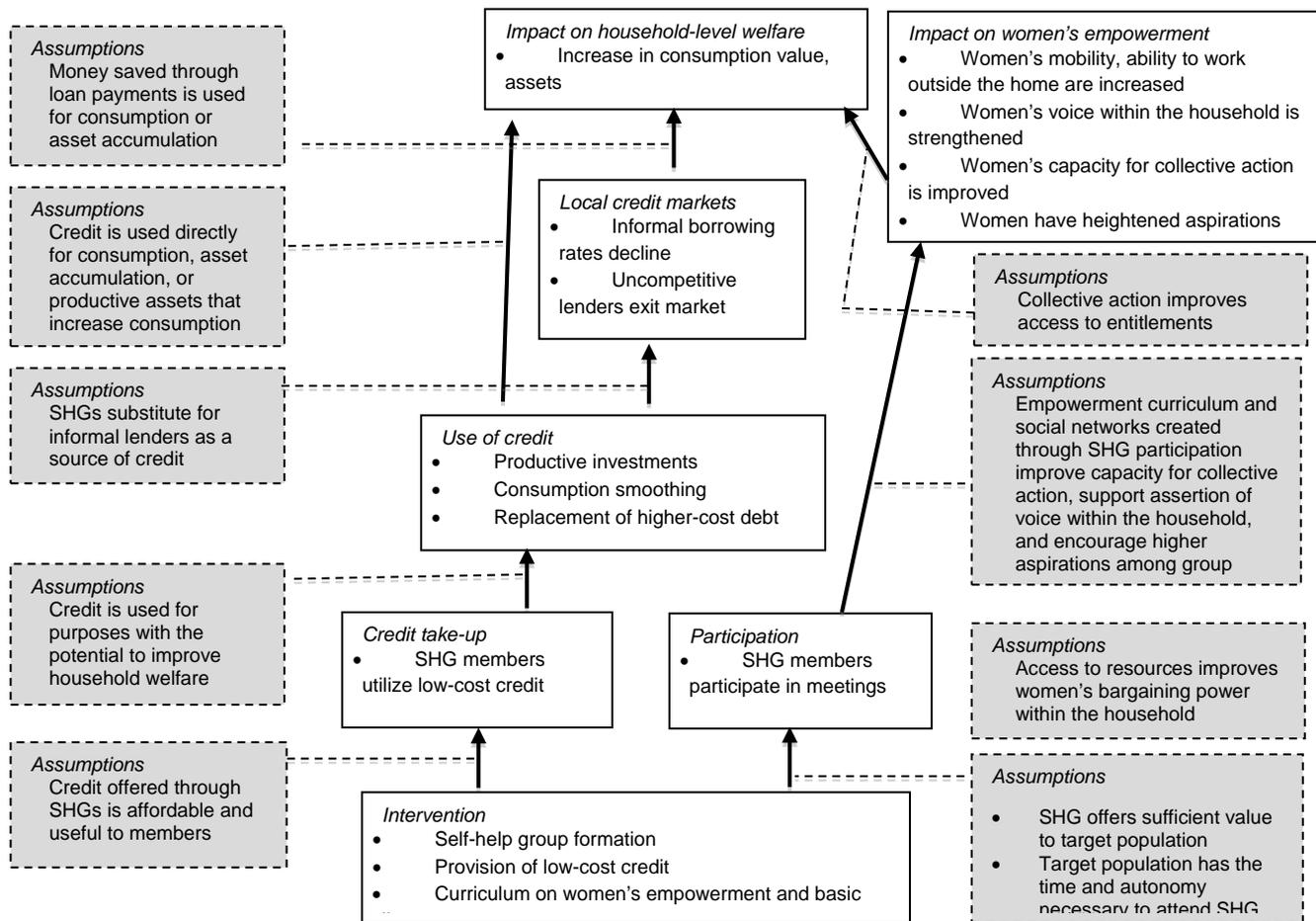
⁷ See <<http://www.brpl.in>>

decision making, and collective action. Figure 1 presents this theory of change as a diagram. Specific hypotheses are listed in the Pre-analysis plan (Appendix A).⁸

Qualitative data collection and analysis were conducted alongside the quantitative evaluation to provide a deeper understanding of the mechanism's underlying impacts that we observe. This is intended to help us better understand the processes of change with respect to culture and gender that resulted in observed social impacts. Such a focus sheds light on the sociological underpinnings of behavior and the negotiated relational processes at household and community levels.

⁸ Appendix A <http://www.3ieimpact.org/media/filer_public/2017/11/07/appendix-a-ow31243-bihar-livelihoods.pdf>

Figure 1: Theory of change diagram



3. Background and context

Bihar is one of India's poorest states, and lags considerably behind the national average GDP per capita for India (NABARD 2014). In 2011, Bihar was home to 32 million people living below the poverty line, with 66 per cent of the rural population being landless (Gol 2011a). That year, the state had a Human Development Index (HDI) of 0.367, which is one of the lowest for India, where the national HDI was 0.467 (Planning Commission 2011). Bihar has the lowest level of literacy (63.82%) and female literacy (53.33%) in India, compared to the national averages of 74.04% and 65.46% (Gol 2011b).

Chronic indebtedness has been a persistent feature of households in rural Bihar, with households primarily borrowing from non-institutional sources (NABARD 2014). According to the National Sample Survey (Gol 2014), 25.3% of households in Bihar borrowed from non-institutional sources, compared to a national average of 19%, with this debt accounting for 78% of all outstanding cash loans in rural Bihar. By comparison, the all-India average is 44 percent of outstanding cash debt from non-institutional sources. This reliance on informal sources is exacerbated by the fact that local moneylenders charge interest rates of up to 120 per cent per year (RBI 2007). In most other parts of India, participation in microcredit through microfinance institutions (MFIs) or SHGs has helped reduced reliance on moneylenders, but this has not been the case in rural Bihar. Bihar had extremely low rates of participation in microcredit, even though only 10 per cent of rural households were members of MFIs or SHGs, and not all borrowing from them (World Bank 2007). This high reliance on non-institutional sources of credit was one of the reasons that prompted the government of Bihar, with funding from the World Bank, to implement Jeevika.

4. Timeline

A baseline quantitative survey was administered during July to October of 2011. The project began in the early rollout (treatment) *panchayats* between January and April 2012,⁹ and the follow-up quantitative survey was completed between July and September 2014. Thus, the duration of exposure to the intervention in treatment areas was just over two years at most (rollout was not immediate throughout the early rollout areas due to project capacity constraints). Qualitative data were collected in 12 cycles over slightly more than three years, from 2011 to early 2015. An additional round of data collection was planned, delayed, and ultimately cancelled. This led to delays in the finalization of analysis and submission of the final project report.

5. Evaluation design, methods and implementation

In order to evaluate the impacts of Jeevika, 180 *panchayats* were randomly selected from within 16 blocks in seven districts where scale-up of the project was planned but had not yet occurred. Some of these blocks were in districts relatively far from Patna, which had not yet been entered by the project (Madhepura, Saharsa, Supaul), while others were within the larger districts within which Jeevika was already operating (Gaya, Nalanda, Madhubani, Muzaffarpur). The project had already entered these districts in

⁹ *Panchayats* are local governance units, typically consisting of between two and four villages; blocks are the next level above *panchayats* in the Indian administrative hierarchy.

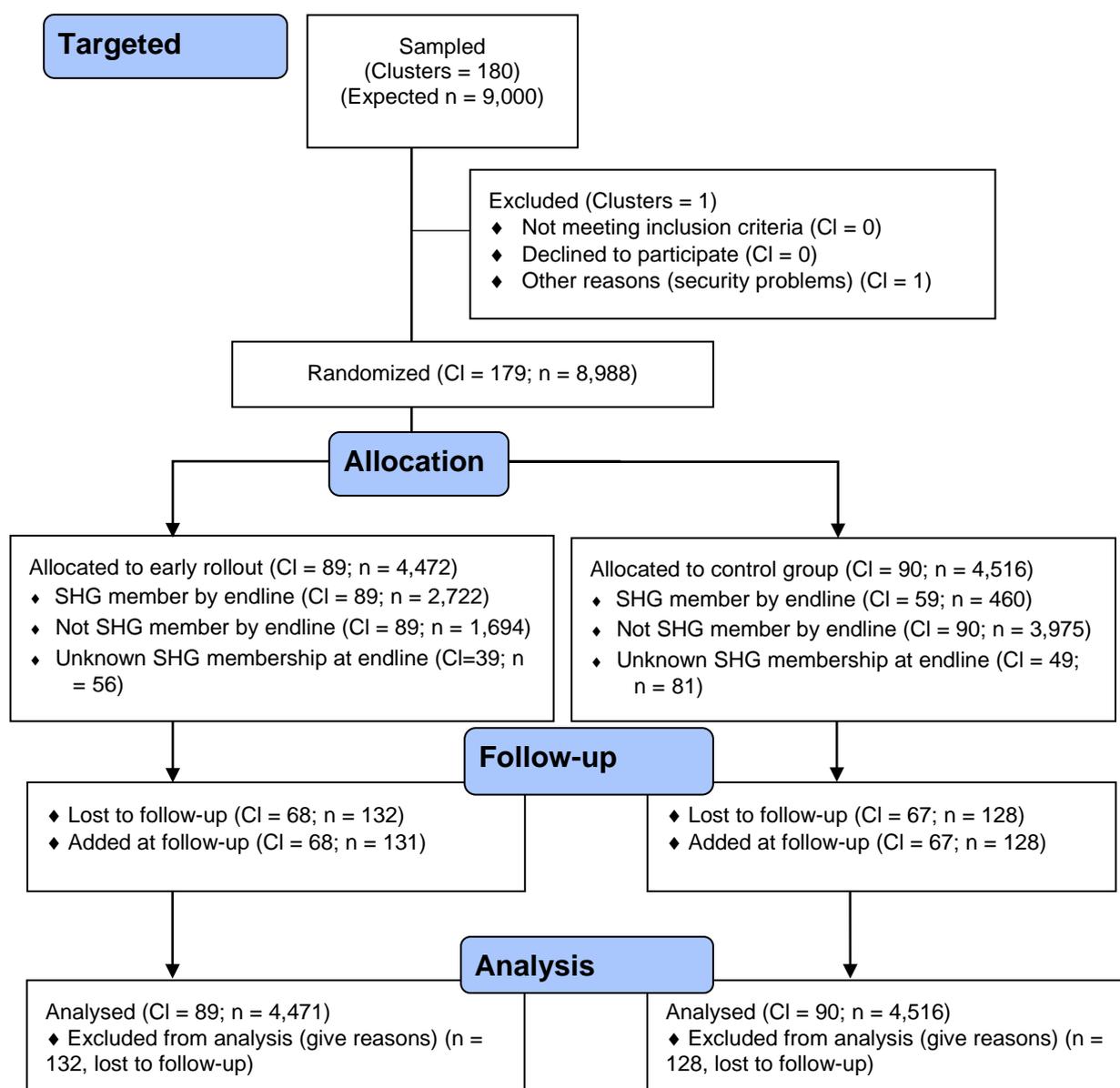
Phase I, but had not yet expanded to all blocks due to (project) capacity constraints. Within each of the study villages, *tolas* (hamlets) were identified in which the majority of the population belonged to either a scheduled caste or a scheduled tribe. ST households. This procedure was the same as used by Jeevika to identify the target population (of poor women) for mobilization into the project. *Tolas* were identified through a focus group discussion (FGD) held in each village, along with the population of target castes within each. In Bihar, *to/a* boundaries are easily distinguishable. Field teams would enter a *to/a* at a random point, determine the skip pattern based on population size and target sample size, and select households through a random walk. Survey staff aimed to include 70% SC/ST households, and 30% households from other castes in each village, in order to ensure variation in socio-economic status within the sample. If the households in selected *tolas* included fewer SC or ST households than this, households from nearby non-SC/ST majority *tolas* were also included in the sample.

Interviews for the quantitative study were conducted using a structured paper survey form. Baseline and follow-up surveys included detailed questions on debt, asset holdings, consumption expenditures, livelihood activities, and women's mobility, role in household decisions, and aspirations. In addition, in each village, an FGD was conducted, through which data were collected on village-level attributes such as local sources of credit, interest rates from each source, local wage rates, and the presence of or distance to markets and other institutions and amenities. Respondents were not compensated for their time. If respondents were unavailable during the initial field visit, the supervisor recorded their contact details and returned with interviewers at a later date. As long as the survey team was in that district, repeat visits were undertaken, keeping attrition to a minimum. If a household could not be re-surveyed at endline, it was replaced with another household in the same village. Short re-surveys containing a subset of questions from the main survey were conducted by supervisors for 10 per cent of the sample. Staff from the project also conducted occasional visits after the survey was completed in a village to confirm that all modules had been covered by survey staff. Data were entered in duplicate using CSPRO data-processing software and any discrepancies were corrected based on the paper form.

Following the baseline survey, *panchayats* were stratified on the 16 administrative blocks in the sample, and the *panchayat*-level mean of outstanding high-cost debt (with a monthly interest rate of 4 per cent or higher) held by households at baseline. They were then randomly assigned to an early rollout group or late rollout group using the random number generator within the Stata statistical analysis software package.

Figure 2 provides a flow diagram of the quantitative evaluation. The baseline survey was administered to 8,988 households across 333 villages in 179 *panchayats*. The target number of households per *panchayat* was 50, but there was some variation around this in reality. The lowest number of households in a given *panchayat* was 49 (9 *panchayats*), and the largest number was 53 households (3 *panchayats*). To ensure that control *panchayats* were not entered by the project, Jeevika held a quarterly evaluation *panchayat* meeting, in which block project managers of the 16 blocks were required to be present. At these meetings the project monitoring and evaluation team checked whether any village in a control *panchayat* had been entered, and received an update on progress in treatment *panchayats*. This procedure was successful in maintaining adherence to randomized treatment assignment throughout the evaluation period.

