BACKGROUND

Oxfam India (OIN) mainly works on the twin issues of poverty and inequality. It does this by partnering with various grass-root organisations in the country. According to the 2010-2015 mission statement of OIN, the organisation will ‘fulfill its vision by empowering the poor and marginalized to demand their rights, engaging the non-poor to become active and supportive citizens, advocating for an effective and accountable state and making markets work for poor and marginalized people’. One of the important areas that OIN has been working on is with small-holder farmers, especially women farmers, who are highly vulnerable to the changing climate conditions along with the accompanying, economic and market uncertainties & hardships.

Climate change is one of the pressing issues of the Indian sub-continent, and the Indian agriculture faces the harshest impact of it. Most of the agriculture in India is still largely rainfed and the farmers are small & marginal practicing subsistence farming, especially vulnerable to changes in climate and rainfall. This is even more pronounced in the fragile ecosystems like the Himalayas. In the Terhi-Garhwal district of Uttarakhand for instance, most of the farmers practice subsistence farming or marginal land-holdings. With the allure of better livelihood options outside the state (primarily in defence and hospitality services), there has also been large scale out-migration from these villages of mainly the male youth, and even male adults, closely followed by their entire families. Agriculture in these areas are now largely taken care of by the women folk left behind while the men leave looking for better income options. These women take care of the household domestic chores as well as most of the farming activities (other than ploughing, which is still mainly done by the men), although their food produce/income from these fields remain very small.

Mount Valley Development Association (MVDA) is a local NGO working in the Tehri-Garhwal district. Some of its work areas are: a) violence against women, b) raising awareness about government schemes, c) mainstreaming improved agriculture practices, and d) providing alternate nature-linked livelihoods to the community. MVDA primarily reaches villages through women based institutions like the Mahila Mangal Dals (MMD) and Self-Help Groups (SHG).

Within this context, OIN with the support of Buddhist Global Relief partnered with MVDA to implement a project titled ‘Enhanced food security for women farmers through building a climate resilient sustainable production system’. This was implemented between 2012 and 2015 in thirteen villages of the Bhilangana Valley of Uttarakhand.

The main project goal was: “Creating ecological resilience through an emphasis on sustainable agriculture for small and marginal farmers”. In order to attain this goal, the project expected to have the following key impacts in the intervention area:

- An increase in income and nutrition of women farmers at the household level.
- Enhanced ecosystem resilience through strengthening natural resource base.
- Risk minimization for women farmers through adoption of sustainable agriculture.

ABOUT THE EVALUATION

OIN undertook the endline evaluation of this project with the following objectives:

- To assess the progress made under the project,
- To understand the processes involved in the project and
- To document the best practices, learnings and challenges faced in the project.

In order to fulfill these objectives, a qualitative study was undertaken consisting of focused-group discussions (FGDs) and in-depth interviews (IDIs). Six FGDs were conducted in six of the intervention villages with the women farmers. IDIs were conducted with block level government officials from Agriculture and Horticulture departments and with the MVDA staff. This was accompanied by thorough literature review of the project documents and project logical
framework, along with important literature on the Garhwal region of Uttarakhand. Case studies were also developed to highlight the achievements of the study.

**Sampling:** Purposive sampling method was followed to select the villages for the study. MVDA was asked to rate the villages on certain pre-defined criteria, based on which the thirteen villages were ranked in three groups. The research team then selected one village from each of the ranked groups from both the blocks. The six villages selected were: Geoli, Kandiyal Gaon and Swadi from Jakhnidhar block; and Thayeli, Falenda and SyanKund from Bhilangana block.

### STRATEGIES ADOPTED BY THE PROJECT

**VILLAGE SELECTION:** The villages were strategically selected to include villages in which MVDA had worked in before or were familiar with in terms of their geographical location, social composition and the key issues that they grapple with. This ensured that MVDA had a strong contextual familiarity with the intervention locations and helped complement their ongoing activities.

**WOMEN FARMERS AS CHANGE MAKERS:** An important element of the programme was to improve the income of women farmers. MVDA reached out to the women, to not just give them training on sustainable farming methods, but also to empower them and instill a sense of confidence in them, essentially developing them into the change-makers of their village.

**DEVELOPING LOCAL LEADERS:** The project identified and capacitated thought leaders and existing local leaders amongst the women community members to become the Village Level Resource Persons (VLRPs) of the project. These women then acted as the thought leaders of their village and model sustainable agriculturalists providing farming related technical advice.

