

Impact Assessment Study under Holistic Rural Development Programme (HRDP) Uttarakhand-P0223



Prepared For:



HDFC Bank CSR

Prepared By:



NR Management Consultants India Pvt Ltd.

Table of Contents

List of Figures.....	3
List of Tables.....	4
List of Images	5
Executive Summary.....	6
1. Introduction.....	10
1.1. About HRDP.....	10
1.2. Objectives of Impact Assessment	10
1.3. Conceptual Framework Adopted.....	11
1.4. About the Project Area.....	12
1.5. About the Implementing Partner	12
2. Research Design and Methodology.....	13
2.1. Criteria for Assessment	13
2.2. Primary and Secondary Data Sources	13
2.3. Sample Size and Distribution	14
2.4. Training of Enumerators.....	15
3. Review of Project Planning and Implementation	16
3.1. Selection of Project Area	16
3.2. Selection of Thematic Areas and Interventions.....	16
3.3. Project Implementation.....	17
3.4. Monitoring and Evaluation.....	18
4. Study Findings	20
4.1. Natural Resource Management.....	22
4.2. Skill Development and Livelihood Training.....	27
4.3. Health and Sanitation	36
4.4. Promotion of Education.....	42
4.5. Holistic Rural Development Index (HRDI)	43
5. Analysis of Assessment Criteria	45
5.1. Relevance and Convergence	45
5.1. Sustainability	45

6.	Recommendations	47
6.1.	Natural Resource Management.....	47
6.2.	Skill Development & Livelihood Enhancement	48
6.3.	Promotion of Education.....	48
6.4.	Health & Sanitation.....	48
A	Sampling Methodology	50
A.1	Quantitative Sample Size Calculation.....	50
A.2	Quantitative Sampling Methodology	50
A.3	Qualitative Sample Size Calculation.....	51
B	HRDI Methodology	51
C	Detailed Activity List.....	55
D	Sustainability Thematic wise matrix.....	58
E	Overview of Impact Methodology	59

List of Figures

Figure 1: Conceptual Framework	11
Figure 2: Areas under study	12
Figure 3: Gender and Age Group-wise Sample Distribution (N-412)	15
Figure 4: Planning and Implementation Process	16
Figure 5: Main Sources of Income (N-412)	20
Figure 6: Educational Qualification wise distribution of sample (N-412)	21
Figure 7: Caste and Income categorisation sample (N-412)	21
Figure 8: Increase in agricultural income in Rs. (Based on median) (N-75)	22
Figure 9: Reasons for increase in income (N-69)	23
Figure 10: HRDP interventions that contributed to increase in income	24
Figure 11: Perceived benefits solar street lights (N-167)	25
Figure 12: Savings/month (in Rs.) by using biogas chulha for cooking (N-10)	25
Figure 13: Perceived benefits of Biogas Unit (N-10)	25
Figure 14: An overview of project effectiveness and impact in Natural Resource Management.....	26
Figure 15: Perceived improvements due to adoption of agricultural practices (N-67).....	29
Figure 16: Agriculture practices learned through HDFC trainings and currently practicing (N-67) ...	29
Figure 17: Support provided for groups through HRDP (SHG N- 292, Farmer Group N-46).....	30
Figure 18: Perceived Benefits from SHG and Farmer’s Group (SHG N-292, Farmer Group N-46).....	31
Figure 19: Skill and entrepreneurship development training services	31
Figure 20: Perceived benefits of skill development training (N-111).....	32
Figure 21: Livestock management services availed through HRDP (Cows N-16, Buffaloes N-15)	32
Figure 22: Perceived benefits of HDFC intervention (Cows N-16, Buffaloes N-15)	33
Figure 23: An overview of project effectiveness and impact on skill training and livelihood enhancement.....	34
Figure 24: Services availed at HDFC supported camps/clinics (N-238)	36
Figure 25: Perceived benefits of HDFC bank supported health camps/clinics (N-238).....	37
Figure 26: sanitation services provided by HDFC (N-127).....	37
Figure 27: Drinking water management services availed through HRDP (N-40)	38
Figure 28: Perceived health benefits of improved drinking water source (N-30).....	39
Figure 29: Fruits and vegetables consumed from the kitchen garden (N-40).....	39
Figure 30: Perceived benefits of HRDP supported kitchen gardens (N-40)	40
Figure 31: An overview of project effectiveness and impact in Health and sanitation.....	40
Figure 32: Infrastructural services made available through HDFC intervention	42
Figure 33: An overview of project effectiveness and impact in Education	43

List of Tables

Table 1 Change in key Indicators.....	8
Table 2 HRDI Index.....	8
Table 3: Quantitative Sample Covered	14
Table 4: Activities under four thematic areas.....	17
Table 5: Quantum of Activities under each activity category of four thematic areas.....	21
Table 6: HRDI of Uttarakhand, P0223.....	44
Table 7: Calculation of HRDI	53
Table 8: Sustainability Matrix	58

List of Images

Image 1: Training of field team held at Roorkee, Uttarakhand	15
Image 2: Solar powered street lights.....	24
Image 3: FGD of SHG involved in Jewellery Making.....	30
Image 4: Jewellery making.....	31
Image 5: Solar Water Tank	41

Executive Summary

The study centres on measuring the impact of the Holistic Rural Development Programme (HRDP) of HDFC Bank that was implemented by Ambuja Cement Foundation in 20 villages of Roorkee and Haridwar districts of Uttarakhand during April 2018 till March 2022. This study largely focused on understanding the overall process that the HDFC Bank and the implementing organisation undertook in carrying out the programme activities, the key milestones achieved, the impact created by these activities, and the challenges faced. The key focus areas of the intervention were Natural Resource Management (NRM), Skill Training & Livelihood Enhancement (ST&LE), Health and Sanitation (H&S) and Promotion of Education (PoE). The framework used for the impact assessment was an adaptive version of the DAC criteria - Relevance, Effectiveness, and Sustainability. A comprehensive methodology, comprising both qualitative and quantitative primary data collection, was used for the assessment which was carried out in a participatory manner involving all the key stakeholders of the programme. The study included a sample size of 412 beneficiaries as respondents as against the planned sample of 400.

Natural Resource Management

Through the Seed and Agri Tool Bank, irrigation support, promotion of organic fertilizers, training on innovative cultivation methods, crop diversification, and farm bunding with solar fencing, HDFC Bank and Ambuja Cement Foundation are driving positive change in the agricultural sector and helping farmers achieve sustainable and prosperous livelihoods.

The beneficiaries reported a net change in median income of Rs 71500 in the Haridwar District compared to Rs. 22000 increases in the net income of the Roorkee District. 47.8% attributed increased income to HDFC Bank's interventions in seeds and tools, 27.5% acknowledged the impact of irrigation interventions, 44.9% recognized the influence of organic farming interventions, 40.6% identified the positive effect of farming technique interventions (e.g., SRI, creeper farming), and 29% attributed income growth to agricultural installations (e.g., green nets, farm bunding). 40% of the total beneficiaries have reported a rise in production after adopting crop diversification and 50% of them have reported increase in income.

Benefits of Solar Lights include 96% of the community with a higher sense of mobility during night time and 96% of women felt more safe and secure in stepping out. Biogas Unit installed in the Roorkee district of Uttarakhand left 90% of its users fully satisfied. Villagers have started using the residue from the plant called bio slurry as manure for their farms. This has discouraged the use of chemical fertilizers by 70% of the users and caused for a shift to organic farming. 90% of the users have reported improvement in soil health and yield productivity after using bio slurry.

Skill Development and Livelihood enhancement

Under the HRD program, various skill development training and support to start their enterprises or improve their farming practices were provided for women, youth, and farmers.

Skill training has made the farmers aware of sustainable farming practices like the application of organic manure (79.1%), conservation agriculture practices (62.7%), and timely application of fertilizers and insecticides (89.6%). However, awareness regarding Azolla unit (9%) was found low in the survey. There has been a 53% and 44% increase in monthly income from livestock rearing Buffalo and Cow respectively.

Involvement of SHG members in enterprise development has been effective and 100% of the respondents reported an increase in confidence as it provided a way to be independent and also helped in financial problems. Efforts can be made to create market linkages and bring together more SHGs to being building of business.

Health & Sanitation

The community experienced health challenges related to blood pressure and diabetes. Through health camps, medicine distribution, regular checkups, and monitoring, the community's health has significantly improved. Beneficiaries who utilized HDFC Bank's health services reported positive outcomes, including improved dietary habits (65.0% in Haridwar and 57.9% in Roorkee), increased physical activity (77.8% in Haridwar and 78.5% in Roorkee), and better overall health for household members (71.8% in Haridwar and 70.2% in Roorkee). Access to quality health services, particularly for women, was appreciated by beneficiaries (67.5% in Haridwar and 74.4% in Roorkee). In terms of sanitation, a portion of the community utilizes waste management plants (21.2%) and dustbins (58.6%).

Drinking water was a challenge in the surveyed villages, but the installation of community taps has helped around 70% of respondents. This improvement has resulted in a decrease in waterborne diseases (83% in Roorkee and 75% in Haridwar), relief from stomach problems (87% overall), dental improvement (60% overall), and an increase in appetite (70% overall).

Kitchen gardens have provided various benefits, including improved health outcomes and reduced food costs. Villagers reported easier vegetable consumption and a reduction in food expenditure since the project's inception (92% reported reduced expenditure with an average savings of Rs 371 per week). The satisfaction rate among beneficiaries was 90%.

Promotion of Education

Intervention focused on equipping schools with infrastructure such as: basic furniture, digital class, drinking water facilities, separate washrooms for boys and girls, and renovation based on the need of the school has led to improvement in educational outcomes.

The need-based infrastructural developments undertaken in schools have been useful and have been greatly appreciated by the students and school authorities. 100% of teacher respondents have reported an improvement in attendance. Major reasons accounting to such shift was increase in interest to attend classes and better reading material and books availability.

Table 1 Change in key Indicators

Income Indicators (based on median)	Before	After	Change
Increase in net income from agriculture (median value)	INR 67000	INR 114000	70%
Increase in average productivity of crops (paddy, wheat)	1344kg/acre	1615kg/acre	20%
Increase in Average productivity of sugarcane	18954kg/acre	23542kg/acre	24%
Median Monthly Income from Livestock (INR) (Based on median income)	1500	7500	400%
Median Monthly Income from SHG (INR) (Based on average income)	1444	2556	77%
Median Monthly Income from Enterprise (Based on median income)	4000	10000	150%

HRDI Scores

The impact of the project was assessed on Holistic Rural Development Index, which is a weighted index that gives an index value for each focus area and for the entire project.

The thematic-wise indicators were assigned weights to arrive at the composite HRDI score of **0.55** indicating a **notable positive change toward the desired impact** from the baseline score of **0.41**.

Findings showed an improvement in all focus areas as well as the project, as shown below:

Table 2 HRDI Index

Domain	NRM		Skill and Livelihood		Health and Sanitation		Education		Overall HRDI	
HRDI Score %	Baseline	Endline	Baseline	Endline	Baseline	Endline	Baseline	Endline	Baseline	Endline
Change	0.09	0.12	0.09	0.13	0.20	0.21	0.03	0.08	0.41	0.55
	33%		44%		5%		166%		34%	

Key Recommendations

- Smart class handling and maintenance training provision
- Providing small machinery for wheat cutting
- Creating market linkages for sustainability of SHG entrepreneurial activities.
- Creating mechanism to ensure regular monitoring of health outcomes through permanent incentive channel for ASHA worker

Conclusion

The project interventions have been effective in bringing clear changes in the income of farmers through improved productivity, reduced input cost, and farming techniques and assistance. Skill and livelihood enhancement activities also have opened up economic opportunities not just for farmers, but for women in the community. More effort is required in promoting personal hygiene, sanitation and kitchen garden. Interventions in education have laid out a general base for the students. Next step could be enhancement of academic outcomes for children.

1. Introduction

Holistic rural development programmes in India encompass a wide range of initiatives that target various aspects of rural communities. The programmes aim to address the diverse challenges faced by rural areas and promote their overall socio-economic well-being. These initiatives focus on integrating economic, social, and environmental dimensions to ensure sustainable development and an improved quality of life for rural residents. They involve providing essential services like clean water, sanitation facilities, electricity, and road connectivity, which are crucial for enhancing productivity and accessing markets. Moreover, the programmes emphasize agricultural advancements, rural employment schemes, education and healthcare access, and the empowerment of marginalized communities through skill development, self-help groups, and entrepreneurship promotion.

1.1. About HRDP

Under the aegis of Parivartan, the Holistic Rural Development Programme (HRDP) is HDFC Bank's flagship CSR programme in which non-governmental organisations (NGOs) across the country are supported to undertake development interventions in four thematic areas:

- a) Natural Resource Management (NRM)
- b) Skill Training & Livelihood Enhancement (ST&LE)
- c) Health and Sanitation (H&S)
- d) Promotion of Education (PoE)

The World Bank defines rural development as the improvement in the social and economic environment of the rural population. The fundamental aims of rural development include planning, creating, and using the resources such as land, water, and manpower to promote equal opportunity for the population reliant on them. Given this context, HRDP strives to enhance the lives of people in rural communities by primarily bringing about sustainable socio-economic transformation and ecological development. Its holistic approach caters to their various needs by addressing development of human capital, effective management of natural resources, economic independence through skilling and livelihood opportunities, basic infrastructure development, and enhancement of living conditions.

1.2. Objectives of Impact Assessment

The impact assessment aims at understanding:

- Overall process undertaken for implementing HRDP activities
- Key milestones achieved
- Impact created by HRDP activities
- Challenges faced and how they were managed

The guiding philosophy behind this assessment is to add value by showcasing successful initiatives and recommending possible ways to address existing challenges.

It seeks to:

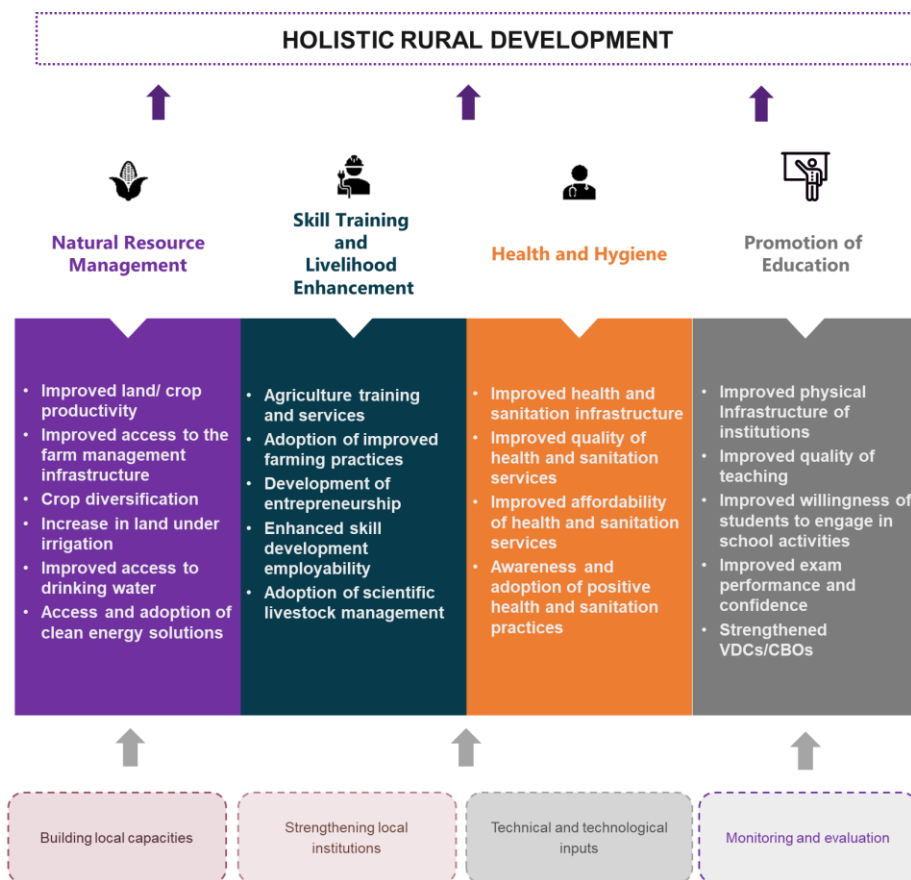
- Critically and objectively evaluate implementation and performance
- Determine reasons for certain outcomes or lack thereof
- Derive lessons learnt and good practices
- Provide evidence-based findings to inform future operational and strategic decisions while planning and funding partner organisations

This assessment was also an opportunity to assess the on-ground relevance and effectiveness of the project.

1.3. Conceptual Framework Adopted

The conceptual framework and the areas covered under the assessment are depicted below (see Figure 2). The aim is to build local capacities and strengthen local institutions, while giving technical inputs and conducting evaluation across the four thematic areas. The objectives under NRM, ST&LE, H&S and PoE are enumerated in the figure below.