Figure 2: Study flow diagram (quantitative study)



Of the 4,472 households in the sample across 89 *panchayats* allocated to receive the SHG intervention, 2,722 reported that one of their members belonged to an SHG by endline, constituting 61 per cent of the sample.¹⁰ Since SHG membership was optional, approximately 38 per cent of households in treatment group *panchayats* had no member in an SHG by endline. The remaining 56 households (across 39 *panchayats*) did not answer this question or were lost to follow-up (only one such household was not replaced). Although it was possible for those residing in control areas to join (non-Jeevika) SHGs, the proportion of household groups in this area containing SHG members remained minimal at endline, with only 460 households (just over 10 per cent of the total sample) reporting SHG membership. Attrition (and replacement) was similar in control and treatment arms, with 132 treatment group baseline households not

¹⁰ Households were not permitted to have more than one member in a Jeevika SHG, but membership by a second member in a non-Jeevika SHG was possible.

reached for a follow-up interview and all but one of these replaced, and 128 not reached and thus replaced in the control group.

The qualitative evaluation draws on data collected from 2011 to early 2015 in six villages: 2 where Jeevika had been operating since 2006; 2 where it entered during Phase II; and 2 where it had not yet intervened by the end of data collection. The Phase I treatment villages were selected at random from the set of previously entered villages in two different districts, Muzaffarpur and Madhubani. Each treatment village was then matched with a set of control villages using propensity score matching methods (Imbens and Rubin 2015) on the basis of village-level data from the 2001 government census on literacy, caste composition, landlessness, levels of outmigration, and availability of infrastructure.

In order to find the closest treatment-control match, field investigators then visited the set of possible controls for two days for visual inspection and qualitative assessment. This combined quantitative and qualitative matching method yielded three matched pairs of Phase I treatment, Phase II treatment, and control villages, with each pair located within the same district.¹¹ This method of sample selection allows comparison of villages receiving the intervention at each stage with their statistical clones that received it at a different stage or did not receive it at all, allowing us to draw causal inferences about the effects induced by Jeevika during the different phases of its expansion.

For the purpose of keeping their identity anonymous, we refer to the villages in Madhubani district as Ramganj (Phase I treatment), Nauganj (Phase II treatment) and Virganj (control); and the villages in Muzaffarpur district as Saifpur (Phase I treatment), Raipur (Phase II treatment) and Bhimpur (control). Villages in Madhubani are segregated into caste-homogenous *tolas*. Brahmins comprise the majority in these villages, and their *tolas* are located close to the main resources of the village: the temple, pond and school. All other *tolas* extend southwards in decreasing order of status in the caste hierarchy, with SC communities being located farthest south. Each of these communities is also spatially segregated. The SC communities of these villages mainly comprise Musahar, Pasi, Ram and Dhobi sub-castes, and the other backward caste communities comprise Yadav, Mandal, Badhai, Hajaam and Teli sub-castes. The only big difference between Ramganj and Virganj is that the former has a sizeable Muslim population, comprising Sheikhs, Ansaris, Nutts and Pamariyas; while in the latter, there is only one Muslim (Sheikh) family in the entire village. Inhabitants of these villages primarily depend on agriculture and related activities for their livelihood. The villages in Muzaffarpur district are largely similar to the ones in Madhubani, with the significant differences being that they are primarily bazaar (market)-centric and the dominant caste is the Chaudhury, who belong to the business community.

In each of these villages, preliminary studies were conducted using several participatory rural appraisal methods to gain an understanding of the layout of the village.¹² Following

¹¹ This method is similar to Barron and others (2011) sociological analysis of the impact of a development intervention in Indonesia.

¹² Participatory rural appraisal methods are simple mapping, graphics and other analytical tools that are used in development interventions to allow largely illiterate populations to reveal information about their living conditions within focus group settings.

this, a team of four field investigators (recruited from a local research-based non-governmental organization), accompanied by one of the three principal researchers, would visit the villages every three to four months for a cycle of data collection (11 in total over the study period). During every cycle, the ethnographers would enter a different *tola* in the village for a week (there are roughly 10 *tolas* in each village). The ethnographers spoke to as many respondents as possible across the village and also returned to the first few respondents in the concluding cycles of data collection. These repeat interviews allowed us to see how respondents reflected on changes experienced as a result of the project (or otherwise) over the four-year period. The first set of participants was selected to be representative of different socio-economic strata in the village, and subsequent participants were selected via a mixture of purposive and snowball sampling. We interviewed women who were members of Jeevika, their husbands, and key informants in the village such as religious heads, village council members, moneylenders, subsidized food shop dealers, landlords and public officials.

Qualitative data were collected in the villages through a variety of methods: a) personal interviews (open-ended structured and unstructured), and conversations with program participants and non-participants; b) FGDs with participants and non-participants; c) passive observation of group meetings, trainings, workshops, mobilization drives, and interactions at several levels (village, block, district); d) structured interviews with Jeevika staff at all levels in all villages; and finally e) interviews and FGDs with men and other key stakeholders in the village (religious heads, village council members, moneylenders, subsidized food shop dealers, landlords and other public officials). The interviews, observations and FGDs were guided by a set of themes that were modified throughout the data collection. The interviews were conducted in the local language (Hindi and Maithili) by researchers, transcribed in English, and coded in QSR NVivo qualitative data analysis software. During the coding, some themes were pre-selected to match the themes of the questions asked, but we also allowed themes to emerge from the data in an inductive mode.

These multiple cycles of data collection, coupled with the matched experimental design, allow us to understand cause-effect relations and the mechanisms of change over time. We are able to study social processes as they unfold in the villages with the evolution of Jeevika, rather than being solely reliant on informants' recall. In addition, having a comparison across districts allows us to capture variation in processes that occurred in similar rural landscapes. Moreover, the qualitative nature of the study permits us to incorporate the participants' own evaluative metrics and to understand why the women prioritize certain transformations over others.

The interviews were combined with direct observation of project activities, and focused on understanding how the project and its frontline workers were responsible for the changes experienced. Interviews took one to two hours. They were conducted in the local language (Hindi or Maithili), simultaneously recorded, and then transcribed verbatim into English. In total, over 2,000 interviews were conducted (250 with men and the rest with women). Transcripts were coded in NVivo, after which the data were analyzed inductively. In the first step, we tried to understand what kind of changes men and women talked about within treatment villages, and to what extent they were attributed to Jeevika exclusively. After this, data were grouped by emerging themes. Six

themes stood out: physical mobility, husband's reaction, dignity of borrowing, information on village-credit network, perception of government, and collectivization.

6. Program design, methods and implementation

This section outlines the three stages of community facilitation in Jeevika—village entry, mobilization, and everyday life—and provides a systematic overview of how facilitators operated in these stages in Phase I versus Phase II. The differences between the two phases are summarized in Figure 3.

Figure 3: Principles of facilitation in Phase I and Phase II villages

	Stage	Phase I	Phase II
1.	Village entry	Doing a thorough power analysis or informal information gathering	Getting a buy-in for the project
2.		Social mapping as a means of taking site of knowledge production to the village	Social mapping as a means of arriving at a number of target households
3.	Meetings	Focusing on collective capabilities	Focusing on individual material outcomes
4.		Turning first movers into eyes and ears of the community	Turning first movers into agents of the facilitators
5.	Everyday life of project	Ritualization	Rote recitation
6.		Engaging head-on with elite capture	Keeping local politics at bay

6.1 Village entry

The first step of a project at the community level is called village entry. In this step, it is project protocol to first get approval from key stakeholders in the village, and then conduct a social mapping to find the poorest households. Following this, facilitators proceed with gathering women from those identified households into the project's fold until they reach saturation (i.e. when the project has mobilized 80 percent of its target audience).

6.1.1 *Doing a thorough power analysis versus getting buy-in*

In Phase I, village entry began with a series of informal conversations with the key stakeholders in the village—local politicians, traditional leaders, moneylenders, school teachers, landowners, and other influential men and women—as a means of information gathering. In these initial stages, area coordinators (ACs) and community coordinators (CCs),¹³ employed by the project, collected a large amount of information on caste dynamics, land use patterns, informal moneylending practices and patriarchy, and tried to locate women's interests and positions in each village:

It was our main task to figure out how to work within these setups so as to be as least disruptive as possible. We had to avoid being seen as threatening, but we also had to get them to reveal reliable information about the village. (BPM and former AC, Cycle 4, Saifpur)

¹³ Area Coordinators report to block project managers. Community coordinators, who report to area coordinators, represent the most grassroots staff of the project.

In these initial stages, facilitators repeatedly emphasized that there was no substitute for time. For instance, one of the district-level community trainers, formerly an AC in Phase I, explained to us how it took him one to three months to get the information he needed to form SHGs:

I remember going to a village once, where for several months no one would speak to us. The environment was extremely tense, but no one would tell us what was going on. It took six months of probing in and around the village to figure it out. We had happened to enter the village at a moment when a 25-year-long feud between two dominant caste groups over a piece of land had reach[ed] its culmination and both groups were waging war against each other. The entire village was split up on the issue. We immediately took note of this and knew that village-wide meetings were impossible, as were inter-caste SHGs, at least in the initial stages. We had to find an alternative strategy. (District training officer [DTO] and former AC, Cycle 3, Ramganj)

There were insights gained at this stage that were specific to each village, but some that were universal as well. All ACs and CCs, for instance, mentioned three things that they learned early on. First, they understood that they were about to operate in a context with an extremely high density of failed projects that had microcredit components similar to Jeevika. As a result, there was strong mistrust of such projects, and villagers were skeptical of putting their savings into them. Second, the facilitators learned that a long history of identity politics had created a culture of caste-based handouts: people expected to be treated as beneficiaries, and expected more if they belonged to particular castes. Finally, they learned that the villagers' closest point of reference for outsiders coming to collect demographic data was the census officers, who were derided for gathering all their information by talking only to key stakeholders, and merely stopping by the first few houses in the village. As can be seen subsequently in this report, the project's messaging during the initial mobilization stages rested heavily on disassociating itself from these three things.

Once information was gathered, an ongoing conversation between facilitators and key stakeholders began in Phase I villages, in particular between local leaders from traditional caste *panchayats* and elected *panchayati raj* institution (PRI) members (*Mukhiya*, *Sarpanch*, *Panch* and ward members.)¹⁴ One of the district training officers gives an example:

In a few villages in Purnea district, for instance, we were not offered a room to stay in by the PRI members, and spent several nights sleeping on the streets or in the village temple. When they did not want to listen to us, we started a sanitation drive. We began by going around the village and picking up trash, cleaning the public spaces, and pursued other similar drives. We did whatever it took in those initial days to gain their trust and hung around till they finally listened to us. (State project manager and former BPM Cycle 1)

¹⁴ The *mukhiya* is the elected leader or president, and the *sarpanch* is the judicial head of the *Gram Panchayat*. The ward members and *panchs* report to the *mukhiya* and *sarpanch*, respectively.

Once the village heads were prepared to cooperate, a series of negotiations and network-building exercises began:

Their first question is always, 'What do we get out of this?' The hardest part is to get the *mukhiya* (village president) and his men to think beyond the 'what are we going to gain' [*humko kya fayeda*] mentality, and focus their attention squarely on the fact that no one has anything to gain; we are here to help, not give subsidies [*hum sahayata dete hain, chhoot nahi*]. We give nothing, and ask for nothing in return. (CC, Cycle 5, Saifpur)

Phase I facilitators claim to have treated these negotiations with the utmost care. They could neither be seen by the rest of the village to be colluding with or privileging certain social groups over others, nor could they be seen to be antagonizing them: "getting their blessings, and then respectfully bypassing them to reach the community was our hardest challenge. And it helps to be seen as social workers in this regard, and not as political brokers." (DTO and former AC, Cycle 2, Ramganj)¹⁵

In Phase I, getting support was seen as crucial not only in the initial stages, but was also constantly nurtured throughout the life cycle of the project. To give an example, two years into the project, once women started stepping out of their homes and going to banks, police stations, and other public spaces in order to get their Jeevika-related work done, the village *maulana* (Muslim religious head) began to interfere. He accused the project of having pushed women away from their domestic duties, and also complained that women were now earning interest on their money:

As the project moved along, we started facing some difficulties, particularly in Muslim communities. The women were concerned about having to pay interest on their own savings. I had to speak to the *maulana* about this because that is where the husbands said the pressure was coming from. When I met *maulana ji*, he echoed the women's concerns: 'Taking interest is a sin [*biyaaj lena haraam hai*],' he said. I listened patiently, but I asked him, 'Don't rich people in your community go to the bank to save their money? Don't they get paid interest on that money? Then what is the harm? Moreover, no one is really earning interest in the traditional sense. Women are simply adding interest into their own savings!' It took a long time but I convinced him, and then the husbands, then the women. Thankfully, now he lets the women participate. (AC, Cycle 3, Saifpur)

In Phase II of Jeevika, on the other hand, this entire process of gathering information informally was relatively short, and village entry was rarely associated with gaining an understanding of the village. For instance, in Nauganj, the Phase II village of the Madhubani district, the facilitators entered the village and stayed in the homes of landlords and ward members. The landlord's nephew volunteered to assist the ACs and CCs in mobilizing women, and lower caste women from neighboring *tolas* quickly agreed to enter the project as well. However, as one of their husbands revealed to us, "We

¹⁵ One should not confuse this strategy with "depoliticization" in Ferguson's (1990) sense of the word. On the contrary, positioning oneself as apolitical requires thinking politically. It requires understanding local politics, and recognizing that a project of the magnitude of Jeevika can generate political incentives, which need not be quashed or ignored, but need to be harnessed to keep the project alive.

accept his authority over us; it's hard to say no! [*hum unka dhaak maante hain, hum na nahi keh sakte*]" Eventually this same nephew was made a community mobilizer (CM), and his groups were run in such a way that his preferences had a heavy influence on women's loan decisions. During this crucial initial stage, facilitators sought buy-in from stakeholders without doing a power analysis; in effect, mobilization in Phase II may have been quicker than in Phase I, but it failed to capitalize on these initial moments to build a stronger foundation for the SHGs and foster trust. The AC in this village saw his primary responsibility to be achieving the numeric target that was set for village saturation:

It is difficult under the current circumstances to meet these targets. There is a lot of resistance based on their experience with previous projects of this nature, but we have to mobilize them quickly. We have to meet our goal of a certain number of SHGs. (Former AC, Nauganj)

6.1.2 Social mapping to facilitate local knowledge versus achieving numeric targets

Once key stakeholders in the village had agreed on the merits of the project, the next step was to identify households to include in the project. This method of identifying the poorest of the poor (or POP in Jeevika's parlance) involved not only using census data and *tola*-level information, but also brought in the community to identify the most vulnerable households in a way that established greater ownership and legitimacy over the process.