**WORKING THROUGH INSTITUTIONS:** MVDA worked with existing women SHGs and MMDs. MVDA used the monthly meetings held by these institutions, to organize trainings on low-input farming methods and ways in which traditional farming can be transformed into a sustainable one.

**FOCUS ON CAPACITY BUILDING, TRAINING AND EXPOSURE VISITS:** Interactive, practice-oriented and participatory trainings were organized for capacity building of the women farmers. Classroom teaching was complemented with hands-on training involving visuals and demonstration plots. These were accompanied by exposure visits for the women as well. The project collaborated with Agriculture and Horticulture departments and Farmer Field School (FFS) for the trainings.

![Figure 1: Women of Thayeli village planting paddy using SRI techniques](image)
ACTIVITIES IMPLEMENTED BY THE PROJECT

Over the three year period, the project implemented four main kinds of activities as described below:

▶ EXPOSURE VISITS AND TRAININGS ON CROP INTENSIFICATION TECHNIQUES: This included trainings on system of wheat intensification (SWI) and System of Crop Intensification (SCI). Farms of those farmers who had employed SWI were used as demonstration units for other farmers in the village. Information on benefits that can be availed from the Rashtriya Krishi Vikas Yojana (RKVY) was also shared with the farmers.

▶ EXPOSURE VISITS AND TRAININGS ON SUSTAINABLE AGRICULTURE, AND COST & INPUT REDUCTION TECHNOLOGIES: Training on low input sustainable agriculture was conducted including Baranja method of traditional farming. The women farmers were encouraged to have kitchen gardens which were seen as an effective way to improve the household nutrition. Training on in-situ water conservation and water harvesting were also conducted.

▶ STRENGTHENING WOMEN BASED ORGANISATIONS & CONFLICT RESOLUTION FOR RESOURCE SHARING: The project worked with SHGs and also created ‘Kisan Paramarsh Kendra’ [Farmer’s Resource Centres]. Women farmers from both the project and non-project villages directly or indirectly benefited from the information and learning shared by these centres. The project identified one woman farmer from each of the thirteen villages and capacitated them as a village level resource person. These women farmers were trained and relied upon to facilitate the information sharing sessions during the SHG and MMD meetings.

▶ VULNERABILITY ASSESSMENT AND REDUCTION ACTIVITIES: These were mainly undertaken during the first year of the project and then discontinued. Vulnerability assessment activities included the development of the village-level micro plans which included socio-economic assessment, resource mapping and needs assessment of the villages. These were done in a participatory manner with the villagers and then submitted to the respective Gram Panchayats.

For vulnerability reduction, seed banks were established in all of the thirteen villages to promote both traditional seeds and new climate resilient ones. Further, in the second year of the project, catchment area treatment was done in two of the villages to increase water percolation. In the final year of the project, a farmers’ convention was carried out to showcase the various initiatives taken during the project duration.

1 A method of multiple cropping in which 12 kinds of traditional crops are grown together on the same plot of land in one year.

Figure 2: Women farmers of Syal Kund village harvesting potato.
ACHIEVEMENTS OF THE PROJECT

The main achievements of the project have been as follows:

INCREASED RESILIENCE OF SMALLHOLDER WOMEN FARMERS

Agriculture in the hills is mostly marginal and the farmers, especially the women farmers, have low risk taking capacity. Thus MVDA trained and capacitated these farmers on various low-input sustainable agriculture techniques and water conservation methods while also connecting them with government schemes to ensure greater resilience of the farmers. Some of the specific achievements of the project under this are:

- **ADOPTION OF CROP INTENSIFICATION METHODS:** The women farmers were trained on various crop intensification techniques like System of Rice Intensification (SRI), SWI and SCI. These increase the productivity of irrigated and non-irrigated crops while also being considerably less labour and resource (crops) intensive. The research team found high recall amongst the women farmers of the training sessions organized by MVDA with FFS. As per the annual report of MVDA, over 550 farmers in the intervention villages practice at least one Climate Resilient Agriculture (CRA) technique like SRI, SWI, SCI, kitchen gardens, vermin-compost, and water-tank

- **GETTING MORE FROM ORGANIC FARMING:** MVDA trained the women farmers on making and using organic manure and traditional seeds. They were trained on transforming raw cow dung into growth promoting substance & panchgavya and also on cow urine based fertilizers. Although, the awareness levels were high amongst the women, the researchers found that most of them still continue using the raw manure. Some of them cite the unavailability of some of the ingredients needed to make the organic manure as reason for their low adoption levels of the methods, while others say it is because of the stench released when preparing it. MVDA also promoted using Vermicompost pits, and 51 of the farmers availed small scale pits on subsidized rates through RKVY. These farmers use it in their kitchen gardens and their fields.

