

Impact Assessment Study Of Holistic Rural Development Programme (HRDP)

Madhya Pradesh



Prepared For:



HDFC Bank CSR

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Executive Summary

As part of HDFC Bank's CSR initiative, programs are supported to deliver holistic rural development. In the assessed HRD program in Chhindwara, Madhya Pradesh. The major focus areas were Natural Resource Management (NRM), Skill Development and Livelihood Enhancement, Healthcare and Education.

For the study impact assessment study conducted, both quantitative and qualitative methodologies were used. In this cluster, eight intervention villages were selected for the study. All the intervention villages were selected as sample villages. Sample from each village was selected by using Probability Proportionate to Size (PPS) sampling method. The list of beneficiaries was obtained from the implementing partner- WOTR (Watershed Organization Trust). Since beneficiary selection was undertaken independently for each programme, the selection of more than one beneficiary from a single household was probable. The total sample size covered for the quantitative study was 400 households and for the qualitative, 9 focus group discussions and 10 In-depth interviews were conducted. **The impact assessment aims to evaluate the implementation and performance critically and objectively, to add value by showcasing successful initiatives, to recommend possible ways to add value by showcasing successful initiatives, to determine the reasons why certain results were achieved or not, to draw lessons, and to derive good practices and lessons learned.**

NRM: The project created a **16% increase** in the income generation capacity of farmers through improved productivity, reduced input cost, and capacity building of farmers to adopt sustainable and innovative agricultural practices. Additionally, connecting the farmers to sources for climate-resilient seeds can lead to better crop yields.

Health and Sanitation: The interventions were beneficial in curbing the spread of diseases, **72% of the respondents note the increase in awareness** related to various health conditions. There is a need for awareness generation activities for proper nutrition and checking early signs of diseases like Thyroid, Diabetes etc.

Skill Training and Livelihood Enhancement: The project activities within skill and livelihood enhancement have opened economic opportunities for farmers and SHG women in the community. **There has been a 66% increase in income from SHG enterprises.** These beneficiary categories, who otherwise have limited access to economic opportunities benefitted from the project by gaining the skills, technical support, and physical capital to expand their entrepreneurial activities.

Promotion of Education: Project interventions to supply clean drinking water in schools have aided in making the school environment comfortable. Additionally, sports kits were distributed in schools to promote sports activities.

HRDI Indicators: HRDI has been calculated through baseline and endline values of 9 key themes of the intervention programme. There has been a significant change in the HRDI scores in the

interventions of health and education. This is mainly due to awareness generation activities and the establishment of structures that last for a long time.

Table 1: Summary of HRDI scores

Domain	Total	
HRDI Score	Baseline	End line
	0.08	0.13
% Change	62%	

Table 2: Summary of key income indicators

Income Indicators (based on median)	Before	After	% Change
Average Net Income from Agriculture (INR)	30000	35000	16%
Average Income from SHG (INR)	20712	40992	97%
Average Income from non-SHG enterprise (INR)	24000	36000	50%
Average Income from Livestock (INR)	10000	12000	20%
Average Productivity of 3 major crops (Qtl. /Acre)	4.2	4.4	50%

Figure 1: Overview of project impact

	Health and Sanitation	Skill Training and Livelihood Enhancement	Natural Resource Management	Promotion of Education
Overview of Activities	Improved health infrastructure services Adoption of kitchen garden	Promotion of SHG enterprise Promotion of small enterprise Agriculture training and support	Soil prevention activities, Irrigation management, promotion of clean energy	Provision of RO Filters in school. Distribution of sports kits
Areas of Improvement	Routine check ups for lifestyle diseases and nutrition of anemic women	Handholding support for small enterprises outside SHG's	Need for more check dams in the village for prevention of soil erosion due to flooding.	RO filter functional only in 50% of project schools
Challenges	Lack of consultations upon referral	Distress migration of laborer due to lack of construction after project	Construction of gully plugs, stone bunds etc. washed away due to flooding in the region	Sports equipment damaged in schools due to wear and tear
Recommendations	Awareness generation activities for lifestyle diseases. Need for drinking water interventions	Strengthening the role of VDC for sustained support for new enterprises	Implementation of soil prevention structure in all agricultural land. Supply of climate resilient seeds	community members to be sensitized and involved in the maintenance process through SMCs.

1. Introduction

1.1. Background of the Study

As part of HDFC Bank's CSR initiative, programs are supported to deliver holistic rural development. Within Parivartan, the "Holistic Rural Development Program" (HRDP) is the flagship CSR program, under which non-governmental organizations across the country are supported to deliver development interventions. The vision of these programs is to create happy and prosperous communities in terms of socio-economic and ecological development which is sustainable. The holistic approach supports the lives of communities by providing necessary inputs on issues like shaping economic independence through skilling, providing basic infrastructural development, and establishing a better ecosystem thereby promoting better living conditions.

In the assessed HRD program in one cluster of Chhindwara, Madhya Pradesh, the implementation partner was the Watershed Organization Trust (WOTR). The major focus areas for intervention were Natural Resource Management (NRM), Skill Development and Livelihood Enhancement, and Healthcare and Sanitation.

1.2. Partner Organization-Watershed Organization Trust

Established in 1993, WOTR is a non-profit organization that engages at the intersection of practice, knowledge, and policy across scales and in collaboration with various stakeholders across sectors. Their goal is to ensure water and food availability, along with livelihoods and income security – to support the sustainable growth and well-being of vulnerable and disadvantaged communities in rural India.

As of March 2021, WOTR, in collaboration with its partners, has worked in over 5,200 villages across 9 Indian states – Maharashtra, Telangana, Andhra Pradesh, Madhya Pradesh, Rajasthan, Jharkhand, Bihar, Chhattisgarh and Odisha. They have impacted more than 4.3 million people, trained over 530,000 people from across India and 63 countries and collaborated with 230 NGOs/ Project Implementing Agencies (PIAs), and promoted over 15,500 SHGs involving 190,000 women.

1.3. Purpose and objectives of the study

The impact assessment aims at understanding the overall process undertaken by HDFC bank and partner organizations in implementing the program activities, key milestones achieved, the impact created by these activities, challenges faced, and the way such challenges were handled. The guiding philosophy behind this study is to add value by showcasing successful initiatives and recommending possible ways to address challenges that exist. The impact assessment aims to evaluate the implementation and performance, determine the reasons why certain results occurred or not, draw lessons, and derive good practices and lessons learned critically and objectively. The study is expected to provide evidence-based findings which would inform HDFC Bank in taking operational and strategic decisions while planning and funding partner organizations for such programs. The evaluation was also an opportunity to learn about the relevance of the programs implemented and

the effectiveness of such programs. The conceptual framework employed, and the area covered under the study are depicted below.

Figure 2: Conceptual framework of the implementation

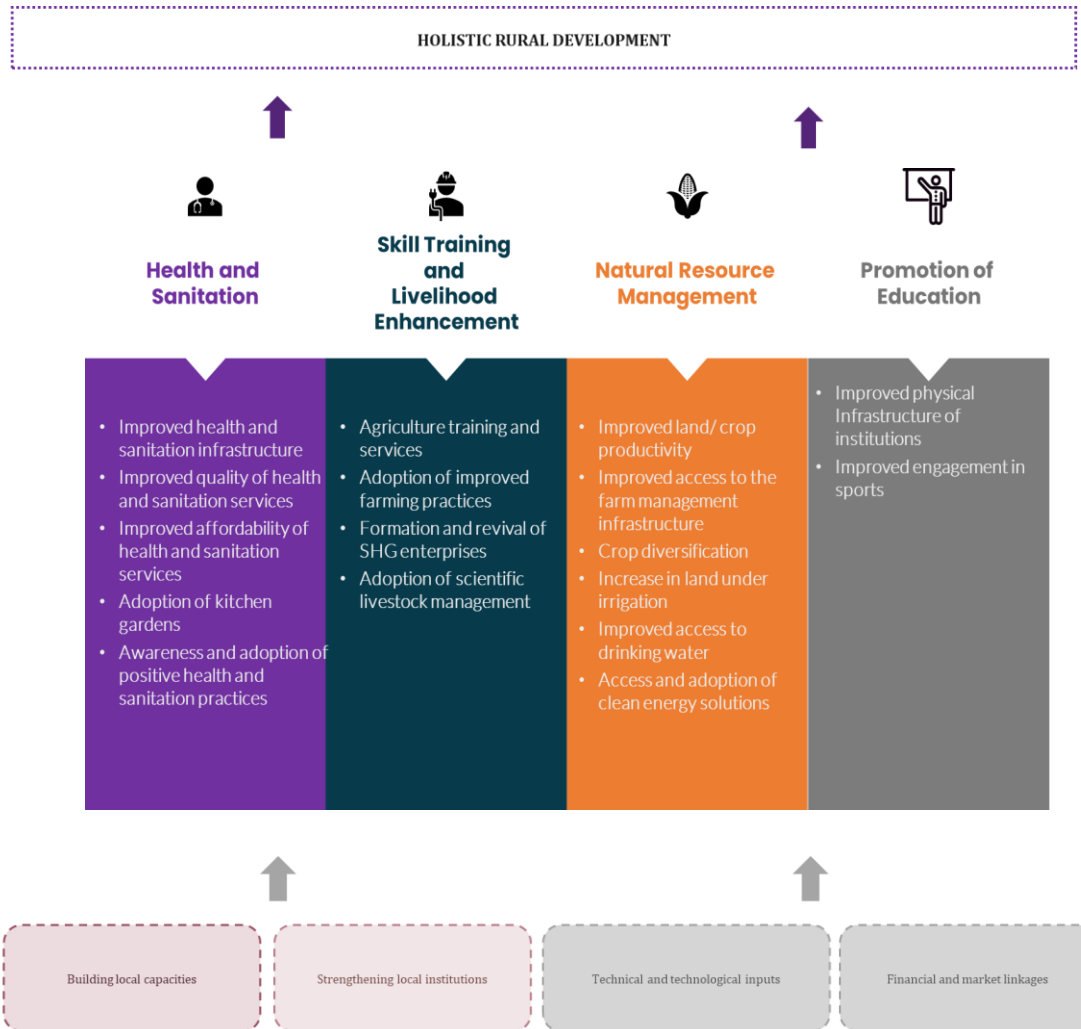


Figure 3: Areas covered under the study in Madhya Pradesh

In this scenario, holistic interventions were planned and executed in 8 villages of Chhindwara district of Madhya Pradesh from the year 2016 with the goal to ensure sustainable development of marginalized rural communities through capacity building of individuals and institutions.