Figure 1: Conceptual Framework



1.4. About the Project Area

The project is spread across 20 villages of Roorkee and Haridwar districts of Uttarakhand with Natural Resource Management, Health and Sanitation, Promotion of Education, Skill and Livelihood Enhancement being the major thematic areas covered.

Figure 2: Areas under study



1.5. About the Implementing Partner

The Ambuja Cement Foundation (ACF) is the social development arm of Ambuja Cement, a leading cement manufacturing company in India. Established in 1993, ACF is committed to improving the quality of life in rural communities by implementing sustainable development initiatives. It focuses on six thrust areas namely Water, Agriculture, Skill, Women, Health and Education to transform poverty into prosperity as their end goal. In 2017, HDFC Bank partnered with ACF for its CSR initiatives to implement Holistic Rural Development Programme at Uttarakhand. The HRDP was spread across 20 villages across two districts namely Roorkee and Haridwar for a period of 5 years ending in March 2022.

2. Research Design and Methodology

The impact assessment used a mixed method that includes both qualitative and quantitative methods to assess the impact of the project interventions. The impact assessment process was carried out in a consultative manner engaging with key stakeholders involved in the project design and implementation that includes HDFC Bank and SM Sehgal Foundation.

2.1. Criteria for Assessment

For each thematic area, project activities completed by the SM Sehgal Foundation were identified from their project documents, reports and MIS that they submitted to HDFC Bank. The impact of those activities were assessed using the following criteria:

- Relevance and Convergence
- Impact and Effectiveness
- Sustainability

Under the criterion of relevance and convergence, the team assessed whether the design of the project interventions was:

- a) Aligned with the State's plans and priorities for rural development.
- b) Relevant to the local needs of the most vulnerable groups.
- c) Convergent with (and making use) of the Government's existing resources.
- d) Enabling different stakeholders to work together to achieve the intended outcomes of the programme.

To assess the impact and effectiveness of the project, the team established the values of outcome indicators for all the four thematic interventions. The findings were assessed against these values through identifying qualitative evidence and analysis of project outcomes (in light of variables identified in consultation with HDFC Bank), the team tried to understand whether and how the project impacted the lives of community members in the project areas. The findings from primary quantitative data were substantiated by the information gathered from discussions with the communities/ beneficiaries, teachers, students, entrepreneurs, and local village-level institutions.

For the criteria of sustainability, the team studied the primary data to understand if the project has worked on strengthening the community's capacity, positioned appropriate institutional mechanism to ensure sustainability, and if any of the activities or strategies adopted have been or could be replicated.

2.2. Primary and Secondary Data Sources

Primary research included a quantitative household survey that was conducted by the survey team consisting of 6 enumerators and 1 supervisor. With backstopping by one field coordinator. The primary quantitative data was collected using Computer Assisted Personal Interview (CAPI) method where we developed a mobile application to collect data. The qualitative research included in-depth

interviews (IDIs), Key Informant Interviews (KIIs) and Focused Group Discussions (FGDs) with project beneficiaries and secondary stakeholders such as the team members of SM Sehgal Foundation, the HDFC Bank programme team, local leaders from the project area etc. IDIs were conducted with the specific individuals who were recipients of the project. The qualitative data was conducted by our research coordinator.

Secondary data sources included HDFC’s CSR Policy, Programme Log Frame (Logical Framework Analysis), Rapid Rural Appraisal Reports, Programme implementation timelines, Communication, and Documentation products, and other relevant reports/ literature related to the project.

The outcome mapping and result chain development was undertaken in consultation with the HDFC Bank team. Standardized key outcomes and indicators were identified for each thematic area (NRM, ST&LE, H&S and PoE). Based on the standardized list of outcomes and outputs, the questionnaire was developed.

2.3. Sample Size and Distribution

From 20 villages, 15 were selected for the purpose of sampling data based on the intensity of interventions implemented by the partner NGO through a consultative process. Sample from each village was selected by using Probability Proportionate to Size (PPS) sampling method. Care was taken to cover the maximum sample from the villages that have received a maximum number of interventions in order to get appropriate coverage of all components of the project.

Table 3: Quantitative Sample Covered

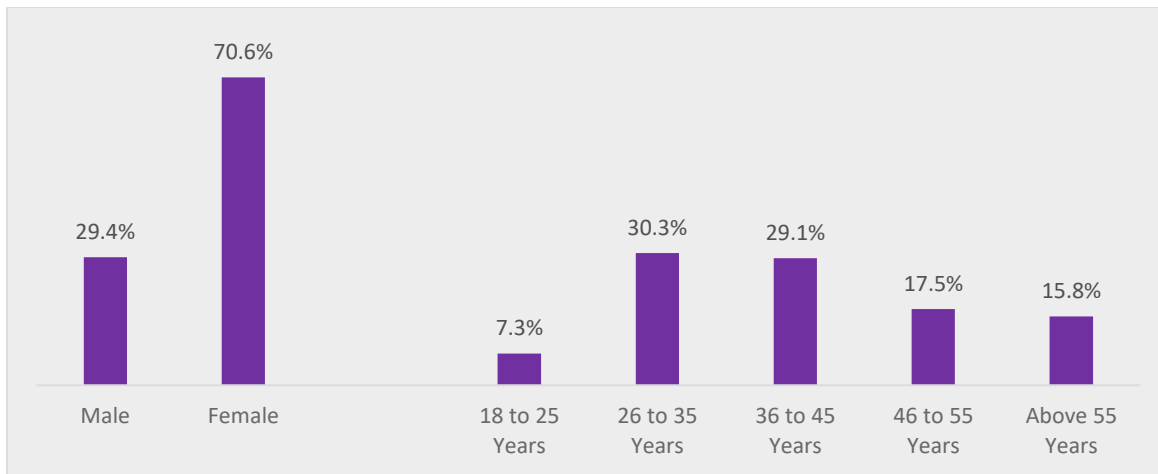
District name	Total Households	NRM	Skill Training and Livelihood Enhancement	Health and Sanitation	Promotion of Education
Roorkee	200	106	159	144	11
Haridwar	212	126	202	141	23
Total	412	232	361	285	34

The beneficiaries were selected using random sampling from the list of beneficiaries obtained from the implementing partner, Ambuja Cement Foundation. Since beneficiary selection was undertaken independently for each project, the selection of more than one beneficiary from a single household was probable. Also, there have been instances where a single beneficiary received multiple support for the intervention. Care was taken to include all focus areas of intervention. The sample size of 443 was covered, across all sample villages and thematic areas. 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 project.

Qualitative tools of in-depth interviews (IDI), Key Informant Interview (KII) and Focus Group Discussions (FGD) were administered for obtaining information about the various themes as well as

to enrich the household survey information with a deeper understanding. A total of 4 KIIs, 4 IDIs and 7 FGDs were conducted spread across a total of 8 villages, 4 in the Roorkee district and 4 in the Haridwar district of Uttarakhand.

Figure 3: Gender and Age Group-wise Sample Distribution (N-412)



The demographics of the sample show a well-balanced representation, with 29.4% males and 70.6% females, providing gender inclusion in the evaluation. Participants range in age from the young (18 to 25 years) (7.3%) to those in their prime working years (26 to 45 years) and even those over 55 years (15.8%). This broad age distribution ensures that the project's conclusions and suggestions take into consideration the needs and experiences of a diverse group of recipients.

2.4. Training of Enumerators

Teams of local enumerators, with requisite education and experience, were hired for data collection. A two-day training was provided to enumerators and supervisors by the NRMC team at Roorkee district of Haridwar. The sample covered for education is limited due the ongoing summer holidays during the period of verification.

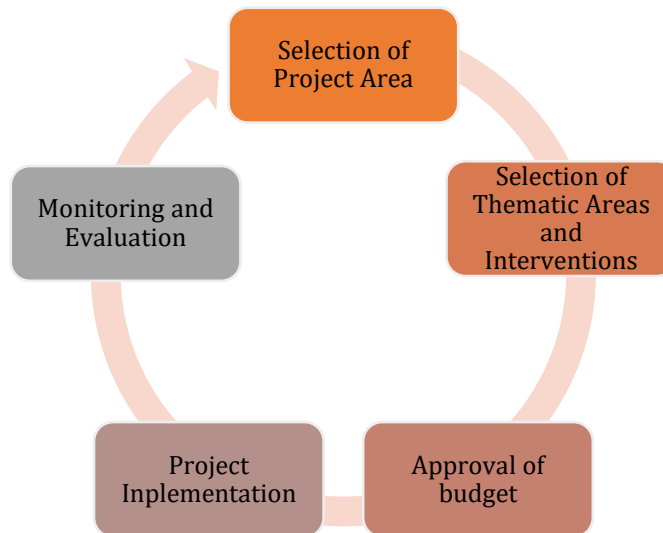
Image 1: Training of field team held at Roorkee, Uttarakhand



3. Review of Project Planning and Implementation

The planning and implementation of the project involves five stages: selection of the project area viz. district, block, villages etc., selection of thematic areas and interventions, approval of budget, project implementation and monitoring and evaluation. Review of each of these stages are explained below.

Figure 4: Planning and Implementation Process



3.1. Selection of Project Area

The 20 villages of Haridwar and Roorkee under project P0223 suffer from high rate of unemployment amongst women and youth; the unemployment rate for Haridwar was 20.1% in 2017-18¹. As reported by the implementing partner Ambuja Cement Foundation, the community members face a lot of hardship in accessing credit from banks and government institutions, Farmers lack awareness on the innovative agricultural techniques. In addition to this, wild animal attack in Haridwar cluster is a major concern for agriculture². Due to this, farmers lose their crops at large scale, incurring huge losses. There is also a lack of health cities in the area, forcing the community to depend on village quacks. Safe Drinking water availability is a major concern and water in hand pumps is polluted due to industrialization and improper drainage system.

3.2. Selection of Thematic Areas and Interventions

The project’s interventions were decided on an annual basis, with an annual budget allocation based on the proposal by Ambuja Cement Foundation to HDFC Bank. Based on our discussions with the partner team, 20 villages were selected by handpicking villages according to need. Once handpicked,

¹ <https://timesofindia.indiatimes.com/city/dehradun/unemployment-rate-doubles-in-12-years-in-uttarakhand-hdr-report/articleshow/70480533.cms>

² <https://www.hindustantimes.com/dehradun/elephant-attacks-on-the-rise-in-state/story-9zTytsAJ9KIF1C6IJQt1AN.html>

Ambuja Cement Foundation would conduct a needs assessment under 4 major thematic areas namely Natural Resource Management, Skill and Livelihood Enhancement, Education, Health and Sanitation. Activities under each of the four thematic areas are as follows (see Table 4).

Table 4: Activities under four thematic areas

Activity Category	Activities	Output Indicators
NRM		
Irrigation Management	Drip Irrigation	Income from agriculture
Water Management	Pond Renovations, installation and repair of household handpumps and community taps, Water quality testing	
Farm Management	Farm Bunding, Crop Diversification	
Clean Energy	Solar Fencing, Solar Lights (Street), Biogas units, Solar Dryer	Clean energy
ST&LE		
Agriculture Training and Services	Demo Plots, Capacity building on field crop, vegetable and turmeric farming, Natural/ Organic Farming	Access to Agriculture Training and Services
Skill and Entrepreneurship Development	SHG formation, capacity building and enterprise support to SHGs, Digital literacy for youth	Skill and Entrepreneurship Development
Livestock Management	Cattle Health Camp, Cattle Vaccination, Establishment of milk collection centres	Livestock Management
H&S		
Health	ASHA training on NCD, Screening camp for NCD, Awareness activities, Jal Minar (solar based drinking water stations), kitchen garden	Health Infrastructure and Services
Sanitation	Soak Pits, Waste Collection and Awareness Campaigns	Sanitation Infrastructure and Services
PoE		
Educational Institutions Development	School building renovation, BaLA, classroom furniture, science lab equipment, digital class	Infrastructure in Educational Institutions

3.3 Project Implementation

HDFC under its CSR initiatives partnered with Ambuja Cement Foundation to transform lives in 20 villages spread across Roorkee and Haridwar districts of Uttarakhand for a period of 5 years starting in 2017.

In the **Natural Resource Management theme**, the Foundation implemented initiatives for sustainable resource utilisation and conservation. This included solar fencing to protect natural resources, installation and repair of household handpumps and community taps for clean water access, and solar-based Jal Minar for reliable water supply. Community ponds were constructed and repaired, with water quality testing conducted. Water conservation was promoted through drip irrigation and village ponds were renovated. Solar street lights enhanced energy efficiency and community safety. Support was provided for household biogas units and solar dryers. Promoting turmeric cultivation also contributed to sustainable resource management. These initiatives aimed to conserve natural resources and promote sustainability in the community. Parts of Haridwar had problems in water management and were appalled by the wild animal attack. With HDFC's CSR initiative, they were able to find a way to fight these problems in a sustainable manner.

In **Skill and Livelihood Enhancement**, ACF promoted diversified vegetable cultivation, and innovative farming techniques. Livestock support, turmeric cultivation, and provision of agriculture tools improved farmers' income. Capacity building activities empowered farmers and women entrepreneurs, while collaborations strengthened local institutions. International Women's Day workshops promoted gender equality. Earlier, farmers were using traditional methods of farming and were heavily dependent on chemical fertilisers and pesticides. After the intervention what they most liked was the awareness created by the program. With HDFC's help they were no longer at the mercy of chemical medicines to treat their farms. They had complete knowledge of how to deal with different problems which led to savings of money and mental peace.

In **Health and Sanitation**, they constructed hand pump platforms, and soak pits with drainage systems. Wall paintings were conducted on water conservation and social issues. Solar-based drinking water stations were installed, along with new hand pumps. Training sessions on non-communicable diseases and menstrual hygiene management were organised for ASHA workers. Screening camps and incentives were provided, and IEC materials were developed for menstrual hygiene education. Support was given to women for creating health and nutritional gardens. These efforts aimed to enhance community well-being and address important social and health issues. Especial recognition was given to ASHA workers for the excellent work done by them in helping diabetic and blood pressure patients.

For the **promotion of education**, renovation work was carried out at anganwadis and primary schools. Smart classes were introduced and infrastructural support was given in the form of furniture, and books. BALA paintings were made available.

The implementing partner positioned a dedicated team of professional that was responsible for project implementation. They also inducted community level functionaries for mobilising communities and helping them in implementing project activities.

3.4 Monitoring and Evaluation

The implementing partners used a standard monitoring and evaluation approach for the HRDP. These include reporting on project execution status to the HDFC Bank on a regular basis.

Furthermore, the HDFC bank's programme implementation staff visits the project communities at regular intervals to review the project work sites. Participate in training programmes and awareness workshops, as well as connect with project recipients.

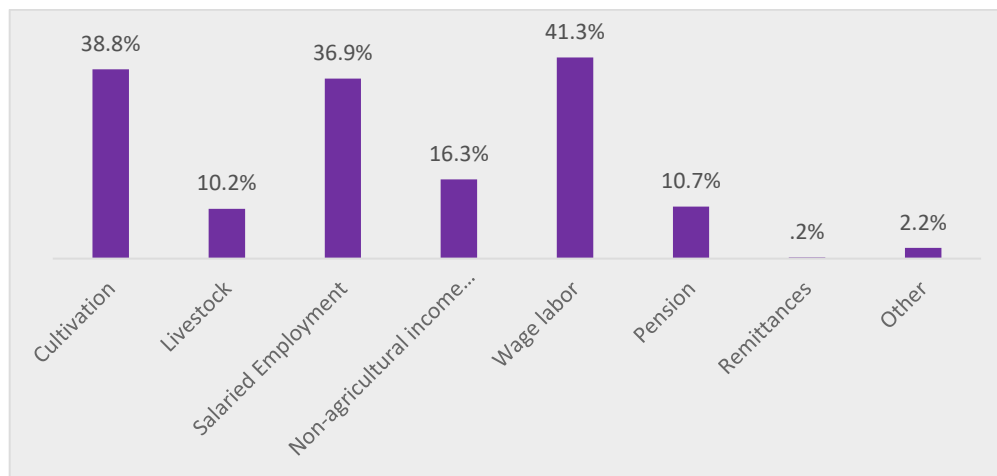
HDFC Bank has specific requests for project information from the implementing partner. The implementing partner manages the project data mostly in spreadsheets, which include information of the village-level activities conducted, beneficiaries mapped against each of the project activities, expenditures, and so on. In addition, the implementing partner submits to HDFC Bank a yearly progress report on project activities, as well as a strategy for the following year. This document is the primary source of information, providing an overview of the actions carried out, outputs produced, and outcomes attained.

