

INCREASING WOMEN'S PARTICIPATION IN COMMUNITY BASED LIVELIHOODS INTERVENTIONS

LESSONS LEARNT FROM THE BIHAR RURAL LIVELIHOODS
PROJECT (BRLP)



AUTHORS:

DEEPTI KC, KALRAV ACHARYA AND RAJAT MOOKHERJEE

ACKNOWLEDGEMENT

This research was not possible without the support and guidance from each District and Block Level officials from the Bihar Rural Livelihoods Promotion Society, Bihar. We are grateful to them for their valuable inputs while we were designing this study, and afterwards. Thank you for being so open about research areas and findings. Additionally, we thank Area Coordinators in each block for helping us set up the field visit. Lastly, our sincere thanks to Dr. Ajay Kumar Tannirkulam for his continuous guidance and feedback to this study.

This project is a part of IFMR LEAD's [Livelihoods Research Initiative](#) funded by the Ford Foundation.

TABLE OF CONTENTS

Executive Summary.....	1	Zero Budget Natural Farming.....	21
Background.....	3	Kitchen Garden	22
Introduction to Bihar Rural		Poultry Farming.....	23
Livelihoods Project (BRLP).....	3	Dairy Intervention.....	23
Research Objectives and Design	5	Agarbatti Intervention	24
Research Observations and Findings		Factors Influencing the Adoption ..	25
The JEEViKA Beneficiaries.....	8	Performance of the Self Help	
Formation and Performance of the		Group Members, Village	
Community Organisation.....	9	Organisation Leaders and	
Employment of Village Level		Resource Persons.....	25
Resource Persons	12	Factors Influencing the Decisions	
Linkages Between Stakeholders	14	to Adopt	26
The Village Organisations and		Factors Influencing Farmers’	
Block Project Implementation Unit		Decisions to Continue.....	27
(BPIU)	14	Summary of Findings.....	30
The Village Organisations and Self		Our Key Recommendations.....	33
Help Groups.....	14	References.....	36
The Village Organisations and			
Resource Persons.....	15		
The Resource Persons and Self			
Help Groups.....	16		
The Resource Person and JEEViKA			
Officials.....	16		
Capacity Building Trainings	17		
Trainings for The Self Help Groups			
.....	17		
Trainings for VO Leaders.....	17		
Trainings for Resource Persons ...	18		
Participation in Livelihoods			
Intervention.....	20		
System of Crop Intensification			
(SCI)	20		

EXECUTIVE SUMMARY

The Government of India has acknowledged the critical role of women in sustainable development and thus promotes community-driven livelihoods intervention that operates on the principle of a community (or women) taking control of the development process, resources and decision making authority. One of such programmes, under the purview of National Rural Livelihoods Mission (NRLM) is Bihar Rural Livelihoods Project (BRLP) or the Project JEEViKA (or the Project). Implemented in the select districts of Bihar, eastern region of India, the Project focuses on the rural poor that are primarily dependent on agriculture and wage employment. The JEEViKA model is such that any intervention is implemented through ‘community-owned institutions’, and thus the Project has utilized the institutional platform of ‘women-based’ community organisations to promote its livelihoods interventions in the villages. First, the Project focuses on forming women-based Self-Help Groups (SHGs) from the marginal families. Then the groups are federated at the village level to form the Village Organisations (VOs). The VO receives investments from the Project and, as an entity; it plays a vital role in implementing livelihoods intervention programmes in the village. Additionally, the Project has engaged

Resource Persons to provide technical assistance to the SHG members who are participating in the interventions.

Our study attempted to understand i) the role of each player in implementing JEEViKA’s livelihoods intervention, ii) how each player influences the success of the initiative, and iii) what factors influence women’s decisions to participate in the livelihoods intervention. Findings indicate:

1. JEEViKA has been successful in mobilising women from marginal families into forming Self Help Groups (SHGs) and has designed a well-organised institutional structure. The Project has managed to build a strong relationship between different stakeholders within its institutional structure.
2. The Project has managed to provide extensive trainings on livelihoods intervention, particularly agriculture intervention to all stakeholders.
3. The participation of women in any livelihoods intervention was low. For example, only 27% of women had ever adopted System of Rice Intensification (SRI) technique. Likewise, less than 10% women had ever participated in other off-farm or non-farm intervention.
4. While the constraints to the adoption of innovations were lack of

or inadequate land size, limited access to information, and inadequate incentives; women's decisions were also influenced by their cultural beliefs, internal family dynamics and upbringing.

5. The quality or the performance of the SHG members significantly influenced their decision to participate. Likewise, even though the performance of the Village Organisation, and the Resource Persons did not have direct effect on the participation rate, they nevertheless influenced the effectiveness of the SHG members, which in turn, resulted in members' decision to adopt the technique. For example, higher proportion of those who were in the SHG leadership position or getting more support from the VOs participated in the intervention. Likewise, higher proportion of those participants that were monitored by the Resource Persons continued using the service.
6. Resource Persons were paid based on the number of SHG women engaged in the intervention, thus, they were not strict about screening the beneficiaries based on their performance as SHG members.
7. SHG members neither viewed the VO as a conflict mediator nor did

the VOs realise their role was to resolve such conflicts. The majority of VO leaders were not provided with the trainings on group management and financial management.

Based on our research findings, we highlight the importance of the following five factors for the long-term success of JEEViKA's livelihoods intervention.

1. Understanding how education and economic background of women, and cultural variations influence women's willingness to adopt the livelihoods intervention.
2. Following up with the SHG members about the interventions with the repetition and persistence of messages, mainly focusing on how these interventions could benefit women and their families.
3. Restricting Resource Persons roles to providing technical support to participants only.
4. Authorizing that VO leader is changed periodically to provide opportunities to all group members to develop leadership skills.
5. Providing robust financial and group management trainings to VO leaders.

BACKGROUND

INTRODUCTION TO BIHAR RURAL LIVELIHOODS PROJECT (BRLP)

Development experts have acknowledged that inequality in access to tools and resources between men and women manifests itself in lower agricultural productivity, food insecurity and reduced rural economic development.¹ The Government of India has acknowledged the critical role of women in sustainable development and thus promotes community-driven livelihoods intervention designed to include women as decision-making bodies as well as the beneficiaries of the programme. One of such programmes, under the purview of National Rural Livelihoods Mission (NRLM) is Bihar Rural Livelihoods Project (BRLP) or the Project JEEViKA (or the Project).

Implemented in the select districts of Bihar, eastern region of India, the Project focuses on the marginal families that are primarily dependent on agriculture and wage employment. The Project functions with a well-defined tier-based institutional structure at the community level. First, the Project focuses on forming women-based Self-Help Groups (SHGs) from the marginal families. Once formed, the Project assists groups to facilitate self-saving. It is expected that through member

savings, internal loaning and regular repayment, the groups become a self-sustaining organisation. Second, the groups are federated at the village level to form the second tier of the community organisations called Village Organisations (VOs). The VO receives investments from the Project and, as an entity; it plays a vital role in implementing livelihoods intervention programmes in the village. The VOs are then federated to form higher-level community organisations at the cluster and block levels. Additionally, the Project has engaged Village Resource Persons (VRPs) to provide technical assistance to the SHG members who are participating in the interventions. In order to strengthen the community institution building process and its sustainability, the Project has developed a well-structured capacity building strategy to engage all stakeholders. SHGs and its federations are provided with trainings on group management aspects, further higher-level trainings are provided to the VOs and Resource Persons. Once the Project identifies a specific livelihoods intervention in a particular area, women are provided with trainings on the techniques of the intervention.

In order to improve livelihoods outcomes, the Project has identified specific farm and non-farm based livelihoods activities in 'select districts'. While farm intervention, particularly System of Crop Intensification (SCI), has been implemented in all 'select districts', non-farm and off-farm interventions have been implemented in smaller geographical clusters with specific community groups employed in them.² For example, specific activity based clusters of producers have been developed in arts and craft, bee-

keeping, Agarbatti rolling, goat rearing and backyard poultry. Additionally, SHG members are linked with Dairy Cooperative Societies (DCS) that provides better market prices and quality extension services to their members. JEEViKA model is such that any livelihoods intervention is implemented through 'community-owned institutions', and thus the Project has utilized the institutional platform of 'women-based' community organisations to promote its livelihoods interventions in the villages.

RESEARCH OBJECTIVES AND DESIGN

The objectives of the study are to understand i) how a community institutional organisation engages women as decision making bodies and as beneficiaries, ii) how the performance of each stakeholder influences the success of the initiative, and iii) factors that influence women's decisions to participate in the livelihoods intervention.

The study was conducted in six blocks of three districts of Bihar – Nalanda District (Rajgir and Noorsarai Blocks), Gaya District (Bodh Gaya and Dobhi Blocks) and Muzaffarpur District (Bochaha and Musahari Blocks). Within each district, we systematically identified two blocks that are considered “intensive” by the Project. The criteria for identification of these blocks was that the Project was introduced more than four years ago, and a full complement of NRLM components existed with trained and dedicated professional staff at state, district, block and cluster levels. From each intensive block, we randomly selected four villages, totalling 24 villages in our study. It is to be noted that findings from the villages might not represent the state of the entire block or district. The fieldwork took place between January and May 2014. The surveys and in-depth discussions were conducted with stakeholders at different levels as explained below.