2. Research Methodology

The assessment used both qualitative and quantitative methods. For each cluster and thematic area, activities completed were identified. The impact generated by these activities was assessed using the criterion of **Relevance and Convergence, Effectiveness and Impact, Sustainability and Replicability**. The evaluation process was carried out in a consultative manner involving interactions with both HDFC bank and WOTR team at key junctures.

Under the criteria of relevance and convergence, the evaluation sought to answer whether the design of the program interventions is aligned with the state's plans and priorities for rural development. In addition, the evaluation examined whether the design and implementation of the program were relevant to the local needs of the most vulnerable groups. The study has observed if there has been a convergence/ made use of the existing resources of the government and whether different stakeholders involved have worked together to achieve the outcome of the program.

To assess the impact and effectiveness¹ of the program, the findings seek to establish the values of outcome indicators of all the thematic interventions. These findings are assessed against the outcome indicators finalized during the outcome harvesting stage. Further, through qualitative evidence, the evaluation tries to understand whether and how the program impacted the lives of the community members in the program areas. This was done through an analysis of program outcomes in light of certain variables identified in consultation with HDFC Bank. The findings from primary quantitative data have been substantiated by the information gathered from discussing with the communities/beneficiaries, teachers, students, entrepreneurs, and local institutions at the village level. Through primary data, the study has tried to understand if the program has worked on strengthening the community's capacity to ensure sustainability, and whether any of the activities or strategies adopted have been/could be replicated.

2.1. Design and Methodology

A review of various program documents including HDFC Bank's CSR Policy, Program log-frame (Logical Framework Analysis), Rapid Rural Appraisal Reports, Program implementation timelines, Communication, and Documentation Products, and other relevant reports/literature related to the program was utilized for a secondary review.

The primary research included a quantitative household survey as well as in-depth interviews and focused group discussions with program beneficiaries, the partner NGO, and the HDFC Bank program team. The outcome mapping and result chain development were undertaken in consultation with the HDFC Bank team. The exercise resulted in the identification of standardized key outcomes and indicators related to each of the program thematic areas. Based on the standardized list of outcomes and outputs, the questionnaire for the state was developed.

¹ While from an evaluation perspective impact and effectiveness are two different aspects, in the report, these are used interchangeably

2.2. Sample Size and Distribution

The sample size covered during the field is as follows:

Table 3: Quantitative Sample Covered

District	Total Households	NRM	Skill Training and Livelihood Enhancement	Health and Sanitation
Chhindwara	411	208	101	102
Planned	400	200	100	100

Table 4: Qualitative sample size covered

District	FGDs		IDIs		
	VDC	SHG	Farmers	Key Informant	Teacher
Chhindwara	5	2	2	4	6
Planned	5	2	2	4	6

A quantitative sample for Education was not collected since the interventions for school was mainly focused on the provision of drinking water tanks in project schools. This was covered through Qualitative data collection.

Teams of local enumerators, with requisite education and experience, were hired for data collection. Two-day training in Chhindwara, Madhya Pradesh was provided to enumerators and supervisors by the NRMC team.

Image 1: Training of field team held at Madhya Pradesh



3. Program Review

3.1. Program Design and Implementation

Since no baseline/ need assessment was available for Madhya Pradesh, a preliminary budget was prepared by the organization that included the remuneration and direct expenses. This was based on observations in the field, budget and allocation were largely provided for infrastructure and material support. In Madhya Pradesh, a larger focus on improving sanitation, health and other awareness-generating activities was present.

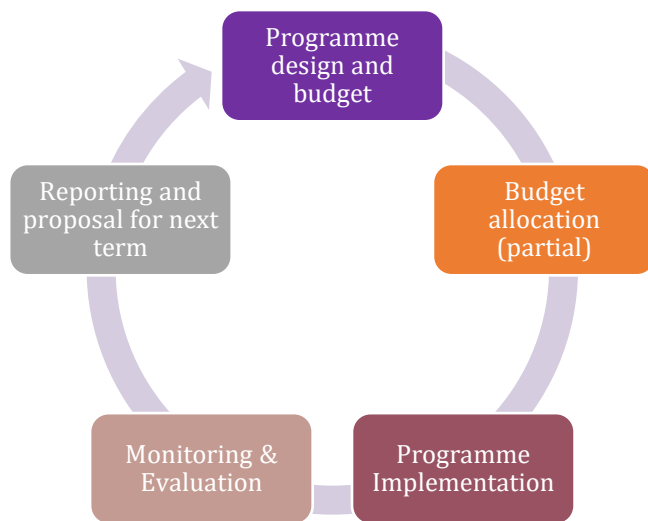


Figure 4: Project Planning and implementation process

Monitoring of the intervention by HDFC Bank is frequently undertaken and resources from different levels are deployed to monitor the activities frequently, however, such monitoring visits focus on the output aspects such as infrastructure and access while the usage and community-level challenges are usually not considered.

3.2. Program Relevance



Image 2: Check Dam built under HRDP in Rajdongri Village, Madhya Pradesh

The eight project villages are all located in the Pandurna block of the Chhindwara district. River Kanhan, the sub-river of Wainganga passes through most of the project villages. The topography of the project villages is undulating in nature which results in high water runoff in the rainy season. Along with the rainwater, the upper layer of the soil--the fertile agricultural land, also washes out and as a result, the productivity of land gets

deteriorated especially in absence of soil moisture work which reduces vegetative cover both in the ridges and in the plain area².

The project villages are spread across the protected forests of Pandurna block. The remoteness of the villages is one of the main factors for the low availability of livelihood options in the project villages. While farmers cultivate oranges along with the regular crops but due to the undulating nature of lands, the water availability for irrigating horticulture is limited. From qualitative interviews, Agriculture is also limited to largely one crop annually due to the unpredictability of rains as mentioned by farmers in group discussions. The average groundwater level had gone down more than 50 ft in 2021³ and the condition was recorded to be more severe in summer. Due to no or very less availability of livelihood opportunities, people in the villages migrate out to Nagpur for unskilled wage labor work.

The HRD project interventions are designed to help people by reducing the land degradation process which was getting expedited in absence of runoff prevention and soil conservation activities. It aims to help people to make the most of the harvested water in terms of better crop yield per drop of water. In addition, a platform for initiating other livelihood options was targeted for people under the project interventions. The project helped them access government schemes by developing rapport with government officials during linkage-building workshops and DRR planning. Follow-up and handholding support was provided as the last mile support to access their entitlements and government schemes in agriculture and other sectors. During Covid-19, active interventions along with government support assured the distribution of vaccines, medicines and rations.

² AQUIFER MAPPING AND MANAGEMENT OF GROUND WATER RESOURCES: Central Ground Water Board Department of Water Resources, River Development and Ganga Rejuvenation, Ministry of Jal Shakti Government of India

³ Solving groundwater depletion in India while achieving food security: Naresh Devineni, Shama Perveen & Upmanu Lall (2022)

4. Study Findings

4.1. Demographic profile

The project villages are spread across the protected forests of Pandurna block. **30% of the population is illiterate wherein, 20% has studied till 5th Standard.** From the figures below, main activity in the region is cultivation. This section provides the demographic profile of the respondents covered in the sampled program villages under the assessment⁴.

42% of the total sample are women while 58% of the sample are men. The age group of 26-35, 36-45 and 46-55 have 28%, 26% and 20% of the sample as respondents. 62% of the sample are Scheduled Tribe (ST), while 28% are Other Backward Classes (OBC) in the region. 68% of the sample have BPL cards and 32% have APL cards.

Main occupation in the region is cultivation (83%) followed by wage labor (56%)

Figure 5: Educational Status of the respondents (n=400)

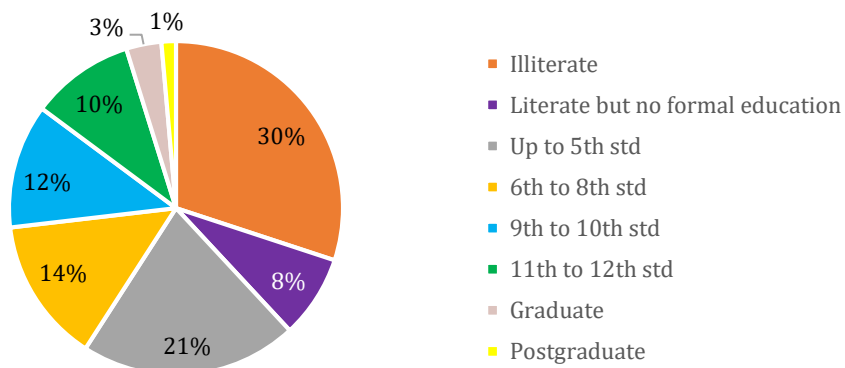
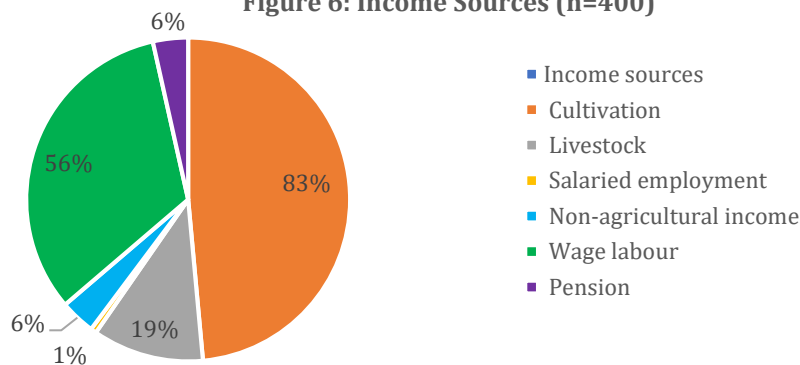


Figure 6: Income Sources (n=400)



⁴ The total number of respondents for the survey were 400, across 8 project villages

4.2. Natural Resource Management

HDFC bank interventions in project villages focused on two key aspects: Improvement in agricultural produce through soil and water conservation initiatives such as trenches, stone bunds, farm bunds, refilling of farm bunds etc., training on natural farming practices through exposure visits and linkage building workshops and finally, distribution of smokeless chullah and solar lights improvement of household facilities. For the same, through the development of Village Development committees, poor and very poor families in project villages were distributed irrigation tools such as electric pumps, sprinklers, water-saving devices etc. These tools are shared among 4-5 farmers of the same area. Ownership of tools belongs to all the farmers using the tools which results in high maintenance of the tool and its proper usage. Additionally, climate-smart intervention in form of agro-advisories was generated and disseminated by the local agricultural university to reduce the losses incurred in agriculture for the beneficiaries of the project. Fifteen irrigation wells were constructed for ensuring the availability of water. Solar streetlights were also installed in all project villages.