The impact of MYRADA activities was evaluated using four criteria: relevance and convergence, impact and effectiveness, sustainability, and replicability. This is backed up by the creation of a Holistic Rural Development Index (0) based on selected indicators. The impact (Table 11) of each activity has also been calculated and classified as high, medium, or low impact. The annexure goes into greater detail on these.

4. Study Findings

This section provides the demographic profile of the respondents covered in 15 villages of Roorkee and Haridwar district of Uttarakhand. Main sources of income include cultivation, wage labour and salaried employment. Agriculture accounts for 38.8% of the total, reflecting the region's agrarian nature. Salaried employment (36.9%) and wage labour (41.3%) show the predominance of both formal and informal jobs in the community, highlighting economic variety. Non-agricultural revenue, which includes business ventures and rental income, contributes 16.3%, demonstrating entrepreneurial spirit. Furthermore, pensions (10.7%) and remittances (0.2%) indicate financial support networks, while "Other" (2.2%) adds further layers to this diverse economic landscape.

Figure 5: Main Sources of Income (N-412)



The literacy rate of respondents stood at 86%. The education level of respondents ranges from illiteracy (13.8%) to various levels of formal education, including those with practical knowledge but no formal education (8.3%), individuals educated up to the 5th standard (11.4%), 6th to 8th standard (17.7%), 9th to 10th standard (22.3%), and 11th to 12th standard (11.9%).

Scheduled Castes (SC) account for 35.2% of the total, demonstrating the prevalence of marginalised populations. Scheduled Tribes (ST) account for 0.2% of the population. The majority, or 50.2% of the population, is classified as Other Backward Classes (OBC), demonstrating social variety. 14.3% of the population falls within the General group. On the economic front, 6.1% are classed as Antyodaya, while 35.0% are classified as Below Poverty Line (BPL). A sizable proportion, 47.8%, is designated as Above the Poverty Line (APL), showing some economic stability. Notably, 11.2% lack a ration card, indicating potential limitations in access to essential social services.

Figure 6: Educational Qualification wise distribution of sample (N-412)

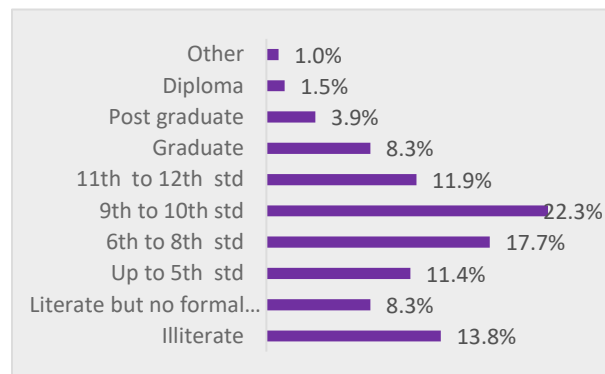


Figure 7: Caste and Income categorisation sample (N-412)

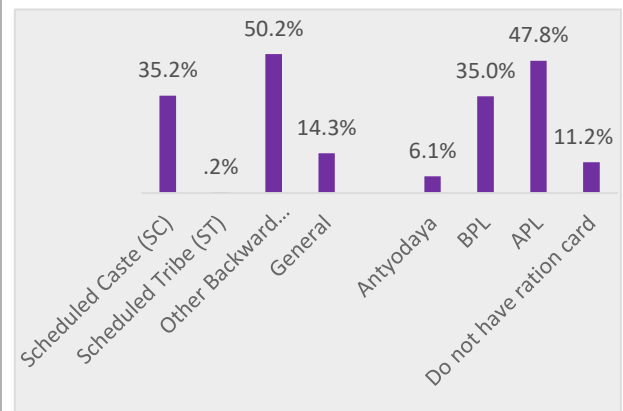


Table 5: Quantum of Activities under each activity category of four thematic areas

Activity Category	Activities	Nos. (as provided by IA)
NRM		
Irrigation Management	Drip Irrigation	Info not provided by IA
Water Management	Pond Renovations	5
	Hand pump installed	46
	Pre & post water testing	129
Farm Management	Farm Bunding	Info not provided by IA
Clean Energy	Solar Lights (Street)	Info not provided by IA
	Solar Fencing	180
	Solar Dryer	1
	Biogas units	10
ST&LE		
Agriculture Training and Services	Demo Plots	200
	Capacity building trainings on field crop	450
	Vegetable and turmeric promotion	50
	Support for agricultural tools	115
Skill and Entrepreneurship Development	SHG formation	52
	Capacity building and enterprise support to SHGs	21
	Digital literacy for youth	Info not provided by IA
Livestock Management	Cattle Health Camp	8
	Cattle Vaccination	3440
	Establishment of milk collection centres	7
H&S		
Health	ASHA training on NCD	46
	Screening camp for NCD	45
	Awareness activities	Info not provided by IA
	Jal Minar constructed	8
	Kitchen gardens constructed	Info not provided by IA

Sanitation	Soak Pits	Info not provided by IA
	Awareness Campaigns	Info not provided by IA
PoE		
Educational Institutions Development	School Building Renovation	22
	BaLA	Info not provided by IA
	Digital classroom	10
	Classroom Furniture	Info not provided by IA
	Science Lab Equipment	Info not provided by IA

(Source: Project MIS from Implementing Agency (IA))

The following sub-sections provide details on the findings in each of the four thematic areas.

4.1. Natural Resource Management

Ambuja Cement Foundation, as part of HDFC Bank's CSR initiative, undertook various activities in the Natural Resource Management thematic area to promote sustainable utilisation and conservation of resources. They implemented initiatives such as solar fencing to prevent encroachment and protect natural resources. Additionally, they facilitated the installation and repair of household handpumps and community taps to ensure access to clean and safe drinking water. Solar-based Jal Minar (community water tanks) were installed as a reliable and sustainable water source. The Foundation also focused on constructing and repairing community ponds to provide a stable drinking water supply, and conducted pre and post water testing to ensure water quality. Solar street lights were installed to promote energy efficiency and enhance community safety. Support was provided for the implementation of household biogas units and solar dryers for common facility centres. Furthermore, they promoted turmeric cultivation as part of sustainable resource management. These initiatives collectively aimed to preserve natural resources and promote sustainable practices for the benefit of the community.

The Natural Resource Management activities undertaken by Ambuja Cements Foundation had diverse impacts. According to the following figure, these activities had a moderate impact on land/crop productivity, resulting in increased adoption of crop diversification and subsequently higher income for the farmers. Additionally, the foundation achieved a significant impact in terms of improving access to farm management infrastructure.

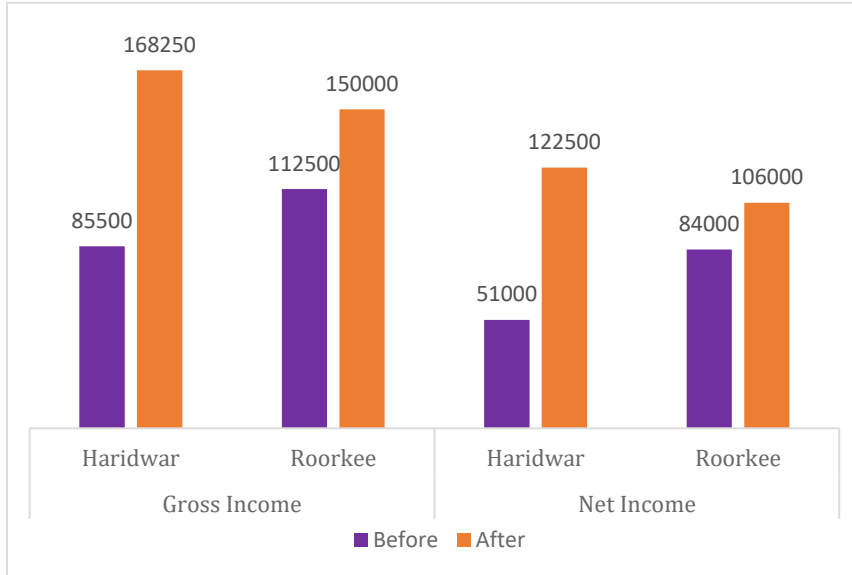
The project also had a high impact on the adoption of clean energy by farmers, which undoubtedly benefited them. Furthermore, it greatly increased access to agricultural training and services, thereby enhancing the skills and knowledge of the farmers.

However, despite these positive outcomes, the project was not able to effectively persuade farmers to adopt new and improved farm practices.

4.1.1. Income from agriculture:

Through the Seed and Agri Tool Bank, irrigation support, promotion of organic fertilizers, training on innovative cultivation methods, crop diversification, and farm bunding with solar fencing, HDFC Bank and Ambuja Cement Foundation are driving positive change in the agricultural sector and helping farmers achieve sustainable and prosperous livelihoods. Overall, these interventions by

HDFC Bank aim to empower farmers, improve agricultural practices, and enhance income generation in a sustainable manner.



The beneficiaries reported a net change in median income of Rs. 71500 in the Haridwar District and Rs. 22000 increase in Roorkee District.

The data from respondents revealed a positive impact of HDFC Bank's interventions, facilitated by Ambuja Cement Foundation, on income growth. Key findings include: **48%** attributed increased income to HDFC Bank's interventions in **seeds and**

tools, **28%** acknowledged the impact of **irrigation** interventions, **45%** recognised the influence of **organic farming interventions**, **41%** identified the positive effect of **farming technique interventions (e.g., SRI, creeper farming)**, and **29%** attributed income growth to **agricultural installations (e.g., green nets, farm bunding)**.

Figure 9: Reasons for increase in income (N-69)

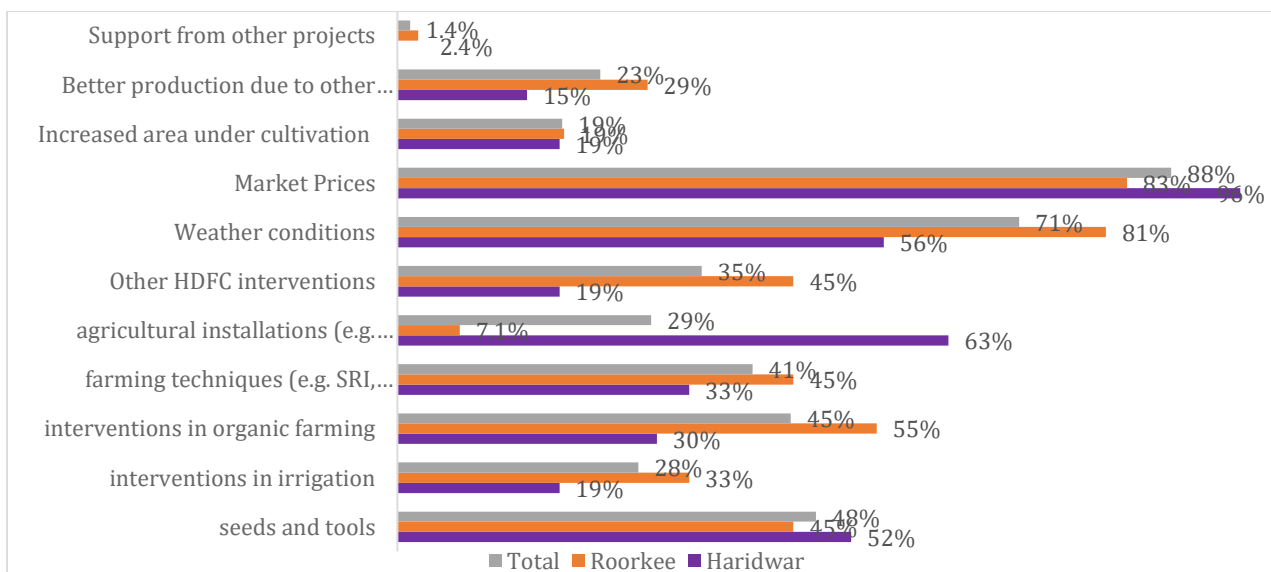


Figure 10: HRDP interventions that contributed to increase in income

Intervention	Paddy	Wheat	Sugarcane
Seed and Agri Tool Bank	50%	51%	33%
Irrigation interventions	17%	26%	13%
Shivansh and Azolla	50%	49%	54%
Training/demonstration of SRI cultivation method, Creeper farming	56%	40%	51%
Crop diversification	33%	42%	49%
Agricultural installations- Farm bunding	44%	35%	26%

40% of the total beneficiaries have reported a **rise in production** after adopting crop diversification and **50%** of them have reported **increase in income**.

4.1.2. Use of clean energy solutions

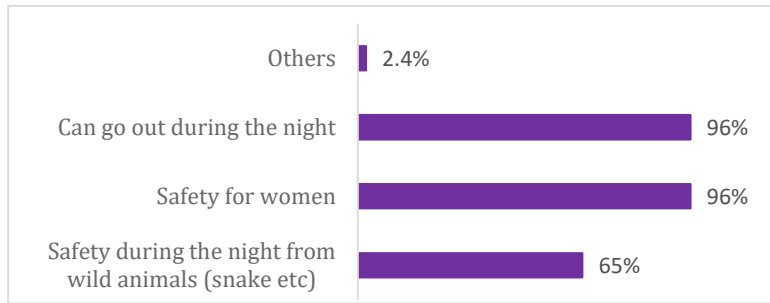
The purpose of clean energy solutions like solar street lights and biogas was to reduce carbon emissions of a village and provide sustainable and financially sound alternatives to villagers.

Solar energy has gained significant traction and has been rapidly growing in India in recent years. The country has been actively promoting solar power as part of its strategy to diversify its energy mix, reduce carbon emissions, and enhance energy security. Given the energy needs of Indian villages and the amount of power cuts, installation of solar street lights has been a boon for the community. **96% of the community has received a higher sense of mobility** during night time and **96% of women have felt more safe** and secure in stepping out. Villages located in the Bahadarabad block of Uttarakhand complained about snakes in the region. With HDFC’s solar street light initiative, a **higher visibility allowed safety from wild animals** including but not limited to snakes.

Image 2: Solar powered street lights



Figure 11: Perceived benefits solar street lights (N-167)



Biogas Unit installed in the Roorkee district of Uttarakhand left **90% of its users fully satisfied**. With almost every other villager owning a cow, the amount of methane generation after decomposition of cow manure was skyrocketing. Installation of biogas units have provided a way to reduce this greenhouse gas and provide a cost-effective way of cooking food. With **50 % of the users reporting a per month savings of Rs. 1100**, the benefits of using a biogas unit extend to much more. Homemakers have reported better health outcomes in terms of improved breathing and reduction in throat aches after switching from traditional chulhas to biogas chulha.