Discussions with JEEViKA officials:

JEEViKA officials helped us understand the overview of the Project, such as its structure, goals and targets. They also informed us about the type of support and trainings provided to community members, as well as the systems of monitoring and evaluation inbuilt into the Project. We designed our research objectives based upon the discussions with JEEViKA officials, as well as our understanding of how the research findings could add value to both implementers and policy makers. To this end, part of our discussion focused on understanding the specific area of the Project that required studying, and could be streamlined with our research findings. The block level officials also provided us a list of the villages where livelihoods interventions have been implemented, from which we randomly selected four villages per block.

Interviewing Village Resource

Persons: All village-level Resource Persons that were available at the time of survey were interviewed. In total, we interviewed 47 Resource Persons, out of which, 31 specialized on farm-based intervention, 9 on poultry farming, 4 on Agarbatti or incense making activity, and 3 on the dairy intervention. The survey focused on understanding how these resource persons were selected for their position, how informed they were about their job responsibilities, their knowledge of the technicalities of the intervention, challenges they faced

while working, and the kind of support they received from Village Organisations and the Project.

Interviewing the members of Village Organisations (VO): From each Village Organisation in any village, four members were randomly selected for the interview. If a village had more than one VO, we interviewed an additional randomly selected four members of the second VO as well. In total, 131 VO members from 24 villages were interviewed. Our interviews focused on understanding the function of the VO in implementing the livelihoods intervention and how they worked with Resource Persons and Self Help Group members in the villages. We also inquired about the challenges they

faced when implementing the programme.

Interviewing the members of Self Help Groups (SHGs): In each village, we randomly selected and interviewed 25-26 SHG members, totalling, 613 SHG members. The survey focused on understanding women's participation in the intervention. In particular, we were interested in understanding what factors influenced women to participate in the intervention and their reasons for not adopting the interventions.

The surveys were in the form of multiple-choice questions, where respondents were allowed to choose more than one option where appropriate.

RESEARCH OBSERVATIONS AND FINDINGS

THE JEEViKA BENEFICIARIES

BENEFICIARIES FROM LANDLESS OR MARGINAL FAMILIES, INCOME FROM UNORGANIZED LABOUR MARKETS

As per our discussion with the Block Managers, geographical stratification or social mappings of all villages were carried out to determine the inhabitations with large concentrations of the poor, followed by the mobilization of women from poor households. Our study attempted to understand if the existing beneficiaries were from marginal families. Amongst beneficiaries (SHG and VO members), 31% belonged to Scheduled Castes and 53% to Other Backward Castes. Data indicates all respondents were either landless or marginal farmers, depending on sharecropping or wage earning in unorganized sectors. For example, the main source of household income for the majority of households was from unorganized labour markets (45%). Only 15% families reported that their main source of household income was from farming, 23% from enterprises, and the remaining from salaried jobs as highlighted in Table 1. Only 50% of SHG members reported of having agricultural land. On an average, they owned 23 Kattha (1.15 Bigha or 0.38 acre) of land [median 10 Kattha (0.5 Bigha or 0.17 acre)]. [Kattha and Bigha are local measures of land area in Bihar. 1 Bigha= 0.32 acre= 20 Kattha] Likewise, amongst 131 VO leaders, 67% reported having

agricultural land, and on an average, they owned 49 Kattha (2.45 Bigha or 0.82 acre) of land [median 10 Kattha (0.5 Bigha or 0.16 acre)]. Only 48% reported cultivating at least one crop in the previous season, amongst whom, 42% opted for sharecropping.

Table 1: Primary source of household income

FARMING	15%
GOVERNMENT JOBS	4%
PRIVATE COMPANY	10%
ENTERPRISES	23%
AGRICULTURAL LABOR	37%
NON-AGRICULTURAL LABOR	8%
REMITTANCES	1%
SOCIAL SECURITY PROGRAMME	2%

Our study covered those areas where the Project has been operating for more than four years. Thus, almost all (95%) were aware of JEEViKA, and they knew that JEEViKA primarily worked with SHG members (women not engaged in SHGs might not be aware of JEEViKA). Almost all women (89%) reported of benefitting in one form or another from JEEViKA. We further examined how SHG members perceived the benefits received from JEEViKA. While half of SHG members reported that they benefitted from receiving loans, less than a quarter perceived that trainings provided by JEEViKA were beneficial. Likewise, 21% reported that they benefitted from JEEViKA due to its food security programme.

FORMATION AND PERFORMANCE OF THE COMMUNITY ORGANISATION

A HUGE NUMBER OF WOMEN IN AN INSTITUTIONAL STRUCTURE, LITERATE VO LEADERS, VO LEADERS' INADEQUATE KNOWLEDGE OF THEIR OWN RESPONSIBILITIES, NO LINKAGE WITH THE BANK, ONE IN THREE WOMEN CHOSE NOT TO TAKE LOANS, LOAN USED FOR HEALTH EXPENDITURE, LOAN DEFAULT ISSUE

Data suggests a huge number of women from marginal families being engaged in the Project's institutional structure in our study region. While 41% of villages had 15 or less SHGs, 59% had more than 15 SHGs [16% villages had more than 30 groups]. On an average, each SHG had 10-12 women from marginal families. The majority (84%) had joined SHGs more than two years ago. While 80% identified JEEViKA as the one that formed their SHG, 12% reported another organisation called PRADAN forming the group.

Once the SHGs are consolidated in a village and reach a reasonable level of maturity, they are federated at the village level called the Village Organisations (VOs). The number of VOs in any village might vary, depending on the population of the poor families. As per the Project, ideally each VO should represent 10-15 SHGs, and this holds true to our findings as well. Through our group discussions, we learnt that typically two to three members, mainly leaders of a SHG, become VO members. Almost all (95%) VO members whom we interviewed held a leadership role in their respective SHGs. On an average, a

VO leader reported of spending 3 hours a week for VO activities, and none of them received any remuneration for their time. The VO members were appointed by other members of the SHGs (90%). Our study indicates that influential women with basic qualification of signing, reading and writing are more likely to become VO members as 51% VO leaders could read and write, and 42% could sign.

Not all VO members were aware of all the responsibilities as described by the Project as shown in Table 2.

Table 2: Awareness about the responsibilities of the Village Organisation

NETWORK WITH RESOURCE AGENCIES	58%
PLAN FOR INTERVENTION IN THE VILLAGE	57%
FACILITATE THE FORMATION OF SHGs	47%
REVIEW SHG PERFORMANCE	52%
SOLVE CONFLICTS OF SHG MEMBERS	68%
PROVIDE TECHNICAL ASSISTANCE TO SHG MEMBERS	71%
NETWORK WITH RESOURCE AGENCIES	58%
PLAN FOR INTERVENTION IN THE VILLAGE	57%

While many knew about VO's role to provide technical assistance to the SHGs and to manage conflicts of SHGs, only half knew about VO's role in reviewing SHG performance, and

facilitating the formation of SHGs in villages. Not all knew about all the interventions as proposed by the Project. While 89% were aware of agricultural intervention, 53% dairy intervention, 52% food security intervention, surprisingly, many VO members were not aware of the SHG Bank Linkage Programme (only 35% reported of knowing), even though, all knew about the provisions of loans to SHG members through Community Investment Fund (CIF). Very few VO members knew about skill development (1%) and social development (8%) interventions. All VO members reported of conducting Executive Committee Meeting every month and 88% reported of conducting General Body Meeting twice a year. 64% knew that they are responsible for monitoring the livelihoods intervention in the village, however, only 47% were aware of targeted and current number of beneficiaries in JEEViKA's livelihoods initiatives.

The Project has focused on member based savings and credit rotation as the key activities of SHGs as it requires active participation and commitment of all members. The Project has established Community Investment Fund (CIF) that is to be released in a phased manner and the release of the fund depends on the efficiency of the SHG and its federations. Additionally, the Project indicates that livelihoods interventions are to be provided to 'discipline' SHGs that are facilitating regular meetings, saving regularly, and

repaying loans. In our study area, almost all women (95%) reported that their SHGs have regular meetings on a fortnightly basis (80%). Only 12% women reported of meeting every week, and 8% women reported of meeting on a monthly basis. All SHG members were saving on a regular basis, primarily on a weekly basis (95%). On an average, the reported minimum monthly savings amount was Rs. 33, indicating that women are perhaps saving the minimum required amount to be eligible for the loan.

92% of SHG women reported that their groups had received loans, primarily from the CIF (65%). Surprisingly, not all women chose to take loans even though their groups received one. Only 64% women reported of getting loans from their groups in the previous year. Amongst those that did not receive loans, the majority (62%) reported that they did not want loans because given the extreme poverty level of their households and erratic cash inflows, they did not want to take the risk of taking a loan. These women feared that failure to repay a loan might affect their social status. Only a few women reported of defaulting in the previous cycle and thus, they were not eligible for new loan. Almost no one reported of group discrimination while loans were distributed. Likewise, groups are also expected to be linked to commercial banks for low cost loans. In our study area, despite being in groups for almost four years, many women

were not graduated to receive loans from banks.