Table 5: Activities under NRM in Madhya Pradesh

Activity Category	Activities
Irrigation Management	Stone Bunds, Contour trenches, Gully Plugs, Distribution of sprinklers, electric pumps
Water Management	Community wells, Check Dams,
Clean Energy	Distribution of biomass chullah, and solar lights. Installation of solar streetlights
Disaster Management	Awareness generation, Covid-19 management

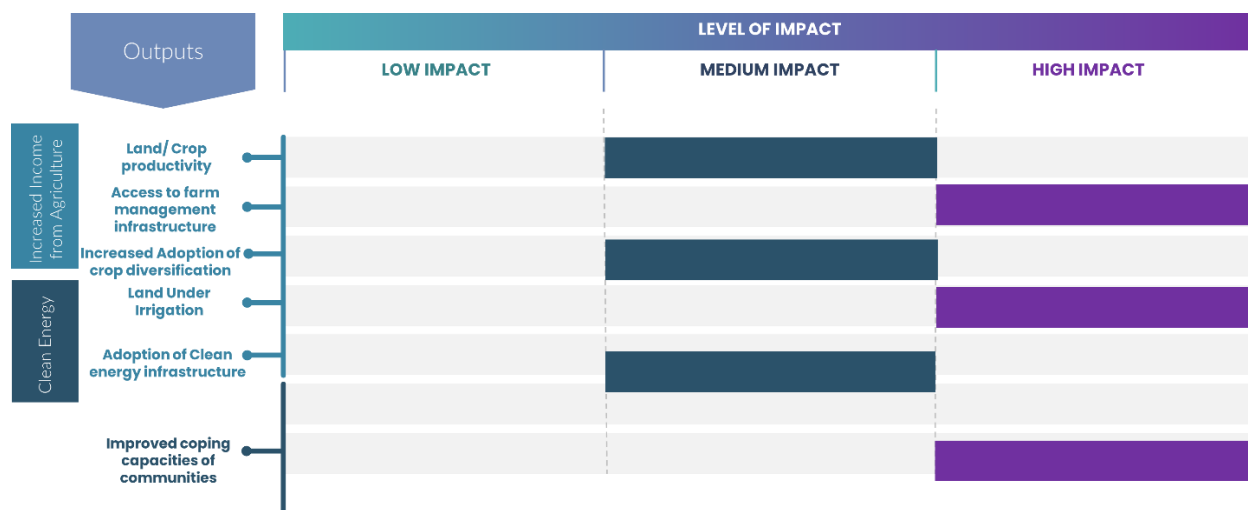
4.2.1. Effectiveness and Impact

1400 acres of the area have been treated through soil and water treatment in which various structures like Water Absorption Trenches (WATs), Continuous Contour Trenches (CCT), Stone Bunds (SBs), Farm Bunds (FBs), water outlets etc. were constructed on the field and other treatable land areas. On drainage line structures like Gully Plugs (GPs), Gabion Structures (GSs), and Check Dams (CDs) have been constructed as per requirement. As a result, in more than 100-hectare areas farmers have started cultivating which earlier was kept as fallow land benefitting around 1000 farmers in the project villages. Through these treatments, farmlands are being cultivated twice a year.

The wells constructed under the project helped in increasing the area under irrigation. It has also enhanced the productivity of the land owing to fewer failures and losses from water scarcity. This has led to an increased annual income of the household thus preventing distress migration. For irrigation, joint electrical pumps have been distributed in project villages where farmers in groups of 4 have used electric pumps splitting electricity bills amongst themselves.

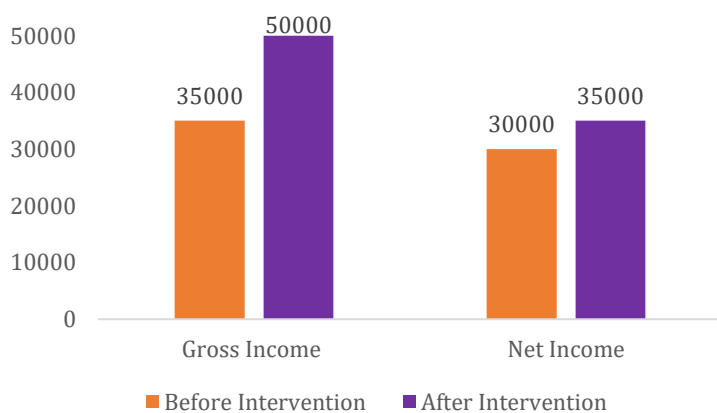
Solar lights and streetlights have been beneficial in providing sustained light at night. The distribution of biomass chullah has aided women in households to cook food without damage to respiratory organs common through regular chullahs.

Figure 7: An overview of project effectiveness and impact in NRM (Based on Quantitative data)



Income from agriculture: Through the activities undertaken for land area treatment, barren lands have been converted into agricultural lands. Farmers have taken up farming on additional patches of land that were otherwise left uncultivated due to the unavailability of water. Further, through irrigation management, and availability of water, 1000 acres of land have been converted from single cropping land to double cropping land. Qualitative interviews in the region also reported an increase in the agricultural yield of crops. The dependency on rain-fed irrigation has also reduced for the farmers. The farmers of the region have majorly given up the flood method of irrigation and through technical and financial support undertaken irrigation through sprinklers which have proven to be much more effective. This has increased income as seen in the figure below:

Figure 8: Increase in agricultural income in Rs. (Based on median) (n=200)



The income has significantly increased from net income being Rs.30,000 to Rs. 30,500 in the current year, marking a 16% increase in comparison to the reference value ($p < 0.05$) at a 95% confidence interval. Since the agricultural area is majorly dependent on rain, irrigation management interventions have benefitted the community in the increase of income as risks due to climate uncertainties have a major impact on the livelihood security of the households. The agricultural

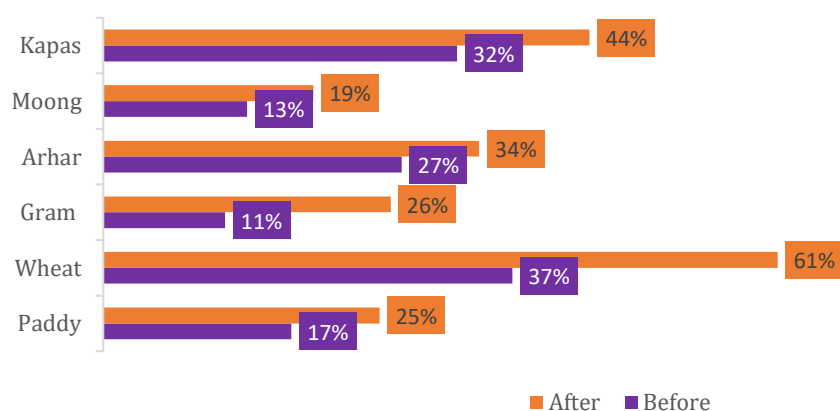
practices of farmers involved the use of chemical inputs which is an added expense to the input cost of farming, forcing farmers into situations of debt. Through climate resilient agriculture practices, HRDP interventions motivated farmers to shift to organic modes of farming and were trained to practice organic farming through the preparation and use of organic inputs such as *Amrut Parni*, *Dasaparni*, *Neemark* and *Neemastra*. These inputs are made of locally available resources at minimum cost and hence do not have any cost factor associated with them. These two key factors contributed to an increase in income in the area.

Figure 9: HRDP interventions that contributed to an increase in income (n=200)

Perceived Benefits Intervention						
	Paddy	Wheat	Maize	Gram	Arhar	Moong
Distribution of seeds and tools	0%	2%	5%	5%	3%	0%
Irrigation Interventions	58%	52%	55%	45%	50%	59%
Interventions in organic farming	25%	36%	32%	50%	44%	0%
Interventions in Soil testing	17%	12%	8%	25%	6%	2%
Interventions in farming techniques	4%	0%	2%	0%	0%	1%
The increased area under cultivation of crops	4%	15%	10%	15%	15%	0%

Through interventions in soil treatment and water treatment, farmers are now able to grow two crops instead of one. Training on climate resilient crops shifted farmers to adopt different crops that are resilient to extreme weather conditions. Figure 8 includes the crops Paddy, Wheat, Gram, Arhar, Moong and Kapas among others that have been grown by crop diversification beneficiaries.

Figure 10: Types of crops grown by crop diversification beneficiaries before and after HRDP intervention (n=200)

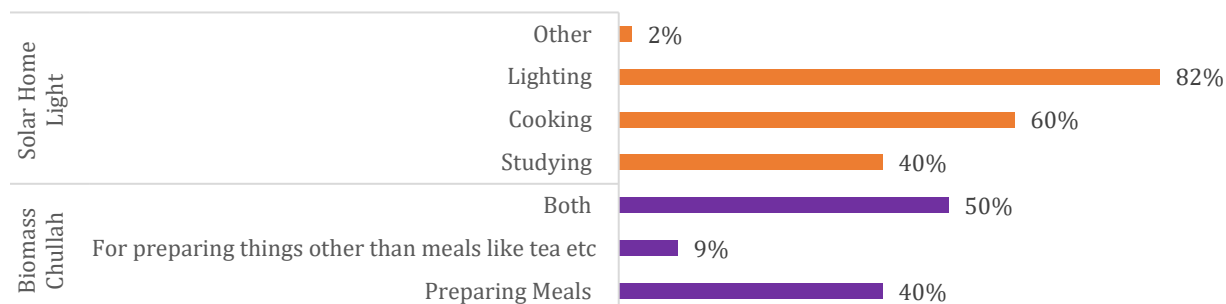


HDFC Bank interventions in the region have positively benefitted the farmers by reducing the risk through structures that can withstand flooding in the region. While this has been beneficial during the project intervention years from 2016 to 2021, the recent onslaught of floods in the region has rendered most of the stone bunds, contour trenches and gully plugs inactive to help reduce the risk

of flooding. HDFC bank trained local people for the construction and repair of the structures that are now being carried out again to remake existing structures.

Use of clean energy solutions: 50 households in each project village were distributed solar lights and biogas chullah for their households. The solar lights have greatly benefitted families which sustained light in the night for children to study in the evening. Biomass chullah has helped reduce the cost of cooking and smoke-related hazards that occur due to regular chullahs.

Figure 11: Uses of clean energy solutions (n=207)



To ensure the village is properly accessible to everyone at night, 3 solar streetlights per project village were installed through HDFC bank interventions. These solar lights have greatly benefitted people as women and children can move more freely at night. The light also helps look out for wild animals in the area. The solar lights are set up on key roads of the village, making the main alleyways light up at night.