Figure 13: Perceived benefits of Biogas Unit (N-10)

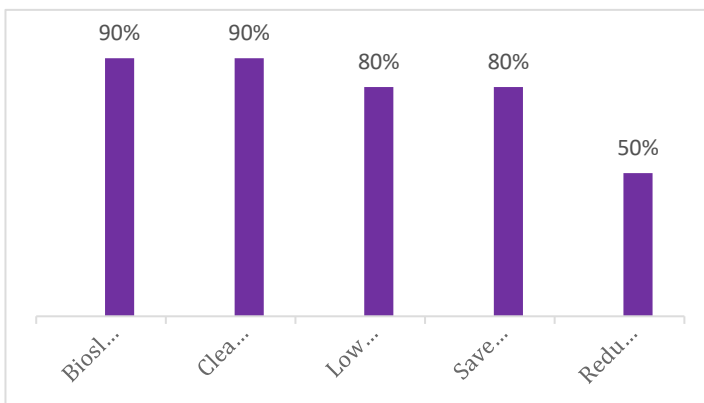
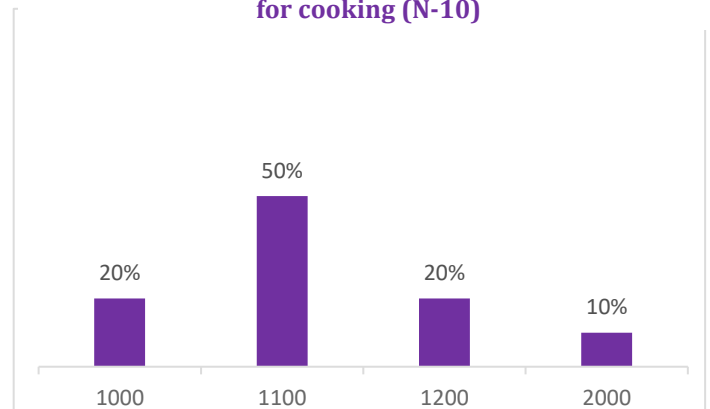


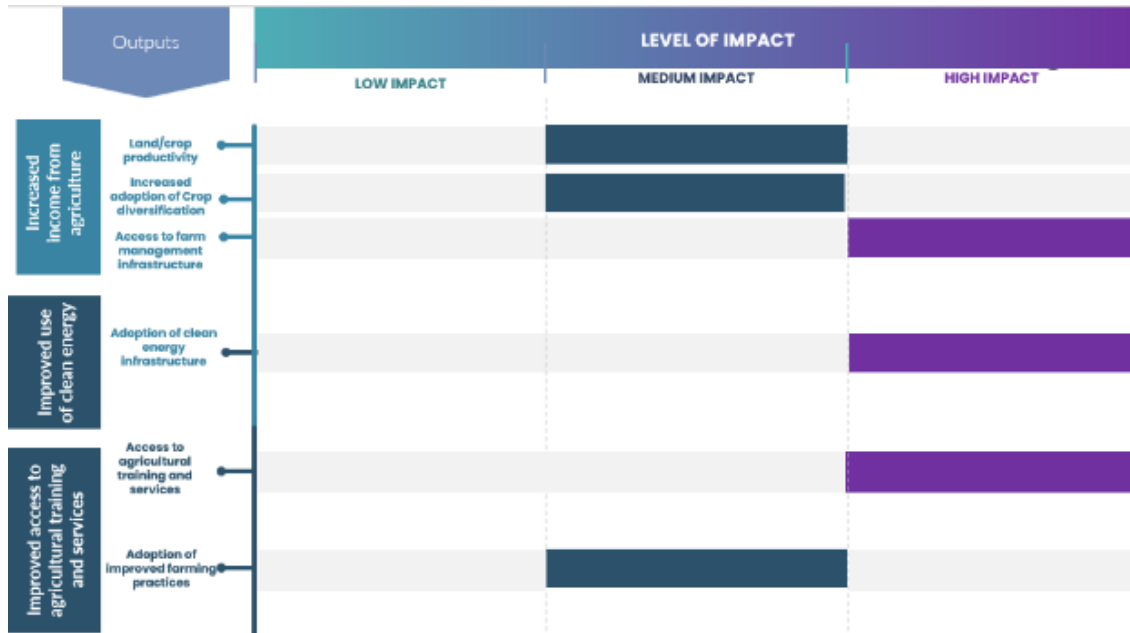
Figure 12: Savings/month (in Rs.) by using biogas chulha for cooking (N-10)



Villagers have started using the residue from the plant called bioslurry as manure for their farms. This has **discouraged the use of chemical fertilisers by 70%** of the users and caused for a shift to organic farming. **90% of the users have reported improvement in soil health and yield productivity after using bioslurry.**

4.1.3. Impact Observation

Figure 14: An overview of project effectiveness and impact in Natural Resource Management



Ambuja Cements Foundation's Natural Resource Management actions has a wide range of impacts. According to Figure 14, these initiatives had a moderate influence on land/crop production, resulting in enhanced crop diversification and, as a result, higher income for farmers. Furthermore, the foundation had a substantial impact on enhancing access to farm management infrastructure.

The project also had a significant impact on farmers' use of sustainable energy, which surely benefited them. Furthermore, it dramatically enhanced access to agricultural training and services, boosting farmers' skills and knowledge. Despite these favourable results, the study was unable to persuade farmers to adopt new and improved farming practises.

4.1.4. Case Study

Empowering Sustainable Living: HDFC Bank's Biogas Unit Transforms Lives in Majri Village, Roorkee, Uttarakhand

In 2019, HDFC Bank installed a biogas unit in Majri Village, Uttarakhand, benefiting Mamtesh and her family of six. With five cows producing 20kg of cow dung daily, the biogas unit aimed to improve their cooking experience, reduce expenses, and promote sustainability.

Previously, the family relied on wood-burning chulhas, causing discomfort, heat, and respiratory problems. They also spent Rs. 1130 per LPG cylinder, and wood was procured from farms. The biogas unit transformed their lives.

The construction of the unit took a month, with HDFC Bank bearing all expenses. Now, the biogas chulha serves as the family's main cooking fuel. It has improved their cooking experience and health significantly, eliminating the discomfort and respiratory issues caused by the wood chulha. Financially, the family saves around Rs 7000 per year, which can be allocated to other essential needs.



The biogas unit's environmental impact is noteworthy. It produces bioslurry as a byproduct, which HDFC Bank helps store and transport using plastic drums. The bioslurry acts as organic manure, reducing the family's consumption of urea and di-ammonium phosphate (DAP) fertilisers by half. Previously spending Rs. 1740 annually on these fertilisers, they now save this amount.



The emotional impact on Mamtesh and her family is profound. The biogas chulha has brought comfort, improved well-being, and instilled a sense of pride and self-sufficiency. They have embraced sustainable living practices, knowing their actions positively impact the

environment and future generations.

In conclusion, HDFC Bank's installation of the biogas unit in Majri Village has transformed Mamtesh's family. It has improved their cooking experience, saved them money, and enhanced their emotional well-being. The bioslurry has reduced the need for chemical fertilisers, contributing to sustainable agriculture. This initiative showcases the power of renewable energy to create positive change in rural communities, fostering empowerment and environmental consciousness.

4.2. Skill Development and Livelihood Training

Ambuja Cement Foundation, as part of HDFC Bank's CSR initiative, undertook various activities in the Skill and Livelihood Enhancement thematic area. Their efforts included promoting diversified vegetable cultivation to improve farmers' income and market access. Training programs and field demonstrations were organized to educate farmers on innovative techniques such as System of Rice

Intensification (SRI) and System of Wheat Intensification (SWI), fostering sustainable farming practices. Additionally, drip irrigation demonstrations were conducted to showcase water conservation methods and enhance crop yields. The Foundation also provided support for livestock treatment and vaccination, benefiting farmers engaged in animal husbandry. Another focus area was the promotion of turmeric cultivation to address crop damage caused by wild animal attacks. By encouraging farmers to grow turmeric, which acts as a natural deterrent, the Foundation aimed to increase their income and safeguard their crops. Ambuja Cement Foundation further extended support through the provision of agriculture tools, enabling farmers to improve their productivity and efficiency. Capacity building activities, including training sessions and exposure visits, were implemented to empower farmers with the latest farming techniques and market insights. The Foundation also established micro-enterprise units, offering training and market support to women entrepreneurs, thereby creating sustainable livelihood opportunities. Strengthening local institutions such as Village Development Committees (VDCs) and Village Health, Sanitation, and Nutrition Committees (VHSNCs) was another key aspect, achieved through capacity building initiatives and collaborations with apex institutions. Ambuja Cement Foundation celebrated International Women's Day by conducting workshops to acknowledge women's achievements and promote gender equality. Through these endeavours, the Foundation aimed to empower individuals, promote sustainable agriculture practices, and foster the overall development of local communities.

4.2.1. Access to Agriculture training and services

HDFC Bank provides a comprehensive agricultural training program that encompasses various interventions aimed at enhancing farming practices.

The training covers topics such as the application of organic manure, the establishment of Azolla units for sustainable farming, the importance of timely application of fertilisers and insecticides, and the adoption of conservation agriculture practices. Participants also benefit from exposure visits to successful farms, hands-on training in farm techniques, and demonstrations in plots. Additionally, the training includes modules on PoP (Package of Practices) and SRI (System of Rice Intensification) methods, as well as nature farming techniques. Overall, HDFC Bank's agricultural training program equips farmers with valuable knowledge and skills to improve their farming practices and achieve sustainable agricultural growth. About **79% beneficiaries** reported training in **Application of manure**, **90% reported** timely **application of fertilizer and insecticides** and **63% reported conservation agricultural practices**.

Figure 16: Agriculture practices learned through HDFC trainings and currently practicing (N-67)

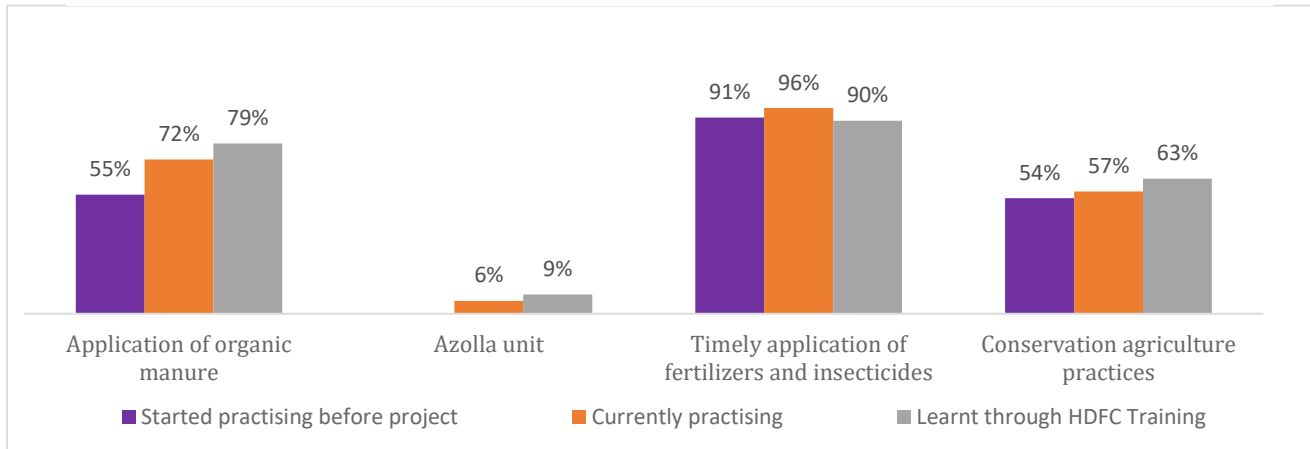
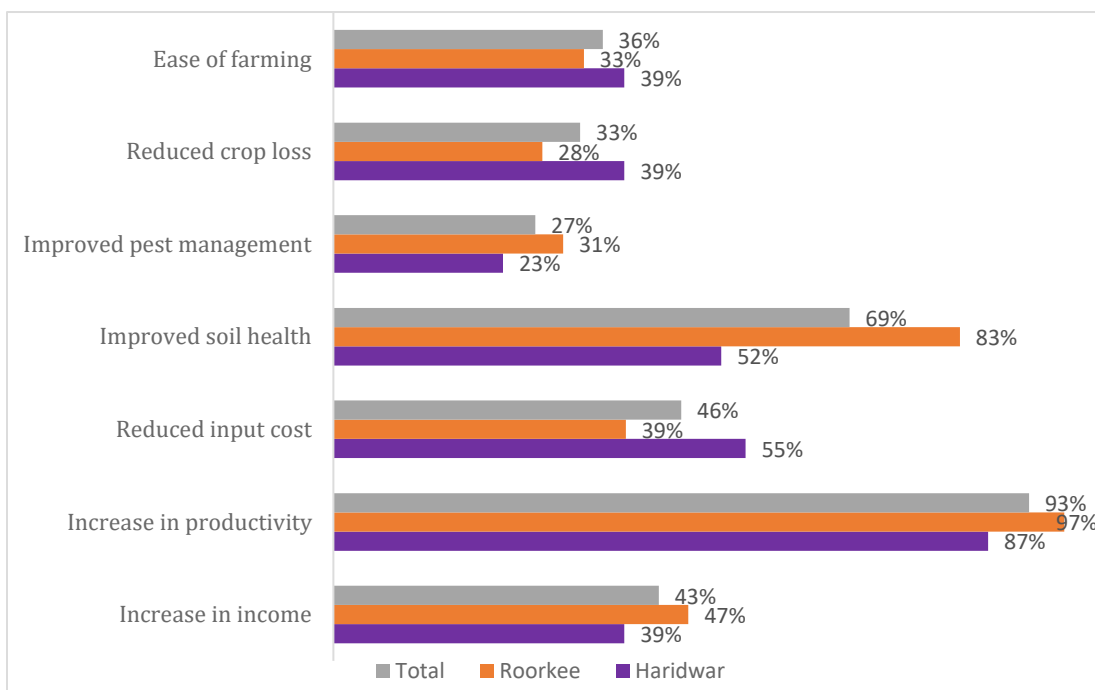


Figure 15: Perceived improvements due to adoption of agricultural practices (N-67)



93% of the total beneficiaries saw an increase in productivity after following the agricultural practices taught. A large proportion **83% of Roorkee farmers saw improvement in soil health**. Added to this were benefits reaped in reduction of input cost and increase of income.

4.2.2. Economic empowerment through collectivisation

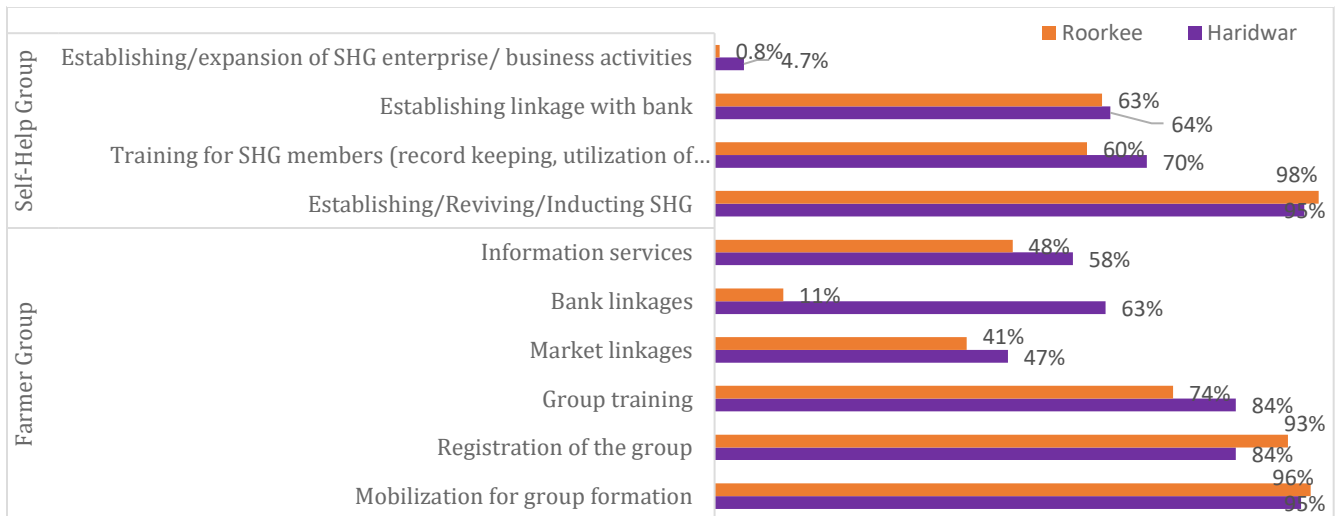
Under the establishment, revival, or induction of Self-Help Groups (SHGs), activities include training for members on record keeping, savings utilisation, loans, and repayments. Linkages with banks are established to enhance financial access. SHGs also focus on expanding their enterprises or business activities for income generation.

In Farmers' Groups, efforts begin with mobilisation for group formation and registration. Members receive training on farming, market linkages, and modern practices. Linkages with banks enable access to credit facilities, while information services provide updates on government schemes, weather forecasts, and best practices. These activities aim to empower individuals, promote financial inclusion, and enhance

Image 3: FGD of SHG involved in Jewellery Making



Figure 17: Support provided for groups through HRDP (SHG N- 292, Farmer Group N-46)



agricultural productivity.

Farmer's group have not only initiated savings but has also helped in sharing of machines, spray tanks etc. It has boosted the knowledge pool of the farmers thereby reducing the risks and increasing market information, fostering a strong linkage.

SHG have served as a boon to women with rise in savings, peer learning encouraged income generation and confidence boosted. Along with this is the added benefit of getting loan at minimal interest amount.