The Project aims that with the provisions of these subsidized loans, cash inflows of the poor are stabilized as loans could be used to meet immediate consumption needs. Amongst those women who received loans, they used loans to cover the health expenditure as highlighted in Table 3.

Table 3: Usage of loans

EDUCATION	4%
PURCHASE LIVESTOCK	3%
HOUSEHOLD CONSUMPTION	4%
INVESTED IN EXISTING ENTERPRISE	4%
START NEW ENTERPRISE	5%
HOME REPAIR	21%
SOCIAL FUNCTION	13%
HEALTH EXPENDITURE	30%
REPAY OLD DEBT	6%
PURCHASE AGRICULTURAL INPUTS	10%

Very few used loans for income generating activities such as investment in enterprise, or purchasing livestock despite being in SHGs for more than four years. Research indicates that loan alone has no discernible impact on women empowerment.³ Notable studies from Sri Lanka⁴ and Ghana⁵ show that credit women receive gets diverted from the business to the household expenses, particularly because women have limited sources of income for consumption purposes owing to their employment in low-return sectors.

We further examined the level of member dropouts and loan default in our study area. First, we asked JEEViKA

officials if their areas face any dropouts or loan defaults. Only 6 out of 15 JEEViKA Coordinators were concerned about the dropouts and loan defaults in their areas. Second, we raised this concern with the VO members. 53% of VO members reported women dropping out mainly due to their inability to attend regular meeting, migration and group conflicts as highlighted in Table 4.

Table 4: Reasons for members dropping out

IN ABILITY TO SAVE	6%
INABILITY TO ATTEND MEETING	39%
LOAN SIZE WERE NOT LARGE ENOUGH	10%
OLD AGE OR DEATH	1%
INABILITY TO REPAY	1%
GROUP CONFLICT	18%
MOVED TO ANOTHER GROUP	1%
MIGRATED	22%
IN ABILITY TO SAVE	6%
INABILITY TO ATTEND MEETING	39%

83% of VO members reported of SHGs defaulting loans mainly due to lack of income (79%), and members thought the loan was a grant from the Project (17%), and thus refused to pay later. As reported by VO members, on an average, an amount of Rs. 58, 333 was being defaulted in the year 2012-13 in their villages. Lastly, we asked about dropouts and loan defaults to SHG members. One in three (35%) reported that their groups had faced member dropouts, mainly because of old age or death of women (23%), and inability to follow the group norms (32%). 20% of SHG women reported of incidences of loan defaults in their respective groups, primarily because of low household income.

EMPLOYMENT OF VILLAGE LEVEL RESOURCE PERSONS

LITERATE RESOURCE PERSONS, MARGINAL FAMILIES, PERCEIVED THEY ARE WORKING FOR THE PROJECT NOT THE VILLAGE ORGANISATION, GAVE PRIORITY TO THE TASK THAT THEY COULD HANDLE, NOT BEING PAID ON TIME

JEEViKA promotes the employment of village-level Resource Persons who provide technical assistance to the beneficiaries. Typically, Village Organisations identify the requirement of the Resource Persons based on the nature of the intervention, and accordingly they are recruited. In our study, out of 46 Resource Persons, 18 males and 28 females, the majority belonged to the Other Backward Castes (65%). Almost all (45 out of 46) could read and write. While 24% of them had completed higher secondary school, 52% high school, 17% middle school and 7% primary school. 57% were recruited by the VO, and 33% by a JEEViKA official at the block level. The Project specifies that the Resource Persons must be from the marginal community, preferable from the same village, as the Project aims to nurture a pool of community resource persons from the community itself. In our study area, the main source of household income for Resource Persons was from farm activities (41%), followed by salaried employment (21%), and unorganized labour market (19%). The majority of Resource Persons (80%) reported to have agricultural land and the average landholding was 26 Kattha (1.32 Bigha or 0.44 acre), implying that

Resource Persons were from marginal families.

Technically, the VOs are to monitor the Resource Persons, however, in our study area, only 10 Resource Persons perceived that they were working for the VOs. The rest reported that they were working for JEEViKA officials. The majority (87%) were working in one village at the time of survey. We further examined if Resource Persons were aware of their job functions. We listed the key responsibilities from the Project's guidelines and asked if they perceive that to be their responsibilities. Not all perceived every task that the Project has listed to be their responsibilities as highlighted in Table 5.

Table 5: Resource Persons' knowledge of their job responsibilities

DISSEMINATE VIDEOS TO SHGs	37%
MAINTAIN VO BOOKS OF RECORDS RELATED TO INTERVENTIONS	33%
WORK WITH FARMERS THAT HAVE ADOPTED THE INTERVENTION	77%
ATTEND ALL REQUIRED MODULAR TRAININGS	33%
PARTICIPATE IN VO AND SHG MEETINGS	40%
WORK WITH VO TO IDENTIFY BENEFICIARIES	23%
INFORM AND TRAIN SHGs ABOUT AGRICULTURAL TECHNIQUE	90%
CONTACT SHG MEMBER/ FARMERS	83%

While the Resource Persons were aware of multiple tasks that their jobs demanded, almost all reported of considering one task as important, and they primarily focused on that task. For example, those engaged in Agarbatti intervention (known as ARPs) considered that ordering raw materials for incense (Agarbatti) making as their main job. Those engaged in dairy intervention (known as DRPs) focused on mobilising farmers to sell their milk to Dairy Cooperative Society (DCS) and testing the quality (cream) of dairy milk. Those engaged in poultry intervention (known as PRPs) mainly focused on informing and training SHGs about poultry farming. Likewise, those engaged in farm intervention (known as VRPs) reported of focusing on enrolling and training SHG members in agricultural intervention and supporting farmers that had adopted agricultural techniques. Beyond the tasks that were considered important, the Resource Persons did not invest their time and energy in other allotted responsibilities. We further examined if monetary incentives encouraged the Resource Persons to prioritize their work. Surprisingly, only 35% reported so. Irrespective to the monetary incentives, 65% gave priority to that work that could be practically handled. Only 22% reported that they prioritized their work based on audition.

The Project mandates that the Resource Persons meet certain performance

standards as they are working at a grassroots level. VO members, who are responsible for monitoring the activities of Resource Persons, reported that Resource Persons are fired if they fail to meet performance standards.

At the time of the survey, the Resource Persons were paid based on the number of SHG members they were working with, and the caste of the families. For example, they were paid more if they worked with ST/SC families compared to Other Backward Caste families. We asked Resource Persons about their remunerations two months prior to the survey. Five PRPs (out of nine) were not paid. Four made an average income of Rs 4,125. None of the DRPs and ARPs had received any payment in the past two months. More than 50% (16 out of 30) VRPs were not paid, and 14 reported making Rs. 2,615. Overall, 72% complained about not being paid on time, nevertheless, the majority were positive about working for the Project as they perceived that they had developed new job skills after commencing their work, mainly community speaking skill (67%), management (63%) and mobilization of community (61%). Overall, data suggests that Resource Persons were well aware of their responsibilities, and they valued working for the Project. However, the late payment of salary might play a crucial role in demotivating these Resource Persons.

LINKAGES BETWEEN STAKEHOLDERS

VILLAGE ORGANISATIONS RECEIVED FUNDS FROM THE PROJECT, CONFLICT WITHIN SHGs DUE TO LOAN DEFAULT, VOs NOT AWARE OF TARGETED NUMBER OF BENEFICIARIES, VO MEMBERS NOT FULLY AWARE OF CHALLENGES THAT THE RESOURCE PERSONS FACE, DISCIPLINE SHGs LEAST IMPORTANT CRITERIA FOR THE RESOURCE PERSONS WHILE SCREENING FOR THE INTERVENTION, NOT ALL FARMERS VISITED BY THE RESOURCE PERSONS, RESOURCE PERSONS WORKING WITH JEEViKA OFFICIALS, BUT NOT WITH OTHER EXTERNAL STAKEHOLDERS.

THE VILLAGE ORGANISATIONS AND BLOCK PROJECT IMPLEMENTATION UNIT (BPIU)

The Project has established a Block Project Implementation Unit (BPIU), which typically has a Block Manager, supported by Area and Community Coordinators. With the support from a large cadre of community mobilisers, the unit works directly with the Village Organisations. While the unit provides training and capacity building support to the SHGs and its federations, it is also responsible to appraise the micro plans submitted by the VOs. Based on the micro plan submitted by the VOs and the performance of the community organisations, the BPIU allots fund, popularly called Community Investment Fund (CIF). In our study region, VOs were actively engaged in submitting the appraisal to the BPIU, and on an average, they submitted it twice in the previous year. 89% reported that their appraisals were accepted by the BPIU, and on an average, the VOs received Rs. 2,92,644 in the previous year. While the VO members held JEEViKA officials in high regards and acknowledged that they

received continuous support from the Project, at the same time, many reported of not getting support from other external stakeholders, such as farmer' cooperatives and producers groups, Agriculture Technology Management Agency (ATMA), Krishi Vigyan Kendra (KVK), and Panchayat office as highlighted in Table 6.