Facilitators in both Phases I and II demonstrated a comparable understanding of this process. What set them apart is that in Phase I villages, ACs and CCs shared a healthy skepticism of the process. They knew that it was susceptible to being captured by a few groups, that some voices were louder than others when identifying target households, and most importantly, this list would have to be revised with time as they gained a greater understanding of the community, and the community understood more about the project. In a nutshell, decisions about the community were made and changed in the field, with facilitators corrected by participants and vice versa, thereby establishing a model of engagement that was neither entirely bottom up nor top down, but which evolved collaboratively on the frontlines.

In Phase II villages, facilitators collected data entirely as a means of arriving at a number of target households. The qualitative data collected during this stage were not utilized during the process of mobilizing women. Moreover, while the ACs and CCs did the mapping exercise and gathered the necessary data, mobilization was ultimately left to community resource persons (CRPs) from another village, to whom the numeric target was transferred. However, the qualitative data and informal knowledge on village dynamics collected in the initial stages were not transferred to these CRPs. As a result, the households identified by the ACs and CCs in the initial round as the poorest often were not the same households finally mobilized into the project by the CRPs.

6.1.3 Mobilization

Succumbing to the pressure of numeric targets set by the ACs and CCs during the initial stages of Phase II forced the mobilizers to lead an enrollment drive fraught with shortcuts. This stage in Jeevika, called the mobilization drive, is a crucial moment in the project's life because the messages communicated in these initial stages has a

significant impact, not just on women's decisions to enroll, but also to continue to participate.

6.1.4 Focusing on individual material outcomes versus collective capabilities

In both Phases I and II, messaging was communicated, and mobilization was executed, through flipcharts. In Phase I villages, women were encouraged to engage with the information in the flipcharts, rather than memorizing them verbatim. Most flipcharts had images from folk tales that demonstrated virtues of solidarity, self-help, creativity and resourcefulness, especially in the face of adversity.

We thought of these as tools that we hoped women would use as and when necessary, whether in the livelihoods space or within their households or in any other space. As we shared them, we also emboldened women from different backgrounds to share their own stories of deprivation. A poor Dalit woman has a story, but so does a poor Brahmin woman. This kind of dialogue between the tools and different experiences of poverty is necessary. (DTO and former AC, Saifpur)

In short, the Phase I facilitators made a provision for allowing Jeevika to be a platform where understandings of poverty and its solutions could be contested and forged in a participatory manner. This was in contrast with Phase II, where a dialogue was missing. Instead, facilitators went straight to discussing the merits of Jeevika and the ways in which it could help women save money, start livelihoods, and decrease their debt burden. The women existed as an audience for messages that only the facilitators fully understood. This difference in mobilization resulted in marked differences in women's expectations: women in Phase II repeatedly stated that they had not seen results yet. They were frustrated that their short-term goals were not met and threatened to drop out of the project. Moreover, the moment of mobilization into the project barely constituted a memory for them: when asked to recollect it, they would struggle to remember and would provide lackluster responses. In Phase I villages, on the other hand, women recollected this as a rite of passage, narrating names of ACs, dates of joining, events, and so forth, with great enthusiasm: "I felt so much kinship with this project when Amit *bhaiyya* (brother) first came and explained it, that I suggested the name Jeevika. We were all enthused about it. The idea that as women we could come together to do anything was transformational!" (Respondent in an individual interview, Cycle 4, Ramganj)

In Phase II villages, women were told that one of the primary reasons to join was "lower interest rates" (i.e. loans/credit at less expense than other informal sources) or "high-paying jobs" or "toilets" (i.e. grants for building household toilets); whereas in Phase I villages, women were told that the reason to join would be "coming together to help each other" in order to solve their individual problems, such as reduced debt burden and eradicating poverty. In other words, while the mobilization process in Phase II focused directly on outcomes, mobilization in Phase I focused on developing collective capabilities and self-reliance.

6.2 Turning first movers into the eyes and ears of the community versus using them as agents of the facilitators

When Jeevika first enters a village, it attracts a set of first movers, (i.e. intrinsically motivated women who self-select into the project early, and devote time to setting it up). In Phase I, facilitators got much of their work done through these first movers, making them their primary conduits into the community. Many of these women were taken to Andhra Pradesh for an immersion trip, which left an indelible mark on them. They came back with a mission to re-create in their own villages what they had seen. An oft-repeated sentiment was “our *didis* (elder sister or someone much older - in this case first movers) in Andhra Pradesh are so empowered, that they not only have access to banks now, but can also run all functions of a bank by themselves!”¹⁶ Second, the ACs and CCs encouraged these first movers to share their experiences in their own neighborhoods in order to mobilize more women into joining the project. In fact, for most women in Jeevika their first point of contact was not the mobilization event, but instead their relationship with first movers in the village whom they trusted. When asked why they had chosen to join in the first place, it was not uncommon to hear them say, “Because Shakuntala *didi* [a first mover] asked me to.” The project relied on the first movers’ knowledge of the community and their networks to mobilize women. They were truly seen as brokers whose work was to represent the community’s interests, and in the process also construct and cement these interests. Because these brokers came from different backgrounds, the ACs and CCs learned to move away from a unitary representation of the poor. They were able to understand and convey to potential participants that there were often multiple, even contradictory, interests within the category of rural poor women. Finally, after the facilitators left the village, the first movers were the women who shouldered the responsibilities of the facilitators in their different neighborhoods. They tackled women’s questions and concerns and helped sustain participation in the project. Many of these first movers also went on to become mobilizers and leaders in their SHGs.

The role of the first movers becomes even clearer when seen in comparison to Phase II villages where their centrality is missing to some degree. In Nauganj, for instance, the facilitators’ and CRPs’ first stop was the house of Poonam Devi, a former mobilizer with Swarnajayanti Gram Swarojgar Yojana (SGSY), an SHG-based program similar to Jeevika that had a long history of fraud in the village. Poonam Devi herself was seen to be involved in this fraud, but the ACs had little knowledge of this. As our researcher observed, “Poonam Devi has been a part of the loss-making SGSY group as noted by those who were reluctant to join. Her presence made the community suspicious about the credibility of [Jeevika] CRPs.”¹⁷ Far from being seen as trustworthy, Poonam Devi was eventually seen by the beneficiaries as one of the project staff, representing the project’s, rather than the community’s, interests. There was also a lot of misinformation right after the facilitators and CRPs completed the mobilization drive and left the village. For example, men and women inquired whether this was a government initiative, and whether they would have to travel beyond the village as part of Jeevika membership, but there was no one to give them the information.

¹⁶ Cycle 6 and 7, several interviews and focus group discussions, Ramganj and Saifpur.

¹⁷ Village entry notes, Nauganj, baseline.

6.3 Everyday life of the project

Once the process of mobilization is over, the community requires a period of focused support to form SHGs and to ensure their regular functioning. Through direct observation of meetings, trainings and daily interactions between the project and the beneficiaries, this section details the role played by the facilitators and mobilizers during the everyday life of the project.

6.3.1 Ritualization versus rote recitation

One of the main contributions of the facilitators was to ritualize the process of a regular schedule of SHG meetings. As we outline in another paper (Sanyal et al. 2015), SHG meetings in Phase I villages were very disciplined, with the time and place of meetings being treated with great sanctity. When groups were being formed, Jeevika facilitators, and eventually the CMs, taught SHG members the significance of sitting together in a circle, and the implications of the formation for inclusion and voice. They also taught them how to introduce themselves in every meeting with their own name (rather than their husband's name, or their caste affiliation), and finally how to sing the Jeevika song and prayer together. Jeevika shorthand for these rituals is called the *panchasutra*,¹⁸ and one of the roles of the CM is to ensure that women follow these rituals and the principles embodied by them, because it eventually becomes a key criterion for establishing loan eligibility for an SHG.

The *panchasutra* is a seemingly prosaic practice, but the orchestration of this social performance of introductions, songs, prayers and slogans, and their deliberate repetition every week for seven years has had a profound impact on the construction of a collective identity. It has given women a new group-based identity that is separate from their caste, marriage and kinship identities. This identity is transformative in its own right and can be mobilized at appropriate moments to make performative claims (Appadurai 2014, p.18). (?pls check year – 2015 as per References) For instance, the Jeevika song, *Badhte Kadam* [Marching Forward] gives women confidence, and they report enjoying the act of coming together and singing, but it is also leveraged appropriately in other contexts. Manju *didi*, a veteran CRP in Ramganj talks about how the song guides her and gives her inspiration in particularly difficult situations. When she goes on her mobilization drives, she often finds herself losing motivation to keep going, particularly in the face of verbal abuse from men of dominant castes who question her team's right to be in a public space, she being a lower caste illiterate woman. At these junctures, she reminds herself and her fellow mobilizers of the Jeevika song. They sing it together as a reminder of the essence of what they are required to do, to keep pushing themselves to work on behalf of Jeevika.¹⁹

This kind of emphasis on regimented performances is brought about by constantly repeating the messages and songs of Jeevika during trainings. In one of the trainings held in Muzaffarpur, we observed that a Jeevika trainer was providing a refresher course to CRPs in preparation for an upcoming mobilization drive in a neighboring district. The

¹⁸ *Panchasutra* literally means five principles, and Jeevika's *panchasutra* includes regular meetings, regular savings, regular inter-lending, timely re-payment, and keeping the book of accounts up to date.

¹⁹ Butler (2004) refers to the relationship between forms of linguistic and bodily performativity.

central purpose of this training was building and bolstering the collective identity of the women who were being referred to as *gareeb didi* ('poor sisters', i.e. women bound with the common thread of poverty), and exhorting them to take pride in that identity. This was evidenced by the two most repeated sentiments at the training: "We have only one religion alone, and that is poverty," and "We're poor, we're defenseless, so what?" The women were asked to denounce the idea that women are domesticated, and meant only for serving other members of their family. These women freely exchanged and repeated ideas about the ways in which norms of femininity are shaped early: from the womb to the toys girls and boys play with, from schooling to the workplace, from the parents' household to that of the in-laws, women at every stage of their lives are reminded and constrained by gender norms. These ideas were enthusiastically received by the CRP *didis* who often joked, interjected, and added on examples from their own experience to underscore a point. Every woman was encouraged to narrate and bring her own life story to the forefront of the mobilization process. Those who were hesitant were encouraged by the other women in the group and also by the facilitators. The facilitators often dedicated time during and after the workshop to work on specific details, such as how the women occupied space in a room, their body language, eye contact, and other techniques, that could help boost their confidence and make them better orators and mobilizers. These are all themes that are constantly repeated, revised and consolidated by Jeevika throughout its life cycle.

In Phase II villages, on the other hand, a failure to repeat these themes meant that the *panchasutra*—the songs and practices involved with coming together—was never ritualized in the same way. On the contrary, women struggled to remember the introductions, often thought of the song as a monotonous necessity repeated by rote learning, and felt the rituals were burdensome or distracting to their core business of saving and borrowing. Since they considered the meeting space to be involved exclusively with financial transactions—devoid of rituals—absenteeism in meetings was high, and many women sent money through other family members and neighbors who attended the meeting, rather than making the effort to go themselves. As a result, Jeevika in its second phase was less successful in creating a sense of community among women, and thus relatively ineffective in building the foundations of what was to come.

6.3.2 Engaging head-on with elite capture versus keeping local politics at bay

Livelihoods projects are subject to the same risks of local elite capture and clientelist politics as other community-based projects. Ensuring that decision making around loan disbursements is inclusive and democratic requires a significant amount of handholding. In Phase II villages, a perverse mechanism was triggered because facilitators asked SHG members to elect their leaders (i.e. the president, secretary and treasurer) without any supervision. Elections took the form of all the SHG members coming together and nominating a few people for the three leadership positions by acclamation. Although such an election might have had the appearance of being democratic, in the absence of proper facilitation, well-connected and upper caste women took control of the election process and pushed their own candidacies. In effect, such a method established a power relationship that was open to abuse throughout the life cycle of the project. The most deleterious consequence of this was that SHG leaders could easily manipulate the rest of the group members to give preferential treatment to some over others. Also, they

became adept at representing their own interests as community concerns. In one of the groups, for instance, a few upper caste (Chaudhury) women were found to borrow repeatedly from the group at 2% interest rate and lend to non-joiners in the village at 5%. For a while, the remaining women, who were from the *Halwai* community (sweet makers), were unaware this was going on. On finally uncovering the malpractice, they complained to the CM, who refused to take action because she was a Chaudhury herself. The consequences of this were far-reaching, particularly because it lowered trust and increased apathy in the group and its processes over time.

In Phase I villages, however, ACs and CCs carefully engaged in community politics, not just in the initial stages of elections, but also throughout the project cycle. First, the election of SHG leaders was handled carefully. Democratic selection through deliberation, rather than election by a show of hands, was emphasized, and members were encouraged to elect individuals to leadership positions who had motivation and competence, rather than influence or wealth. Moreover, the work of those selected was constantly supervised, and every two years the leadership positions were rotated among the members to avoid entrenchment of power. As the project moved along and SHGs were federated at village level, facilitators incentivized leaders to ratify whether or not the most marginalized women had been included in the project's fold and had access to loans. Finally, and most importantly, the separation of powers between the CM, the group, and its leaders was made clear by the facilitators. During meetings, they painstakingly repeated that leaders were the SHG's representatives and the group had the power to assess the work and sanction the payment of their CMs, who were there to take notes and do the bookkeeping; it was not up to either of the two—group leaders or CMs—to arbitrate who got a loan. The role of the members was to monitor the actions of their leaders, compel them to defend their promises, and spawn new leaders in the process.