Figure 18: Perceived Benefits from SHG and Farmer's Group (SHG N-292, Farmer Group N-46)

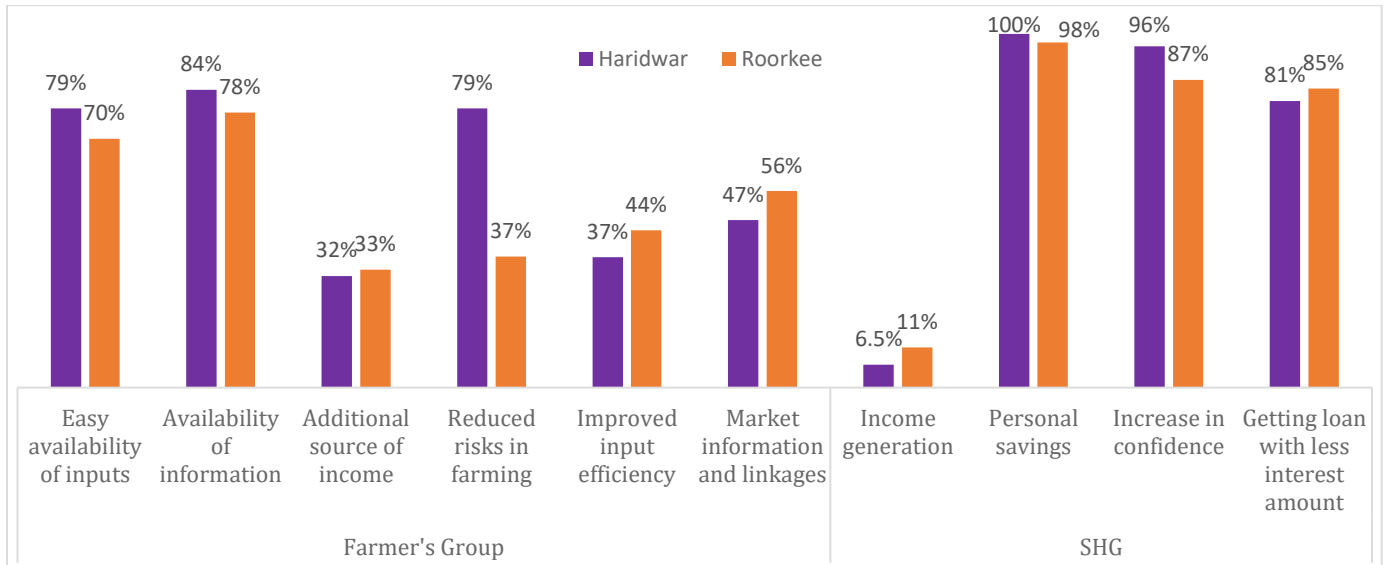
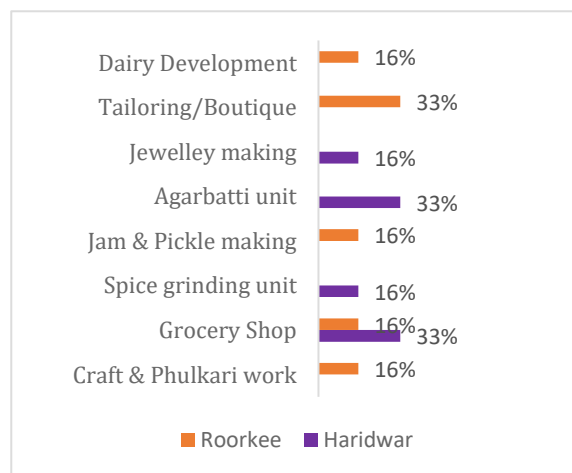


Image 4: Jewellery making



Figure 19: Skill and entrepreneurship development training services



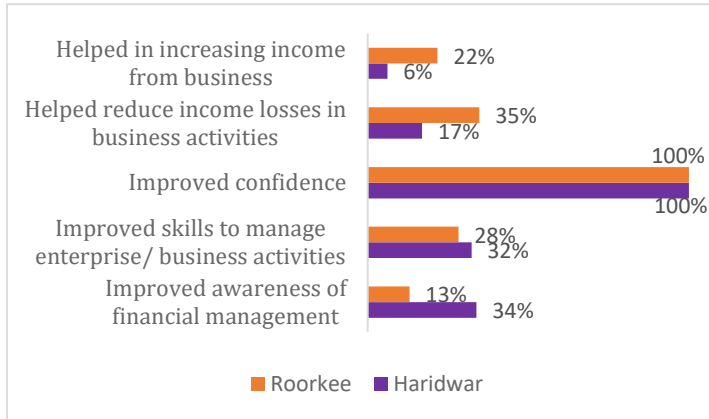
4.2.3. Skill and Entrepreneurship Development

In the realm of Skill and Entrepreneurship Development, a range of activities were undertaken to empower individuals and foster economic growth. These activities included establishing linkages with banks and firms to facilitate access to financial resources and market opportunities. Enterprise groups were formed to encourage collaboration and knowledge-sharing among like-minded individuals. Business management training programs were conducted to equip entrepreneurs with the necessary skills and knowledge to manage their enterprises effectively. Marketing support was provided to help entrepreneurs promote and sell their products or services. Additionally, information regarding production techniques and practices was shared to enhance productivity and efficiency. These comprehensive activities aimed to nurture entrepreneurship, enhance employability, and create sustainable livelihood opportunities.

The beneficiaries of the Skill and Entrepreneurship Development initiatives reported positive outcomes such as regular income generation, increased savings,

business expansion, and improved business skills. These initiatives enabled them to start their own businesses, leading to increased income and the ability to save for the future.

Figure 20: Perceived benefits of skill development training (N-111)



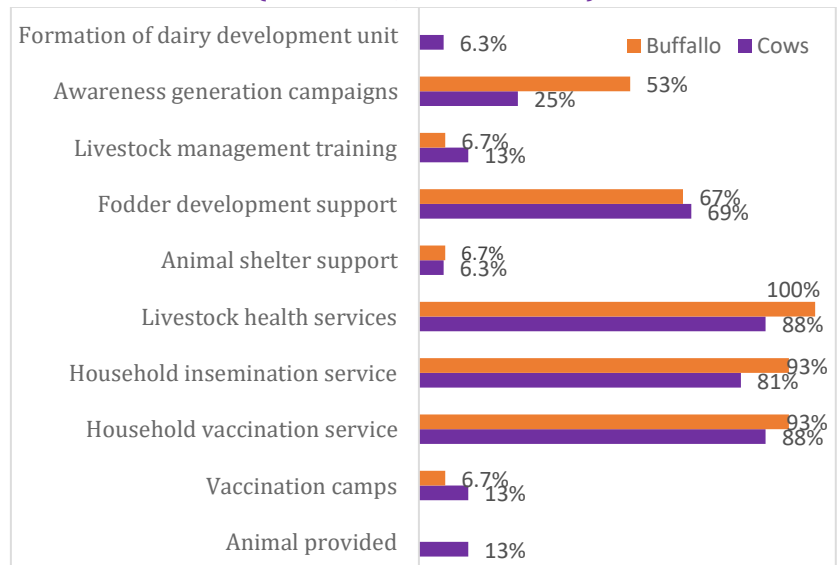
The impact remains limited when it comes to encouraging people to take up new activities. Beneficiaries found it hard to push products into the market as some were questioned over qualification proofs in order to get fair price and some felt helpless on finding a place for their product in the consumer market. However, skill training has instilled confidence in these individuals and repeated exposure and help in different aspects of business could lead to

sustainability.

4.2.4. Livestock Management

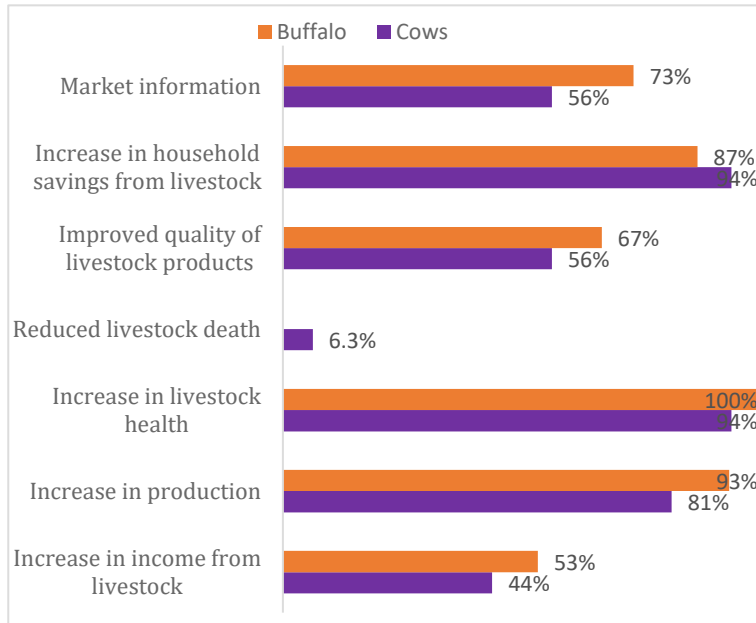
As part of HDFC Bank's CSR initiative, Ambuja Cement Foundation carried out various activities to promote livestock management in Roorkee district of Uttarakhand. They organised vaccination camps and provided household vaccination services to ensure the health and well-being of animals. Additionally, they offered household insemination services and livestock health services. Support was extended to animal shelters, and efforts were made towards developing fodder for livestock. Livestock management training programs were conducted,

Figure 21: Livestock management services availed through HRDP (Cows N-16, Buffaloes N-15)



and awareness generation campaigns were launched to promote responsible animal care and welfare. These activities aimed to enhance animal health, promote proper management practices, and raise awareness about the importance of animal welfare in the community.

Figure 22: Perceived benefits of HDFC intervention (Cows N-16, Buffaloes N-15)



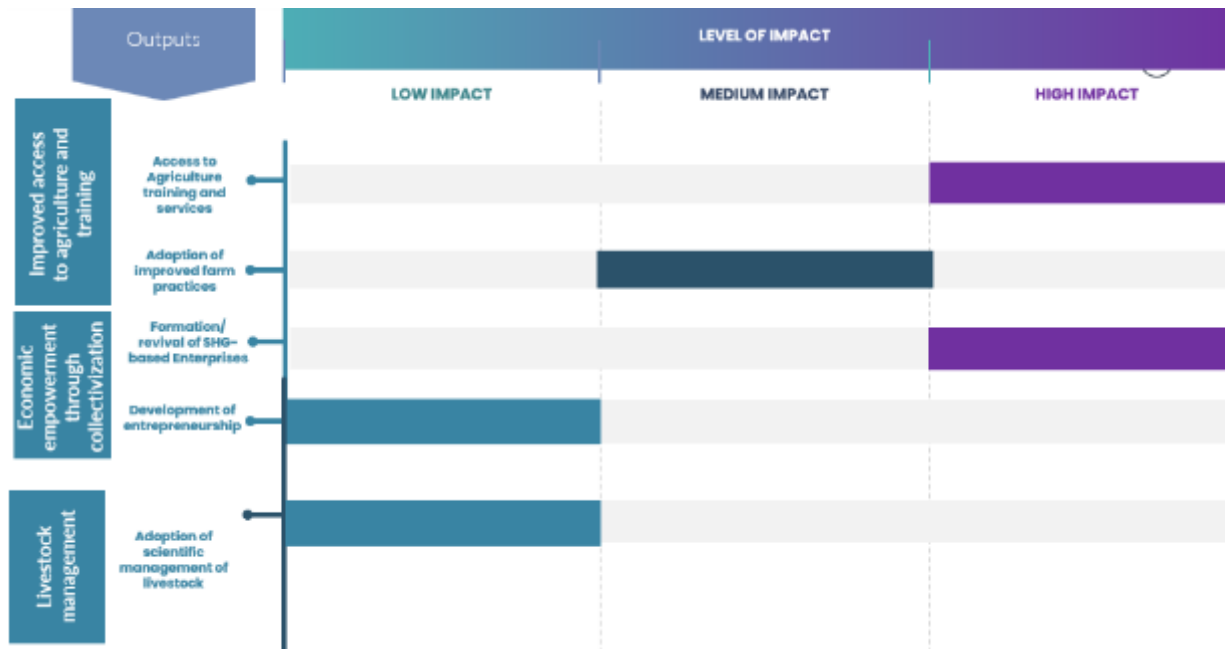
90% livestock owners saw an increase in **livestock health**. Cow owners experienced a low mortality rate. Over **55%** respondents received benefits in the form of **better products**; about **90%** of the owners reported increased **savings**. Market information and health camps led to higher awareness amongst the beneficiaries and **production increased to about 80% for cow owners and 93% for buffalo owners**.

4.2.5. Impact Observation

Skill and livelihood enhancement initiatives of HDFC bank have shown most successful outcomes in providing raining to farmers and formation of SHGs. With farmers and women participation in farmer’s group and SHGs, savings showed an upward rise coupled with benefits of easy accessibility of loans. Adoption of improved farm practices led to positive medium level impact to the beneficiaries.

The project successfully enhanced the formation and revitalization of SHG-based enterprises, leading to significant benefits for the female population. However, it fell short in fostering entrepreneurship in the area. While the skill training and livelihood enhancement activities were fruitful, they did not effectively promote the adoption of scientific management practices in livestock.

Figure 23: An overview of project effectiveness and impact on skill training and livelihood enhancement



4.2.6. Case Study

From Spice Grinders to Dream Achievers: Empowering Women for a Brighter Future

Under the HDFC Bank's CSR initiatives, the Ambuja Cement Foundation (ACF) played a pivotal role in the development of the Tez Self Help Group (SHG) in Missarpur in 2018. Comprising 11 members, the SHG embarked on a journey towards economic empowerment. Each member saved Rs. 100 per month, showcasing their commitment and determination to improve their livelihoods. Recognising the potential of these women, HDFC Bank stepped in to provide the necessary support and resources to fuel their entrepreneurial aspirations.

In 2020, seizing the opportunity to capitalise on the local market demand, six members of the Tez SHG ventured into the establishment of a Spice Grinding unit. With the backing of HDFC Bank, the women received essential equipments including Spice Grinding machines, Boiler, Dryer, and weighing machines. This support served as a catalyst, giving the SHG members the push they needed to start spice grinding and earn a sustainable livelihood. They initially focused on turmeric grinding, procuring high-quality turmeric from farmers in Missarpur, Shyampur, and Bhagwanpur villages in bulk quantities.

To expand their reach and create a viable sales channel, the Tez SHG established a presence in Bhu Amrit, Bhagwanpur. They marketed and sold a range of products including turmeric, garam masala, dhaniya powder, laal mirch, and kali mirch. Moreover, they catered to the demand within their own village of Missarpur. Taking full responsibility for the input costs and electricity expenses, the members effectively managed their operations and utilised the profits to reinvest in more raw materials, pay their bills promptly, and save any remaining surplus in the SHG account.

The success of their spice grinding business allowed them to expand further. Recognising the market potential, the SHG members analysed the demand and decided to invest in a wheat grinding machine. To finance this expansion, they availed a loan of Rs. 50,000. With their hard work, dedication, and sound business acumen, they were able to generate a monthly average profit of Rs. 12,000. The profitability of their venture not only enabled them to repay the loan but also created a sustainable stream of income for the members. This success story instilled confidence and pride within the Tez SHG, empowering the women to collaborate, uplift their socioeconomic status, and pave the way for a brighter future. Through the SHG model and the support extended by HDFC Bank, these women were able to transform their lives and establish a sustainable livelihood for themselves and their families.



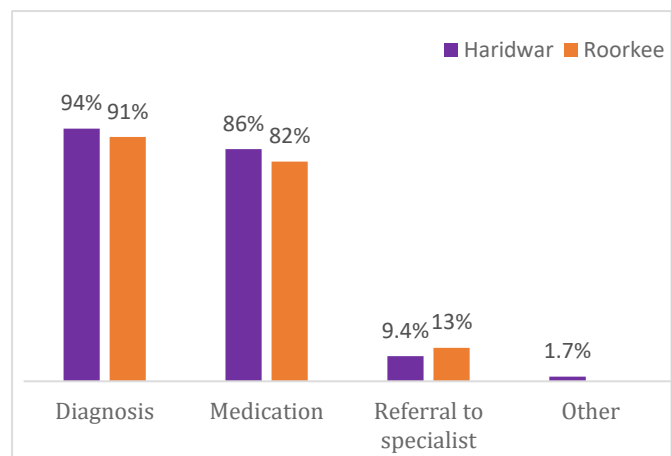
4.3. Health and Sanitation

Under HDFC Bank’s CSR initiative, the Ambuja Cement Foundation carried out various activities to promote awareness, improve sanitation and health. They focused on renovating village ponds and constructing hand pump platforms and soak pits with drainage systems. Additionally, they developed wall paintings addressing water conservation, social issues, and human-animal conflicts. To provide sustainable drinking water solutions, solar-based community-managed drinking water stations called Jal Minar were installed, and new hand pumps were also installed. Pre- and post-water testing and hand pump colour coding were carried out to ensure water quality. Refresher training sessions were organised for ASHA workers on non-communicable diseases (NCD) and menstrual hygiene management (MHM). Screening camps were held for the 30+ population, and incentives were provided to ASHA workers for referrals, linkages, follow-ups, and attending monthly meetings. Review meetings were conducted with ASHA workers to assess progress. IEC (Information, Education, and Communication) materials such as menstrual education kits, pamphlets, and flip charts were developed for the MHM program. Furthermore, support was extended to women for creating Poshan Vatikas, which are health and nutritional gardens. These activities collectively aimed to enhance community well-being and address important social and health issue

Figure 24: Services available at HDFC supported camps/clinics (N-238)

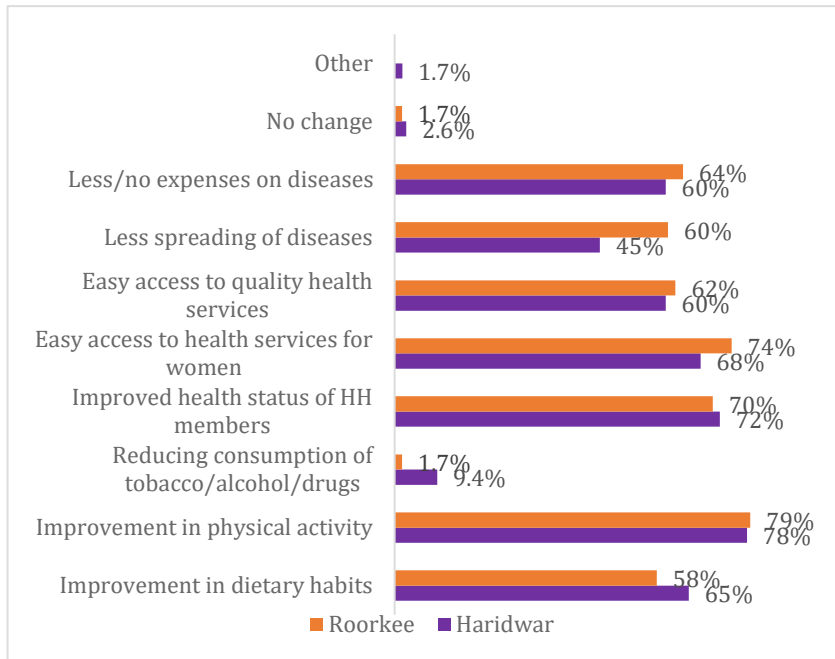
4.3.1. Health infrastructure and services

HDFC Bank provided a range of health services, ensuring beneficiaries had access to essential healthcare. Health camps and sessions were organised to offer specialised services and screenings, focusing on specific health concerns. Beneficiaries participated in hygiene-related awareness sessions to learn about the importance of maintaining good hygiene practices for overall health and well-being. Diagnosis services were provided, allowing individuals to receive accurate assessments and prompt treatment.