Table 6: Support received from the stakeholders

FARMERS' COOPERATIVES AND PRODUCERS GROUPS	13%
BLOCK PROJECT IMPLEMENTATION UNIT	89%
AGRICULTURAL SPECIALIST	23%
KVK PERSONNEL	7%
ATMA PERSONNEL	5%
DISTRICT AGRICULTURE OFFICER	30%
BLOCK AGRICULTURE OFFICER	36%
PANCHAYAT OFFICE	9%

The VO members suggested that since lack of infrastructure (66%) causes the biggest hurdle, BPIU should invest on enhancing the infrastructure.

THE VILLAGE ORGANISATIONS AND SELF HELP GROUPS

The majority of SHG members knew about the functions of the VOs (84%), perceived that the marginal communities benefit from the VO activities (80%) and reported of their group receiving support from the VOs

(70%), primarily in getting loans (54%), and training (23%). Likewise, all VO members reported of working with SHGs and the majority (66%) reported that their VOs had formed new SHGs. 68% VO members reported of them handling SHG conflicts, which generally happen due to loan default (86%) and meeting schedules (39%). 55% VO members reported of making field visits to ensure the inclusion of the marginal families in the intervention. 95% VO members reported of reviewing the performance of SHGs once in three months, based on the repayment of loans (80%), participation in group meetings (66%) and cumulative SHG savings (47%).

For each village, the VO is to set the targeted number of beneficiaries for any fiscal year, and based on that, a micro plan is prepared and submitted to the JEEViKA office. While 82% reported that their VO keeps a record of SHGs that have adopted the intervention, not all were aware of targeted number of beneficiaries. Only 57% VO members knew the number of beneficiaries in farm intervention. Half of those that were aware of the targets reported that lack of infrastructure or resources, such as irrigation or land, play a major hurdle in reaching the targets.

The VO is also responsible for rewarding those SHG members that have adopted the farm intervention in an efficient manner. This is done to encourage other SHG members to adopt the intervention. Half of VO

members (53%) reported of VO identifying the best plots. 61% VO members reported that they organize field days for other SHG members to visit the demonstration plots or houses in order to promote intervention. Unfortunately, there was no monetary incentive for those outstanding SHG members. Only in a few villages, practices of acknowledging farmers during the Kisan Day event (9%), or inviting them to speak with members of other cluster (16%) were found.

THE VILLAGE ORGANISATIONS AND RESOURCE PERSONS

As per the Project, the VOs and Resource Persons are to work together to implement the livelihoods interventions in the villages. In our study area, the majority of VO members reported of them recruiting (90%) and monitoring (84%) the Resource Persons. The majority of VO members (89%) were aware of the responsibilities of the Resource Persons as well, and they claimed Resource Persons performing all the required tasks allotted to them effectively. Nonetheless, when it comes to the nature of the challenges that Resource Persons were facing, VO members did not seem to know well. For example, while 64% VO members reported Resource Persons were not facing any challenges, at the same time, 69% of Resource Persons reported of facing major hurdles, the main ones being lack of interest of SHG members (66%), lack of SHG discipline (25%), inadequate support from the VOs

(19%), and inefficient coordination between the VO's and the SHGs (16%), while performing their tasks.

THE RESOURCE PERSONS AND SELF HELP GROUPS

The Project highlights that SHG members that are disciplined should be targeted for the livelihoods intervention. However, only 7% Resource Persons agreed that only discipline SHG members should be targeted. On the contrary, 74% reported of focusing on any SHG member, regardless of their performance. All Resource Persons reported of visiting members, however, not all were collecting information on several indicators as per the guidelines set by the Project as shown in Table 7.

Table 7: Information collected by the Resource Persons during the field visits

USAGE OF FERTILIZERS	13%
CONSTRAINTS FACED BY FARMERS	20%
CROP MONITORING	87%
NUMBER OF TILLERS	3%
TRANSPLANTATION	57%
SOWING	47%
LAND PREPARATION	40%
NURSERY BED PREPARATION	20%
WATER MANAGEMENT	17%
MOISTURE OF SOIL	53%

We asked those SHG members that had adopted the techniques if Resource Persons visited them and monitored the intervention. Two in three (65%) that had adopted System of Crop Intensification reported of Resource Persons visiting their farm, out of which only 20% reported of receiving agricultural inputs from the Resource Persons. Likewise, only 58% of those

that had adopted Zero Budget Natural Farming reported of Resource Persons' visits, out of which 35% reported of receiving agricultural inputs from them. When it comes to Poultry Intervention, almost all that had taken up the poultry farming reported of the visits by the Resource Persons.

THE RESOURCE PERSON AND JEEViKA OFFICIALS

Almost all JEEViKA officials expressed that the success of the Project is profoundly dependent on the community cadre, including Resource Persons. Almost all Resource Persons (98%) reported of working with JEEViKA's Livelihoods Specialist, and 67% reported of receiving adequate support from the specialists, mainly in gaining knowledge about the livelihoods intervention and trainings on new techniques as highlighted in Table 8.

Table 8: Support from the JEEViKA Officials

TRAININGS AND CAPACITY BUILDING	38%
RESOURCES AND INPUTS FOR THE ADOPTION OF TECHNIQUES	26%
FUNDS	10%
CONNECTION WITH THE SPECIALIST	3%
KNOWLEDGE ABOUT THE LIVELIHOODS INTERVENTION	46%

On an average, these Resource Persons met 4-5 times with the specialists in a three month period. Resource Persons are also encouraged to interact with other external stakeholders such as KVK personnel. None of the Resource Persons reported of meeting with any external stakeholders.

CAPACITY BUILDING TRAININGS

TRAININGS ON LIVELIHOODS INTERVENTION PROVIDED TO ALL STAKEHOLDERS, VO MEMBERS NOT TRAINED ABOUT GROUP AND FINANCIAL MANAGEMENT, RESOURCE PERSONS NOT TRAINED ABOUT LINKING WOMEN TO MARKET OPPORTUNITIES, TRAINING MODULES FOR SHGs NEED TO BE IMPROVED

TRAININGS FOR THE SELF HELP GROUPS

As per the Project, SHG meetings are used as a primary platform for trainings, particularly in relation to the livelihoods intervention. We asked all three stakeholders: the VOs, the Resource Persons and the SHG members on the type of trainings that are provided to the SHGs. VO members reported of them facilitating trainings on system of rice intensification (97%), wheat intensification (65%) and vegetable intervention (47%). All Resource Persons reported that they train SHGs about system of crop intensification (100%), zero budget natural farming (73%), seed treatment (90%), and vermin-composting (70%). At the same time, SHG members also reported that Resource Persons had informed (not necessarily rigorous training) them about system of rice intensification (82%), zero budget natural farming (65%), poultry intervention (75%), and Agarbatti intervention (54%), however, many women had not received any training on dairy intervention (35%) and kitchen garden (31%), possibly because these interventions were not applicable in their villages. The majority of Resource Persons (83%) expressed that training modules for SHGs need to be improved, particularly on crops

intensification (52%), and vegetable cultivation (52%). Improvements could happen by enhancing the sound quality of the videos, and by making the content more specific. Some Resource Persons reported that they were not provided with materials that they could use to train SHG members, and they suggested that needed to be addressed immediately. Some suggested that the Project should provide bigger screen and stand to show videos.

TRAININGS FOR VO LEADERS

As per the Project, the VO members are to be trained about their roles and responsibilities, group and financial management skills, and techniques of livelihoods interventions. Surprisingly, only 43% VO members reported of attending trainings on their roles and responsibilities as leaders. We further asked if they had been trained about Group Management. Our surveyors explained Group Management training involves sessions on importance of regular meeting, leadership roles, conflict management, and importance of maintaining a group norm. Only 30% VO members reported of attending such trainings. Amongst those that attended, they were trained about the importance of group cohesiveness and maintaining meeting norms,

nonetheless, very few remembered trainings on leadership and conflict management. Likewise, only 48% of VO leaders reported that they were trained about financial management, mainly covering topics on importance of group savings and group lending norms. Nevertheless, VOs were trained rigorously about the agricultural intervention (89%). Surprisingly, though VOs had heard about other interventions, not all had received rigorous trainings on vegetable intervention (34%), zero budget natural farming (24%), kitchen garden (16%), dairy, poultry intervention (39%) and Agarbatti intervention (22%).

TRAININGS FOR RESOURCE PERSONS

As Resource Persons play a vital role in educating and informing SHG members about the livelihoods intervention, it is important that they are provided with adequate trainings before they commence their work. The VO members reported of Resource Persons receiving trainings from JEEViKA livelihoods specialist, primarily on innovative agricultural practices (74%), and micro-planning for intervention (47%). Likewise, the VRPs (engaged in farm intervention) reported of receiving trainings on system of rice intensification (87%) and vegetable cultivation (77%). Only half reported of being trained on other innovative farm technologies such as zero budget natural farming (53%), disease control (57%) and effective way to apply fertilizers (50%). Very few reported that they received trainings on vermi-

composting (7%) and irrigation (7%). The ARPs (engaged in agarbatti Intervention) received trainings on micro-planning, strategies to mobilize women and procedures to order raw materials. The DRPs (engaged in dairy intervention) were trained to examine “cream” in milk, micro-planning, and strategies to mobilize women to get them join Dairy Cooperative Society (DCS). The PRPs (engaged in poultry intervention) were trained on the poultry management technique. Nobody reported about trainings on linking women to the markets. All Resource Persons unanimously suggested that trainings provided to them should be more detailed and related to day-to-day activities of villagers. 63% showed interest in learning about video production, innovative agricultural techniques and institutional management.