7. Impact analysis and results of the key evaluation questions

As described in the theory of change above, SHG intervention was expected to lead to a series of potential impacts, which we classify as direct, indirect, and downstream. All outcomes for the impact evaluation were self-reported by participants or other community members, either during individual interviews conducted at household level, or during FGDs conducted at the village level. As detailed in the introductory section, direct impacts are those such as participating in an SHG, or borrowing through an SHG, which the intervention directly encourages. Indirect impacts are those that are a direct consequence of the direct impacts, such as borrowing from sources apart from SHGs, interest rates from these sources, indebtedness, and so on. Other impacts on household welfare are downstream impacts. Having one or more direct impacts (increased SHG membership; increased utilization of credit through SHGs) is a necessary but insufficient condition for the intervention to lead to indirect effects on informal credit markets. Changes in downstream outcomes (wealth, consumption level, women's empowerment) may follow from either direct or indirect impacts.

Based on the registered pre-analysis plan, we estimated the following ANCOVA specification to test the reduced-form, intent-to-treat impact of Jeevika on each group of outcomes:

$$y_{ivp2014} = \alpha_0 + \alpha_1 JEEVIKA_p + \alpha_2 y_{ivp2011} + (\alpha_3 X_{ivp}) + \alpha_4 S_p + \varepsilon_{ivp} \quad (1)$$

where y_{ivp} is the outcome of interest for household i in village v in *panchayat* p in year t , $JEEVIKA_p$ is random assignment of the *panchayat* to early (2012) rollout of the intervention, X_{ivp} is a vector of pre-specified baseline controls used in the primary specification, S_p represents the vector of stratification dummies, and ε_{ivp} is a random individual-level error (notation constant across specifications for simplicity). In addition, to test for heterogeneous treatment effects on households that were landless at baseline, we estimate specification (2):²⁰

$$y_{ivp2014} = \beta_0 + \beta_1 JEEVIKA_p + \beta_2 LL_{ivp} + \beta_3 LL_{ivp} * JEEVIKA_p + \beta_4 y_{ivp2011} + (\beta_5 X_{ivp}) + \beta_6 S_p + \varepsilon_{ivp} \quad (2)$$

where β_1 represents the treatment effect on landholding households, β_2 is the difference in outcome y between landed and landless households in control areas at follow-up, $\beta_1 + \beta_3$ is the treatment effect on landless households, and $\beta_2 + \beta_3$ is the difference in the outcome between the landed and landless households at follow-up in the presence of the intervention. This sub-group analysis is motivated by the program's goal of poverty alleviation (landlessness in rural India is a strong predictor of poverty), and because the poorest households are typically those that pay the highest informal borrowing interest rates.

Specifications (3) and (4) below mirror those above, aside from the omission of non-stratification baseline controls, and are used to test for balance on key outcomes and demographic variables at baseline.

$$y_{ivp2011} = \gamma_0 + \gamma_1 JEEVIKA_p + \gamma_2 S_p + \varepsilon_{ivp} \quad (3)$$

$$y_{ivp2011} = \theta_0 + \theta_1 JEEVIKA_p + \theta_2 LL_{ivp} + \theta_3 LL_{ivp} * JEEVIKA_p + \theta_4 y_{ivp2011} + \theta_5 S_p + \varepsilon_{ivpb} \quad (4)$$

Huber-White clustering of standard errors at *panchayat* level is employed in all specifications. Since we test multiple hypotheses, many of which are closely related, we follow earlier literature and include regressions of indices for each family of outcomes (as in Kling et al. 2007).²¹ We take a family to be a set of outcomes measuring the same conceptual outcome, and construct an index of these outcomes as follows. The values of variables within a family are first adjusted so that higher values correspond to better outcomes. Z-scores for each component variable then are calculated by subtracting the control group mean from the treatment group mean, and dividing by the control group standard deviation. If an individual has a response to at least one component measure of an index, then any missing values for other components are imputed at the random assignment group mean (i.e. treatment observations have the treatment group mean, and control observations have the control group mean). This is the procedure followed in Kling and others (2007). We then use the Hochberg step-up procedure (Hochberg 1988)

²⁰ Analysis of heterogeneous effects based on both baseline landholdings and caste was specified in the pre-analysis plan for this study. There is significant overlap between the landless and scheduled caste/scheduled tribe (SC/ST) populations in the sample, and impacts on SC/ST households are very similar to impacts on the landless.

²¹ See, for example, Banerjee and others (2015a)

to obtain corrected p-values for these family-level indices, while controlling for the family-wise error rate across all families. To implement this procedure, the p-values for the coefficients of the treatment indicator in each of the regressions for the indices are ranked in increasing order. Each original p-value is multiplied by $(m + 1 - k)$, where m is the number of indices and k is the rank of the original p-value. If the resulting value is greater than 1, we assign an adjusted p-value of $> .999$.

We begin the analysis with a description of credit use and costs, assets, and welfare indicators by landholding status at baseline. As shown in Table 1, landless households are more likely to hold debts compared to those having land. They also have a larger number of loans than landowning households, but a lower mean level of outstanding debt, implying a smaller average loan size. This pattern echoes Banerjee and Duflo's (2010) discussion of the high administrative cost of lending to the poor. Indeed, the debt held by landless households is more expensive. Despite a lower overall level of indebtedness, landless households hold slightly more debt on which the monthly interest rate is 4 per cent or higher, defined by Jeevika as "high-cost debt". The mean (simple) monthly interest rate paid by the landless is half a percentage point higher than that paid by landholding households, indicating an annual difference of 6 percentage points.²² Given the mean level of indebtedness, this difference implies an additional debt-servicing cost of INR 569 per year, equivalent to 61.5 per cent of the mean monthly consumption expenditure among the landless.

²² Interest rates are generally non-compounding in this setting.

Table 1: Credit access, assets, and consumption, by landholding status

	Means			Landless – Landed (se)
	Obs.	Landless	Landed	Difference in means
<i>Credit markets: Interest rates, amounts borrowed, loan terms</i>				
Any outstanding debt	8,988	0.87	0.81	0.06*** (0.01)
No. of loans (per household)	8,988	2.04	1.87	0.18*** (0.04)
Total outstanding interest-bearing debt (INR '000)	8,988	8.95	12.92	-3.97*** (0.48)
Total outstanding high cost debt (> 48% p.a., INR '000)	8,988	7.68	7.54	0.14 (0.33)
Average interest rate	6,462	5.46	4.95	0.50*** (0.05)
Interest free loans (no. per household)	8,988	0.11	0.27	-0.16*** (0.02)
<i>Material well-being: Assets and consumption expenditures</i>				
Productive asset index (Filmer-Pritchett)	8,988	-0.21	1.00	-1.21*** (0.08)
Consumption asset index (Filmer-Pritchett)	8,988	-0.60	0.65	-1.25*** (0.04)
Housing index (Filmer-Pritchett)	8,988	-0.22	0.13	-0.34*** (0.04)
Real total monthly consumption p.a. (INR '000)	8,988	0.67	0.74	-0.08*** (0.01)

Note: Standard errors of differences in means are clustered at the *panchayat* level to account for sampling design.

We also see that landless households have fewer interest-free loans. This suggests that informal risk-sharing mechanisms (which typically operate through gift giving or interest-free loans) are less available to landless households than to other households. Finally, the last four rows of Table 1 show that landless households are also economically disadvantaged in terms of their ownership of productive assets aside from land, and have lower material well-being in terms of ownership of durable consumption goods, housing quality, and consumption expenditures.

7.1 Baseline balance

To establish the validity of the randomized assignment to early rollout, we test for pre-treatment balance across treatment and control groups in the primary outcomes of interest, as specified in the pre-analysis plan, and other important household characteristics. Differences in means for each variable are estimated through linear

regressions in which controls for stratification variables are included and standard errors are clustered at the *panchayat* level. Results, shown in Table C1 (column 1) in Appendix C,²³ indicate that households in treatment areas are 2 percentage points more likely to include an SHG member.²⁴ While economically small, the difference in means for this variable is statistically different from zero (low variance near the tails is a feature of the binomial distribution). Relatedly, the mean outstanding SHG debt is also higher in treatment areas at the 1 per cent level, though this difference is also small in economic terms (INR 50). Monthly interest rates are higher in treatment areas, and this appears to be driven by a difference in informal lending rates alone. An index of productive assets, constructed according to the method proposed in Filmer and Pritchett (2001), is 0.1 points lower in treatment areas as well. We also test for differences across treatment groups, specifically among landless and landed households, in treatment versus control areas (columns 2 and 3). Again, we find small differences in SHG enrollment and debt, and in asset holdings. Variables are significantly different at $p < 0.05$ for 3 of the 25 basic variables tested (grouping SHG membership and SHG debt together, and average interest rate and informal rate together, since these variables are highly correlated). While this is higher than the expected proportion of unbalanced variables (5 per cent), it is not uncommon for this level of imbalance to occur simply through chance, especially as many of these variables are likely to be correlated with one another. We control in the primary analysis presented below for variables that are unbalanced at baseline; omitting these controls leads to qualitatively identical results. Attrition, at 3 per cent, is low, given the three-year interval between surveys, and does not differ between treatment and control areas, indicating that differential attrition is not likely to drive the results.

7.2 Direct impacts: SHG membership and borrowing

Table 2 presents estimates of the impact of access to Jeevika in Phase II on SHG membership and outstanding debt to SHGs, overall loans taken, amount borrowed, and interest rates. Results shown in columns 1 and 2 of Panel A indicate that over 60% of households in treatment areas had at least one member in a self-help group by follow-up, compared to 10% of households in control areas. We find that take-up of the program is higher among the landless, in line with the program's aim of targeting the poor, but that a significant share of landowning households also participated. Landless households were 9.7 percentage points more likely to belong to an SHG than landowning households in program areas, and 54 percentage points more likely to belong to a group than their landless peers in non-program areas, while landowning households saw a 43 percentage point increase in their likelihood SHG membership as a result of Jeevika (Panel B). We also see (column 2) that access to Jeevika resulted in 4 percentage points more households taking out any loans, indicating impacts on the extensive margin of credit use that are consistent with findings on the elasticity of demand for credit, reported by Karlan and Zinman (2013) in relation to a field experiment in Mexico.

²³ Appendix C <http://www.3ieimpact.org/sites/default/files/2019-01/appendix-c-ow31243-bihar-livelihoods.pdf>

²⁴ While Jeevika sought to encourage women to form and join SHGs, a small number of SHGs were already present (~10 per cent of households had a member in an SHG) at baseline. However, none of these were Jeevika SHGs, which meant they could not access credit through the one-time grant that was part of the intervention.

Table 2: Direct effects of Jeevika

	SHG membership (%)	Any loans taken in the past year?	Outstanding debt (INR '000)			Interest rates Monthly rate on new loans	New loans taken, past year (INR '000)		Family Index of dependent variables
			All loans	SHG loans	High cost (≥ 4% / month)		Total	SHG	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
<i>Panel A: Main effects</i>									
Jeevika	51.04*** (1.54)	0.04*** (0.01)	-0.86* (0.44)	1.97*** (0.09)	-1.88*** (0.38)	-0.95*** (0.07)	-0.20 (0.32)	1.91*** (0.10)	0.80*** (0.03)###
Additional baseline controls?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	8,851	8,987	8,987	8,987	8,987	6,805	8,987	8,987	8,988
Number of clusters	179	179	179	179	179	179	179	179	179
R-squared	0.36	0.09	0.08	0.13	0.06	0.20	0.04	0.10	0.24
Mean of dep. var., omitted cat.	10.37	0.74	17.94	0.13	12.97	5.75	11.50	0.14	0.00
Hochberg-corrected p-value									0.00
<i>Panel B: Heterogeneous effects by landholdings</i>									
Jeevika	42.97*** (2.25)	0.06*** (0.02)	-2.28* (1.36)	1.69*** (0.15)	-1.46 (0.89)	-0.65*** (0.12)	-1.65** (0.81)	1.67*** (0.16)	0.69*** (0.04)###
Landless household	-1.55 (1.25)	0.07*** (0.02)	-4.64*** (1.18)	-0.01 (0.06)	-0.51 (0.88)	0.56*** (0.09)	-1.62** (0.77)	0.01 (0.07)	-0.01 (0.02)
Jeevika X landless	11.27*** (2.19)	-0.02 (0.02)	2.05 (1.59)	0.39** (0.16)	-0.59 (1.07)	-0.41*** (0.14)	2.06** (0.98)	0.33* (0.18)	0.16*** (0.04)

Linear combinations

Effect of Jeevika if landless	54.25*** (1.61)	0.04*** (0.01)	-0.22 (0.50)	2.07*** (0.10)	-2.04*** (0.46)	-1.06*** (0.08)	0.41 (0.40)	2.00*** (0.11)	0.85*** (0.03)†††
Effect of landless if Jeevika	9.72*** (1.85)	0.05*** (0.01)	-2.58** (1.16)	0.38** (0.16)	-1.10 (0.71)	0.15 (0.10)	0.44 (0.70)	0.34** (0.16)	0.15*** (0.04)
Additional baseline controls?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	8851	8987	8987	8987	8987	6805	8987	8987	8988
Number of clusters	179	179	179	179	179	179	179	179	179
R-squared	0.36	0.09	0.09	0.13	0.06	0.21	0.04	0.10	0.24
Mean of dep. var., omitted cat.	8.97	0.64	24.51	0.11	13.62	5.12	13.52	0.09	-0.03
Hochberg-corrected p-values									
<i>Treatment if landless</i>									0.000
<i>Treatment if landed</i>									0.000

Note: Standard errors clustered at the *panchayat* level shown in parentheses. Coefficients are from an ANCOVA specification: Linear regressions of each outcome on its value at baseline, and an indicator of treatment status; Panel B has linear regressions of each outcome on indicators of treatment status, landlessness, and their interaction. Stratification dummies and baseline controls († in Table A1)²⁵ are included in all specifications. Landless status is landlessness at the time of the baseline survey.

Column 9 presents coefficients in a regression of z-scores of the outcome variables in this family: SHG membership, any loans taken, all outstanding debt, outstanding SHG debt, outstanding high-cost debt, interest rates, total amount borrowed in the past year, SHG amount borrowed in the past year, following Kling and others (2007); p-values for these regressions are reported using Hochberg's step-down method to control the family-wise error rate across all index outcomes.