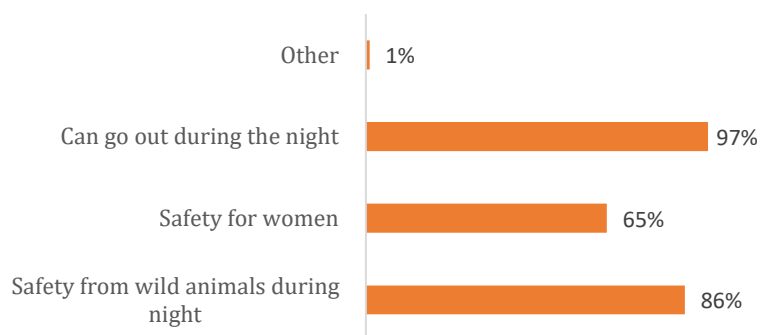


Figure 12: Perceived benefits of solar streetlights (n=65)

Most of the solar streetlights in the area are functional expect for two project villages where one light each is not functional. On average, households are 10 km away from the solar streetlight pertaining to the hilly terrain of the region. This

results in the usage of streetlights only on the most important roads at night. The solar light distributed in the area while benefiting the people only works for a short duration but is still cost-effective and helps in reducing electricity costs.

Reduced Risk and Vulnerability due to natural disasters:

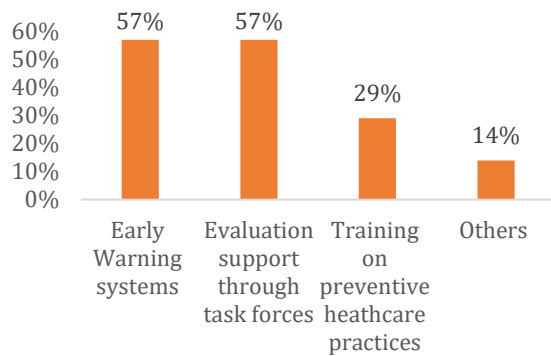
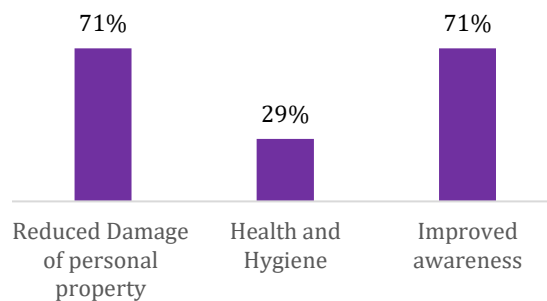


Figure 14: Perceived benefits of disaster management interventions (n=7)

HDFC bank interventions have aided the villages during the onslaught of the Covid-19 virus. Through bank interventions, people were distributed rations and medicines to combat the spread of the virus based on requirements per village. All the members of the project villages are vaccinated. The vaccination drive occurred through VDC meetings and awareness generation activities. With the government vaccination drive, all the members of villages have both doses of the vaccine. Kitchen Garden areas (Poshan Vatika) were converted to ration and medicine distributing centres.

Figure 13: HRDP support areas in disaster risk reduction (n=7)

Eight training sessions in disaster mapping were conducted through HDFC bank interventions. The training was conducted to find vulnerable spots in each village. Additionally, awareness generation activities were conducted through VDC support on how to mitigate risks in times of calamity.



4.2.2. Case Study

Reduced migration in Rajdongri village due to HDFC bank interventions



Image 3: Focused group discussion with farmers and labourers in Madhya Pradesh

Rajdongri is the biggest project village out of the 8 intervention villages. This case study is based on interviewing VDC, farmers and labour group and shows how the intervention helped in reducing migration to other villages or towns. Due to lack of agricultural yield, crop failure and lack of alternate livelihood sources, almost 40% of the village members used to migrate to Nagpur, Maharashtra for livelihood opportunities. With HDFC bank interventions, poor farmers have communally started owning irrigation tools such as sprinklers, electric hand pipes etc. which has reduced the cost of the inputs and helped in increasing profits from agriculture. Additionally, farmers used to migrate in the summer, growing only one crop per year, but with crop diversification methods and soil treatment, farmers now grow two crops every year effectively reducing distress migration. During the project duration, 2016 onwards, the construction of check dams, gully plugs and installation of various agricultural units provided a source of income to day wage labourers who often look for construction projects outside the villages. Some workers were able to earn Rs20,000

4.3. Skill Training and Livelihood Enhancement

Skill and livelihood-based activities were conducted in the form of agricultural training, skill, and enterprise development, and livestock management. 150-200 demonstrations of various cereal, pulses and other crops were conducted to share methods for enhancing the productivity of crops. 40 NADEPs and vermi composts were constructed to improve the quality of produce and to reduce the input cost of farmers in agriculture. Farmers were also trained to grow climate-resilient crops instead of crops that require a lot of water. 294 farmers have now started growing more climate-resilient crops instead of growing crops which need a lot of water. This was conducted through the formation and maintenance of Village Development Committees (VDCs) that are active in all the project villages. 4 Workshops were conducted to establish linkage with different departments. Members of VDCs and Gram Panchayats were made aware of the various schemes different departments of Governments have for various village groups.

Table 6: Activities under skill training and livelihood enhancement in Madhya Pradesh

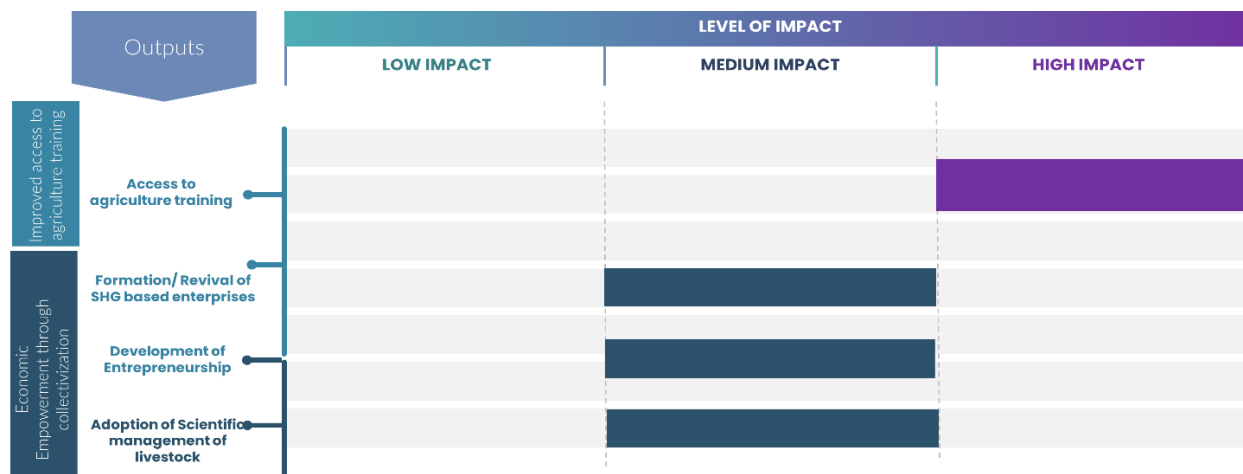
Activity Category	Activities
Agriculture Training and Support	Exposure visits, Linkage building workshops, Training on natural fertilizers, Nadep pits, Vermi Compost pits.
SHG-Based Women Empowerment	Formation of SHGs, Skill training, Loan giving, Bookkeeping
Livestock Management	Distribution of poultry and goats, Vaccination camps, training

4.3.1. Effectiveness and Impact

200 farmers have benefitted from the exposure visits. People also participated in the linkage-building workshops were demonstrated with different institutions and to take advantage of different government schemes. In addition, eight villages envisioning training were conducted to help people develop their vision of their village. This included identifying existing problems and challenges and in what time frame they see overcoming these bottlenecks. Eighteen training on imparting information on methods of preparing different types of organic composts were provided to community members. The training was also given to demonstrate the timely application of pesticides and fertilizers. The impact is seen in around 50% to 60% of beneficiaries; they now use only organic compost.

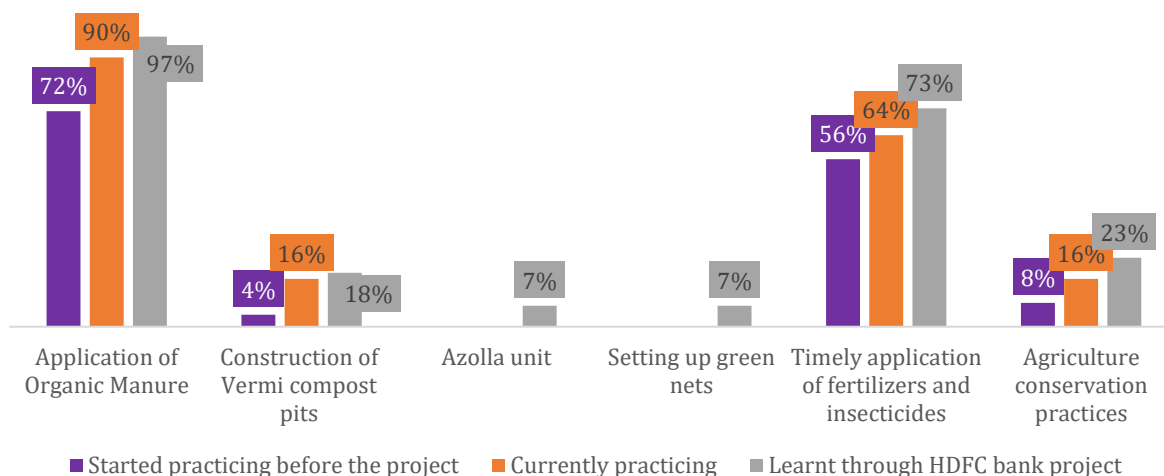
Women SHGs were formed where training on bookkeeping and local skill development was conducted. The interventions also helped in setting up SHG enterprises where 50% of the fund was provided and the rest was contributed by the community. Five women SHGs benefitted through this activity. Livelihood activities like goat units, backyard poultry units, and grocery shops were implemented in ten landless and poor households.