Medication was made available to beneficiaries, ensuring they had access to necessary medications for their healthcare needs. In cases where specialised care was required, HDFC Bank facilitated referrals to specialists, ensuring beneficiaries received appropriate medical attention and expertise. Overall, through these health services, HDFC Bank improved the accessibility and affordability of healthcare for its beneficiaries, promoting better health outcomes and well-being.

Figure 25: Perceived benefits of HDFC bank supported health camps/clinics (N-238)



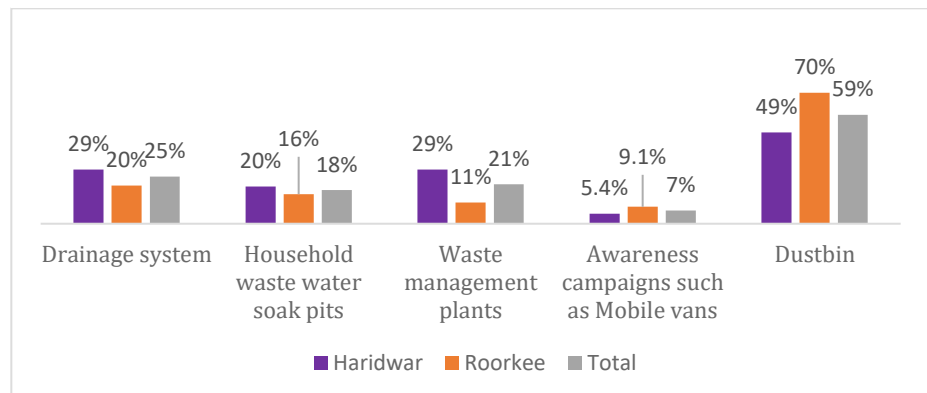
The health benefits reported by beneficiaries who availed HDFC Bank's health services highlight significant improvements in various aspects of their well-being. A majority of beneficiaries in both **Haridwar (65%) and Roorkee (58%) reported an improvement in their dietary habits**. Similarly, a significant percentage of beneficiaries experienced improvements in **physical activity, with 78% in Haridwar and 79% in Roorkee**. **Improved health status of household members was reported by 72% in Haridwar and 70% in Roorkee**, indicating positive

outcomes. Additionally, beneficiaries appreciated **easy access to health services for women, with 68% in Haridwar and 74% in Roorkee**. **The availability of quality health services was acknowledged by 60% in Haridwar and 62% in Roorkee**. These results demonstrate the positive impact of HDFC Bank's health services, contributing to improved lifestyles, better health outcomes, and increased access to quality healthcare for the beneficiaries in Haridwar and Roorkee.

4.3.2. Sanitation infrastructure and services

HDFC Bank has conducted various sanitation activities to improve overall sanitation conditions for beneficiaries. Important services include the establishment of **waste management plants**, utilised by **21%** of beneficiaries, ensuring effective waste management practices. Additionally, **25%** of beneficiaries reported availing the **drainage system**, indicating the implementation of proper drainage infrastructure. The **provision of dustbins**, utilised by **59% of beneficiaries**, has also significantly contributed to promoting proper waste disposal practices.

Figure 26: sanitation services provided by HDFC (N-127)



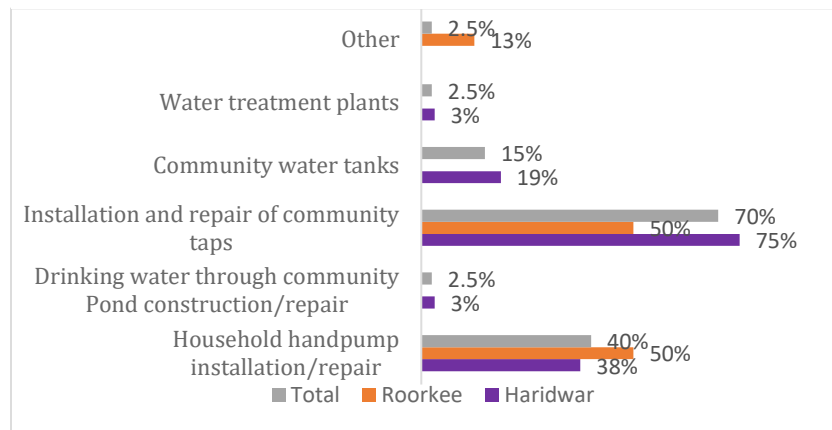
These sanitation activities by HDFC Bank have played a crucial role in improving sanitation conditions and fostering better waste management practices among the beneficiaries.

Additionally, members of the community were taught methods of solid waste disposal, liquid waste disposal and cleanliness practices to be undertaken daily in order to improve overall sanitation of the villages.

4.3.3. Availability and Management of Drinking Water:

HDFC Bank's drinking water management initiatives encompassed various activities aimed at

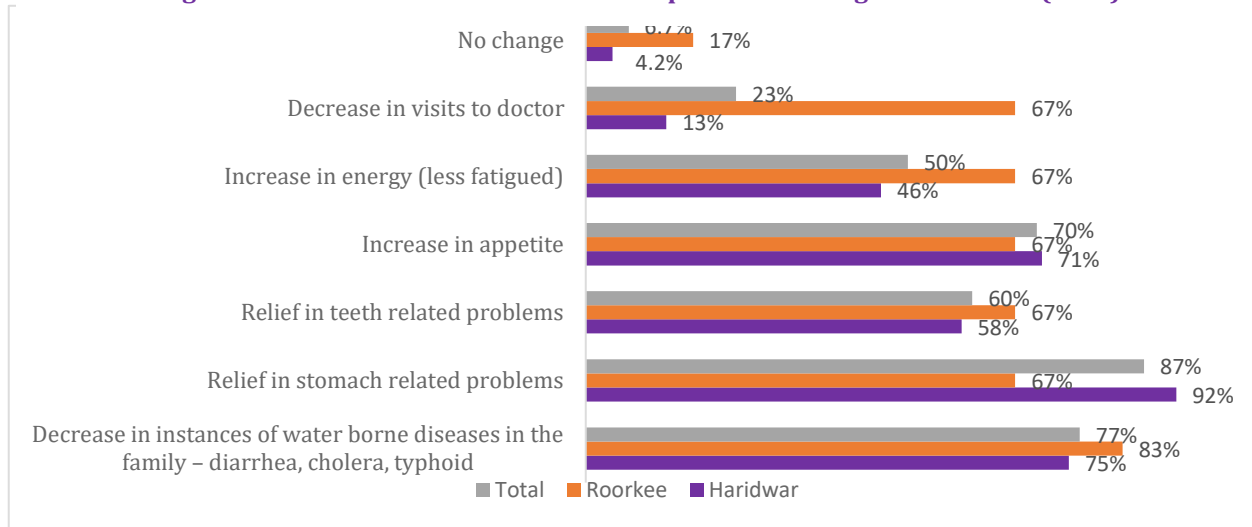
Figure 27: Drinking water management services availed through HRDP (N-40)



ensuring access to clean and safe drinking water. The installation and **repair of household handpumps** as reported by **40% beneficiaries**, created a reliable source of water. Community pond construction and repair projects were undertaken to facilitate the availability of drinking water to larger groups. Additionally, **the installation and repair of**

community taps, as reported by **70% of beneficiaries**, enabled convenient access to clean water for communities. **Community water tanks** as reported by **15% of the beneficiaries** were established to store and distribute water efficiently. Moreover, water treatment plants were set up to ensure the purification of water, making it safe for consumption. Benefits include **decrease in water borne diseases** reported by **83% and 75% of the beneficiaries in Roorkee and Haridwar** respectively. There was a total of **87% relief in stomach problems, 60% reported relief in teeth problems and 70% responded that there was an increase in appetite.**

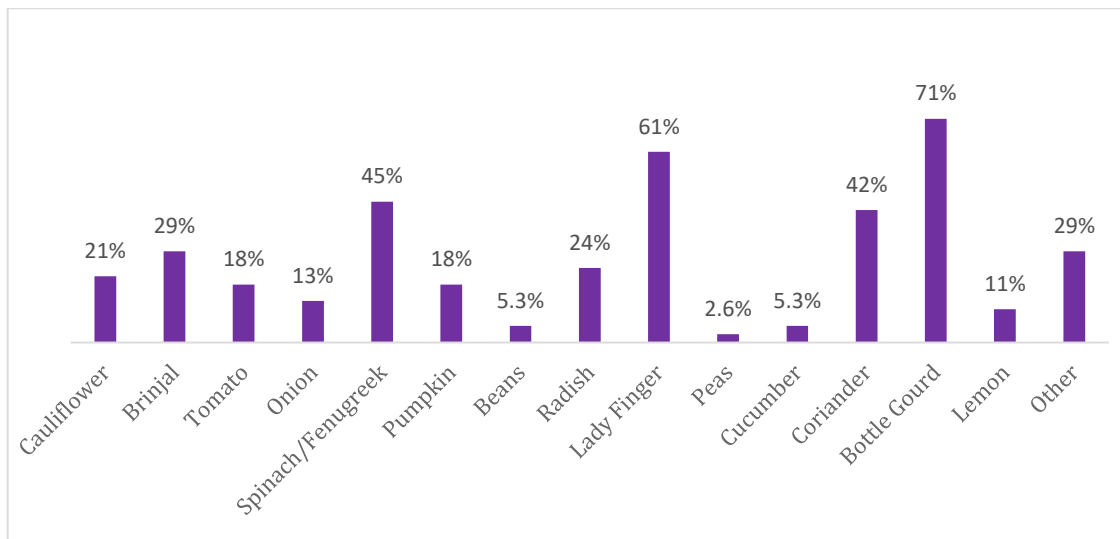
Figure 28: Perceived health benefits of improved drinking water source (N-30)



4.3.4. Kitchen Garden

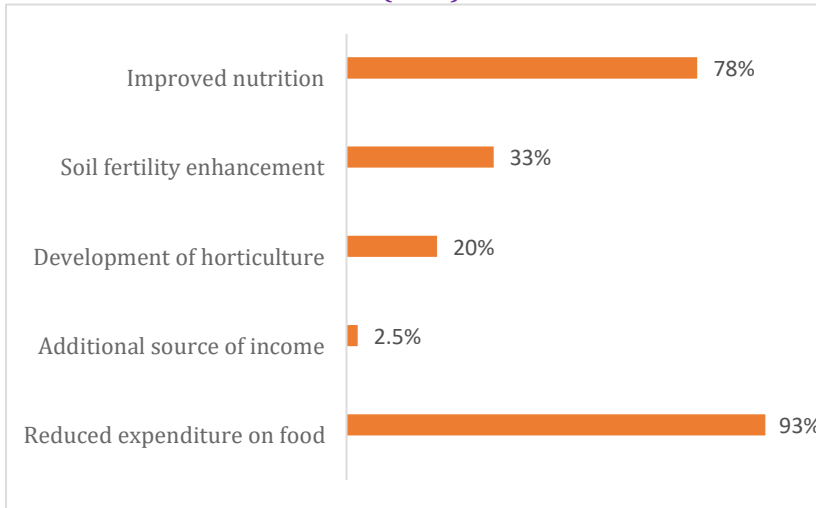
HDFC’s CSR initiative includes creating awareness about the use of kitchen gardens. Beneficiaries were given seeds, training, demonstrations and required manure to cultivate the kitchen garden. 93% of the beneficiaries are using these gardens for self-consumption. Top consumed vegetables include bottle gourd, lady finger and spinach.

Figure 29: Fruits and vegetables consumed from the kitchen garden (N-40)



Primary benefits of kitchen garden include **better health outcomes and reduction in cost of food**. Villagers reported ease of vegetable consumption after set up of garden. **93% of the beneficiaries have reported a reduction in expenditure** of food since project inception with **Rs. 371 saved per week on an average. 90% of the beneficiaries have reported being “fully satisfied”**.

Figure 30: Perceived benefits of HRDP supported kitchen gardens (N-40)

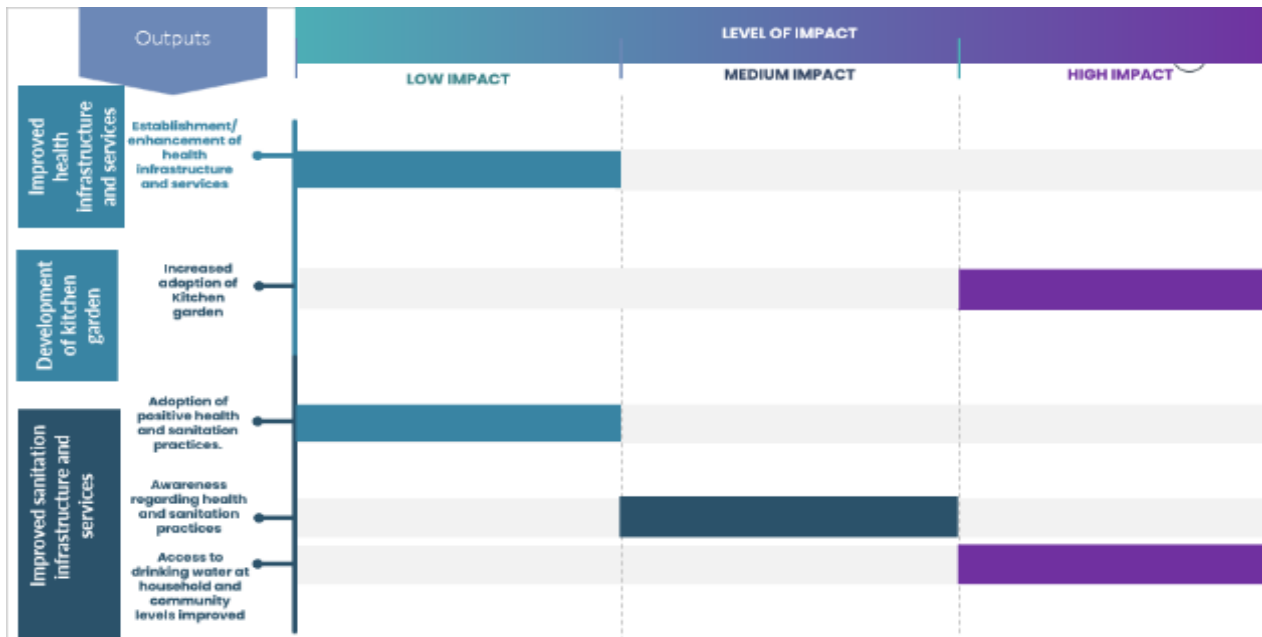


4.3.5. Impact Observation

The activities undertaken by Ambuja Cements Foundation to promote awareness, improve sanitation, and health yielded mixed results. As depicted in the following figure, the project encountered challenges in establishing/enhancing health infrastructure and services, as well as in persuading the community to adopt positive health and sanitation practices.

However, it demonstrated remarkable success in providing clean drinking water to households and fostering the adoption of kitchen gardens within the community. Additionally, it had a moderately positive impact on raising awareness about health and sanitation practices that can benefit the community's well-being.

Figure 31: An overview of project effectiveness and impact in Health and sanitation



Empowering Equality: HDFC Bank's Jal Minar Transforms Lives in Sajjanpur Village, Haridwar

The availability of clean water has brought happiness and a sense of social recognition to the community, alleviating their struggles and restoring their dignity. To ensure sustainability, the community actively participates in maintaining the water tank.