* p < 0.1, ** p < 0.05; *** p < 0.01

‡ p-adjusted < 0.1, †† p-adjusted < 0.05, ††† p-adjusted < 0.01

²⁵ Appendix A <<http://www.3ieimpact.org/sites/default/files/2019-01/appendix-a-ow31243-bihar-livelihoods.pdf>>

While the program appears to have had a slight negative impact (INR 860, $p < 0.1$) on the total amount of outstanding household debt observed in treatment relative to control areas (column 3), we see a significantly higher value of debt (by close to INR 2,000) owed to SHGs (column 4), and a corresponding decrease in high-cost debt (column 5). Scaling the increase in SHG debt by program-induced SHG membership, 91 per cent of the lending capital transferred to groups through Jeevika was extended as credit to households at the time of the follow-up survey, as intended. The substitution in loan source results in a strong negative effect on the average interest rate on households' outstanding debt, and on the amount of debt for which the monthly interest rate is 4 per cent per month or higher. On average, such high-cost debt is INR 1,880 lower in treatment areas by the endline, a 14.5 per cent reduction relative to control *panchayats*. Credit was offered through Jeevika SHGs at a monthly rate of 2 per cent, less than half the mean baseline informal lending rate. Together with the high levels of loan take-up through the program, this implies a strong direct impact on the average interest rate paid by households on recent loans. Mean monthly rates paid on all loans taken within the past 12 months were a full percentage point lower in program areas, a reduction of 20 per cent compared to control *panchayats*.²⁶

The magnitude of first-order program effects differs by landholding status. The increase in SHG debt is higher among the landless than the landed by INR 390, in line with the targeting of poor households by Jeevika (Panel B, column 4). The value of new SHG loans over the past year is also marginally higher among landless households in the treatment group compared to their landholding neighbors (Panel B, column 4). More difficult to explain is the apparent negative impact of the program on the value of new debt from all sources taken on by landholding households over the past year (column 7). While on average, households in landless and landholding subgroups in both treatment and control areas increased their use of informal debt over the period covered by the evaluation, this expansion was significantly smaller among the landowning subsample in program areas. This is also reflected in the (marginally significant) negative impact of the program on total debt held by this subsample relative to their peers in control areas (Panel B, column 3). The impact on interest rates is especially pronounced for landless households, who faced higher rates at baseline, as noted in Table 1. Jeevika reduced the difference in average borrowing rates faced by landholding and landless households by two thirds (Table 2, Panel B, column 6), and brought down the average interest rate paid by landless households by 19.4 per cent.

In the presence of a baseline difference in outcomes, the ANCOVA estimator is generally less biased than either the simple difference or difference-in-difference estimators, which tend to under- or over-correct for the baseline difference, respectively (Frison and Pocock 1992). We present these two alternative estimators for Jeevika's direct impacts as upper and lower bounds of the true effect in Table A2 in Appendix A.²⁷ Treatment effects are similar in magnitude and significance under these alternative specifications.

²⁶ The household average interest rate excludes any interest free loans.

²⁷ Appendix A <<http://www.3ieimpact.org/sites/default/files/2019-01/appendix-a-ow31243-bihar-livelihoods.pdf>>

7.3 Indirect impacts: informal credit rates and lenders

As noted above, the average level of indebtedness increased significantly over the evaluation period. This was primarily driven by borrowing from the informal sector. However, Jeevika dampened this expansion in informal borrowing among households residing in treatment relative to control areas (Table 3, columns 1 and 2). The negative (relative) impact on informal borrowing is especially strong for landowning households (Panel B, column 3). For this group, lower borrowing from the informal sector in treatment areas exceeds the positive impact on borrowing through SHGs, resulting in a marginally significant negative estimate of the program effect on overall indebtedness for this subsample (Table 3, column 3) relative to landholding households in control areas, and a smaller increase in overall borrowing over the past year relative to those in control *panchayats* (column 7). For landless households, on the other hand, the expansion in SHG borrowing exceeds the reduction in informal borrowing relative to control areas. We therefore see a positive (but not significant) point estimate on total new borrowing relative to control areas among landless households.

Table 3: Effects of Jeevika on the informal credit market (indirect)

	Household survey data						Village focus group discussion data		
	Any informal loans taken?	Outstanding informal debt (INR '000)	New informal loans taken (INR '000)	Informal interest rate	Informal interest rate	Index of dependent variables	Informal	Money-lenders	Friends/relatives
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
<i>Panel A: Main effects</i>							<i>Panel A: Mean monthly lending rate</i>		
Jeevika	-0.06*** (0.01)	-2.65*** (0.39)	-2.04*** (0.30)	-0.12* (0.07)	-0.16** (0.07)	0.09*** (0.01)###	-0.32* (0.18)	-0.32 (0.23)	-0.16 (0.24)
New borrower					-0.10 (0.07)				
Jeevika X new borrower					0.16 (0.11)				
<i>Linear combinations</i>									
Effect of Jeevika if new borrower					0.00 (0.12)				
Additional baseline controls?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	8,987	8,987	8,987	6,211	6,211	8,988	322	292	218
Number of clusters	179	179	179	179	179	179	179	176	147
R-squared	0.09	0.07	0.05	0.22	0.22	0.06	0.42	0.41	0.55
Mean of dep. var., omitted cat.	0.72	16.24	11.14	5.75	5.76	-0.00	5.73	6.00	5.36
Hochberg-corrected p-value						0.00			
<i>Panel B: Heterogeneous effects by landholdings</i>							<i>Panel B: Number of informal lenders</i>		
Jeevika	-0.04** (0.02)	-3.41*** (1.09)	-3.14*** (0.77)	0.05 (0.10)		0.07** (0.03)###	-0.27** (0.12)	-0.08 (0.07)	-0.16** (0.07)
Landless household	0.08*** (0.02)	-3.04*** (1.05)	-1.69** (0.75)	0.48*** (0.09)		-0.02 (0.03)			
Jeevika X landless	-0.03 (0.02)	1.12 (1.32)	1.56* (0.94)	-0.23* (0.13)		0.03 (0.04)			
<i>Linear combinations</i>									
Effect of Jeevika if landless	-0.07*** (0.01)	-2.30*** (0.49)	-1.58*** (0.38)	-0.19** (0.08)		0.10*** (0.02)###			

Effect of landless if Jeevika	0.05*** (0.02)	-1.92* (1.02)	-0.13 (0.64)	0.25** (0.09)	0.00 (0.03)				
Additional baseline controls?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	8,987	8,987	8,987	6,211	8,988	333	333	333	
Number of clusters	179	179	179	179	179	179	179	179	
R-squared	0.09	0.07	0.05	0.22	0.06	0.32	0.25	0.42	
Mean of dep. var., omitted cat.	0.63	20.23	13.12	5.12	0.01	2.85	1.37	1.41	
Hochberg-corrected p-values									
<i>Treatment if landless</i>					0.000				
<i>Treatment if landed</i>					0.000				

Note: Standard errors clustered at the *panchayat* level shown in parentheses. Coefficients are from an ANCOVA specification: Linear regressions of each outcome on its value at baseline, and an indicator of treatment status; Panel B has linear regressions of each outcome on indicators of treatment status, landlessness, and their interaction. Stratification dummies and baseline controls († in Table A1)²⁸ are included in all specifications. Landless status is landlessness at the time of the baseline survey. Village-level regressions are from a separate village FGD dataset.

Column 6 presents coefficients in a regression of z-scores of the outcome variables in this family: Any loans taken, outstanding debt, new loans, interest rates, following Kling and others (2007); p-values for these regressions are reported using Hochberg's step-down method to control the family-wise error rate across all index outcomes.

* p < 0.1, ** p < 0.05; *** p < 0.01

‡ p-adjusted < 0.1, †† p-adjusted < 0.05, ††† p-adjusted < 0.01

²⁸ Appendix A <<http://www.3ieimpact.org/sites/default/files/2019-01/appendix-a-ow31243-bihar-livelihoods.pdf>>

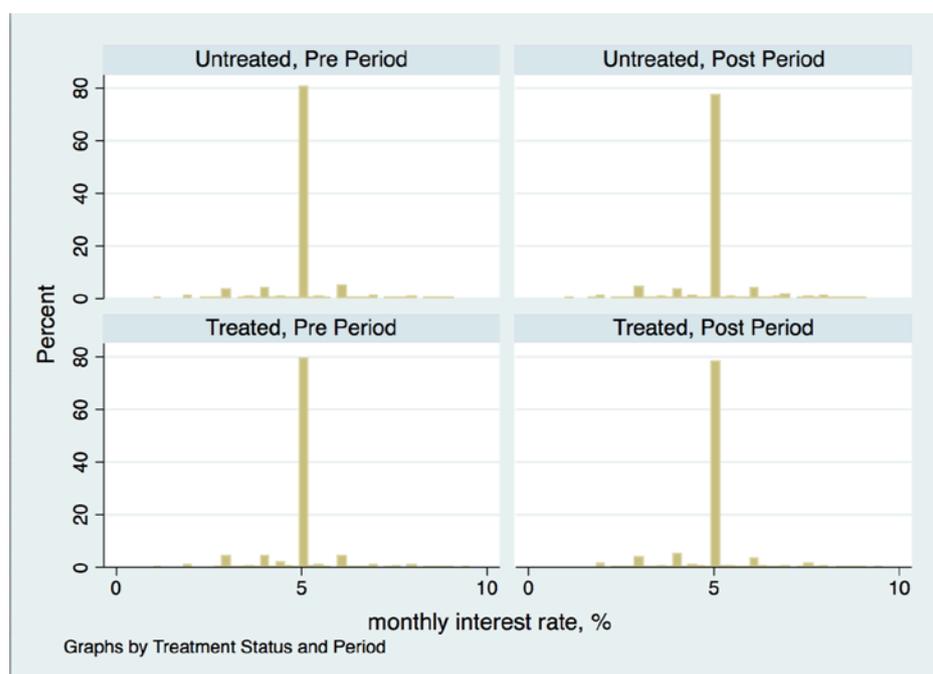
As seen in Table 3 (column 4), our results indicate that Jeevika led to a reduction of 0.11 percentage points in the average monthly lending rate paid by households on loans taken from informal lenders over the past 12 months ($p < 0.1$). Splitting the sample by new versus repeat borrowers (those who had not taken an informal loan within 12 months of baseline versus those who had), we see that this reduction is driven entirely by repeat borrowers. This could be due to an assumption by lenders, along the lines of Demont (2016), that new (and thus unknown to the lender) borrowers, who are unable to satisfy their credit needs through SHGs, are likely to be high risk.

A weakness of using household-level data to estimate impacts on lending rates is that these are affected by the composition of borrowers, which is itself likely to have been affected by the intervention. If households known to lenders as low-risk borrowers (and therefore receiving preferential rates on loans) are also more likely to receive credit through an SHG, this would lead to an upward bias (toward zero in this case) of the intervention's effect on rates, since the compositional change in borrowers from informal sources would increase the average informal rate.

Data collected through village-level FGDs, however, aimed to get at the publicly known cost of informal credit in each village. While this rate is certainly not immune to the composition of borrowers, we expect that it should be less affected by the identity of borrowers than household-level data. The point estimate of the intervention's impact on interest rates using these village-level data is indeed larger than that obtained using household data.²⁹ Overall, informal lenders (including professional moneylenders, shopkeepers, relatives and friends) are reported to charge 0.32 percentage points less per month in villages where Jeevika was present (Table 3, Panel A, column 7). Data from FGDs also indicate a decline in the overall number of informal sources mentioned (Panel B, column 7). This is driven by fewer friends and relatives listed as sources of credit; there is no significant impact on the number of professional moneylenders or shopkeepers (Panel B, columns 8 and 9).

²⁹ Controls in this case are village-level means of the household-level baseline variables included in the models with household-level outcomes. For villages with no rate recorded at baseline, the mean rate at the *panchayat* (16 observations) or district (2 observations) level is used.

Figure 4: Interest rates on loans from informal lenders, taken over the past 12 months



As shown in Figure 4, which illustrates the distribution of monthly interest rates from informal sector borrowing over the past 12 months by treatment group pre- and post-intervention, the 2 per cent lending rate offered by Jeevika is barely represented, providing confidence that the impact on informal sector rates is not driven by misclassification of SHG loans as informal loans.

Looking at the impact of being landless in the treatment area, we see that Jeevika reduced the wedge in informal monthly interest rates between landless and landholding households by 50 per cent, from 0.48 percentage points to 0.24 percentage points.

Results for indirect impacts using the alternative (simple difference and difference-in-differences) estimators are shown in Table A4 in Appendix A.³⁰ Overall, the estimated effect magnitudes and significance levels are similar. The estimated impact on informal interest rates in the overall sample is larger in magnitude, and differs from zero at a higher degree of statistical significance in the case of the simple difference estimator (Table A3, Panel B, column 4 in Appendix A).³¹ This result provides reassurance for the validity of interest rate results, as baseline imbalance for this variable goes in the opposite direction of the estimated treatment effect.

7.4 Downstream impacts: assets, consumption and women’s empowerment

While Jeevika had immediate and dramatic effects on household-level borrowing patterns and also appeared to affect credit markets in targeted villages, we see more limited short-term impacts on household asset possession, material well-being, and various measures of women’s economic and social empowerment. We test Jeevika’s

³⁰ Appendix A <<http://www.3ieimpact.org/sites/default/files/2-19-01/appendix-a-ow31243-bihar-livelihoods.pdf>>

³¹ Ibid.

impact on three asset indices, one for production assets, one for consumption assets, and one for housing quality. These indices are obtained using the method proposed by Filmer and Pritchett (2001). Each group has multiple variables (assets), each of which is binary: 1 if the household owns that particular asset, 0 otherwise. The Filmer-Pritchett index constructs a linear asset index from the set of indicator variables, using principal components analysis to derive the weights. Table 4 shows a positive impact of the program on the ownership of consumption assets. While this effect is statistically significant, it is modest in magnitude, representing a change of 0.06 standard deviations of the consumption asset index variable calculated within the control group at follow-up. The effect is concentrated among landless households, for whom the difference in means across treatment versus control areas represents 0.13 standard deviations of the index among landless households in the control group (Panel B). We also observe marginally significant positive effects of the program on both productive assets and housing quality among landless households (Panel B), though these effects do not hold good for the overall sample. Normalizing the estimated effects by the standard deviation of each index among landless households in the control group at follow-up, Jeevika appears to have increased both productive asset ownership and housing quality by approximately 0.06 standard deviations. No impact is observed for any subgroup on access to entitlements or consumption value. The impact on the index representing this family of outcomes is positive and highly statistically significant ($p < 0.01$) for landless households (Panel B, column 6), but weakly negative ($p < 0.1$) for landowning households. Given the baseline imbalance observed in the indices of consumption and productive assets at baseline, we turn to the alternative specifications presented in Table D3 in Appendix D.³² While the results hold up in the simple differences specifications, which does not correct for baseline imbalance, the difference-in-difference estimator (known to over-correct for imbalance) shows no significant impact of the program on any of the outcomes in Table 4, including among landless households. While perhaps overly conservative, this finding suggests caution in attributing impacts on asset holdings to the intervention.