We further examined Resource Persons’ level of understanding about the innovative farm techniques. Our test questions were designed based on the principles of System of Rice Intensification as reported by the Directorate of Rice Development, Bihar.⁶ Table 9 describes the questions that we asked, as well as the proportion of Resource Persons that replied correctly. Data indicates that the Resource Persons were aware of the basic principles of the SRI, however, they lacked technical knowledge about the zero budget natural farming. Based on the technical questions, we scored the knowledge of each Resource

Person, with 0 being the minimum score and 18 being the maximum score. On an average, the Resource Persons scored 13. We further categorized the score into “below average” and “above

average”. While 43% scored below average, 57% were above average, indicating the majority were fairly knowledgeable about the farm techniques.

Table 9: Test Questions Proportion of VRPs that gave the correct answer

1. IN SRI, HOW ARE SEEDLINGS PLANTED?		
SINGLE		93%
2. IN SCI METHOD, IS THE SPACING OF SEEDLINGS PLANTED IN THE SOIL THE SAME AS TRADITIONAL METHOD?		
NO		90%
3. IS THERE ANY SPECIFIC SPACING ASSIGNED FOR EACH TYPE OF CROP?		
YES		100%
4. WHAT ARE THE DEMERITS OF PLANTING SEEDLING VERY CLOSELY?		
NO ENOUGH LIGHT		17%
NO ENOUGH NUTRIENT		73%
NO ADEQUATE WATER		6%
NO PROPER GROWTH		90%
5. COW DUNG AND COW URINE ARE USED TO PREPARE THE NATURAL FERTILIZER. CAN BUFFALO URINE OR DUNG BE USED INSTEAD OF COWS?		
NO		27%
6. WHAT KIND OF MANURE IS PREFERRED? ORGANIC, INORGANIC OR BOTH?		
ORGANIC		73%
7. WHAT KIND OF IRRIGATION IS RECOMMENDED IN SCI METHOD- ALTERNATE WETTING/ DRYING OR CONTINUOUS FLOODING?		
ALTERNATE WETTING/ DRYING		87%
8. WHAT ARE THE THREE INGREDIENTS THAT ARE USED TO PREPARE NATURAL FERTILIZERS SUCH AS JEEVAMITRA?		
COW DUNG		90%
COW URINE		87%
OTHERS (GARLIC, NEEM)		37%
9. WHY ARE NATURAL FERTILIZERS USED?		
KILL PESTS		20%
INCREASE PRODUCTIVITY OF CROPS		70%
LOW COSTS		20%
SOIL PRODUCTIVITY		40%

PARTICIPATION IN LIVELIHOODS INTERVENTION

ENHANCED PRODUCTIVITY OF CROPS MOTIVATED PARTICIPANTS TO ADOPT THE FARM INNOVATIONS, HALF DISCONTINUED DUE TO LACK OF RESOURCES, LACK OF AGRICULTURAL LAND HINDERED THE ADOPTION RATE, PARTICIPATION IN OFF-FARM AND NON-FARM LIVELIHOODS INTERVENTION EXTREMELY LOW, LACK OF SPACE AT HOME, FEAR THAT ADOPTING CERTAIN INTERVENTION SUCH AS POULTRY FARMING MIGHT AFFECT THEIR SOCIAL STATUS, LACK OF RESOURCES AND LACK OF FOLLOW-UPS FROM THE RESOURCE PERSONS WERE SOME KEY REASONS FOR WOMEN NOT TO PARTICIPATE IN INTERVENTIONS.

SYSTEM OF CROP INTENSIFICATION (SCI)

The Project identified that enhancement of agriculture income can significantly improve food security, and thus introduced a well-known technique called the System of Crop Intensification (SCI). The technology is a low-cost method, as it relies on indigenous knowledge and better management of soil, water, and nutrients.

At the time of survey, the majority of SHG members (85%) were informed about the SCI technique, nonetheless, only 30% amongst those (27% in our total sample) had ever adopted the technique. The participants were motivated to adopt the technique mainly due to their expectation that the technique would result in higher yield of crops as highlighted in Table 10.

Table 10: Motivating factors to adopt the SCI

EASILY ACCESSIBLE AND APPLICABLE	10%
EVERYONE OPTED FOR IT	8%
TECHNICAL SUPPORT FROM THE VRP	4%
CONVINCED THAT YIELD WOULD BE HIGHER THAN CONVENTIONAL METHOD	49%
SUBSIDIZED OR FREE INPUTS	24%
GRANT	5%

The majority (78%) had received subsidized and free inputs when they

first applied the technique, yet, only 24% reported that was the motivating factor. Very few adopted because the technique was easily assessable and applicable, or due to peer-pressure. One in three (37%) of those that adopted were SHG leaders.

Not all that adopted the SCI continued to do so as 48% of those that had once adopted the technique discontinued, primarily because they did not receive subsidized seeds that they had received earlier (22%), due to lack of irrigation (16%) and the technique did not meet their expectation about the crop production (19%) as highlighted in Table 11. Very few complained about unavailability of labourers that forced them to stop applying this technique.

Table 11: Reasons for not continuing the SCI

DID NOT RECEIVE FREE SEEDS	22%
YIELD WAS LOW	19%
PROBLEM OF LABOUR AVAILABILITY	5%
NON AVAILABILITY OF REQUIRED FARM EQUIPMENT	4%
LACK OF SUITABLE LAND FOR SRI	1%
LACK OF IRRIGATION FACILITY	16%
NON AVAILABILITY OF ORGANIC MANURES	5%
NON AVAILABILITY OF QUALITY INPUTS	5%
NON AVAILABILITY OF TECHNICAL KNOWLEDGE	6%

Amongst those SHG members who did not adopt despite being trained reported the lack of land (60%) as the main reason for not adopting as highlighted in Table 12.

Table 12: Reasons for not adopting the SCI

NO LAND TO GROW CROPS	60%
HUSBAND WAS NOT INTERESTED	8%
NO FOLLOW UP SESSION	8%
TECHNIQUE LOOKED EXPENSIVE	10%

A few women reported that even if they understood and were willing to adopt the technique, their husbands were unwilling to do so, and some did not adopt as the technique looked expensive. At the same time, many VO members, as highlighted in Table 13, voiced their concerns about the lack of adequate training, funds, and human resources that are hindering the take up of the technique.

Table 13: Factors hindering the take-up, as reported by the VO

INEFFICIENT RESOURCE PERSONS	5%
SHGs ARE NOT INTERESTED	4%
LACK OF HUMAN RESOURCES	14%
LACK OF LAND	25%
LACK OF FUNDS	18%
LACK OF SUPPORT FROM JEEVIKA OFFICIALS	12%
LACK OF ADEQUATE TRAINING	16%

Half of Resource Persons reported of experiencing farmers dropping out mainly because of the lack of resources such as irrigation and labourers needed for the SRI as highlighted in Table 14. The Resource Persons suggested that to ensure more farmers adopt the technique, intense follow up and provisions of resources need to be

provided by the Project, as highlighted in Table 15.

Table 14: Reasons for farmers discontinuing applying the technique, as reported by the Resource Persons

FREE SEEDS ARE NOT AVAILABLE ANYMORE	13%
NO LAND FOR FARMING	7%
SRI FARMERS FACED LOW YIELD OF PADDY IN THE PREVIOUS YEAR	13%
LACK OF FUNDS	13%
NO IRRIGATION TO IMPLEMENT THE INTERVENTION	20%
FARMERS ARE STILL NOT COMFORTABLE WITH THE NEW TECHNIQUE	13%
LACK OF RESOURCES TO ADOPT THE TECHNIQUE	47%
LACK OF LABOURERS FOR THIS TECHNIQUE	33%

Table 15: Suggestions provided by the Resource Persons on how to increase the take-up

CROP INSURANCE	7%
REWARD IF THE YIELD IS MORE	20%
PROVISIONS OF FUNDS	30%
BUILD INFRASTRUCTURE NEEDED FOR THE TECHNIQUE	3%
PROVISIONS OF RESOURCES	57%
INTENSE FOLLOW UP	60%

ZERO BUDGET NATURAL FARMING

The Project has introduced Zero Budget Natural Farming technique that involves the usage of locally available natural materials such as cow dung, cow urine, *neem* leaves, garlic etc. to control pests. This method is used to reduce the cost of cultivation without affecting the productivity as farmers use indigenous inputs made from crop residuals and other home grown material. In our study area, 67% of SHG members were informed about this technique, nevertheless, only 12% of those that were informed (8% in our study sample) reported of adopting it. Interestingly, three in four that had

adopted this technique had also adopted the SRI technique. 31% of those that applied were SHG leaders. The majority applied because they received subsidized inputs (41%) and they expected increase in crop productivity by applying this technique (40%). The majority that applied once, re-applied again (71%). Amongst a small group of women that stopped applying reported that they used this technique to sell the natural fertilizers, but they were not able to sell it. 77% of participants reported of benefitting from applying this technique.