Figure 15: An overview of project effectiveness and impact and skill training and livelihood enhancement (Based on Quantitative Data, the methodology is in section 6.3)



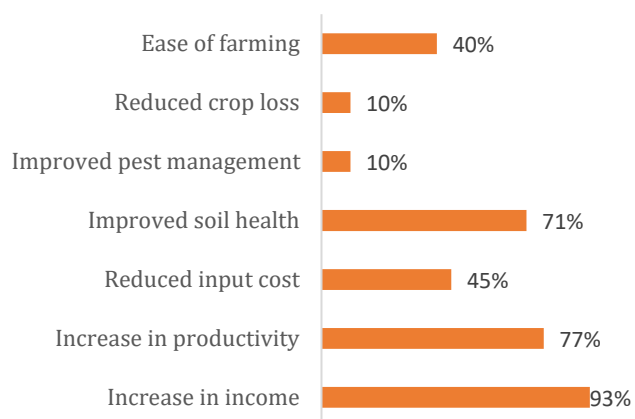
Agriculture training and services: Through HDFC bank interventions, farmers have been trained in the application of organic manure. Additionally, training on the timely application of fertilizers and pesticides through organic fertilizers has been taken up by farmers. These practices have helped in better crop yield and have been popular in the region.

Figure 16: Agriculture practices learned through HDFC Bank training and currently practicing (n=31)



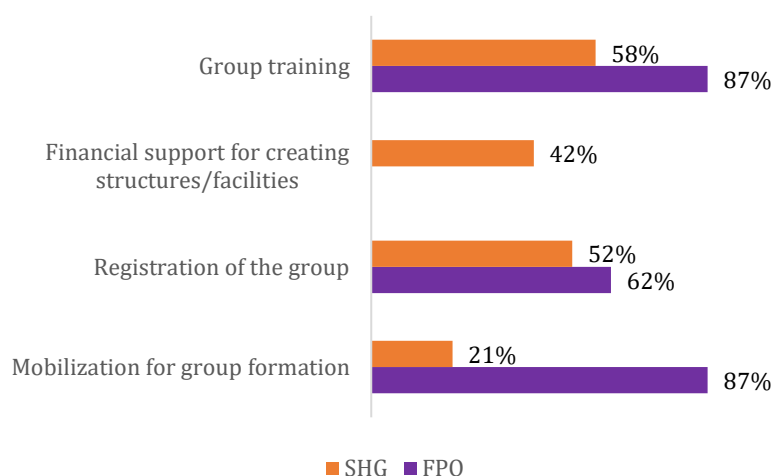
HDFC Bank interventions have benefitted the farmers in reducing their input cost for farming thereby resulting in increased income. Agricultural soil that usually gets eroded due to excessive rains and flooding is now being replenished through organic manure thereby improving soil health. Together with soil treatment and organic manure, the region has benefited through agriculture training and support for better crop yield.

Figure 17: Perceived improvements due to the adoption of agricultural practices (n=31)



Economic Empowerment through collectivization: Farmer groups were formed in the region mainly to aid the process of implementing farmer training for the region. These have benefitted farmers in better group mobilization. Additionally, they were also taught about various government schemes and the importance of collectivization for a better price for crops. These groups are partially active due lack of sustained activity but mobilize during monthly VDC meetings.

Figure 18: Support provided for groups through HRDP (n=70)



All the project villages have 2 women SHGs being formed through HDFC bank interventions. Routine meetings were organized by WOTR with SHG members for a situation analysis of the area to map out small enterprises that can be implemented with training in the area. The findings of the study served as the basis for village-level workshops that were held with members of self-help groups who were trained in bookkeeping,

maintaining records, opening bank accounts and management of credit and thrift activities. While more than half of SHG beneficiaries reported receiving training, 42% of SHG members reported financial support for establishing or expansion of SHG-based enterprises.

The SHG enterprise in the region currently manages various activities. SHGs in Rajdongri village are involved in crop management and sale, SHGs in Devnala Mal manage goat rearing and Mahua flowers while other SHGs aid in procuring loans. These interventions have helped women in income generation, increased savings, and confidence to start small enterprises. **Figure 17 denotes the income has increase from Rs. 20,712 before the intervention to Rs. 40,992 now, marking an increase of 97% in comparison to the reference value (p< 0.05) at a 95% confidence interval.**

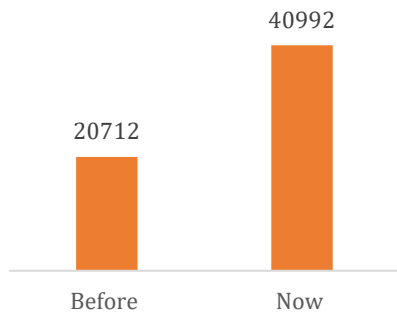
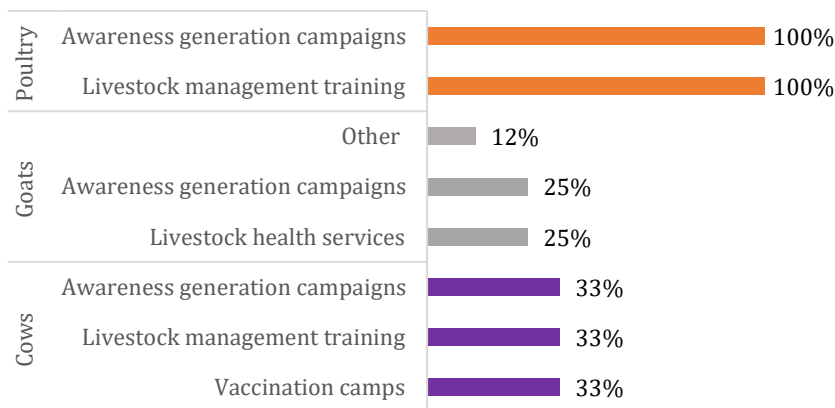


Figure 19: Changes in annual income from SHG enterprise since project inception (In INR) (n=62)

The project interventions have benefitted women in being more financially independent in the region. Due to the formation of the SHG other SHGs were formed in all project villages where women handle internal loans. VDC SHG members also routinely organize training for SHG though some members reported a lack of knowledge of such training.

HDFC Bank project interventions also aided interested individuals to start their enterprises. A grocery shop was made through HDFC Bank interventions in the project village. It is now inactive as no one volunteered to take care of the shop after the death of the shopkeeper. A cycle repair shop in Devnala Raiyat was constructed with partial funding through HDFC bank. It is still active with an income of Rs 10,000 per month.

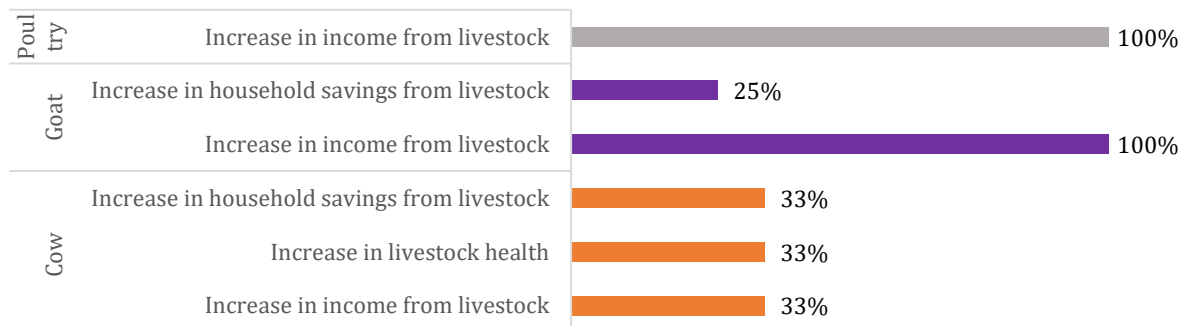
Livestock Management: HDFC bank interventions in livestock management involved vaccination



campus for cows, distribution of goats to women SHGs for collective ownership, and distribution of Poultry to poor people in the village. This was coordinated through routine awareness generation campaigns and health camps for a checkup.

Figure 20: Livestock management services availed through HRDP (n=13)

Figure 21: Perceived primary benefits of livestock interventions (n=13)



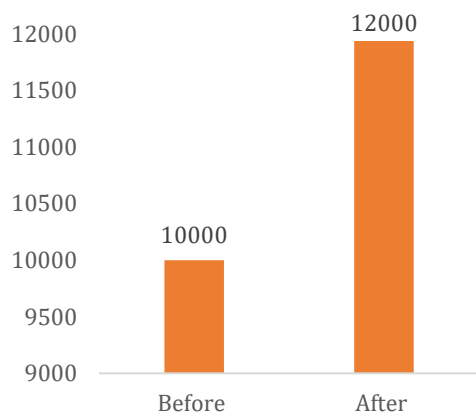


Figure 22: Change in average monthly income due to improved livestock rearing (n=13)

Livestock interventions in the region have aided households in an increase in income. The annual income after project intervention has increased by 20% through livestock interventions. Figure 20 denotes that the income has significantly increased from before the intervention, (Rs.10,000) to the previous year (Rs.12,000) marking a 20% increase in income in comparison to the reference value ($p < 0.05$) at a 95% confidence interval. The added expense of livestock health was undertaken by HDFC Bank

interventions for cows. This helped households to increase their savings.

4.3.2. Case Study

Karaghat Kamti SHG's



Image 4: SHG group discussion in Madhya Pradesh

Two SHGs Rana Durganti Samuh and Jai Lakshmi Samuh were made under the HDFC bank interventions in the region. With savings and bookkeeping training, the women give a loan at 5% per annum internally and to other village members for marriages, business enterprise, agricultural inputs etc.

The SHGs have helped increase the income of local women and have made them more financially independent. Radhika Durve, the SHG bookkeeper of Jai Lakshmi Samuh has started sending local women to stitching workshops in Chhindwara. Four women have

gone for such training. Radhika hopes these women will get the confidence to start their own enterprises. She is sure that as more women receive such training, some will collectively ask for a loan to open their own tailoring shop. The SHG has given out three internal loans and one external loan. Until the interventions, the women could not have imagined getting trained in bookkeeping; this has also helped in maintaining their household financials.

4.4. Health and Sanitation

Through HDFC Bank project interventions, anemia health camps were set up since the project's inception in 2016. These health camps along with food demonstrations helped raise awareness among the community about low nutrition and anemia food which are prevalent among women. Health camps were also set up to help combat the spread on Covid-19 virus in 2020 through referrals and awareness generation. A nutrition garden commonly known as Poshan Vatika was constructed collectively in each village, in which all the women groups through public participation grow vegetables annually such as chilly, lemon, coriander etc. that are then distributed to all households in the village.