³² Appendix D <http://www.3ieimpact.org/sites/default/files/2019-01/appendix-d-ow31243-bihar-livelihoods.pdf>

Table 4: Effects of Jeevika on household asset position, entitlements, and welfare

	Consumption asset index (1)	Productive asset index (2)	Housing quality index (3)	Access to entitlements (% any) (4)	Real consumption per AE (INR '000) (5)	Index of dependent variables (6)
<i>Panel A: Main effects</i>						
Jeevika	0.10** (0.04)	-0.01 (0.02)	0.01 (0.03)	-0.18 (0.43)	0.00 (0.02)	0.02 (0.01)
Additional baseline controls?	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	8,987	8,987	8,987	8,987	8,987	8,988
Number of clusters	179	179	179	179	179	179
R-squared	0.36	0.23	0.33	0.09	0.06	0.34
Mean of dep. var., omitted cat.	0.18	-0.11	0.11	94.42	0.95	0.00
Hochberg-corrected p-value						0.47
<i>Panel B: Heterogeneous effects by landholdings</i>						
Jeevika	-0.07 (0.07)	-0.13 (0.08)	-0.09* (0.06)	-0.44 (1.02)	-0.01 (0.04)	-0.06* (0.03)
Landless household	-0.31*** (0.06)	-0.33*** (0.06)	-0.21*** (0.05)	1.28 (0.90)	-0.07* (0.04)	-0.17*** (0.03)
Jeevika X landless	0.25*** (0.08)	0.17* (0.09)	0.15** (0.06)	0.35 (1.24)	0.03 (0.05)	0.11*** (0.04)
<i>Linear combinations</i>						
Effect of Jeevika if landless	0.18*** (0.05)	0.04* (0.02)	0.06* (0.03)	-0.09 (0.52)	0.01 (0.02)	0.05*** (0.01)###
Effect of landless if Jeevika	-0.07 (0.05)	-0.16*** (0.05)	-0.06 (0.04)	1.63* (0.90)	-0.04 (0.04)	-0.06*** (0.02)
Additional baseline controls?	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	8,987	8,987	8,987	8,987	8,987	8,988
Number of clusters	179	179	179	179	179	179
R-squared	0.37	0.24	0.33	0.09	0.06	0.35

Mean of dep. var., omitted cat.	0.95	0.45	0.48	91.26	1.09	0.34
Hochberg-corrected p-values						
<i>Treatment if landless</i>						0.000
<i>Treatment if landed</i>						0.172

Note: Standard errors clustered at the *panchayat* level are shown in parentheses. Coefficients are from an ANCOVA specification: Linear regressions of each outcome on its value at baseline, and an indicator of treatment status (plus an indicator of landlessness at baseline and its interaction with treatment status in Panel B). Stratification dummies and baseline controls († in Table A1)³³ are included in all specifications.

Column 6 presents coefficients in a regression of z-scores of the outcome variables in this family: Consumption assets, productive assets, housing quality, access to entitlements, real consumption per adult equivalent, following Kling and others (2007); p-values for these regressions are reported using Hochberg's step-down method to control the family-wise error rate across all index outcomes.

* p < 0.1, ** p < 0.05; *** p < 0.01

‡ p-adjusted < 0.1, †† p-adjusted < 0.05, ††† p-adjusted < 0.01

³³ Appendix A <http://www.3ieimpact.org/media/filer_public/2017/11/07/appendix-a-ow31243-bihar-livelihoods.pdf>

Several variables were constructed to measure different aspects of women's decision-making role, autonomy, capacity for collective action, and aspirations. These variables were constructed to maximize the degree of variation in the sample. The first is an index representing women's participation in household decision making. This is a binary variable, taking a value of 1 when women have any say in one or more of the following decisions: purchases of durables, purchases of personal items, migration of family or primary earner, own labor, borrowing for the family, politics (such as who to vote for), and education of children. The variable takes a value of 0 when the respondent has no say in any of these decisions. The women's mobility index is a binary variable, taking a value of 1 if women are allowed to go alone to more than half the places that they need to go to. It takes a value of 0 if women are allowed to go alone to fewer than half the places they need to go to.³⁴ The index for propensity towards collective action is a binary variable, indicating whether women have any inclination towards collective action to resolve issues in the village relating to receiving entitlements (what respondents would do if the village control shop was closed for a month or rations were of bad quality); relating to domestic violence (what respondents would do if a man in their *tola* was beating his wife, and the wife was admitted to hospital); relating to chronic and persistent alcoholism (what respondents would do if men in the village wasted money on liquor, and outsiders came to the village for liquor, making it unsafe for women). For each of the three questions, collective action is coded as 1 if the respondent said she would ask community members to intervene, gather community members to intervene together, or intervene herself. The overall collective action index is 1 if any of the sub-indices are 1, indicating propensity for collective action in one or more spheres. Finally, the index for aspirations for girls is a binary variable, which takes a value of 1 if a woman wished her daughter to finish high school or higher levels of education.

We see a positive impact on the index of propensity for collective action, but a negative impact on women's role in decision making within the household (both weakly significant at $p < 0.1$). These two effects cancel each other out in the aggregated index for this family of outcomes, resulting in an estimated family-wise treatment effect of zero. Neither the index of women's mobility, nor women's aspirations for their daughters' educational attainment were significantly affected by the intervention. Because of the weakness of results in the primary specification, we do not present results from alternative estimators for this set of outcomes.

³⁴ As described in the project report provided to the Bihar Rural Livelihoods Promotion Society leadership, women in treatment areas were significantly more likely to need to attend group meetings (by 48 percentage points) and banks (by 9 percentage points) than in control areas. However, mobility to other destinations, such as a health center, friends or relatives' houses, or the government shop for subsidized staple foods (PDS), was unaffected (Datta et al. 2015b).

Table 5: Effects of Jeevika on women's economic roles, empowerment, and aspirations

	Proportion of household women who work for income (%)	Women's decision-making in household index	Women's collective action index	Women's mobility	Aspirations for girls	Index of dependent variables
	(1)	(2)	(3)	(4)	(5)	(6)
<i>Panel A: Main effects</i>						
Jeevika	-0.52 (0.83)	-0.08* (0.05)	1.96* (1.05)	-0.01 (0.02)	0.28 (1.41)	-0.00 (0.01)
Additional baseline controls?	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	8,830	8,841	8,841	8,029	3,910	8,988
Number of clusters	179	179	179	179	179	179
R-squared	0.17	0.07	0.05	0.06	0.16	0.08
Mean of dep. var., omitted cat.	72.58	6.27	87.44	5.79	29.08	-0.00
Hochberg-corrected p-value						0.82
<i>Panel B: Heterogeneous effects by landholdings</i>						
Jeevika	1.10 (1.93)	-0.11 (0.06)	2.09 (1.56)	-0.00 (0.03)	2.94 (2.98)	0.01 (0.02)
Landless household	7.10*** (1.82)	-0.02 (0.04)	-0.14 (1.12)	0.04** (0.02)	-10.53*** (2.47)	0.03* (0.02)
Jeevika X landless	-2.40 (2.33)	0.04 (0.06)	-0.19 (1.49)	-0.01 (0.03)	-3.33 (3.35)	-0.02 (0.02)
<i>Linear combinations</i>						
Effect of Jeevika if landless	-1.30 (1.02)	-0.07 (0.05)	1.90* (1.10)	-0.01 (0.02)	-0.39 (1.61)	-0.01 (0.01)
Effect of landless if Jeevika	4.70** (1.70)	0.01 (0.05)	-0.33 (1.18)	0.03 (0.02)	-13.86*** (2.94)	0.01 (0.02)
Additional baseline controls?	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	8,830	8,841	8,841	8,029	3,910	8,988
Number of clusters	179	179	179	179	179	179
R-squared	0.18	0.07	0.05	0.06	0.17	0.08

Mean of dep. var., omitted cat.	61.26	6.29	87.77	5.14	45.87	-0.04
Hochberg-corrected p-values						
<i>Treatment if landless</i>						0.57
<i>Treatment if landed</i>						0.70

Note: Standard errors clustered at the *panchayat* level shown in parentheses. Coefficients are from an ANCOVA specification: Linear regressions of each outcome on its value at baseline, and an indicator of treatment status; Panel B has linear regressions of each outcome on indicators of treatment status, landlessness, and their interaction. All specifications control for block dummies and mean high-cost debt at the *panchayat* level at baseline. Additional controls († in Table 1) are included in even-numbered columns. Landless status is landlessness at the time of the baseline survey.

Column 6 presents coefficients in a regression of z-scores of the outcome variables in this family: Working women, decision making, collective action, mobility, aspirations, following Kling and others (2007); p-values for these regressions are reported using Hochberg's step-down method to control the family-wise error rate across all index outcomes.

* p < 0.1, ** p < 0.05; *** p < 0.01

‡ p-adjusted < 0.1, †† p-adjusted < 0.05, ††† p-adjusted < 0.01

7.5 Qualitative outcomes in Phase I villages

In contrast to the Phase II quantitative findings, impacts on women's roles, empowerment, and mobility appeared to be strong in the Phase I qualitative evaluation. We find that Jeevika, by giving women privileged access to symbolic resources (that facilitate the formation of a new identity anchored in the SHG, rather than caste or kinship), physical resources (such as group money, access to credit and passbooks), and an associated institutional environment (new collective entities created by the intervention), led to changes in norms and women's habitus, and cultivated new cultural competencies and capabilities that defied the classical conventions of gender. Jeevika created "cultural configurations" (Patterson 2014) that gave economically and socially disadvantaged women access to a well-defined network of people, and to new systems of knowledge with which they could challenge old generationally transmitted systems of knowledge that were more concerned with preserving gender boundaries, rather than disrupting them.

7.6 Women's spatial mobility

Meeting attendance required mobility, and a new discourse and identity started the process of undoing the everyday practice of gender. Through Jeevika, women had a reason to leave the perimeter of their house and speak with strangers. One participant depicted the dramatic change in this way:

Earlier we were not allowed to stand on the entrance of the house, and women used to be reprimanded if their voice was a little too loud or audible outside their home. But now we can go anywhere we please. (Saifpur, Cycle 1, Chaudhary *tola*, FGD)

Renu Chaudhary from Saifpur described how the restrictions on mobility and interaction had fallen off with time:

Earlier I was confined to my house; I had no freedom to talk to anyone. My brother-in-law would ask me not to go out in the village and my brothers did not like me to be working. They had apprehensions about my joining the group. But now, women have really moved ahead. Now women are not burdened with restrictions anymore. Now we talk to other women, even men if required. (Saifpur, Cycle 4, Renu Chaudhary, Kalwar *tola*)

A woman who was a CM explained it from her unique perspective:

Earlier I never used to go anywhere. But ever since my association with Jeevika, I have started managing a lot of work outside home. Typically, I would go out to conduct meetings and do SHG related work. I even had to go and live in the block office once until our bank linkages were done. But then I realized that if I keep going out for Jeevika work and not for work that my family needs done, then it would look bad. So now, I go to the market when my children need things. I even go to their school when needed. One thing is for sure, that when a woman starts going out of the house, then the in-laws and everyone assume that she can manage everything, both inside and outside the house. (Saifpur, Cycle 4, Asha Devi, Kalwar *tola*)

In Ramganj and Saifpur, men and many women reacted with resistance to the new ideas and discourses promoting women's mobility. Men would question the morality of women who were part of the project:

They would say, such and such person's daughter and daughter-in-law have gone out of the home. People would say that these women's groups are spoiling women; women are going out freely and being indecent. Many would think it is wrong, and women joining the group are bad women. Some men would even suspect their wives. (Saifpur, Cycle 1, Shiv Kumari Devi, Kalwar *tola*)

For many upper caste women, being part of Jeevika was extremely difficult in the beginning, as their husbands would resort to violence in protest at their enhanced mobility. Some village men passed crude remarks targeted at husbands who had allowed their wives to enroll in Jeevika. As a result, some men who had initially allowed their wives to be part of Jeevika forced their withdrawal because of peer pressure, and in some cases scolded the women for participating in Jeevika.

This sanctioning behavior should be understood as keeping women within conventionalized boundaries of womanly behavior, as well as men zealously defending their masculinity. Often, men were reacting not just as individual husbands trying to assert their power within a conjugal dynamic, but as members of a larger community that saw this intervention as threatening emasculation. Hence, in the short run, women's defiance of gender norms, specifically mobility restrictions, was sometimes met with violence and ridicule. Over time, these instances reduced as mobility was legitimized and Jeevika women grew in numbers.

7.7 Solidarity across caste lines

Women from upper castes also reacted to the intervention in the initial days with resistance and some of them continue to distance themselves from it. Particularly in Ramganj, where Maithil Brahmins were the dominant caste, some women chose not to join Jeevika because, according to their worldview, it was not dignified work. Some Brahmin women who joined after harboring an attitude of disdain and rejection refused to let their daughters-in-law join. It is important to bear in mind, however, that the process of re-negotiating boundaries of womanhood and caste is an ongoing and fluid one. While some women were optimistic about the changes as they unfolded, others were skeptical. Indu Jha, for instance, as the wife of the head priest of a temple, struggled to make peace with the enhanced mobility of lower caste women. As a CM, she worked hard to convince staff and the researchers that she had come a long way; that 10 years ago, she would not even allow the shadow of a Ram woman to touch her, but now she allowed them into her courtyard and hosted their meetings. Observing her group meetings, however, revealed the gap between rhetoric and practice. She sat on a bed along with the two other Brahmin group members, while the remaining 11 women from the Ram community jostled for space on the floor. She collected the Brahmin women's savings by hand, but insisted that the rest leave their money on the edge of the bed. She kept women from the Ram community at arm's length. The Ram women complained about her in her absence, and it often became a subject of ridicule, both in her absence and presence. In a similar vein, Munki Devi claimed that she was acutely aware of the fact

that her mobility was circumscribed, and it would last only as long as her identity as a Jeevika woman lasted.