Table 16: Reasons for not adopting

HUSBANDS ARE NOT INTERESTED	7%
LACK OF LIVESTOCK FOR INGREDIENTS	32%
NO FOLLOW UP BY THE VRPS	10%
NOT OPEN ABOUT NEW TECHNIQUE	17%
NO FARMING DUE TO LACK OF LAND	50%

As highlighted in Table 16, the majority did not apply despite knowing as they did not have land for farming. Likewise, even those with land, one in three did not have livestock. It is to be noted that cow dung and urine are key ingredients to prepare any natural organic fertilizers. Some were not open to adopt new technique to control pests, and some suggested that they were not followed up by the Resource Persons. A few women reported that they could not adopt it as their husbands were not interested in this technique.

KITCHEN GARDEN

The Project has started the Kitchen Garden initiative so women could grow a variety of vegetables in their own premises. Block managers reported that

in some cases, micro drip irrigation systems are being developed to water the Kitchen Garden. Those that have adopted the technique are provided with subsidized or free seeds as well. We learnt that the Kitchen Garden initiative was not introduced across the region. The implementation of Kitchen Garden was primarily found in Noorsarai and Rajgir blocks in the Nalanda district. At the time of the survey, only 33% of SHG women were aware of it. Nonetheless, amongst those that had heard about it, the adoption was very low as only 13% had adopted it (4% in our study area). Impressively, of those that adopted, 55% did not have any agricultural land, and were encouraged to grow vegetables in their own premises. They adopted because they wanted to grow extra vegetables for their families (29%), they were receiving subsidized or free inputs to grow vegetables (29%), and they thought it was easily applicable in their homes (21%).

While the majority of women were not aware of the technique, those that were did not adopt because they did not have space to grow vegetables. We also found that a woman's multiple responsibilities at home and farm directly limited her time and energy in taking part in any economic intervention. As for example, we learnt from the Resource Persons that a woman's belief that the Kitchen Garden might require more of her time was hindering the take-up.

POULTRY FARMING

The Project has started backyard poultry, an entrepreneur based model of mother unit functioning as the backward and forward linkages to the individual household level units. Block level officials reported that once SHG member makes the required payment, she is provided with 45 Day Old Chicks (DOCs) which she receives in three instalments. These DOCs are supplied to the mother unit, and after rearing for 21 days at the mother unit, the poultry is distributed to the beneficiaries.

In our study region, 78% of SHG women were aware of the intervention, nevertheless, only 8% of women that had heard about it (6% in our study sample) had taken up this initiative. The ones that adopted reported that long term profits (45%), loan provided by the Project for the purchase of DOCs (31%), and availability of technical assistance (28%) motivated them to invest in the intervention. 95% reported that they were frequently visited by the Resource Persons. At the time of survey, participants, on average, had received 25 chickens. 58% reported that they were able to sell chickens or eggs, mainly in the market or to neighbours. The rest consumed eggs at home. Only 31% perceived an increase in household income due to poultry farming as they were able to sell eggs or chickens in the market.

Few participants were planning to discontinue poultry farming as they were finding it difficult to manage poultry at home, as chickens were

dying in the winter. The Poultry Resource Persons reported of participants dropping out, mainly due to inability to make profits, and death of chickens. Further, the Resource Persons reported that women hesitate to adopt the poultry farming, due to lack of space at home to manage the poultry. 45% of women that did not adopt poultry farming, despite knowledge, reported they did not want to share their household space with chickens as it affects their social status. These women perceived chicken to be dirty. 35% reported of being interested and they had applied for the intervention, yet, at the time of survey, they were waiting for JEEViKA officials or the Resource Persons to follow up with them. Only 9% reported of their interest, but found the intervention expensive.

DAIRY INTERVENTION

The Project has identified cattle rearing and dairying to be the second most common livelihoods activity in rural Bihar. For cattle rearing and dairying to be an income generating activity, the Project has integrated SHG and VO members to the Dairy Cooperative Societies (DCS), a village level cooperative institution where members supply their surplus milk. DCS provides several facilities such as reasonable price of milk containing fat, fodder for cattle, vaccination and artificial insemination of livestock.

At the time of the survey, the intervention was not implemented in all the blocks. Thus, only 39% of

women were informed about the dairy intervention. Of those who were aware of the intervention, 62% knew the functions of the DCS. Nevertheless, despite knowing the benefits of the service, only 8% (3% in our sample) had participated. Impressively, 75% of those that participated reported of increase in household income after they became the member of the DCS. Profits (60%), easy access to the DCS (50%), peer pressure (20%), and access to loan to purchase livestock (20%) were key motivating factors that influenced the participation. A few reported that they had to discontinue because their livestock died and in some cases, the DCS was no longer operating in their villages.

Amongst those who were aware of the intervention, but did not join, reported that lack of livestock (43%) as the major reason for not joining. 21% reported that they were not contacted by the Dairy Resource Persons after the initial discussion about the initiative. 17% reported that since the DCS was not available within their villages, thus they chose not to participate. Some reported of DCS being closed down. 11% reported of milk enough for household consumption whereas 8% were found selling milk, but they chose not to sell to the DCS as they thought that they could make profits selling milk to neighbours.

AGARBATTI INTERVENTION

Partnering with the ITC, the Project has implemented Agarbatti intervention, in which women are engaged in making incense sticks. In our study area, 59% of SHG women were aware of it. The knowledge was high in Bodh Gaya, Dobhi and Rajgir blocks, and low in Musahari block. Nevertheless, only 5% of those that knew about it (3% in our study sample) reported of participating in it. Interestingly, some women were engaged in Agarbatti enterprise, particularly in Dobhi block, however, they were in this business independently. For example, 27 women reported of being engaged in Agarbatti enterprise, amongst which, only 12 were engaged through the Project.

Data suggests low participation in the intervention was due to unavailability of the service, rather than lack of interest from women. For example, 52% women reported that they had been waiting for the intervention to start, however, there had been no follow ups regarding it. In fact, 25% of women that were aware of the intervention had registered their names and waiting for raw materials at the time of survey. 9% reported that they were not physically fit to do this business. 22% reported of not having enough time to get engaged in this intervention. Data indicates women's interest in the intervention; however the lack of raw materials and follow ups from JEEViKA might be the reasons for the low take-up.

FACTORS INFLUENCING THE ADOPTION

OWNERSHIP OF LAND, SUPPORT FROM THE VILLAGE ORGANISATION, GUIDANCE OF THE RESOURCE PERSONS HAD SIGNIFICANT DIRECT RELATIONSHIPS WITH THE PARTICIPATION AND THE CONTINUED USAGE OF THE SERVICES.

PERFORMANCE OF THE SELF HELP GROUP MEMBERS, VILLAGE ORGANISATION LEADERS AND RESOURCE PERSONS

The importance of the tier-based institutional structure that the Project employs has been thoroughly discussed in the previous chapters. Thus, it is important to measure the influence of the efficacy of each stakeholder in the success of the livelihoods intervention. In order to understand the efficiency of each group, we considered specific variables (or factors) for each stakeholder to calculate the performance (or rate) of the SHG members, the VO leaders and the Resource Persons in all the villages. To rate SHG members we considered the proportion of the following factors;

- Ownership of land
- Educational and literacy level
- Duration of the SHG membership.
- Leadership role in the SHGs.
- Average minimum savings
- Dropouts of SHG members
- Members defaulting loans as reported by the VO as well as SHG members.
- SHG members that received loans.
- SHG members that reported of receiving support from the VOs.

Likewise, to calculate the performance (or rate) of the VO leaders, we considered the proportion of the following factors;

- Average duration of the VO, as an entity
- VO leaders' knowledge about their roles and responsibilities
- VO's awareness and participation in farm intervention
- VO members' knowledge about their roles in implementing the farm intervention in the villages
- Trainings provided to the VO members
- Knowledge about the functions of the VRPs.
- SHG drop outs and members defaulting loans.
- VO members' interaction with the external stakeholders.

Additionally, we rated Resource Persons considering the following factors;

- Education and literacy level
- Level of knowledge about the responsibilities of the VRPs.
- Level of challenges faced at work.
- Level of trainings and capacity building support received
- Salary and incentives
- Technical knowledge about the intervention.

For each village, we calculated the proportion of each assigned variable (or factor) as highlighted above, and accordingly, a score was given to that village by comparing the village proportion with the proportion of the same variable in all the villages together. It is to be noted that the composition of the score was based on the nature and the importance of the variables. For example, data indicates that the ownership of land plays a greater role in a woman's readiness to opt for the farm intervention. Thus, if the proportion of the ownership of agricultural land in a particular village, let us say 'Village A', was higher than the overall proportion in the study sample, then the 'Village A' scored 10, and if not, it scored 5. Likewise, if the proportion of dropouts and defaults in the same 'Village A' was higher than the overall proportion, then it scored a negative score of -15. The final set of overall score of each group of stakeholders of a particular village was then linked with the participation rate of that village to understand the relationship between the performance of each stakeholders and women's participation in farm intervention.