Each household contributes Rs. 10-50, which is used for maintenance and repairs. This fund also covers replacements for parts damaged by wild monkeys, who frequently attempt to destroy the tank.

The Dalit community has provided valuable recommendations for further improvement. They suggest installing a protective plate to prevent tank breakage caused by monkey interference. They also propose installation of an outlet for the discharge of water waste, enhancing the system's efficiency.

In conclusion, HDFC Bank's installation of Jal Minar in Shyampur Village has significantly transformed the lives of the Dalit community. The provision of clean drinking water has not only addressed their basic needs but has also brought happiness and recognition. The project exemplifies the power of sustainable interventions to promote social equality and uplift marginalized communities.

In collaboration with Ambuja Cement Foundation, HDFC Bank installed a solar-powered water tank called Jal Minar in Sajjanpur Village, Haridwar. The project aimed to address the water scarcity faced by the Dalit's Colony, a Scheduled Caste community, due to the prevailing caste system in India.

Prior to the intervention, the Dalit community faced immense challenges in fetching water. The handpumps in their colony did not work, forcing them to borrow water from neighbouring communities. Unfortunately, due to caste discrimination, upper caste communities often refused to provide water to the Dalits, exacerbating their struggle for this basic necessity.

The solar-powered water tank provides a regular supply of clean drinking water to 50-60 households with the capacity of 5000 lts.

Image 5: Solar Water Tank



4.4. Promotion of Education

HDFC Bank has promoted education through various activities. These include renovating school buildings, setting up libraries, providing clean drinking water facilities, supplying classroom furniture, constructing separate washrooms for girls and boys, implementing smart classrooms, and supporting learning materials and sports equipment. Mobilising members and establishing or reviving committees have also strengthened community involvement. These initiatives have significantly contributed to enhancing educational environments and empowering students to excel academically.

Note: Due to survey timeline clashing with closure of schools the number of beneficiaries recorded was limited. An attempt to solve this problem through calling was undertaken; excessive rains and festival at Haridwar served as a bottleneck to fetch contact numbers and get all responses.

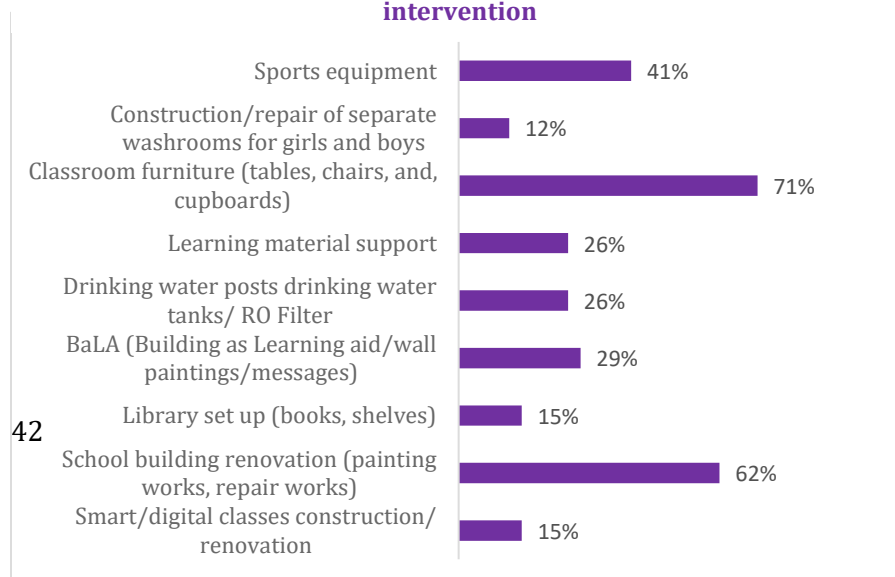
4.4.1. Educational Institutions

The activities undertaken by HDFC Bank to develop educational institutions, including school building renovation, library setup, provision of drinking water facilities, classroom furniture, construction or repair of separate washrooms, and implementation of smart classes, played a crucial role in creating a suitable environment for education.

Renovated school buildings and libraries with books and shelves improve students' access to knowledge, fostering a love for reading and enhancing their overall learning experience. The provision of drinking water facilities promotes student health, reducing illnesses and boosting attendance. Adequate classroom furniture creates a comfortable learning environment, allowing students to concentrate on their studies. Separate washrooms for girls and boys address hygiene and privacy concerns, fostering inclusivity and a conducive learning atmosphere. Smart classes introduce interactive and technology-driven learning, enhancing student engagement and understanding.

Collectively, these activities create a suitable educational environment that positively impacts attendance, grades, and overall academic performance. Students are more likely to be motivated, focused, and eager to learn in an environment that provides the necessary resources and facilities for their educational growth.

Figure 32: Infrastructural services made available through HDFC intervention



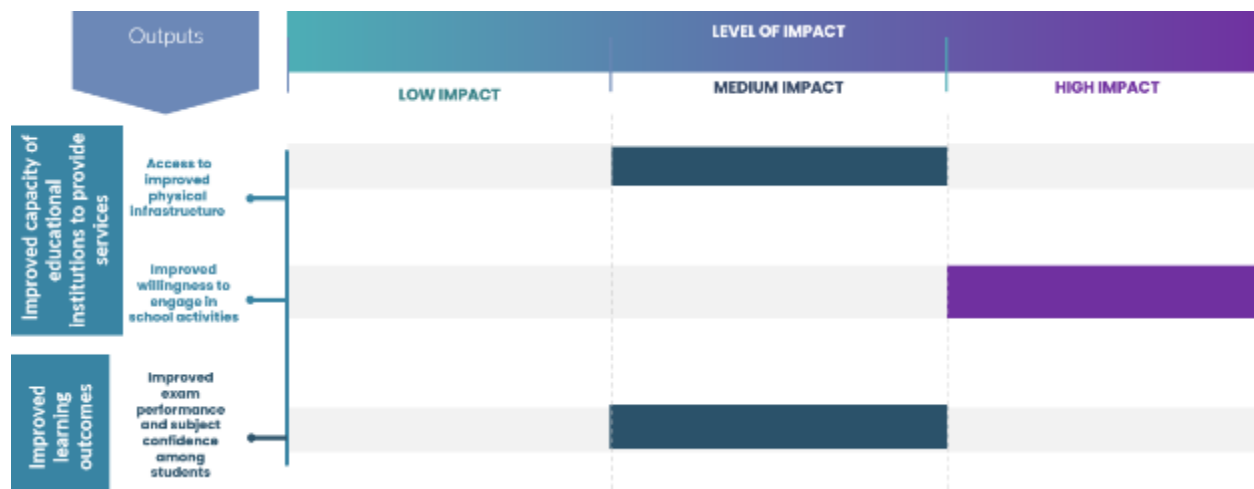
One of the most appreciated interventions of HDFC was **installation of class room furniture** as reported by **71% of the beneficiaries**. About **62% of the respondents** reported **school renovation services**.

Teachers reported a rise in level of confidence of the parents in sending their children to school after renovations were done by HDFC. With these facilities, government schools were able to stand a chance against the private school. This also called to the psychology of students as they felt more included and appreciated in the society. Only problem was faced in functionality of smart classes. Beneficiaries reported a lack of skill to operate the smart class.

4.4.2. Impact Observation

The project implemented by HDFC bank in Uttarakhand had a significant positive impact on education. Through the provision of improved physical educational infrastructure, the project successfully enhanced community access to education. This development played a crucial role in motivating parents and children to actively participate in school activities and prioritize education. Moreover, the project's efforts resulted in notable improvements in average exam performance and subject confidence among students. These positive outcomes are expected to contribute to a more literate and promising future for the children involved.

Figure 33: An overview of project effectiveness and impact in Education



4.5. Holistic Rural Development Index (HRDI)

There are multiple dimensions involved in achieving the goals HRDP that includes agricultural production, generates new jobs, enhances health, increases communication, and provides better living infrastructure.

Based on the design of the HRDP program supported by HDFC Bank, a composite index has been developed called Holistic Rural Development Index (HRDI) that indicates the achievements of the HRDP interventions leading to overall improvements of the results indicators. As, the program interventions varies across projects and geographies, it was not possible to ascribe a single impact indicator that might be able to accurately capture the overall performance of HRDP. Thus, HRDI serves the purpose of quantifying the impact through blending of results of various indicators grouped into four thematic areas.

For calculation of HRDI, the values of the impact indicators at baseline and endline were selected and assigned weights based on their relative contribution to the final expected outcome across four themes. Depending upon the variations in the interventions made in each project, the HRDI customized to accommodate the most significant results that attributes to the goal of the HRDP program. The detailed methodology and indicators are explained in detail (see Annexure C).

The HRDI calculation for project P0223 implemented in Roorkee and Haridwar has been given in the following table.

Table 6: HRDI of Uttarakhand, P0223

Domain	NRM		Skill and Livelihood		Health and Sanitation		Education		Overall HRDI	
	Baseline	Endline	Baseline	Endline	Baseline	Endline	Baseline	Endline	Baseline	Endline
HRDI Score	0.09	0.12	0.09	0.13	0.20	0.21	0.03	0.08	0.41	0.55
% Change	33%		44%		5%		166%		34%	

Since the program did not have an available baseline, the baseline was captured through the recall method. The indicators were selected and assigned weights based on their relative contribution to the final expected outcome across all domain-wise interventions. While most of the indicators were found to be relevant for the study in Uttarakhand, some needed modifications in accordance with the project and also in accordance with the study design, and the information collected. The detailed methodology can be accessed in Annexure 8.4. Further, thematic-wise indicators arrive at the composite HRDI score of **0.55** indicating a **notable positive change toward the desired impact** from the baseline score of **0.41**.

5. Analysis of Assessment Criteria

As outlined earlier in 2.1, for each thematic area, activities completed by the SM Sehgal Foundation were identified and assessed using the following criteria:

- Relevance and Convergence
- Impact and Effectiveness
- Sustainability

The following sub-sections provide an analysis of the HRDP programme with respect to each of these criteria.

5.1 Relevance and Convergence

The relevance of a holistic rural development program in Uttarakhand, specifically in the districts of Haridwar and Roorkee, is crucial due to several socio-economic challenges and environmental issues that these regions face. Lack of employment opportunities, particularly for the youth, is a significant challenge; the unemployment rate for Haridwar was 20.1% in 2017-18, the second worst in the state. Due to high unemployment, drug abuse is emerging as a grave concern. Moreover, Haridwar and Roorkee are agrarian regions, majority of the population is dependent on agriculture and animal husbandry for their livelihood. Lack of food security from the land has compelled many farming families to migrate out of their own villages. This is despite the fact that the existing landholdings can provide stable livelihoods to the Farming families. Lack of land development, irrigation, credit, know-how for improved agriculture, access to market etc. act as serious constraints, leading to a large number of impoverished farming families³. Wild animal attacks is largely prevalent in the area, leading to significant crop losses. Water degradation due to industrial activities is a major concern too. Cognizance of this, the interventions made in the program area across the thematic areas are relevant. Major work under HDFC Parivartan focused on reviving agriculture and making it remunerative, while taking steps to arrest the migration by skilling women and youth. Forming SHGs for financial inclusion is also a step in the right direction within the context of Uttarakhand.

5.1. Sustainability

The provision of resources through the project is complemented by awareness campaigns and training programs aimed at educating the recipients about the importance and significance of the work being carried out. The effectiveness of the project has been demonstrated, leading to the voluntary acceptance of its outcomes by the community. Consequently, even though the project officially concluded a year ago, the results of the interventions are still evident. This signifies that a significant portion of the activities undertaken during the project have attained sustainability and continue to positively impact the population.

³ <https://haridwar.kvk4.in/district-profile.html>

1. Natural Resource Management (NRM): By installing hand pumps at a depth of 90 feet, a long-term water supply solution has been established, ensuring sustainability. This method taps into groundwater resources, which are less susceptible to seasonal fluctuations and provide a consistent water source. Additionally, the use of solar-powered water tanks and solar fencing harnesses renewable energy, making it an efficient and sustainable approach for meeting the community's energy needs. The utilisation of biogas units reduces methane production and the end product, bio slurry, acts as an excellent organic fertilizer, promoting soil health and long-term sustainability.

2. Skill and Livelihood Enhancement: The provision of training and support for farmer groups and self-help groups (SHGs) creates a collective pool of resources, enabling participants to address financial challenges collectively. Access to natural farming methods and the implementation of waste recycling and conversion into manure help to reduce waste and replenish the soil, ensuring long-term agricultural productivity. Crop diversification not only benefits the soil but also provides economic advantages by reducing dependence on external markets. Furthermore, the promotion of income-generating activities such as spice grinding, aggarbatti making, grocery store management, tailoring, and jewellery making offers women a sustainable source of income, empowering them economically.

3. Health and Sanitation: While some soak pits continue to function, their maintenance may vary. However, raising awareness about proper sanitation practices and waste disposal contributes to long-term sustainability. Although burning waste remains a common practice, continuous education and community engagement can encourage the adoption of more sustainable waste management alternatives. Establishing a sustainable network of Accredited Social Health Activist (ASHA) workers can facilitate regular health check-ups and monitoring, ensuring the long-term well-being of individuals and the community.

4. Education: Infrastructural developments in schools have significantly improved access to education and encouraged regular attendance by students. To ensure sustainability, teacher training programs can enhance the quality of education provided, enabling teachers to effectively impart knowledge and skills to students. Establishing a channel for the regular supply of reading materials further supports educational sustainability, ensuring students have the necessary resources to continue learning and expanding their knowledge base.

In summary, the scientific reasons for sustainability across these thematic areas include: efficient utilisation of natural resources, harnessing renewable energy sources, promoting organic farming practices, reducing waste and recycling, creating collective financial support systems, empowering women through income-generating activities, promoting proper sanitation practices, engaging the community in sustainable waste management, establishing a network of health workers for regular monitoring, improving educational infrastructure, enhancing teacher capabilities, and ensuring the availability of learning materials. These measures collectively contribute to the long-term sustainability and positive impact of the interventions.

6. Recommendations

The report highlights the findings of a project focused on natural resource management (NRM), skill training and livelihood enhancement, health and sanitation, and the promotion of education in Roorkee and Haridwar districts of Uttarakhand.

6.1. Natural Resource Management

Through the Seed and Agri Tool Bank, irrigation support, promotion of organic fertilizers, training on innovative cultivation methods, crop diversification, and farm bunding with solar fencing, HDFC Bank and Ambuja Cement Foundation are driving positive change in the agricultural sector and helping farmers achieve sustainable and prosperous livelihoods.

The beneficiaries reported a net change in median income of Rs. 71500 in the Haridwar District compared to Rs. 22000 increase in the net income in the Roorkee District. 47.8% attributed increased income to HDFC Bank's interventions in seeds and tools, 27.5% acknowledged the impact of irrigation interventions, 44.9% recognized the influence of organic farming interventions, 40.6% identified the positive effect of farming technique interventions (e.g., SRI, creeper farming), and 29% attributed income growth to agricultural installations (e.g., green nets, farm bunding). 40% of the total beneficiaries have reported a rise in production after adopting crop diversification and 50% of them have reported increase in income.

Benefits of solar lights include 96% of the community with a higher sense of mobility during night time and 96% of women felt more safe and secure in stepping out. Biogas unit installed in the Roorkee district of Uttarakhand left 90% of its users fully satisfied. Villagers have started using the residue from the plant called bio slurry as manure for their farms. This has discouraged the use of chemical fertilisers by 70% of the users and caused for a shift to organic farming. 90% of the users have reported improvement in soil health and yield productivity after using bioslurry.

The interventions are relatively skewed towards water management. Expanding the scope of interventions to farm management, clean energy and plantation would be of great help for the community.

- Wheat cultivation in this area is such that the end product can be cut by hand machines. Although farmers were provided machines for the same those machines were designed for a crop with greater height. Changing the type of machine can help the farmers in efficiently cutting the crop and providing machines on a custom-hire basis through Farmer Groups' can help maintain and circulate the same.
- Solar fencing has been a blessing to the farmers. Expansion in the scope of solar fencing would increase the coverage of farmers supported through the intervention.
- Plantation like that of turmeric has shown immense benefits of repelling wild animals from fields. Creating further awareness and incorporating more trainings can help materialise the agenda.
- Increase in scope of biogas unit at Haridwar district.

6.2. Skill Development & Livelihood Enhancement

Skill training has made the farmers aware of sustainable farming practices like the application of organic manure (79.1%), conservation agriculture practices (62.7%), and timely application of fertilizers and insecticides (89.6%). However, awareness regarding Azolla unit (9%) was found low in the survey.

There has been a 53% and 44% increase in monthly income from rearing of buffalo and cow respectively. Involvement of SHG members in enterprise development has been effective and 100% of the respondents reported an increase in confidence as it provided a way to be independent and also helped deal with financial problems. Efforts can be made to create market linkages and bring together more SHGs to work on building of business.