I am allowed to be in the temple premises during our VO meetings because I am a Jeevika *didi*. But the day I am not a member of my savings group, you will see, they will not accept my donations (to the temple) or allow me in the temple premises ever again. That is the fate of a *Domin* [Dom woman]. (Ramganj, Cycle 6, Munki Devi, CRP, Dom *tola*)

7.8 Access to public spaces of deliberation and action

Historically, spaces for public debate and deliberation at the local level in rural India have been strongly associated with the PRI, which has been established to promote decentralization and grassroots democracy. While it was in the *gram sabhas* (village assemblies) that the drama of deliberation and everyday democracy was supposed to unfold (Rao and Sanyal 2010), rural Bihar did not have an established system of holding the constitutionally mandated village assemblies for a long time (Corbridge et al. 2005). Even at the *panchayat* level, local governance has been relatively weak in rural Bihar. Elections were held in 2001 after a gap of 23 years, but the PRIs had neither functions nor funds. Moreover, evidence suggested that even in the 2001 elections, the upper castes were able to retain their foothold at grassroots level (even though they lost political ground at higher levels of government), and the socio-political profiles of elected *mukhiyas* in the 2001 elections were largely similar to those elected in 1978 (Pankaj and Singh 2005). Virganj for instance, had a male Brahmin *mukhiya* and *sarpanch* (judicial head) for 30 years unopposed. As a result, Brahmins dominated every aspect of decision-making and public debate in the village, and villagers complained of a bias in favor of Brahmins in disbursing the benefits of government-subsidized schemes:

Whenever there is conflict or a big decision is to be taken, there are 10 senior male members of the village that are called upon. They were all Brahmins for a long time, only now two new members have joined – one Yadav and one Dhobi. (Virganj Baseline Report)

The Bihar government led by the chief minister, Nitish Kumar, introduced laws that reserved 50% of seats in village councils for women, exceeding the 33% mandated by the Indian constitution. As a result, the number of women representatives grew in successive elections in 2006 and 2011. In practice, however, women in the control villages did not see the PRI as a legitimate problem-solving arena that catered to their needs. Instead, they considered it to be a male-dominated space, which did not have room for their voices or interests. In 2001, when Bihar held elections to the village councils for the first time, very few women voted. In the next two elections (2006 and 2011), even though half the seats were reserved for women, in practice, the husbands of the women candidates would fight the elections. The husbands of the winners would rule the roost. This was termed as the proxy *mukhiya* phenomenon.

Interviews with public officials in the control villages revealed that women were seldom seen as capable of being active participants in public debates. Most of the women in Virganj and Bhimpur had never attended the *aam sabha*, a forum intended to resolve individual and collective problems raised by participants and for selecting beneficiaries

for government schemes. The only women who attended these meetings were widows seeking their old age pension, or their housing rights under a subsidy scheme. For the most part, it was seen as a forum for men, and even if women wanted to attend, they were denied information and access. In control villages, women had never experienced the state directly; instead, they saw it as mediated through the observation of male household members. As a result, majority of the women across caste and income strata were unaware of how to access state services (how to get entitlements, where to go for public services, whom to meet for obtaining signatures, and so on).

In strong contrast, women who enrolled in Jeevika, particularly those women who were position holders in their groups, regularly made their presence felt in the public space of debate and action. They attended *aam sabhas*, occasionally with the stated intention of making noise, freely voicing their opinions against corrupt *mukhiyas* and positioning themselves as being opposed to politics. This was not surprising given that Jeevika, in part, was designed and set up in parallel to the existing local governance system (PRIs). The apex body of the SHGs, the CLF, had been created with the envisioned goal for it to become the principal conduit for the multiple women-centered interventions run by the government.

Even though creating distrust of the PRIs or attempting to replace them was not the intention of the intervention, quite often the dominant discourse among Jeevika women was that the *panchayat* could not be trusted, and it was time they took matters into their own hands. Some of the women were fiercely critical of these institutions: “We are quite against the *mukhiya*. When we said we wanted to attend the *aam sabha*, he just stopped holding them!” (Ramganj, Cycle 7, Anita Devi, CRP, Dhanuk *tola*). The women also felt strongly about corruption in the PRIs and were fairly vocal on the issue: “You know, they came to bribe us once. They said, ‘Here goes the money, now get me all the votes from your Jeevika ladies.’ We rejected the money and told him, just win fair and square if you can.” Some of the women felt confident that, given an opportunity, the CLF could replace the PRIs in some years: “I think if our CLF keeps moving in the right direction, then a day will come when they will have to come to us.” (Ramganj, Cycle 7, Shakuntala Devi, CLF president, Gopalpur *tola*)

Indeed, many of the Jeevika leaders presented themselves as conduits or brokers for public services. They had become the contact points for other women for all kinds of problem reporting and solving, from difficulties in getting their due share of government-subsidized food staples, to old age pensions and subsidies for housing and sanitation. Women brought their concerns to the leaders of the Jeevika SHGs and VOs instead of the PRIs, and the leaders then arbitrated with the PRIs or with other institutions and personnel to resolve the problems. For instance, Shakuntala Devi, the CLF president in Saifpur, spoke about how she particularly enjoyed this aspect of her work, problem solving and helping other women. Having risen through the ranks and won Jeevika elections at all three levels—SHG, VO, and CLF—she considered it her responsibility to take care of her constituency of women. Our conversations with her were frequently interrupted by women coming to her doorstep for help or information. Her home had turned into an open and inclusive problem-solving arena, where she regularly performed her role as a broker with competence comparable to any skilled politician:

I wish I could take the law into my own hands. Then I would take care of the 30 to 40 VOs in my CLF and push each one of those 10,000 *didis* forward. Then we would show everyone that women are not weak. We can sit at the same table with you... You know, all the poor are my supporters. That is because I am against the rich. (Saifpur, Cycle 7, Shakuntala Devi, Gopalpur *tola*)

The cases that were informally brought to women leaders who had risen from the rank and file of the intervention were mostly focused on land issues involving Jeevika members and non-members. While most cases were dealt with on an individual basis, very often these cases were seen as a means of correcting historical injustices over land meted out by men of dominant castes to women of backward castes:

Given the kind of unity among women, we do take action whenever needed. For instance, one of the members of Ganga Jeevika SHG had a land dispute with a Brahmin. The pathway to her land is through the land of this Brahmin, and he was blocking it, so that no one could pass. All of us women went together and resolved the issue. (Ramganj, Cycle 1, Adheera Devi, Hajaam *tola*)

In Saifpur, too, there had been instances of women arbitrating in land disputes. The reason women felt they had to take matters into their own hands was because the existing institutional system did not listen to them, and also because they received no help from the village men:

Men sort out their issues amongst themselves. But when it comes to women, if we get to know about any land disputes of members or non-members, we club together and work to sort out the problem. They have to listen to us then, and why would not they? We go in large numbers, and non-group members also join us. No man can dare ignore us then. (Saifpur, Cycle 4, Anu Devi, CM, Chaudhary *tola*)

Jeevika members had also arbitrated in financial disputes. Poonam Devi gave the example of solving a moneylending case:

Didi, earlier all conflicts were dealt with by men. Women were not even allowed to be present. But now things have changed. Now 10 to 20 women can come together and go and solve any problem. Someone from this village had given a loan of INR 4,000 to a person from another village. The creditor's two daughters-in-law were members of Jeevika. Men from that family would go and demand their money but they [the debtor] refused to repay. Then 10 of us *didis* hired an autorickshaw and went there and demanded the money and compelled them to repay the loan right away. The debtor repaid. Things have changed, *didis*. Now we are confident and can talk to unknown men without hesitation. We got exposure and learnt so many things in Jeevika. (Saifpur, Cycle 1, Poonam Devi, Chaudhary *tola*)

Jeevika members had also taken action in disputes involving women and their employers:

Once a brick kiln owner was not refunding INR 4,000 for four years to one of our members. All of us women hired a jeep and chased him. We warned him that if he did not repay instantly it would cost him his bricks and goats. Finally, he

repaid on the spot. The women's collective has established its status in the community, and often people are scared of it. Whenever we go out in a group, people passing by are alert and they start whispering to each other. Earlier they were disrespectful, but now no one dares to be so. (Saifpur, Cycle 1, Paswan *to la* FGD)

Group members also arbitrated on behalf of women in domestic violence cases. Unlike women in the control villages who were reluctant to protest on behalf of other women, fearing they would get rebuffed or entangled, women in Ramganj and Saifpur found strength in numbers and did not hesitate to take action.

Yes, we routinely discuss these issues in our meetings. If a group of 13 members cannot stand up for each other, then what is the use? If I do not intervene, the woman will die. It happens in every family. If it is a very serious matter we call for a meeting, and they (perpetrator) are made to apologize. All the women from all the groups come to the meeting and take a decision. (Saifpur, Cycle 3, Rehana Khatoon, Tok *to la*)

Initially men disapproved of women mobilizing and would often mock their wives:

My husband would taunt us. He said that he would see what women power could achieve. He had doubts about our strength. He felt that when the *mukhiya*, the *sarpanch* and the police could not resolve the land dispute, how would we resolve it. But we did it. (Saifpur, Cycle 1, Krishna Devi)

Participants shared that, over time, their husbands and the community had begun to appreciate their efforts to resolve disputes:

They say it is a good thing that women are now united and do not just sit at home. Now they organize meetings and are aware of what is going on in the house next door and share it in the group, which also makes other women aware of the recent developments in the village. Earlier, women did not know any better. They did not report any mistreatment from men of the village. (Saifpur, Cycle 1, Chaudhary *to la* FGD)

Women's participation in the public space of debate and action had largely expressed itself in the forms of problem solving, arbitration and creating alternatives to the rule of the *sarpanch* and *mukhiya*. The logical conclusion of this process of transformation was standing for elections for positions in the local government (PRIs). A select few women had fought for *panchayat* elections. Shakuntala Devi, a CLF leader, felt strongly about her chances of winning and, even though she had been unable to oust the existing order, she had succeeded in mobilizing women who had rallied for her. She had developed a unique political discourse based on rejecting politics and eradicating poverty:

I had fought for *mukhiya* elections, but I lost. The other candidate bought the seat; he spent INR 13 lakhs.³⁵ And I had no money. I had no money to give to any *didi*... My aspiration was that, if I win, I can do social work; I can do the work for all my *didis* for free; then can you imagine how much our *didis* would

³⁵ About USD 20,000.

progress? I wanted to fight this business of a proxy *mukhiya*. It is a woman's seat after all, and if a woman wins the election, she should work! Before elections, I had declared that if I win, then you will find me at every doorstep and in every SHG and VO meeting. And I will do your work. I have the *jazbaa* [will]. I am going to help the poor. I am going to get them what they need. (Saifpur, Cycle 7, Shakuntala Devi, Gopalpur *tola*)

For Shakuntala's counterpart in Rampur, Urmila Devi, the next logical step after becoming the CLF president was also to contest the *panchayat* elections. She contested the elections for the ward member position: "Women came in large numbers from eight different villages for the election. And everyone voted for me. You know why? Because I have made groups everywhere. And I have done it all by foot." However, she lost out to her opponent: "I would have won if the election had not been rigged by Chaudhary. They threatened to be violent when I tried to protest against them." However, this did not deter her from aspiring to stand for elections again. She wanted to stand for the next *mukhiya* elections: "Give me the position and then see." (Rampur, Cycle 7, Urmila Devi, CLF president, Paliwar *tola*)

This particular aspect of women's empowerment had grown without any direct facilitation by Jeevika. In 2006, before women were mobilized into the project, Jeevika staff had spent a considerable amount of time gaining buy-in (i.e. promise of support or non-interference) from key members of the *panchayat* by assuring them that the project had little interest in changing the social and political order of the village, and that it was strictly a women's microfinance program. This allowed the project to operate without the interference of the PRIs. However, as the project had garnered increased funding and public support, as women's visibility had been enhanced, and as Jeevika women had developed an effective and autonomous problem-solving mechanism that directly challenged the PRIs, the Jeevika staff withheld support. Consequently, women often felt let down because when they asked Jeevika for financial or any kind of assistance to fight elections or to fund their mobilization for anti-liquor campaigns, they were denied help. To a large extent, therefore, Jeevika women's entry into the public space of debate and action, particularly the sphere of the *panchayat*, can be seen as an unintended consequence of the project, because it was expected to run parallel to it and pursue economic goals, and not intersect with the established political, governance system.

However, even though the project did not directly facilitate this, it did create the enabling environment. The women claimed, "Jeevika does help build leadership skills and instills confidence in us to handle a community. No school, no formal education can teach you that. (Rampur, Cycle 7, Reena Paswan, CLF treasurer, Paswan *tola*). Second, the project had strengthened the notion of a collective by mobilizing and bringing women together under the unifying identity of *gareeb didi* and through the system of institutional affiliation had significantly improved the terms of recognition under which women participated in the public space.

7.9 Differences in program processes from Phase I to Phase II

Although both components draw on data from the same period, the qualitative findings described above come from villages that were involved in the first phase of the project (covering 400,000 households). The quantitative analysis examined villages from the second phase (covering 800,000 households). As the project expanded to its second phase, it had positive but less impressive results. While the goal of debt reduction was achieved to some extent in Phase II, the social empowerment effects (women's mobility, social capital, participation in the public sphere) were not significantly different from zero.³⁶ The qualitative comparison of the project as implemented in Phase I versus Phase II allows us to illuminate the reason for this phase shift, something that remains invisible in the quantitative study.