Table 7: Activities under health in Madhya Pradesh

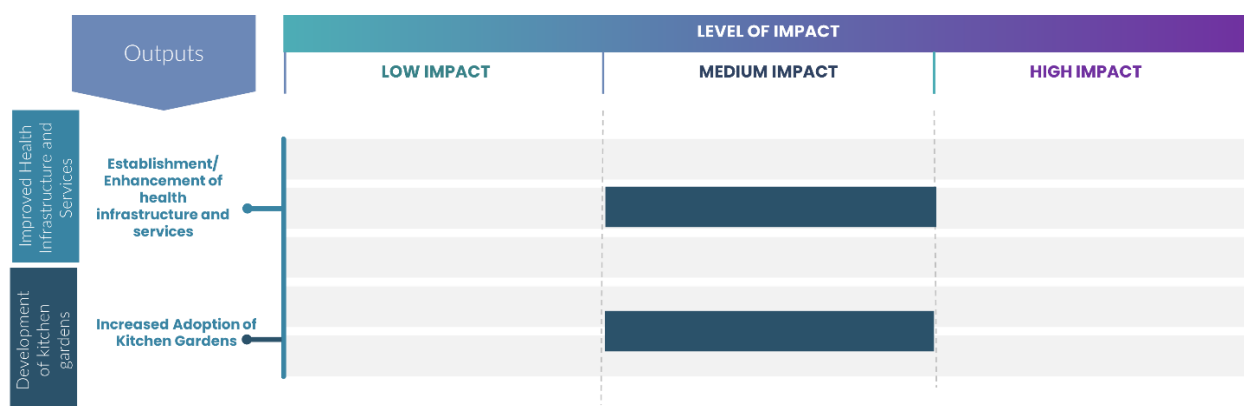
Activity Category	Activities
Health	Health camps, workshops
Kitchen Garden	Formation of the kitchen garden, training

4.4.1. Effectiveness and Impact

Women's groups have routinely grown vegetables in the Poshan Vatika that helps in being cost-effective for household consumption. Routine training was done from time to time to build their capacity in this area.

Health practices related to women and adolescent girls along with malnourished children have been the focus area during the project period. Through the anemia camps, a total of 546 women were trained on the identification of symptoms and ways centric on available resources through which they could address anemia. COVID-19 awareness campaigns were carried out in all the project villages which instilled a sense of preparatory mechanism among the institutions to take up contingency measures that were crucial for the safety of the community.

Figure 23: An overview of project effectiveness and impact on Health and Hygiene



Health services:

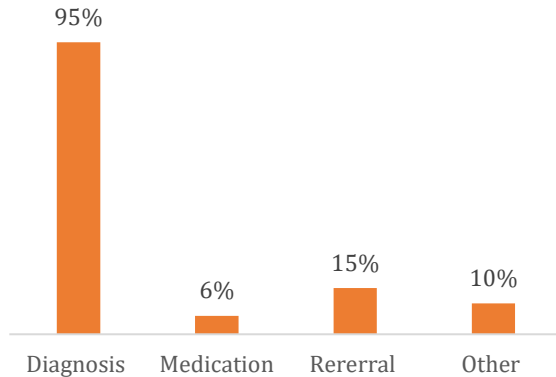


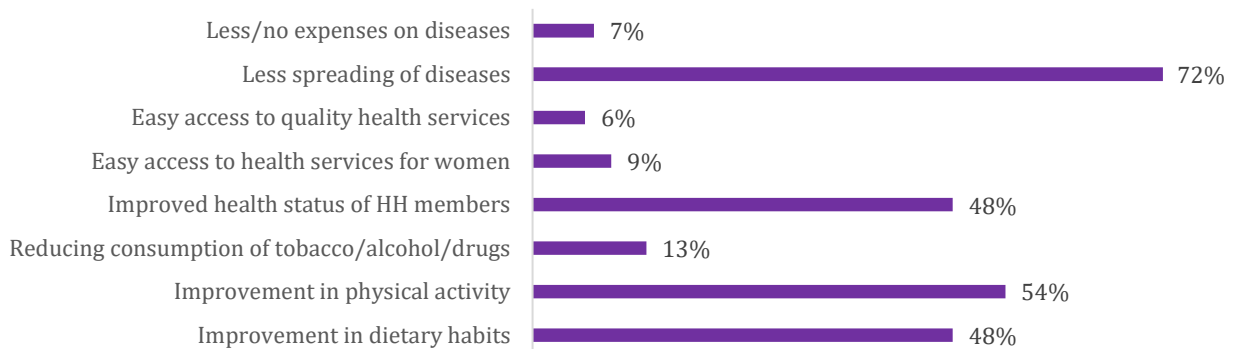
Figure 24: Services availed at HDFC Bank-supported camps/clinics (n=124)

Through HDFC bank interventions, health camps were organized in the region. The health camps were either general health camps for primary checkups or anemia women in the villages, providing advice and suggestions for a healthier diet and recommendations for supplements.

Six camps were organized in the project village. During the onslaught of the Covid-19 virus,

community mobilization and awareness on social distancing, early signs of the virus and home remedies were suggested to village members. Through qualitative data, the people are aware of the virus and have had a few cases of Covid which were successfully combated through awareness. The distribution of rations and medicines to at-risk Covid-19 patients helped in successfully combating the virus in the region.

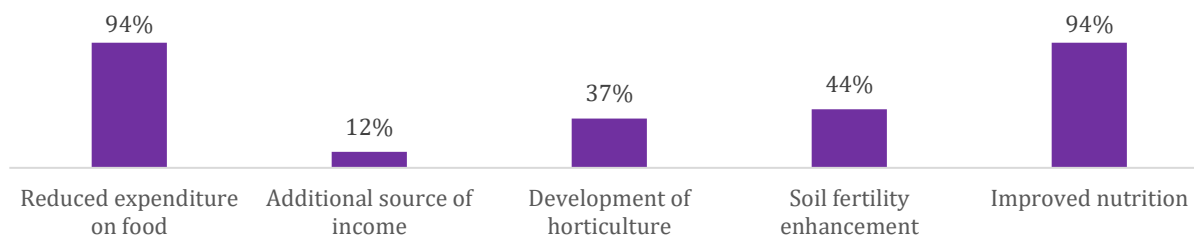
Figure 25: Perceived benefits of HDFC bank-supported health camps/clinics (n=124)



While the health camps have been successful in combating the spread of diseases and a marked improvement in the health of household members, it was seen that 96% of the people did not consult the medical facility upon referral from the health camp because they did not feel the need to address the issue. This shows the awareness generation on key issues like women's health in the region still needs proper address.

Kitchen Garden: Poshan Vatika's or Kitchen Gardens were communally constructed in all eight project villages in the region. HDFC bank interventions in the distribution of seeds and samplings, training, and demonstrations of natural fertilizers, increased the yield of the vegetables grown. These are communally used in the village and get replanted every year. This activity has been done by women who were routinely trained for this intervention.

Figure 26: Perceived benefits of HRDP-supported kitchen gardens (n=16)



Vegetables like brinjal, tomato, spinach, potato, lady finger, and beans are grown in the region. They have been beneficial to improve nutrition in the household. Through qualitative interviews, women note an increase in nutrients and a more “green diet” has been observed as leafy vegetables were often not bought due to their high price. There has been a weekly average saving of Rs 100 per household from the use of vegetables through Poshan Vatika. This intervention has positively affected the people, with a few women now starting to grow their own Poshan Vatikas at home.

4.4.2. Case Study

Child Growth Monitoring Program in Chhindwara

Through HDFC bank interventions in the region, Child growth monitoring was implemented in all project villages to look after the health of the children in the project area. To implement the same, women in the form of Self-Help Groups were trained by experts on how to measure the health status of a child such as measuring the width of the arm, height, and weight of a child to mark cases of malnutrition in the village and intervene through providing nutrient rich diets to young mothers and their children. The women were also trained in taking care of pregnant ladies to ensure their nutrition levels are at par for delivery.

Training on making protein powder for infants was conducted through HDFC bank interventions. This protein powder is made with pulses and milk and was produced by village SHGs and distributed to all young mothers of their respective villages. This activity has improved the nutrition of infants and children in the region.

4.5. Promotion of Education

HDFC Bank interventions in the region have been two-fold, Firstly, for safe drinking water in schools, all 8 project villages were provided with an UF water system. Secondly, the children were provided sports kits to ensure holistic development. Through these initiatives, 800 children in eight schools in the project villages have benefitted.

Since these interventions were conducted in primary schools, the data on RO water systems and sports kits have been collected through qualitative interviews of schoolteachers.

Table 8: Activities under education in Madhya Pradesh

Activity Category	Activities
Educational Institutions Development	Construction of UF water filters
Sports	Distribution of Sports Kits

4.5.1. Effectiveness and Impact

The UF water system is only effective in four schools out of eight. The rest have pipeline problems due to which they are currently not functional. Sports equipment like cricket fixtures, balls, badminton rackets etc. has been distributed in all projects in primary schools to develop an interest in sports and for general activities to be conducted in schools during playtime. Sports equipment distributed was for both outdoor and indoor sports activities. This has greatly benefitted school children as they often use the material during lunch and after school. It also makes many students look forward to going to school again the next day. These kits have currently broken down due to routine use of them by school children.

4.6. Sustainability

More than 60% of farmers are currently adopting the services and practices accessed through the project under farm management. These are namely adoption of vermi-pits, the use of organic manure and fertilizers, and community-owned irrigation systems. Continued adoption of sustainable farming solutions has also resulted in notable improvements in productivity and reduction of input costs as discussed in the earlier section. More than 65% of solar light beneficiaries reported that solar streetlights are still functioning indicating the sustained impact of the intervention. In the case of disaster management, proper and sustained awareness of disaster management had resulted in effective combat of Covid-19. The construction of check dams, gully plugs, and continuous contour trenches while helping prevent soil erosion in the region were only partially effective during the recent flooding in the region.

Support provided	Structures established	Technical Know-how	Usage	Maintenance
<i>NRM</i>				
<i>Irrigation Management</i>	✓	X	✓	✓
<i>Water Management</i>	✓	✓	✓	✓
<i>Clean Energy</i>	✓	X	✓	✓
<i>Disaster Management</i>	✓	✓	✓	✓

In the case of both **agricultural training and skill training**, more than 80% are still utilizing at least one practice/skill they learned through the project. This indicates sustained adoption and impact, especially in the case of organic manure application. SHG enterprise beneficiaries have been able to scale up their enterprise, and more women are forming different skill based SHGs in the village. Livestock management beneficiaries report better health and reduced death among livestock in response to better access to livestock health services and livestock management training they received. The vaccination camps set up for cows greatly benefited people and the goat husbandry SHG in villages has increased income through the enterprise. The sustained training and distribution of livestock through SHG has had a dual outcome of increased income and financial independence of women.