6.3. Promotion of Education

Intervention focused on equipping schools with infrastructure such as: basic furniture, digital-class, drinking water facilities, separate washrooms for boys and girls, and renovation based on the need of the school has led to improvement in educational outcomes. The need-based infrastructural developments undertaken in schools have been useful and have been greatly appreciated by the students and school authorities. 100% of the respondent teachers have reported an improvement in attendance. Major reasons accounting to such shift was increase in interest to attend classes and better reading material and availability of books.

The most appreciated intervention of education is the provision of furniture in government schools and anganwadis.

- Training to teachers can lead to better flow of classes and increase the level of understanding of teachers.
- When it comes to SMC, it is difficult to increase participation from the parents end as their primary focus is to provide for the financial needs of the family. Incentivising parents for attending the same can increase the overall development. For instance, providing financial literacy to SMC members can be a good way to mobilise parents.
- Provision of technical trainings to handle and maintain smart classes.
- There are tribal children who travel a long distance to attend school and earn their right to education. Provision of transportation facilities for these can reduce the financial burden of travelling and encourage higher attendance, thus, opening scope of growth and inclusion.

6.4. Health & Sanitation

The community experienced health challenges related to blood pressure and diabetes. Through health camps, medicine distribution, regular checkups, and monitoring, the community's health has significantly improved. Beneficiaries who utilised HDFC Bank's health services reported positive outcomes, including improved dietary habits (**65% in Haridwar and 57.9% in Roorkee**), **increased physical activity (77.8% in Haridwar and 78.5% in Roorkee)**, and **better overall health for household members (71.8% in Haridwar and 70.2% in Roorkee)**. Access to quality health services, particularly for women, was appreciated by beneficiaries (**67.5% in Haridwar and**

74.4% in Roorkee). In terms of sanitation, a portion of the community utilises **waste management plants (21.2%) and dustbins (58.6%).**

Drinking water was a challenge in the surveyed villages, but the installation of community taps has helped around 70% of respondents. This improvement has resulted in **a decrease in waterborne diseases (83% in Roorkee and 75% in Haridwar), relief from stomach problems (87% overall), dental improvement (60% overall), and an increase in appetite (70% overall).**

Kitchen gardens have provided various benefits, including improved health outcomes and reduced food costs. Villagers reported easier vegetable consumption and a reduction in food expenditure since the project's inception **(92% reported reduced expenditure with an average savings of Rs 371 per week).** The satisfaction rate among beneficiaries was 90%.

- Creating a sustainable channel of monitoring of health outcomes by ASHA workers by providing a permanent stream of benefits.
- There have been instances of monkeys destroying dustbins thus installation of permanent steel dustbins can help solve this problem.
- Development of stormwater and sewage system

Annexures

A Sampling Methodology

The quantitative household survey was administered for four thematic areas in the district.

A.1 Quantitative Sample Size Calculation

For this study, the formula for calculation of finite sample size for 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 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 *(enter number)*.

A.2 Quantitative Sampling Methodology

All the nine project villages were selected for the study. The stages of sampling are explained as follows:

Stage 1 - Selection of beneficiaries:

The list of beneficiaries from all the nine villages acted as the sampling frame for the project. This list was obtained from the implementing partner – SM Sehgal Foundation. Simple random sampling was done to select the required number of households from within the list. Since beneficiary selection was undertaken independently for each project, the selection of more than one beneficiary from a single household was probable.

Stage 2- Sampling for villages:

Sampling for each village was done using the Probability Proportionate to Size (PPS) method. The percentage of the total number of beneficiaries in a village was taken out from the total beneficiaries. This percentage was then converted into a sample per village. A total of nine villages were covered under the survey.

A.3 Qualitative Sample Size Calculation

Qualitative tools of In-depth Interviews (IDIs) and Focus Group Discussions (FGDs) 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, 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 that they could recall from the time the programme started.

B 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.**

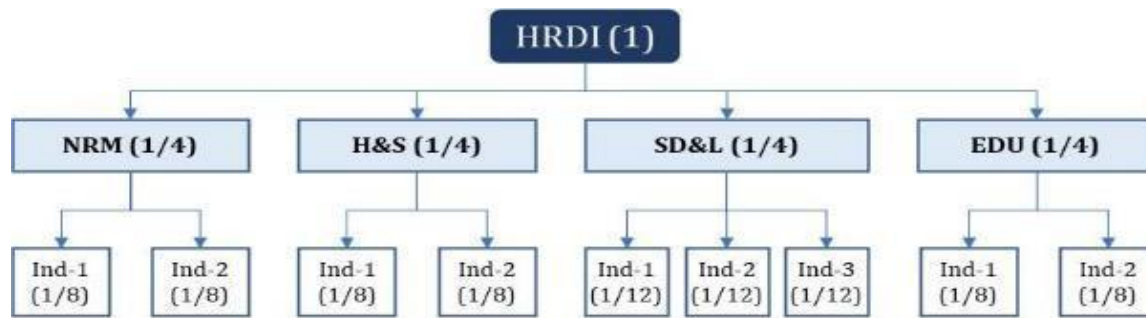
Indicator Weights

Weights were applied to each of these indicators, in similar lines with the HRDI calculation. Attribution of equal weights to all the domains were 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 weights⁴

⁴ NRM: Natural Resource Management | H&S: Health and Sanitation | SD&L: Skill Development and Livelihoods | EDU: Education



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.

<i>Project X</i>		
<i>Natural Resource Management</i>	Proportion of farmers with net income above baseline median	$(1/4) \times (1/2) = 0.125$
	Proportion of farmers with average productivity of crops (3 major crops) grown above baseline median	$(1/4) \times (1/2) = 0.125$
<i>Health and Sanitation</i>	Percentage of household that use soak pits for liquid waste disposal	$(1/4) \times (1/2) = 0.125$
	Percentage of household that use waste treatment structure to dispose solid waste	$(1/4) \times (1/2) = 0.125$
<i>Livelihoods and Skill development</i>	Percentage of SHG members saving	$(1/4) \times (1/2) = 0.125$
	Proportion of household practicing Application of organic manure	$(1/4) \times (1/2) = 0.125$
<i>Education</i>	Percentage of reported classroom furniture (chairs and desks) at the school	$(1/4) \times (1) = 0.25$

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 proportions, 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.

Table 7: Calculation of HRDI

Domain	Indicators	Baseline score	Baseline HRDI	End line score	Endline HRDI	% Change
NRM	Proportion of farmers with net income above median	0.16	0.09	0.24	0.12	33
	Proportion of farmers reporting increased productivity of three main crops above median (before and after)	0.08		0.15		
	Percentage of farmers reporting access to irrigation	0.12		0.11		
ST&LE	Percentage of households who are getting skill training & reporting increase in income from job/enterprise/self-employment	0.11	0.09	0.22	0.13	44
	Percentage of SHG members reporting income above median from rural enterprises	0.07		0.07		
	Percentage of HH reporting income above median from livestock	0.17		0.22		
H&S	Percentage of households reporting increase availability of drinking water facility	0.19	0.20	0.21	0.21	5

Domain	Indicators	Baseline score	Baseline HRDI	End line score	Endline HRDI	% Change
	Percentage of households with access to improved toilet facility	0.30		0.31		
	Percentage of households reporting increase in use of fruits/vegetables from the nutrition garden	0.30		0.31		
PoE	Percentage of respondents reporting increased access to functional school physical infrastructure (drinking water posts, separate washrooms, furniture etc.)	0.13	0.03	0.23	0.08	166
	Percentage of respondents reporting increased access to functional learning infrastructure (library, science labs, smart class, etc.)	0.00		0.10		
Total			0.41		0.55	34

C Detailed Activity List

Sl No	Focus area	Category	Sub-category	Activity	Beneficiary Type
1	Promotion of education	Educational Institutions Development	Morale Boost and system strengthening	Strengthening of SMCs	Students & Teachers
2	Promotion of education	Educational Institutions Development	Infrastructure - Infrastructure renovation	School repair and maintenance	School
3	Promotion of education	Educational Institutions Development	Input support	Educational Material Support	Students
4	Promotion of education	Educational Institutions Development	Input support	Smart class	Students & Teachers
5	Health and sanitation	Health	Health Camps	ASHAs help in conducting awareness session in the villages and patients follow up by this training they got knowledge NCDs and how to prevent and cure to NCDs.	Community
6	Health and sanitation	Health	Health Camps	Through screening camp, we can easily identify the Sugar and BP patient and medication & BCC can be started with them.	Community
7	Health and sanitation	Sanitation	Waste water management	Linkages of waste water to soak pit	Community
8	Health and sanitation	Health	Checkups	1764 patient NCD	Community

				followed up by ASHA	
9	NRM	Water Management	Drinking water management	Pre-post water testing	Community
10	NRM	Water Management	Drinking water management	Hand pump Installation	Community
11	NRM	Water Management	Drinking water management	Hand pump Plate farm and Soak pit	Community
12	NRM	Water Management	Sanitation	Renovation of waste water stabilization pond	Community
13	NRM	Water Management	Drinking Water Management	Water Minar	Community
14	NRM	Water Management	Other	Dam Repair	Community
15	NRM	Water Management	Other	Wall painting for water saving, social issues, human animal conflict etc.	Community
16	Skill development and livelihood enhancement	Agriculture Training and Support	Farmer Training-Demo Plot	Establishment of demo plot	Farmers
17	Skill development and livelihood enhancement	Agriculture Training and Support	Farmer Training	PoP	Farmers
18	Skill development and livelihood enhancement	Agriculture Training and Support	Farmer training-Other	Vegetable promotion	Farmers

19	Skill development and livelihood enhancement	Agriculture Training and Support	Farmer Training Demo	Sugarcane demonstration	Farmers
20	Skill development and livelihood enhancement	Livestock Management	Health	Cattle Health Camp	Livestock Owners
21	Skill development and livelihood enhancement	Livestock Management	Health	Cattle vaccination	Livestock Owners
22	Skill development and livelihood enhancement	Livestock Management	Small business	Bee keeping	Farmers
23	NRM	Farm Management	Farmer training-Other	Promotion of turmeric	Farmers
24	Skill development and livelihood enhancement	Livelihood support	Livelihood support	Establishment of Milk collection centers.	Community
25	NRM	Farm Management	Farm Management-Protection	Solar Fencing	Farmers

D Sustainability Thematic wise matrix

The project support provided demonstrated the capability to continue even after the program ended. The project's support to sustain improved outcomes are demonstrated below:

Table 8: Sustainability Matrix

Support provided	Structures established	Technical Know-how	Usage	Maintenance
NRM				
Water Management	✓	X	✓	✓
Clean Energy	✓	X	✓	✓
Farm Management	✓	✓	✓	✓
Skill Training and Livelihood Enhancement				
Agriculture Training and Support	✓	✓	✓	✓
SHG based women empowerment	✓	X	✓	✓
Livestock Management	✓	✓	✓	✓
Health and Sanitation				
Health	X	✓	✓	X
Sanitation	✓	X	✓	X
Kitchen Garden	✓	✓	✓	✓
Education				
Educational Institution development	✓	X	✓	X
Education Support	✓	X	✓	X
Awareness Generation	X	X	✓	X

E Overview of Impact Methodology

Overview of Impact in the effectiveness section was calculated based on the averages of quantitative output indicators as demonstrated below.

Outputs	Output Indicators		Output Avg	Impact Level
NA. Increased income from agriculture				
N. A1Land/ crop productivity	NA1. (a) Proportion of farmers reporting an increase in production of crops that were supported under HRDP	79%	64%	Medium
	NA1. (b) Proportion of farmers reporting increased income from crops that were supported under HRDP.	89.3 %		
	N.A1.i(c) Average increase in income from crops that were supported under HRDP (% change)	65%		
	N.A1.I (d) Average increase in productivity from crops that were supported under HRDP (% change)	24%		
N.A2. Access to the farm management infrastructure	N.A2(a) Proportion of beneficiaries satisfied with the quality of available services (in farm management)	90%	75%	High
	NA2. (b) Proportion of farmers reporting Agri Tool Bank leading to an increase in production	81.2 %		
	N.A2.(c) The proportion of farmers reporting an increase in the use of natural fertilizers?	54%		
NA.3 Increased adoption of crop diversification	NA3. (b) Proportion of farmers who report income increase due to crop diversification (base = farmers who adopted crop diversification)	60.0 %	60%	Medium
NC. Increased use of clean energy solutions				
NC1.Adoption of clean energy infrastructure	NC1. (a)Proportion of households reporting benefits from using clean energy infrastructure (Base=clean energy beneficiaries)	96%	96%	High
SA. Improved access to agricultural training and services				
S.A.1 Access to Agriculture training and services	SA.i(a) Proportion of farmers who reported project training services are useful	97%	87%	High
	SA.i(b) Proportion of farmers who demonstrate awareness regarding sustainable farming practices	77%		
S.A.2.Adoption of improved farming	SA.ii(b) Proportion of beneficiaries reporting an increase in productivity due	92.5 %	68%	Medium

practices	to better farm management			
	SA.iii(c) Proportion of farmers reporting increased income	43.3 %		
SB. Economic empowerment through collectivization (Only for SHG members)				
SB.1 Formation/ revival of SHG-based Enterprises	SB.i(a) Proportion of members who received support with establishing/reviving SHGs	96%	85%	High
	SB.i(b) Proportion of members whose SHGs are currently functioning	73%		
SB.2 Development of entrepreneurship	SB.ii(a) Proportion of SHG members reporting increase in income after new SHG enterprises	22%	22%	Low
SD. Improved capacity to generate income through livestock management				
SD.1 Adoption of scientific management of livestock	SD.I (a) Proportion of beneficiaries who received support in livestock management services	5.3%	21%	Low
	SD.i(b) Proportion of beneficiaries reporting an increase in income from livestock management	11%		
	SD.i(c) Proportion of beneficiaries reporting improved livestock health	21.4 %		
	SD.i(d) Proportionate increase in income from livestock	48%		
H.A. Improved health infrastructure and services				
H.A.1 Establishment/ enhancement of health infrastructure and services	H.A.i(a) Proportion of beneficiaries who received medication	84%	84%	High
H.A.2. Improved quality of health services	H.A.ii(a) Increase in no. of beneficiaries reporting improved health status of HH members	71%	71%	High
H.B. Improved sanitation infrastructure and services				
HB.1 Establishment/ enhancement of sanitation infrastructure.	H.B.i(a) Proportion of beneficiaries who gained access to sanitation services	31%	31%	Low
H.C. Development of Kitchen gardens				
HC.1 Increased adoption of kitchen gardens	HC.i(a) Proportion of HHs reporting a fall in amount spent on fruit/vegetable	92%	82%	High
	HC. i (b) No of HHs received seeds in the kitchen garden	100%		
	HC.i(c) No of HHs with improved	58%		

	vegetable/fruit consumption due to kitchen gardens			
	HC.i(d) Proportion of HHs reporting improved nutrition	78%		
H.D Improved awareness and health-seeking behaviour				
H.D.1 Awareness regarding health and sanitation practices	H.D.i (a) Improved dietary practices/ reduced tobacco consumption/ improved physical exercise	61.3 %	66%	Medium
	H.D.i(b) Improved health status of HH members	71%		
H.D.2 Adoption of positive health and sanitation practices	H.D.ii(a) Increase in no. of HHs adopting proper solid waste management practices	50%	37%	Low
	H.D.ii(c) Increase in no of HHs adopting proper liquid waste management practices	24%		
H.E. Improved availability and management of water				
H.E.1. Access to drinking water at household and community levels improved	NB.1. (a)The proportion of households reporting relief in stomach problems	87%	79%	High
	NB.1. (b)The proportion of households reporting increase in appetite	70%		
Outcome E.A. Improved capacity of educational institutions to provide services				
EA.1 Access to improved physical infrastructure	EA.i(a) Proportion of students/schools who report gaining access to furniture	71%	67%	Medium
	EA.i(b) Proportion of students with access to school renovation	62%		
EA.3. Improved willingness to engage in school activities	EA.iii(a) Teachers reporting improvements in attendance due to improved infrastructure	100%	73%	High
	EA.iii(b) Proportion of teachers reporting an increase in enrolment post infrastructure development	80%		
	EA.iii(c) Proportion of institutions reporting a decrease in dropout rates	40%		
Outcome E.B. Improved learning outcomes				
EB.1 Improved exam performance and subject confidence among students	EB.i(a) Proportion of students who report improvements quality of teaching material	37%	50%	Medium
	EB.i(c) Proportion of students reporting an increase in confidence in various subjects (lessons are easy to understand, more interesting, etc.)	75%		
	EB.i(e) Proportion of teachers reporting improvements in learning outcomes due to infrastructural facilities at institutions (concept retention, attention span, and exam performance)	40%		

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