

Impact Assessment Study Of Holistic Rural Development Programme (HRDP) Punjab



Prepared For:



HDFC Bank CSR

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Executive Summary

As part of HDFC Bank's CSR initiative, Programmes are supported to deliver holistic rural development. The assessed HRD Programme is in **two clusters; Amritsar and Taran Taran, Punjab**. The major focus areas were Natural Resource Management (NRM), Skill Development and Livelihood Enhancement, Healthcare and Education. For the impact assessment study conducted, both quantitative and qualitative methodologies were used. In this cluster, four intervention villages were selected for the study. All the intervention villages were selected as sample villages. Sample from each village was selected by using **Probability Proportionate to Size (PPS) sampling method**. The list of beneficiaries was obtained from the **implementing partner Shramik Bharti**. Since beneficiary selection was undertaken independently for each Programme, the selection of more than one beneficiary from a single household was probable. The total sample size covered for the quantitative study was 410 households and for the qualitative, 10 focus group discussions and 10 In-depth interviews were conducted. **The impact assessment aims to evaluate the implementation and performance critically and objectively, to add value by showcasing successful initiatives, to recommend possible ways to add value by showcasing successful initiatives, to determine the reasons why certain results were achieved or not, to draw lessons, and to derive good practices and lessons learned.**

NRM: The project can be deemed effective in **creating noticeable changes in the income generation capacity of farmers through improved productivity, reduced input cost, and capacity building of farmers to adopt sustainable and innovative agricultural practices**. Furthermore, the project also brought about changes in **facilitating access to clean energy solutions** such as solar streetlights. 200 Fruit trees were also distributed to more rural households improving their nutrition and wellbeing half of them were still planted to provide green cover in the region. There is a need **for time-to-time dissemination of information on farming techniques and innovative methods of organic farming backed by expert advisory in future interventions**. After-sale technical service for solar streetlights is required. Given the remoteness of the area, it was difficult for the community to access technical support once the equipment broke down. Ensuring market linkages will ensure better price realizations for farmers and tangible impacts.

Health and Sanitation: For project activities in health and sanitation, the construction of **wastewater soak pits has resulted in adequate water management in households**. Most of them are still functional. Through the **construction of toilets in disadvantaged households**, much relief has been provided to women and the elderly in terms of access to safe defecation facilities. Households with toilets are also benefitting the larger community as these are often accessed by members of neighbouring households. Project interventions for sanitation practices have been successful in the region. The Programme could have sought to **utilize a community-driven approach for the interventions on household wastewater soak pits or the restoration of household toilet wastewater in which GPs could have contributed to capital cost**. This could have been supported by mobilization and capacity-building activities under HRDP.

Skill Training and Livelihood Enhancement: The project activities within skill and livelihood enhancement also have **opened economic opportunities not just for farmers, but for SHG women in the community.** These beneficiary categories, who otherwise have limited access to economic opportunities benefitted from the project by gaining the skills, technical support, and physical capital to undertake and expand entrepreneurial activities during the project period. To improve the effectiveness of the activities supported under the theme there is a need to provide a range of critical services, such as business development support, mentoring, and finance, as well as access to the banking system as funding through the individual’s savings stifles their consumption needs. Additionally, **work needs to be done by the partner NGO in developing a more formalized set-up where people start understanding how to do business and have begun savings, and maintaining cashbooks for businesses.**

Promotion of Education: HDFC interventions in promoting education have been the **most effective in the region, as smart classrooms in selected schools have benefitted students to take more interest and regularize their attendance in schools.** Additionally, the **repairment of school toilets is safe and hygienic for children to use during school hours.** Additionally, the whitewashing of school walls and BaLa paintings in Anganwadi rooms and other school walls have improved the children’s interest in going and playing around the school campus. An asset maintenance fund/ committee needs to be established in the Programme-supported schools to ensure the necessary maintenance of support functions such as - drinking water posts and smart classes. Proactive convergence with ongoing schemes of the government will ensure the efficient use of resources.