Support provided	Structures established	Technical Know-how	Usage	Maintenance
<i>Skill development and Livelihood Enhancement</i>				
<i>Agriculture Training and Support</i>	✓	✓	✓	✓
<i>SHG-Based Women Empowerment</i>	✓	✓	✓	✓
<i>Skill Training</i>	✓	✓	X	X
<i>Livestock Management</i>	✓	✓	✓	✓

The community is aware of the usage of kitchen gardens and has been trained in the same. The members also volunteer for the maintenance of kitchen gardens in the region. The health interventions that have taken place are health camps, which have helped in identifying issues related to anemia and other lifestyle problems, but people have not taken the referrals further for treatment.

Support provided	Structures established	Technical Know-how	Usage	Maintenance
Health and Sanitation				
<i>Health</i>		✓	X	X
<i>Kitchen Garden</i>	✓	✓	✓	✓

The project focused on improving the learning environment in intervention schools by supplying RO water systems and distributing sports goods. Findings from the qualitative study indicated that only 50% of UF water systems are still functional.

Support provided	Structures established	Technical Know-how	Usage	Maintenance
Education				
<i>Education Institution Development</i>	✓	✓	X	X
<i>Sports</i>	✓	✓	✓	X

4.7. Holistic Rural Development Index (HRDI)

HRDI is a composite index developed to measure and rank the clusters and thereby the NGO partners based on their performances on key outcome indicators across these domains. HDFC Bank in its document explaining HRDI stated that since the aim of HRDP was to achieve holistic rural development through a multitude of interventions that would lead to overall improvements across related dimensions and therefore the program introduced significant variability in the interventions. Therefore, it was not possible to ascribe a single impact indicator that might be able to accurately, capture the overall performance of HRDP. Since the aim of the index was to create comparability across the various clusters, similar indicators were used for the calculation of HRDI in the project area in the Chhindwara district of Madhya Pradesh.

Basis our calculation, the HRDI for the studied cluster is presented in the table below, since the program did not have an available baseline, the baseline was captured through recall during the study.

Table 9: Holistic Rural Development Index for Madhya Pradesh

Domain	NRM		Skill and Livelihood		Health and Sanitation		Education		Total	
HRDI Score	Base line	End line	Base line	End line	Base line	End line	Base line	End line	Base line	End line
	0.08	0.09	0.13	0.19	0.08	0.16	0.04	0.09	0.08	0.13
% Change	12.5%		46%		100%		125%		62%	

The outcome indicators included in the HRDI were obtained from different domains and are consequently, measured on different scales. Therefore, to ensure the comparability of these indicators, all the indicators were converted into discrete variables such that the indicators could be measured between 0 and 1. Indicators such as productivity and income which were measured on a continuous scale were converted to discrete variables by setting a cut-off. The 50th percentile of these indicators at baseline was chosen as the cut-off point. Thus, a change in the indicator could be captured by recording the proportion of beneficiaries above the cut-off at two distinct points in time.

5. Conclusion

5.1. Summary of Findings

The HRDP project is aimed to support the lives of communities by adopting a holistic approach to development. This involved providing necessary inputs on issues like shaping economic independence through skilling, providing basic infrastructural development, and establishing a better ecosystem thereby promoting better living conditions. The development of human capital, natural resources, and infrastructure in poor and backward villages was expected to bring about their socio-economic transformation.

In the assessed HRD programs in 1 cluster of Chhindwara, Madhya Pradesh, the major focus areas for intervention were Natural Resource Management (NRM), Skill Development & Livelihood Enhancement and Healthcare & Hygiene. The project can be deemed effective in creating noticeable changes in the income generation capacity of farmers through improved productivity, reduced input cost, and capacity building of farmers to adopt sustainable and innovative agricultural practices. HDFC bank interventions to prevent soil erosion in the region due to flooding have also been adopted and followed up by farmers after the project intervention. Furthermore, the project also brought about changes in facilitating access to clean energy solutions such as solar lights. The project interventions in disaster management have been timely and effective in reducing the community risks with regard to the onslaught of the Covid-19 virus.

The project activities within skill and livelihood enhancement also have opened economic opportunities not just for farmers, but for SHG women in the community. These beneficiary categories, who otherwise have limited access to economic opportunities benefitted from the project by gaining the skills, technical support, and physical capital to undertake and expand entrepreneurial activities during the project period. While sustained profit generation is yet to be achieved, the project was successful in initiating entrepreneurial activities in the community among women that have motivated more women to start their own **income generation activities**.

The health interventions aimed at facilitating access to health services have been effective in terms of improving women's access to health services, household health status, and dietary practices. The adoption of kitchen gardens has not only contributed to improved dietary diversity but also serves to save expenditure on vegetables. The child growth monitoring program organized through SHGs in the village has aided lactating mothers and infants to eat a protein-rich diet which primary checkup for malnutrition.

The project has also contributed toward improving and enhancing the infrastructural environment at schools. To facilitate the same, project interventions to supply clean drinking water in schools have aided in making the school environment comfortable for students according to teachers. To ensure internet in sports activities and movement around school, support was provided in terms of distributing sports kits to schools, which have been thoroughly used and enjoyed by school children.

To bridge the gaps in implementation and address the challenges, some of the recommendations are discussed in the following section.

5.2. Recommendations

Based on the observations and analysis of primary and secondary data in the field, the study recommends strategies for the program to meet the desired outcomes better. These are:

Natural Resource Management

Under the project, there is a need to create **more check dams** in the terrain. As the village terrain is hilly and soil erosion is the primary reason for low agricultural yield, check dams are beneficial for flow-control practices that can benefit clusters of agricultural land throughout the area. Similarly, **soil conservation practices like gully plugs, gabion structures and continuous contour trenches, need to be implemented throughout the watershed.** Additionally, connecting the farmers to sources for **climate resilient seeds** can benefit long-term for better crop yield.

Skill and Livelihood Enhancement

Findings from the field indicate that the labourers who were employed from within the field during the project intervention must migrate to different towns for wage labour work. Under the leadership of village development committees (VDCs), there is a need to engage self-help groups and other groups set under other programs to develop **Village Poverty Reduction Plans (VPRP)** and seek convergence. **There is a need to strengthen the role of VDCs in the village.**

Health and Hygiene

Awareness generation activities are necessary for the project intervention area for proper nutrition and checking for early signs of lifestyle diseases like thyroid, diabetes etc. As drinking water is a crucial requirement in the region during monsoon floods, it becomes pertinent for **more people in the districts to be supported by drinking water interventions.**

Promotion of Education

Five of the eight schools in project villages are understaffed with poor infrastructure. There is an urgent need to create **more classrooms and washrooms for children in the area.** To ensure the same, community members need to be sensitized and involved in the maintenance process through institutions such as SMCs.

6. Annexures:

6.1. Detailed Activity List

Sl No	Focus area	Category	Sub-category	Activity	Beneficiary Type
1	Promotion of education	Educational Institutions Development	Provision of RO Water tank	11 RO water tanks have been installed in schools of 8 villages.	School
2	Promotion of education	Promotion of education	Increase interest in sports	Sports kits were distributed in 11 schools in the project area	School
3	Health and sanitation	Health	Setting up health camps	6 Health camps were set up for general checks and referrals	Community
4	Health and sanitation	Health	Kitchen Garden	Poshan Vatikas in all 8 project villages	Community
5	Health and sanitation	Health	Child Growth Monitoring Program.	3 manuals on anaemia prevention, for pregnant women, adolescent girls, and children up to 5 years were prepared and distributed to SHGs for monitoring	Pregnant women and Infants
6	NRM	Farm Management	Land treatment	Overall, 417 Acre land was treated with various treatments like farm bunds.	Farmers
7	NRM	Farm Management	Farmer field school on CRA	4 FFS organized to inform farmers about climate resilient agriculture	Farmers
8	NRM	Farm Management	Agriculture Demonstration	For the promotion of organic agriculture, 80 SRI and SCI demonstrations were organized	Farmers
9	NRM	Farm Management	Low-Cost Vermibed /Azolla/ other organic manure	47 Vermi beds were prepared in project villages, 92 Azolla manure and 214 demonstrations on organic manure were implemented in project villages.	Farmers
10	NRM	Water Management - Agriculture	Irrigation method- drainage treatment	Construction of drainage line treatment like Gabion Structure, gully plug & loose boulder structure	Farmers
11	NRM	Water Management - Agriculture	Irrigation method- irrigation wells	3 Community irrigation wells were constructed	Farmers
12	NRM	Water Management - Agriculture	Irrigation method- farm ponds	Construction of 2 farm ponds in project villages	Farmers

13	NRM	Water Management - Agriculture	Irrigation method-Community irrigation tools	8 motor sprinklers have been provided to the farmers of the project area.	Farmers
14	NRM	Water Management - Community	Irrigation method-earthen check damns	Construction of 2 earthen check dams in project villages	Community
15	NRM	Water Management - Community	Irrigation method- Stop Dam	Construction of 1 stop dam in the project village	Community
16	NRM	Clean Energy	Solar streetlights	Installation of 3 solar streetlights per project village	Community
17	NRM	Clean Energy	Biomass Chullah	Distribution of 20 biomass chullah per project village	Community
18	NRM	Clean Energy	Solar light	Distribution of 20 solar lights per project village	Community
19	Skill development and livelihood enhancement	Entrepreneurship Development	SHG Formation/Registration	2 SHGs each in 8 villages have been formed through HDFC bank interventions in the project area.	Women
20	Skill development and livelihood enhancement	Entrepreneurship Development	Goatry	Development of Goat breeding enterprise	Community
21	Skill development and livelihood enhancement	Entrepreneurship Development	Poultry	Distribution of Poultry	Community

6.2. Sampling Methodology

The quantitative household survey was administered for 3 thematic areas in each district.

6.2.1. Quantitative Sample Size Calculation

For this study, the formula for calculation of finite sample size for a one-time cross-sectional survey (Cochran's 1977), has been deemed appropriate. The formula used to estimate the sample size for the quantitative household survey is given below:

$$N = Z_{1-\alpha}^2 \times P (1 - P) \times D_{eff} \div (S_e)^2$$

Where,

N = sample size

P = key characteristic of the population, set at 50%;

$Z_{1-\alpha}$ = standard score corresponding to the confidence interval, set at 95% (1.96 for the two-tailed test);

S_e = margin of error, set at 5%;

D_{eff} = factor for design effect, set at 1 (no design effect)

Thus, the estimated maximum sample size is 400.

Quantitative Sampling Methodology

Stage 1 – Selection of villages

All 8 villages were sampled for the survey. The cluster sampling method was adopted for the sample selection for the quantitative survey.