Data indicates no significant direct relationship between the performance of the Resource Persons and the VOs with the participation rate, as shown in the Table 17. Nevertheless, the relationship between the performance of the SHGs and the participation rate was found to be significant. What this finding explains is that the effectiveness

of the VO leaders, or the Resource Persons, alone, is not enough to influence the adoption until and unless the SHG members are not efficient.

Table 17: Relationship between the effectiveness of stakeholders and the adoption rate at a village level

EFFECTIVENESS/ ADOPTION RATE	P- VALUE	R- SQUARED
SHGs AND THE ADOPTION RATE	0.0073 *	0.1391
VOs AND THE ADOPTION RATE	0.45	0.03
RESOURCE PERSONS AND THE ADOPTION RATE	0.927	0.0005

Significance level: * when $p < .05$ and ** when $p < .01$

FACTORS INFLUENCING THE DECISIONS TO ADOPT

As the previous section indicates that the performance of the SHGs has a significant relationship with the participation rate, we further conducted a regression analysis to estimate which particular factor has the maximum effect on an individual's decision to adopt the technique. The dependent variable, *participation*, was whether an individual participated in any of the farm-related livelihoods intervention (System of Rice Intensification, Zero Budget Natural Farming, or Kitchen Garden). We considered five independent variables: 1) ownership of land by SHG members, 2) individual's leadership position in the group, 3) individuals getting support from the VOs, 4) individual's saving habits with the groups and 5) individual's active participation with the group- and tested how the participation rate changes when any

one of the independent variables varied, while the other independent variables are held fixed.

Table 18: Statistical analysis of the factors that influence the decision

INDICATORS	COEFFICIENT
OWNERSHIP OF LAND	1.651 **
LEADERSHIP POSITION	0.818*
SUPPORT FROM THE VO	0.716**
SAVINGS BEHAVIOR	0.099*
ATTENDANCE OF THE MEETING	1.312

Coefficients given in log-odds

*Significance level: * when $p < .05$ and ** when $p < .01$*

The statistically significant result ($p < 0.01$) as shown in Table 18 highlights that owning agricultural land has the best odds at participating in the intervention. [After converting the coefficients, which are in log-odds, into odds, we found that an individual is 5.2 times more likely to participate in an intervention if he or she owns agricultural land]. Data indicates that amongst those that adopted the farm intervention, 47% of participants reported farm activities as their primary source of income and 76% reported of having their own land for agriculture [15% of SRI farmers rented land, and 40% opted for sharecropping]. We further verified our data examining the profile of those 69% of respondents that had heard about SRI (74% in our study sample) but never adopted the technique. Amongst this group, only 23% reported farm activities as their key source of household income. The majority (59%) did not have any agricultural land, and the rest had an average land of 20 Kattha (1 Bigha or 0.33 Acre). Data clearly indicates those that did not adopt were either landless

or smallholding families. Thus, it is safe to imply that ownership of land plays the key role in influencing farmers' decision to adopt the technique.

Data suggests that support from the VO and the leadership positions in the group have a slight effect on an individual's decision to participate in the intervention. In our study region, 37% of those that had adopted SRI were SHG leaders. Regression analysis indicates that an individual who is in the SHG leadership position or getting more support from the VOs is more than twice as likely to participate in the intervention. This could also be because the individuals that are associated with the VOs are more likely to get adequate information about the intervention. On the other hand, the savings behaviour, although significant at 5%, barely increases the chance of participating in the intervention if an individual increases their saving. Likewise, even though the data suggests SHG members' regular attendance in the meetings has positive effect on the participation rate, however, this result is not statistically significant.

FACTORS INFLUENCING FARMERS' DECISIONS TO CONTINUE

Once the technique is adopted, it is equally important to understand whether or not the participants continue using the technique. As explained in our previous chapters, not all participants re-applied the farm intervention. As for example, only 48% of those that had once adopted the SCI,

reported of re-applying. Thus, we did a regression analysis to estimate which factor has the maximum effects on farmers' decisions to continue with the technique.

Many believe that if the productivity of the crop increases, the farmers would automatically continue with the technique. Although 64% of SRI farmers perceived an increase in the productivity of crops, it had no significant effect on the re-application of the technique as highlighted in Table 19. At the same time, though not statistically significant, getting the support from the VOs had some effects on individual's decision to re-apply the technique. However, the statistically significant result ($p < 0.01$) shows that the Resource Persons regular visits to farmers' plots greatly impacts an individual's decisions to re-apply. Data suggests that a SRI farmer who is frequently visited by the Resource Persons is three times more likely to re-apply the technique compared to those who are not visited.

Table 3: Statistical analysis of the factors that influence the decision to continue the intervention

INDICATORS	COEFFICIENT
SUPPORT FROM THE VO	0.662
PLOT VISITS BY THE RESOURCE PERSON	1.050 **
INCREASE IN PRODUCTIVITY	-0.004

Coefficients given in log-odds

*Significance level: * when $p < 0.05$ and ** when $p < 0.01$*

One reason why Resource Person's visit has such an effect could be that a farmer who is guided and monitored by the Resource Person might be more

knowledgeable about the technique, which in turn, encourages him to continue with the service. For example, we examined the knowledge about SRI technique amongst those farmers that had adopted. We asked basic questions about the SRI technique such as its importance in spacing of seedlings, how the crop is planted, the importance of nursery beds, the demerits of planting seedlings incorrectly, and irrigation methods. Based on farmers' knowledge, we created a 'knowledge index' and categorized farmers into two groups - "low knowledge" and "high knowledge". In our sample, 56% were low knowledge, and 43% high knowledge. Data indicates that the Resource Persons visits might have an effect on farmers' knowledge because amongst those who were never visited by Resource Persons, 67% had low knowledge. Amongst the "high knowledge" group, 74% were frequently visited by the Resource Persons. Additionally, data also suggests that farmers that were monitored by the Resource Persons saw the increase in the productivity of crops. This could be because when the Resource Persons monitor, the technical procedures of the SRI are followed according to the guidelines. For example, 65% of SRI farmers reported that the Resource Persons visited their plots, and amongst this group of SRI farmers, 76% reported the increase in yield, compared to 44% of those that were not visited by the Resource Persons. Amongst those SRI farmers that were visited by the

Resource Persons, 58% re-applied, compared to 31% that were not visited.

Overall, it is safe to imply that though the performance of VO leaders and the Resource Persons do not directly

influence the initial participation rate, nevertheless, their support has effects on the effectiveness of the SHG members, which in turn, result in members' decision to adopt or continue with the technique.

SUMMARY OF FINDINGS

Organised structure and inclusion of the poor: The Project has been successful in mobilising women into forming SHGs and has designed a well-organised institutional structure. The Project has managed to build a strong relationship between different stakeholders, such as, the VOs and the SHGs, the Resource Persons and the SHGs, and the VOs and the Resource Persons. Data clearly suggests that the marginal families are strategically included in the JEEViKA ecosystem. Most of the beneficiaries were landless labourers, and even amongst landowners, the average landholding was less than 0.5 acre. It is to be noted that casual labourers of the unorganized labour market are the most vulnerable as they are deprived of the benefits of labour enactments and are restricted to casual employment with inconsistent and lower wages.⁷

Lack of clarity in conflict management: Not all VO members were aware of their job responsibilities. Moreover, SHGs members did not view the VO as a conflict mediator, neither did the VOs realised their role to resolve conflicts. Resolving conflicts amongst themselves is important to ensure that the community organisations remain self-sustaining. More important, well-disciplined and well-operated community organisations

have more potential to make the JEEViKA interventions successful.

Financial behaviour of SHG women: The majority of the SHGs saved the minimum amount required. Despite being in SHGs for almost four years, many SHGs had not graduated to get bigger loans from commercial banks. Not all women chose to take loans due to their unpredictable wages in unorganised labour sectors and thus, they were worried about their social status if they failed to repay the loan. The majority of VO members reported loan default as the major concern. Women defaulted due to lack of income.

Lack of incentives for overburdened Village Resource Persons: Resource Persons, who come under the community cadre of JEEViKA, play a vital role in the success of any livelihoods intervention. While almost all Resource Persons had received trainings and received adequate support from JEEViKA officials, not all of them were able to give time to all their tasks. The majority had restricted their work to informing and working with the SHG families, and only considered focusing on the task that was practically handled. One major reason for doing so was because they were not paid on time at the time of the survey and did not see any incentive in

focusing on the task that required more efforts. Moreover, since the Resource Persons were paid based on the number of SHG women engaged in the intervention, they were not strict about screening the beneficiaries based on their performance as SHG members.

Extensive trainings on livelihoods intervention: JEEViKA has managed to provide extensive trainings on livelihoods intervention, particularly agriculture intervention to all stakeholders including Resource Persons, the VOs and the SHGs. However, not much has been focused on other off-farm intervention. Even though SHGs were casually informed about these interventions, neither Resource Persons nor VO leaders were provided with extensive rigorous trainings. For example, not all Resource Persons were provided with trainings about the Zero Budget Natural Farming, Kitchen Garden, and other interventions.

Increase coverage of training for the VO leaders: Trainings on group management and financial management are important for the VO members as they are responsible to manage SHGs as well as the interventions in the villages. However, the majority of VO members had never attended such trainings.