- **INCREASED SEED SOVEREIGNTY:** MVDA set up seed banks in all thirteen of the intervention villages which were managed by women groups. The seeds are bartered to the farmers each season on the condition that the farmer shall return double the amount of seeds taken after the harvest. As per MVDA, 360 farmers benefited from the banks in the Kharif season (monsoon season) and 330 farmers in the Rabi season (winter season). The researchers found that only a few of the villages were successfully running seed banks and it has not been widely accepted across all the locations. The reason for this is that most of the farmers have been traditionally borrowing and lending seeds from each other, and thus do not find it helpful to contribute to another external seed bank in the village.

- **DIVERSIFYING THE FOOD BASKET:** The project promoted kitchen gardens in the intervention villages, especially encouraging the cultivation of vegetables that are not water-intensive like coriander, peas, garlic and spinach. This helped improve and diversify the nutrition uptake in the household, while also increasing the income levels and reducing the household expenditure and dependence of market bought food.

- **ESTABLISHING LINKAGES WITH GOVERNMENT SCHEMES:** The women farmers were informed about the different farming related government schemes and the ways in which they can avail them. Many of them were able to access resources and assistance to make vermicomposting pits through the RKVY.

CASE STUDY 1

BECOMING A VILLAGE RESOURCE PERSON

Savitri Devi has been practicing agriculture since she was a little girl, for the last 45 years. After coming to her in-laws’ village, she learned and started paddy farming. Although it is very common in the village, paddy farming is extremely labour intensive. Because of its high labour requirement, along with the economic hardships caused by the changing climate, she was open to incorporating new practices in her farming. She moved beyond her initial hesitations and tried SRI on half of her land. “The SRI plot yielded as much paddy as my entire land!” she exclaimed. This increased her interest in MVDA activities, and she even became the village level resource person in her village, leading the SHG strengthening and MMD resurrecting initiatives under the project.

She was also the first women in her village to establish vermicompost pit offered under the RKVY by the Agriculture Department in collaboration with MVDA. Through Oxfam India’s support, she now has a rain water harvesting tank and has developed a Kitchen garden of her own.

As she herself claims, after MVDA’s intervention “her income has increased substantially.”
Saku Devi, a resident of Kandiyal Gaon, belongs to the Dalit community. Being extremely poor and having only a meagre produce from her farm, she was eager to learn new agricultural techniques to improve her produce. But the upper caste women part of the MVDA trainings as well as the village resource person in that village was hesitant to include lower caste women in their group. Undeterred, she followed the farming advice that the resource person gave to the other women, and was able to bring a marked difference in her field’s produce. This gave her the courage to approach the women in the meetings and then with the assistance of MVDA, she, along with other Dalit women, was slowly able to participate in them and be accepted by the other members. She also formed an SHG with 7 other dalit women. She has now learnt and practices various low-input sustainable techniques like SCI and SRI. They are also able to continue the SHG by collecting INR 100 every month, and this has become a source of security for the members by offering ready money to borrow without having to beg to anyone or be burdened by high interest rates.

**CASE STUDY 2**

**OVERCOMING BARRIERS**

**INCOME ENHANCEMENT AT THE HOUSEHOLD LEVEL**

**INCREASED YIELDS AND INCOME:** All the women who adopted SWI, SRI and SCI reported having considerably reduced on their input and labour costs while their output increased by about 1/3rd of what it used to be before. According to MVDA, SWI has increased the yield of wheat by 20-40% and SRI has increased grain yield by 40%. Although, there is no marketable surplus available yet, the increased yield has increased food security and reduced or stopped cash outflow for buying food from the market.

**STRENGTHENING AND EMPOWERING WOMEN’S FARMER GROUPS:** The project worked with 52 SHGs. Some of these were formed with assistance from MVDA, while most of them were in existence before the project intervention. The research team found that, although many of the SHGs and MMDs existed before MVDA intervention, they were fragmented and irregular and not engaged with matters of livelihood and micro-savings. With the intervention and support of MVDA, these groups have become regular and all of them collect INR 100 from their members monthly and loan out money at low interest rates of 2-4 per cent. Some stray cases of women starting their own micro-enterprises were also found. These groups have become centers for receiving and sharing information and discussions giving the women a collective space for discussing about issues of economic empowerment and better farming practices.