This comparison reveals that the first phase was akin to a mini-social movement that challenged traditional structures of power and patriarchy (Sanyal et al. 2015). Focusing on the frontlines (i.e. at the village level), we find that the key difference between implementation in the two phases of the project was that mobilizers in the first phase deployed a discourse that was carefully "co-produced" (Ostrom 1996) with its beneficiaries. Through careful groundwork and creative improvisation, mobilizers incorporated the interests of multiple stakeholders on the ground, while bringing beneficiaries into the project. However, as the project scaled up to other districts, participants were mobilized quickly with a homogeneous and fixed script that lacked the kind of improvisation that characterized the first phase, and which failed to include diverse stakeholder interests, objectives and voices. These differences significantly reduced the intensity of participation and its concomitant social impacts. Tracing these differences back from village level to block, block to district, and then district to capital city, we found that the work of facilitators was embedded in a larger shift in organizational priorities within the project, which in turn was responding to the shift in political climate at that juncture.

Through in-depth interviews, we found that the pressure to scale up and scale up quickly led to some of these differences. Owing to its success in the first phase, the project was able to get buy-in both at the village and state government levels. Having established that the model worked in its first phase, the emphasis in the second phase was to spread it far and wide as quickly as possible. Moreover, Jeevika, being one of the state government's most high-visibility projects, faced great pressure in the year before the state elections (2012) to expand very rapidly. The chief minister insisted that, along with bringing new women into the project, all SHGs from previous projects should also be brought into the Jeevika fold. In addition, as the project expanded and scaled up to cover three times as many districts as quickly as possible, the "phase shift" (Mosse 2005) brought with it entirely new organizational dynamics, which sped up the mobilization phase and prioritized quantifiable targets over slow experimentation and adaptation. As one of the state project managers told the qualitative research team, "manpower, money

³⁶ For literature on the impact of microcredit programs and the SHG model on women's empowerment see Sanyal (2009, 2014); Sanyal and others (2015); Deininger and Liu (2013); Kandpal and Baylis (2012); Desai and Joshi (2014); Casini and others (2015); Khanna and others (2015).

and monitoring—all three were our key ingredients in the first phase, and we ignored them all in the next phase.”

These three ingredients succinctly capture all the factors that management identified as key. In terms of manpower, the facilitators who were recruited in Jeevika’s first phase, were an intrinsically motivated group that had a much more dynamic and flexible approach than the second phase facilitators. In contrast, in the second phase, facilitators were less carefully handpicked and lacked the experience and drive of the first phase facilitators. Four thousand new staff were rapidly recruited en masse and degrees were emphasized over work experience in the field: “There’s a certain kind of zeal missing in the next generation. Something was lost in mass recruitment. It became hard to explain to them that Jeevika is a path for women, not a destination.” (State Project Manager, Patna). Moreover, the proportion of field-level staff to the number of SHGs declined in Phase II. In other words, the size of the workforce could not keep up with the number of SHGs, or for that matter with the increasing number of interventions that were gradually rolled out on the SHGs: “[in the first phase] our only agenda was to mobilize women properly. Now far too many things are part of the mandate.” (Nalanda AC). The sudden increase in the workforce also meant that the new facilitators could not be trained directly by the state, but instead had to rely on a second tier of trainers at the district level. Also, unlike the first phase, where their training involved immersion in similar projects in other parts of India, particularly in Andhra Pradesh, in the second phase there were no such immersions. On the contrary, they had targets and were expected to begin mobilizing women from their very first trip to the field, thereby skipping an initial learning phase. These differences in recruitment and training led to: “a frontline that was a dedicated group of *social workers* in the first phase, and a dedicated group of *salesmen* in the second phase.” (DTO, Cycle 2, Ramganj)

Phase II project managers regretted having to move forward quickly without first putting in place robust systems of monitoring and feedback: “Something worked in the first phase, but we did not quite know what. There was not enough time to capture institutional learning from the first phase to feed into the second phase...for instance, we had no idea how much time it takes to build a community.” (State Project Manager, Patna). Changes were made to the project design without feedback or a full understanding of what aspects of project design had helped achieve success in the first place. As we will see, one of the main changes—introducing the livelihoods component during institution building, rather than focusing on only building community institutions first, as they did before—was a decision made without sufficient feedback. This led to less participation.

Besides facilitation, one of the key changes that had an impact on the second phase was limited resources—money—both for the community and for the project. With a sudden scale-up, limited resources meant there was little room for the kind of slow learning that was possible initially. The second phase focused, therefore, on emulating the first phase and its processes rather than innovating on the frontlines. ACs and CCs who worked in both phases often complained that during the second phase they felt encumbered by rules and procedures for mobilization. “Earlier, we would just simply head out to the field and do our work; now there are formats for everything! [*Pehle hum copy liye aur field mein chal diye, ab sab kuch ka format ban gaya hai.*]” (Nalanda CC). Limited resources

also meant there was less money to go around for the SHGs, Jeevika having decided to cut down on the initial capitalization fund from INR 50,000 to INR 15,000, which interviewees felt was responsible for the reduced intensity of making loans between, and hence the reduced intensity of participation in Phase II.

Moreover, starting in 2012 there was a high turnover in leadership within the project: There was one CEO from 2006 to 2012; over the next four years, there were six. With each change of leadership, principles and operational manuals were revised, and the stability enjoyed during the first phase disappeared. This shift in organizational dynamics and priorities ultimately trickled down to stark differences in mobilization strategies on the frontlines.

Drawing on the qualitative data that focus on daily practices and interactions in the field, we find that Jeevika in Phase I villages mobilized women into the project and sustained their participation by deploying a discourse that was “coproduced” by the facilitators and the women themselves, a discourse that incorporated multiple interests. We draw on Ostrom (1996) for the original formulation of “coproduced” as a process by which “citizens can play an active role in producing public goods and services of consequence to them” (p.1073). However, some form of active role played by citizens or partnership is now so common in service delivery that it renders such a definition trivial. Joshi and Moore (2004) further redefine “coproduction” or “institutionalized coproduction,” as the “provision of public services (broadly defined, to include regulation) through regular, long-term relationships between state agencies and organized groups of citizens, where both make substantial resource contributions” (p.1).

Coproducing discourse is in many ways similar to coproducing public services. Coproduction of service delivery involves blurring the conventional distinctions between outsider authority and insider knowledge, between public and private. Similarly, coproducing discourse involves purposefully obfuscating boundaries between the formal project script coming from the project headquarters, and the everyday circumstances of the women in the villages.

In Phase I, facilitators brought a script including flowcharts, images, training modules, and so forth; but on the frontlines, they constantly changed that script by gathering input from women. They reminded mobilizers, as well as beneficiaries, to rely on their own experience of poverty in order to help other women. The facilitators may or may not have had an in-depth understanding of the context of every village, but they did understand that no village or community or elite group or marginalized group was homogenous, and that there were multiple interests cutting across each category. Creating a common subjective understanding of the complexity of the problem, and being sensitive to the diversity of interests, was key to effective implementation. As one facilitator pointed out:

We are not here to preach [*hum pravachan dene nahi aate*]. This is an opportunity for us to ask every woman her own individual story of why she is poverty stricken. Some say, ‘because my husband is sick or disabled,’ some say ‘because we routinely suffer abuse in the hands of our employers,’ some say ‘it is because of an outstanding loan,’ some say ‘it is just how things have been for generations.’ We must hear each story. The women themselves must hear each story. (DTO, Cycle 1, Saifpur)

In other words, the SHG and VO meetings or the training meetings were treated as a space to contest and forge, rather than to impose, meanings of and solutions to poverty. The ultimate aim was to weave divergent narratives into the project's discourse and together agree on a set of principles and negotiated language. This then provided a framework into which the future actions of both the facilitators and the women would fit.

This kind of coproduction of discourse was key to the success of the project in its first phase, but in Ostrom's (1996) terms, the "citizen contribution" of women to this discursive coproduction was hard to 'routinize'. As a result, by the time the project got to its second phase and was under pressure to expand rapidly, facilitators trained with a homogeneous and scripted discourse of poverty. For their part, the women, rather than arriving at the solution themselves, were told that the project itself was the solution. Far from being coproduced, in Phase II the discourse was imposed from above, was closer to the script, and lacked the kind of improvisation characteristic of Phase I. In effect, mobilization was rapid, but women found themselves alienated from the purpose of the project, and the project became an entity outside of them rather than synonymous with them. In the following sections, we discuss six different aspects of this argument, and how both implementation success and failure manifested themselves in the field.

8. Discussion

Chronic indebtedness and exploitative moneylenders are well-established tropes in fictional and cinematic accounts of poverty in rural India. Several studies, including an important recent survey by the National Sample Survey (Gol 2014) and technical papers by the Reserve Bank of India (RBI 2007; 2011) have documented the widespread reliance of rural households on high-cost debt from the informal sector at rates of up to 150 per cent per year. Over the past two decades, micro-finance institutions have rapidly expanded into markets previously served almost exclusively by traditional moneylenders. One would expect this influx of competition to affect existing credit markets, but the nature of these impacts are not obvious *ex ante*.

The limited empirical literature on this question consists of observational studies, and finds either zero or positive impacts of MFI entry on lending rates charged by informal sector lenders. Despite the existence of several randomized studies on the impact of micro-credit programs, none of these has documented a significant effect on interest rates. The randomized intervention evaluated in this study, conducted in seven of the 38 districts of Bihar, increased SHG membership by over 50 percentage points. Those who joined a Jeevika SHG shifted almost 30 per cent of their outstanding household debt from the informal sector to Jeevika, on average. The massive influx of relatively low-cost credit extended through Jeevika allows us to detect, for the first time, the impact of a micro-finance intervention on informal credit markets through a randomized evaluation.

At baseline, annual informal interest rates paid by landless households were an average of 6.1 percentage points per year higher than those paid by the landed. SHG entry caused a shift in the informal lending rate offered to these households that reduced this gap by 50 per cent, whereas the point estimate of the impact on rates paid by landowning households is within a quarter of a percentage point of zero per year. The fact that the impact on lending rates is limited to the economically marginalized is indicative of the segmented nature of credit markets in this context.

Using the impact on the overall informal interest rate based on the focus group data (-0.32 per cent per month), and assuming that households' informal debt can eventually be refinanced at the lower prevailing rate, we estimate that Jeevika will reduce the average cost of servicing debt to informal creditors by INR 624, equivalent to 90 per cent of the mean monthly reported consumption expenditure in this sample. The magnitude of this effect is comparable to the direct average annual savings of INR 886 achieved by shifting a portion of household debt out of the high-cost informal sector to lower-cost SHG loans.

Two years after initiation of the program, some specifications indicate that a significant impact on the asset position of landless households had already been observed. No impact on consumption expenditures was seen, and only weak and conflicting effects on various measures of women's empowerment were observed in the quantitative study. Given that the intervention reduced debt-servicing costs substantially, it seems likely that asset impacts will strengthen with time, and that other downstream impacts may still arise.

The absence of strong impacts on indicators of women's empowerment detected through the quantitative study contrasts with the findings of the qualitative investigation of Jeevika's first phase. By Phase II, the qualitative evaluation revealed a significant weakening of Jeevika's activities related to women's empowerment. This likely explains the lack of impact observed in the Phase II quantitative evaluation.

9. Specific findings for policy and practice

The first specific finding for policy and practice is that **expanding access to low-cost credit among rural households can significantly reduce their debt-servicing costs.** Jeevika achieved this by reducing the interest rate paid by the targeted (landless) population, both directly through substitution of informal credit for loans through Jeevika, and indirectly through a competitive effect on the informal market borrowing rate faced by the poor. Since households did not increase the total value of borrowing, but rather offset the increase in use of credit taken through Jeevika with a reduction in credit from informal sources, the lower interest rates achieved through the program translate directly into reduced debt-servicing costs. Given the large proportion of households' expenditures devoted to debt servicing in rural Bihar, this effect is economically important. Suggestive evidence of follow-on impacts in the short term can be seen in the positive estimated effect of Jeevika on holdings of consumption assets and housing quality over the first two years of the program, though these effects are not robust to alternative specifications. While no effect on consumption value was detected within the two-year period covered by the evaluation, the impacts of lower debt-servicing costs on household welfare are expected to continue to accrue over time.

A second specific finding is an apparent **trade-off between depth and breadth of impact in livelihoods projects.** This finding arises from the comparison of the Phase I and Phase II impact evaluation results. Qualitative work conducted on communities entered by Jeevika during Phase I of the project, as well as a retrospective quantitative evaluation based on Phase II (Datta 2015), indicate strong impacts on women's empowerment. However, these effects are not found by the quantitative evaluation conducted during Phase II. Qualitative analysis indicates that the reduction in impact by

Phase II on this dimension was likely due to a lighter touch when the pace and scale of implementation expanded. The implication for policy is that deep cultural changes—for example, in women’s roles within and outside the household—require a slower pace and more careful cultivation than is typically possible for projects targeting millions of households.

A third finding, related to the second, is that **impacts observed early in a project’s implementation may not be sustained at scale**. Having established that the model worked as a mini social movement for women’s empowerment in its first phase, the emphasis in Jeevika’s second phase was to spread it far and wide as quickly as possible, ultimately to the detriment of Jeevika’s potential to achieve such transformative changes.

Online appendixes

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Appendix A: Pre-analysis plan

This appendix is only available online and can be accessed from:

<http://www.3ieimpact.org/sites/default/files/2019-01/appendix-a-ow31243-bihar-livelihoods.pdf>

Appendix B: Power calculations

This appendix is only available online and can be accessed from:

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Appendix C: Descriptive statistics

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Appendix D: Results – Robustness checks

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Appendix E: Program costs

This appendix is only available online and can be accessed from

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This evaluation assesses the impact of the government-funded Bihar Rural Livelihoods Project on poverty and women's empowerment. The project, also known as *Jeevika*, uses self-help groups and village organisations to link poor rural women to formal financial institutions to avail credit. Findings from this study show that the intervention led to a significant increase in self-help group membership and take-up of credit through them. The authors note a decline in use of informal credit and a reduction in the average informal lending rates. They expect the impact of the intervention on household welfare to continue to accrue over time, due to the overall reduction in informal credit lending rates and through the substitution into lower-cost sources of credit. However, there were no strong impacts observed on women's empowerment, possibly due to the weakening of *Jeevika*'s activities related to women's empowerment in the second phase of the project.

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