Stage 2 – Selection of beneficiaries:

The list of beneficiaries while available for the study helped in sampling the field in terms of villages where interventions took place. After the sampling plan per village per thematic area, the beneficiaries were obtained through the process of random sampling where the enumerators went on the field to ask people about the benefits availed through project interventions. The beneficiaries obtained through this method acted as the sampling frame for that program. Since one household might avail more than one benefit from the holistic program, there is a possibility of more than one beneficiary from a single household or a household having more than one intervention area benefit.

6.2.2. Qualitative Sample Size Calculation

Qualitative tools of In-depth Interviews (IDI) and Focus group discussions (FGD) were administered for obtaining information about the remaining themes as well as to enrich the household survey information with a deeper understanding.

Since there was no baseline available for this evaluation, the recall method was used in the household survey to assess the change that has happened over time. For this purpose, the respondents were asked to recall the value of critical indicators at the start of the program.

6.3. HRDI Methodology

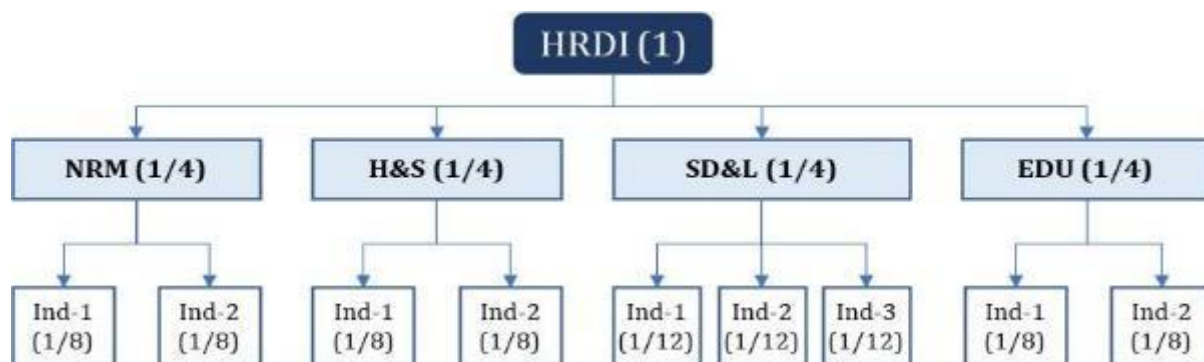
The outcome indicators included in the HRDI were obtained from different domains and are consequently measured on different scales. Therefore, to ensure the comparability of these indicators, all the indicators were converted into discrete variables such that the indicators could be measured between 0 and 1. Indicators such as productivity and income which were measured on a continuous scale were converted to discrete variables by setting a cut-off. The 50th percentile of these indicators at baseline was chosen as the cut-off point. **Thus, a change in the indicator could be captured by recording the proportion of beneficiaries above the cut-off at two distinct points in time.**

Indicator Weights

Weights were applied to each of these indicators, in similar lines to the HRDI calculation. Attribution of equal weights to all the domains was done in order to create a standard HRDI for each cluster.

Equal weights were assigned to each of the four domains. Further, the domain weight was equally distributed among the indicators of that domain; thereby ensuring that equal weightage of the domains was maintained overall.

Domain and indicator weights⁵



The example above is indicative. The domains, as well as indicators, were different across all projects, and hence the weights were changed slightly for the purpose of the study, following the principle stated above.

Project X		
Natural Resource Management	The average productivity of crops (3 major crops) grown (quintal per acre)	$(1/4) \times (1/3) = 0.083$
	Percentage of farmers reporting access to irrigation	$(1/4) \times (1/3) = 0.083$
	The area under irrigation (Ha)	$(1/4) \times (1/3) = 0.083$

⁵ NRM: Natural Resource Management | H&S: Health and Sanitation | SD&L: Skill Development and Livelihoods | EDU: Education

<i>Health and Sanitation</i>	Percentage of households with access to vegetables in nutrition garden	$(1/4) \times (1/2) = 0.125$
	Percentage of households with access to health service facilities	$(1/4) \times (1/2) = 0.125$
<i>Livelihoods and Skill development</i>	Percentage of SHG members participating in rural enterprises	$(1/4) \times (1/2) = 0.125$
	Percentage of households with improved skills in agriculture	$(1/4) \times (1/2) = 0.125$
	Percentage of schools having functional RO system in school	$(1/4) \times (1/2) = 0.125$
<i>Education</i>	Percentage of schools having functional sports kits	$(1/4) \times (1/2) = 0.125$

Once all the indicators were standardized and weighted, a sum of these weighted indicators was utilized to calculate the value of HRDI.

Analysis Plan: HRDI for each cluster/ NGO was calculated at two points in time i.e., before and after HRDP and can be compared cross-sectionally to understand which domains contributed to an increase or decrease in HRDI value. Concurrently, the NGOs can be ranked according to the HRDI score based on their performance across different domains, but care should be taken as the project context varies for each area. Since the value attribution of the indicators is in proportion, the HRDI value numerically ranges between 0 and 1.

Method to calculate HRDI

Step 1: All the indicators were cleaned and adjusted for outliers. Only those beneficiaries were considered for the analysis where data on outcome indicators was available for both pre-and post-intervention.

Step 2: A cut-off value was calculated by taking the 50th percentile for each indicator before HRDP (baseline). For instance, consider the indicator- average annual income of farmers, at baseline, then sorted all the farmers across the seven clusters in ascending order based on their income. The 50th percentile i.e., the median value of the income was taken. This median or 50th percentile was taken as the cut-off (baseline cut-off to be precise).

Step-3: Calculated the proportion of beneficiaries above the set cut-off value at the baseline for each indicator.

Step-4: Calculated the same at the end-line i.e., the proportion of beneficiaries above the baseline cut-off for each indicator.

Step-5: Multiplied each proportion of the indicators with the set indicator weights.

Step-6: Sum all the indicators (i.e., weighted sum) to calculate the HRDI value at baseline and end-line.

Step-7: Calculated the relative change in the HRDI value from baseline to end line.

Step-8: Ranked the clusters based on relative change brought about in the HRDI value i.e., the cluster that brought the maximum change in the HRDI value received the first rank.

Domain	Indicators	Baseline	Weight	HRDI	Endline	Weight	HRDI
NRM	The average productivity of crops (3 major crops) grown (quintal per acre)	4.20	33%	0.08	4.40	33%	0.09
NRM	Percentage of farmers reporting access to irrigation	85.50	33%		91.50	33%	
NRM	The area under irrigation (Ha)	6.00	33%		7.00	33%	
H&S	Percentage of households with access to vegetables in nutrition garden	33.00	50%	0.13	64.60	50%	0.19
H&S	Percentage of households with access to health service facilities	67.00	50%		89.00	50%	
Skill	Percentage of SHG members participating in rural enterprises	19.40	50%	0.08	67.70	50%	0.16
Skill	Percentage of households with improved skills in agriculture	45.30	50%		56.60	50%	
ED	Percentage of schools having functional RO in schools	20.00	50%	0.04	50.00	50%	0.09
ED	Percentage of schools having functional sports kits	10.00	50%		20.00	50%	

6.4. Overview of Impact Methodology

Outputs	Output Indicators		Output Avg	Impact Level
Increased income from agriculture				
Land/ crop productivity	1. Proportion of farmers reporting an increase in production of crops that were supported under HRDP	99%	53%	Medium
	2. Proportion of farmers reporting increased income from crops that were supported under HRDP.	47%		
	3. Average increase in income from crops that were supported under HRDP (% change)	17%		
	4. Average increase in productivity from crops that were supported under HRDP (% change)	50%		
Access to the farm management infrastructure	1. Proportion of beneficiaries satisfied with the quality of available services (in farm management)	60%	84%	High
	2. Proportion of farmers reporting project interventions in seeds, tools, and irrigation leading to an increase in production	76%		
	3. Proportion of farmers reporting project interventions leading to increase in income (average of top 4-5 crops)	100%		
	4. Proportion of farmers currently practising organic farming/conservation agriculture/other sustainable practices	90%		
	5. The proportion of farmers reporting an increase in the use of natural fertilizers	97%		
Increased adoption of crop diversification	1. Proportion of farmers diversifying their crops with project support.	51%	51%	Medium
Land under irrigation	1. Increased area under irrigation	91%	75%	High
	2. The proportion of farmers who received support for irrigation	60%		
Increased use of clean energy solutions				
Adoption of clean energy infrastructure	1. Proportion of HHs using clean energy infrastructure (Base=all)	49%	62%	Medium
	2. Proportion of households reporting benefits from using	76%		

	clean energy infrastructure (Base=clean energy beneficiaries)			
Communities have reduced risk and vulnerability due to natural disasters				
Improved coping capacity of community	1. Proportion of community members who benefitted during natural disasters	100%	76%	High
	2. Proportion of community received training on early warning signs of disaster	57%		
	3. Proportion of community members reporting reduced risk life, livestock, and property	71%		
Outputs	Output Indicators		Output Avg	Impact Level
Improved access to agricultural training and services				
Access to Agriculture training and services	1. Proportion of farmers who reported project training services are useful	90%	73%	High
	2. Proportion of farmers who demonstrate awareness regarding sustainable farming practices	57%		
Economic empowerment through collectivization (Only for SHG members)				
Formation/revival of SHG-based Enterprises	1. Proportion of members who received support with establishing/reviving SHGs	21%	59%	Medium
	2. Proportion of members whose SHGs are currently functioning	97%		
Development of entrepreneurship	1. Proportion of SHG members who received training	97%	58%	Medium
	2. Proportion of SHG members undertaking entrepreneurial activities	80%		
	3. Proportion of SHG members reporting starting new SHG enterprises	33%		
	4. Proportion of SHGs with increased savings	43%		
	5. Proportion of SHG members reporting improved income	37%		
Adoption of scientific management of livestock	1. Proportion of beneficiaries who received support in livestock management services	3%	51%	Medium
	2. Proportion of beneficiaries reporting an increase in income from livestock management	100%		
Outputs	Output Indicators		Output Avg	Impact Level
Improved health infrastructure and services				
Establishment/enhancement of	1. Proportion of beneficiaries who gained access to health services	80%	51%	Medium

health infrastructure and services	2. Proportion of beneficiaries reporting lifestyle changes due to improved access	49%		
	3. Proportion of beneficiaries who consulted medical references from camps	25%		
Development of Kitchen gardens				
Increased adoption of kitchen gardens	1. Proportion of HHs reporting income gains from kitchen gardens	12%	67%	Medium
	2. No of HHs received seeds/training in the kitchen garden	81%		
	3. No of HHs with improved vegetable/fruit consumption due to kitchen gardens	83%		
	4. Proportion of HHs reporting improved nutrition	93%		

Change	Impact Level
0%-40%	Low
>40% - 70%	Medium
>70%- 100%	High