**Small scale attempts had also been made on improving natural resource base in the villages by providing trainings on in situ-water conservation, water harvesting, soil conservation and use of traditional seeds, as well as by the construction of trenches and climate resilient and water sensitive crops.**
 Limitations and Challenges Faced by the Project

There were various challenges faced by the programme staff which hindered the smooth progress of the intervention. Some of these limitations and challenges faced by them are detailed below.

- **Context related challenges:** All the villages covered under the program are remotely located in difficult areas, plagued by various contextual challenges that the programme had to struggle with. Many of the farms, especially those located in the uplands, are constantly raided by wild animals like monkeys and boars. Villagers sometimes lose their entire harvest in such raids. The upland forests are also prone to forest fires. The forest degradation, constant threat of wild animals, as well as the lure of remittance income have led many families to abandon non-irrigated agriculture, especially those on the uplands. Further, many of the intervention villages are located in extremely remote and inaccessible areas, which was a constant struggle for the field staff. Also, since the villagers in these remote villages were not used to having outsiders come into their vicinity due to their inaccessibility, they were often vary of such intrusion, and rapport building with them was quite difficult for the staff.

- **Implementation of sustainable techniques:** It was extremely challenging for MVDA to convince the villagers to give up their traditional practices and adopt the new sustainable methods taught by them like SCI, kitchen gardens, seed banks and vermicompost. Since most of these villagers believed their methods to be the tried-and-tested only method of doing agriculture in the hills, they were inflexible to change. It was also very difficult to convince the women farmers to give a part of their land to use as demonstration plots. Even after these plots yielded better results, it was very challenging to mainstream the methods into the entire village.

- **Holistic Village Development:** MVDA’s efforts to have a holistic all-round development of the intervention villages have not been very successful, owing to the lack of support from the different government actors. As mentioned earlier, MVDA had prepared micro-plans for each of the villages, reporting the felt need of the villagers themselves regarding the development that they need in their villages. These plans were submitted to the Gram Panchayats but their implementation has been limited. Further, MVDA’s effort to collaborate with government departments other than the agriculture department has also not been very fruitful.
RECOMMENDATIONS FOR THE PROJECT

Based on the understanding gained of the programme, following are the recommendations to have a wider and more sustainable impact of the programme.

► Federating village institutions: Clusters of SHGs at the cluster and block level can be formed to provide a forum for interacting and networking of SHGs and sharing of knowledge across the locations. This will multiply the benefits to the SHGs and give an opportunity to MVDA to reach a wider audience.

► Strengthening Income Generation Opportunities: Since the primary reason for the out-migration from these villages is the search for better income-opportunities, there is a need to provide actual income generation opportunities for the women. With the increased productivity enjoyed by the women farmers through this programme, efforts can be taken to link their produce to regional, state or national level markets, and provide them a structured plan to sell and reap income from the produce.

► Convergence with government schemes for strengthening Natural Resource Management (NRM): Schemes other than the RKVY can be leveraged for better natural resource management in the area; for instance using the MNREGA (Mahatma Gandhi National Rural Employment Act) scheme for catchment area treatment activities. The micro-plans developed can be used to shortlist the schemes relevant for the intervention area.

► Evaluating financial instruments for climate change mitigation: Due to the vulnerability of non-irrigated farming to the vagaries of nature and the financial loss faced by the farmers due to that, various financial instruments can be built like bank savings, pension and insurance services for providing financial security to the farmers when facing the brunt of climate change.

Figure 4: The seed bank in Falenda, Seed banks have worked only in some village, with some villagers not preferring to pool together their seeds.
This learning note is prepared based on a final evaluation of project ‘Enhanced food security for women farmers through building a climate resilient sustainable production system’ for wider sharing. This study was conducted by a team of ‘NR Management Consultant Pvt. Ltd.’ during June 2015 to August 2015. This project was supported by Buddhist Global Relief to Oxfam India. We would like to thank Vanita Suneja, Nand Kishor Singh, Sabita Parida, Farrukh Rahman Khan and Shreesh Tripathi for their inputs given during the process of final evaluation.

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