Importance of testing Resource Persons' knowledge to ensure the understanding of the technique: Not all Resource Persons were knowledgeable about the farm

techniques. This is particularly alarming because this is the workforce that teaches other SHG members on the method. JEEViKA can test the level of understanding after the training, and provide more trainings or guidance to those with low knowledge.

Farm intervention adopted by landowners: Data suggests that the farm intervention, particularly the system of crop intensification method, was adopted by those that owned land. Despite the SCI technique being rigorously promoted amongst the SHG members, lack of agricultural land was the main reason that dissuaded SHG members from adopting the technique

Importance of off-farm or non-farm interventions: The Project aims to cater the needs of the landless or smallholding families. Thus, it is extremely important that the Project rigorously push the off-farm or non-farm interventions such as poultry farming, agarbatti making enterprise etc that could provide stable work and income to women. Findings suggest that while many were not aware about these interventions, many interested women were waiting for the follow ups from the Project. Since these are demand-based interventions (they are implemented based on the micro-plan prepared by the VOs), thus, the Project should focus on the strategy to convince women to adopt these interventions.

Ownership of land is the most important factor that influences the decision to adopt the technique:

Statistical analysis highlights that owning agricultural land has the best odds at participating in the intervention. Findings indicate an individual with a land is 5.2 times more likely to participate in an intervention compared to those that do not have land.

Efficient SHG members are more likely to adopt the interventions:

Findings suggest that the adoption of any farm intervention depends on how efficient the SHG members are.

Support from the VOs and the Resource Persons is important to enhance the efficiency of the SHG members:

Data suggests even though the performance of VOs and the Resource Persons did not have direct effect on the participation rate, nevertheless, their support to the SHGs had some effects on the effectiveness of the SHG members, which in turn, resulted in members' decision to adopt the technique. As for example, an individual who is in the SHG leadership position, or getting more support from the VOs is more than twice as likely to participate in the intervention. Likewise, a SRI farmer who is frequently visited by the Resource Persons is three times more likely to re-apply the technique. Their visits also affect the knowledge of the farm technique, which might have effect on the increased productivity of crops.

Importance of follow-ups from the Project:

Many SHG members were interested in some enterprise-based interventions; however, at the time of survey, they were still waiting to hear back from the JEEViKA officials. Even in JEEViKA's most popular SCI intervention, lack of follow up by the Resource Persons might have resulted in low re-adoption of the technique.

Failure to see the long-term benefits:

Many farmers were demotivated to re-apply SRI technique because they were not provided with subsidized or free seeds. For some farmers, application of technique resulted in increased the productivity was not enough motivation to offset the cost of buying seeds. Another example to SHG women's failure to see the long-term benefits was that of the adoption of poultry intervention. Almost half of women that did not adopt poultry farming, despite access to subsidized loan to purchase chickens, reported they did not want to share their household space with chickens as it affects their social status. We also found that a woman's multiple responsibilities at home and farm directly limited her time and energy in taking part in any economic intervention. As for example, as reported by the Resource Persons, a woman's belief that the Kitchen Garden might require more of her time was hindering the take-up.

OUR KEY RECOMMENDATIONS

The study found that despite opportunities and systematic community-driven handholding support from the government for more than four years, there was a limited participation of women in the livelihoods intervention programme. Our study found that the most of the SHG members were from landless, near-landless or marginal families. As data suggests, most of these families were only part-time farmers, with the major part of their household income and employment coming from farm or non-farm based labour employment. Thus, the Project's interventions that have a component of agricultural intensification, promotion of techniques for homestead production of high value crops (such as Kitchen Garden), and activities in non-farm or off-farm sector such as poultry farming and Agarbatti intervention are well-designed and appropriate interventions.

While our study finds that the ownership of land greatly influenced the decision to the adoption of farm innovation, at the same time, we also found women's decisions were influenced by their cultural beliefs, internal family dynamics and upbringing. For example, 43% of women that did not adopt poultry farming, despite access to subsidized loan to purchase chickens, reported

they did not want to share their household space with chickens as it affects their social status. We also found that a woman's multiple responsibilities at home and farm directly limited her time and energy in taking part in any economic intervention. For example, as reported by the Resource Persons, a woman's belief that the Kitchen Garden might require more of her time was hindering the take-up. Lastly, due to lack of control over household income, women found some low-cost interventions prohibitively expensive. While subsidized loan was available for the initial take-up, one in three women chose not to take loans as they feared it might affect their social status if they failed to repay. Thus, despite efforts made by the government to empower women in livelihoods activities, our study found a woman's decision to participate is profoundly influenced by her established notions. Hence, given the large scale nature of public programmes targeting women that intend to reach millions of beneficiaries in India, there is a great need for rigorous and extensive policy research to understand if there is any mismatch between what service providers are offering to women and what women need or perceive about the programmes. Thus, further research on analysing how education and economic background of women, perception of

self-worth, presence of an educated daughter in the house and cultural variations influence women's willingness to adopt the program is needed.

As mentioned earlier, farm intervention itself is not sufficient as many were not engaged as cultivators due to lack of land. Thus, the Project's off-farm and non-farm interventions such as poultry farming, Agarbatti making enterprise and more need to be publicized rigorously as these interventions could provide stable work and income to women from landless and marginal families. In our study area, while many were not aware about these interventions, many interested women were waiting for the further information from the Project. Since these are demand-based interventions (they are implemented based on the micro-plan prepared by the VOs), the Project should focus on the repetition and persistence of messages, mainly focusing on how these interventions could benefit women and their families, particularly their children, to influence women's interest in such interventions.

Data suggests that the Village Resource Persons play a crucial role in influencing the decision to continue the usage of any intervention. As for example, only half of those farmers that had once adopted the SRI technique re-applied the technique. Findings suggest that those farmers that were monitored by the Resource Persons decided to re-apply. The study found that the higher proportion of farmers that were visited

by the Resource Persons was more knowledgeable about the technique. Interestingly, the higher proportion of farmers that were monitored by the Resource Persons reported of an increase in the productivity of crops. It could be possible that the knowledgeable farmers followed the technical procedures of the SRI as per the guidelines, and experienced the increase in the productivity of crops. Thus, we recommend that the Project invests on enhancing the quality of the Resource Persons by providing more robust trainings, capacity building support and timely remuneration to encourage the performance. As the data suggests, the quality of the Resource Persons does not have any significant effect on the participation rate of the SHG members, however, Resource Persons' engagement with existing SRI farmers has a significant effect on farmers' decision to continue with the intervention, thus, we recommend that the Project does not allot too many responsibilities to the Resource Persons and restrict their roles to providing technical support to farmers only.

We recommend that the Project authorize that leaders be changed periodically to provide opportunities to all group members to develop leadership skills. From our discussions, we found that women, in general, approved of existing leaders continuing the position, and comfortable about no periodical rotation of leadership. However, if being in leadership position

influences the decision to participate (as data suggests), then encouraging new members to become leaders is extremely important to enable equal and full participation of women.

Finally, in sustaining any livelihoods programmes, sustainability of credit provisioning operation is highly essential. In our study area, loan default is reported to be a major problem by the VO leaders. Financial experts have argued that soft loans, combined with subsidies, have often faced defaults as beneficiaries see subsidized loans as grants. However, past experiences have implied that through a better monitoring and intervention of federation leaders and staffs and the provision of both positive and punitive incentives, groups have reduced loan default. We recommend that the VO leaders are provided with more robust financial literacy trainings to improve retention and reduce defaults. It is

important because in our study sample, the majority of VO members had never attended trainings on group management and financial management.

Overall, we strongly believe that the livelihoods intervention programmes that are being promoted by the Project align with the needs of the rural women from marginal families in Bihar. Based on our research findings, we suggest that officials re-examine some of their current mechanisms of running the Project by specifically focusing on the above mentioned areas. We believe that the JEEViKA Project can make a difference in changing the lives of women in rural Bihar, however, if the Project fails to understand the readiness of the programme participants and the implementation gaps, then it might affect the long-term success of its livelihoods intervention.

REFERENCES

-
- 1 UN Women, In Focus.
[The role of women in rural development, food production and poverty eradication](#)
 - 2 JEEVIKA, Bihar Rural Livelihoods Promotion Society,
State Rural Livelihoods Mission, Bihar. [Annual Report 2012-13](#)
 - 3 Duflo, Esther, Abhijit Banerjee, Rachel Glennerster, Cynthia G. Kinnan.
[The Miracle of Microfinance? Evidence from a Randomized Evaluation](#)
 - 4 Mel, Suresh De, David McKenzie, Christopher Woodruff.
[One time transfers of cash or capital have long-lasting effects on microenterprises in Sri Lanka.](#)
 - 5 Fafchamos, Marcel, David Mckenzie, Simon Quinn, Christopher Woodruff.
When is capital enough to get female microenterprises growing? Evidence from a randomized experiment in Ghana.
 - 6 Directorate of Rice Development, Bihar, Patna.
[System of Rice Intensification \(SRI\)- Principles and Methods.](#)
 - 7 Labour Bureau, Ministry of Labour and Employment, Government of India,
[Wage Rates in Rural India \(2009-2010\)](#)