HRDI Indicators: HRDI has been calculated through baseline and endline values of **8 key themes of the intervention Programme. There has been a significant change in the HRDI scores in the interventions of health and education. This is mainly due to awareness generation activities and the establishment of structures that last for a long time.**

Table 1: Summary of HRDI scores

Domain	NRM		Skill and Livelihood		Health and Sanitation		Education		Total	
	Base line	End line	Base line	End line	Base line	End line	Base line	End line	Base line	End line
HRDI Score	0.15	0.17	0.08	0.16	0.16	0.23	0.07	0.09	0.32	0.50
% Change	13%		100%		44%		29%		56%	

Table 2: Summary of key income indicators

Income Indicators (based on median)	Before	After	% Change
Average Net Income from Agriculture (INR)	225000	235000	4.4%

Figure 1: Overview of project impact

	Health and Sanitation	Skill Training and Livelihood Enhancement	Natural Resource Management	Promotion of Education
Overview of Activities	Health Camps, Household Soak Pits, Construction of household sanitation units, Training and distribution of seeds for kitchen Garden	Training on Organic Farming, SHG enterprise development, Livestock management	Farm Pond construction, drinking water management, training of agricultural methods, solar lights	Construction of library, distribution of sports goods, walls repairment, BaLa walls
Areas of Improvement	Construction and maintenance of household wastewater soak pits	Lack of market linkages for organic produce and SHG enterprise after project end	Maintenance of village pond, Crop diversification methods	Teacher support in primary schools
Challenges	Lack of proper health camps and Public Health Units in the region	Lack of a proper exit plan of project. Kitchen unit for enterprise taken and sold by key village people	Agri Tool bank units sold off, lack of training of biomass challah	Lack of teachers, improper playground, irregular SMC meetings
Recommendations	Funds for construction of more household sanitation units, training on repairment of household soak pits, regular health camps	Strengthening and training of SHG with regards to bookkeeping and common ownership of enterprise	Formation of farmer groups for a system of checks and balances of common irrigation units and tools distributed	Development of school kitchen garden, playground and increase in rooms

1. Introduction

1.1. Background of the Study

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

In the assessed HRD Programme in two clusters; Amritsar and Taran Taran, Punjab the implementation partner was Shramik Bharti. The major focus areas for intervention were Natural Resource Management (NRM), Skill Development and Livelihood Enhancement, Healthcare and Sanitation, and Promotion of Education

1.2. Partner Organization-Shramik Bharti

Shramik Bharti is a Kanpur-based not-for-profit, grassroots development organization working dedicatedly and in myriad dimensions to bring about "Sustainable Development with equal opportunities for all" in North India. Shramik Bharti has a history of working for the empowerment of the poor and underprivileged with a special focus on women and children. Their mission is to facilitate and foster people's democratic institutions, free from exploitation.

Guided by the mission, Shramik Bharti follows the following operational strategy:

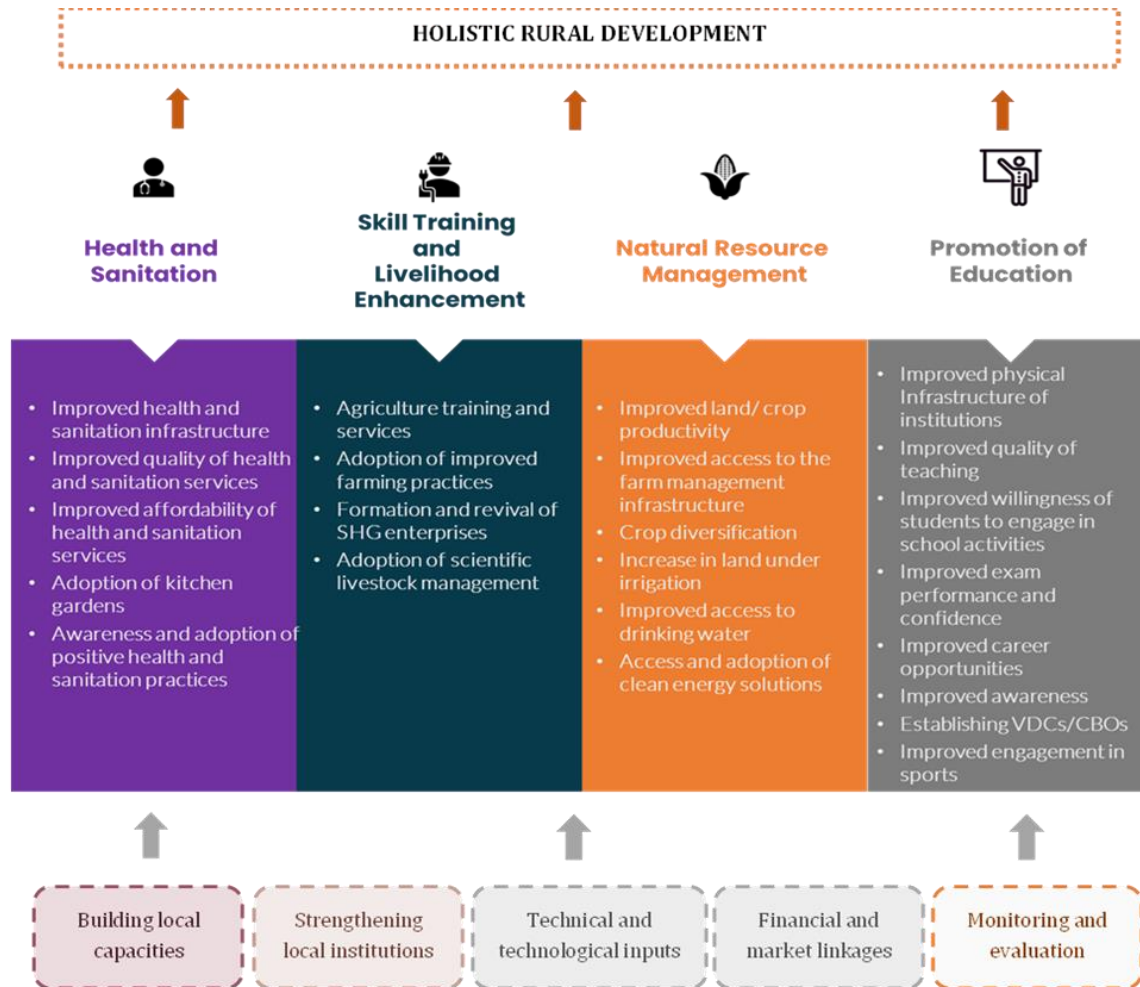
- i. Organizing the community around socially relevant issues.
- ii. Developing the capacities of the community for addressing developmental issues and their management.
- iii. Enabling access to services and provisions being provided by the state and market.
- iv. Aggregating the community-based groups and facilitating them to emerge as community-based organizations for continuing the interventions initiated by Shramik Bharti.

1.3. Purpose and objectives of the study

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

programme. The evaluation was also an opportunity to learn about the relevance of the Programmes implemented and the effectiveness of such Programmes. The conceptual framework employed and the area covered under the study are depicted below.

Figure 2: Conceptual framework of the implementation



In this scenario, holistic interventions were planned and executed in 4 villages of Amritsar and Taran Taran districts of Punjab from the year 2017 with the goal to ensure sustainable development of marginalized rural communities through capacity building of individuals and institutions.

Image 1; Areas covered under the study (Taran Taran and Amritsar in green and pink respectively)

2. Research Methodology

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

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

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

2.1. Design and Methodology

A review of various Programme documents including HDFC Bank'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 Programme was utilized for a secondary review.

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

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

2.1. Sample Size and Distribution

The sample size covered during the field is as follows:

Table 3: Quantitative Sample Covered

District	Total Households	NRM	Skill Training and Livelihood Enhancement	Health Sanitation and	Promotion of Education	of
Amritsar	300	75	75	75	75	
Taran Taran	113	29	29	28	27	
Total	413	106	103	102	102	
Planned	400	100	100	100	100	

Table 4: Qualitative sample size covered

District	FGDs			IDIs	
	VDC	SHG	Farmer Group	Teacher	Key Informant
Amritsar	3	1	3	3	3
Taran Taran	1	1	1	2	2
Total	4	2	4	5	5
Planned	4	2	4	5	5

Teams of local enumerators, with requisite education and experience, were hired for data collection. Two days of training in Punjab were provided to enumerators and supervisors by the NRMC team.

Image 2: Training of field team held at Punjab

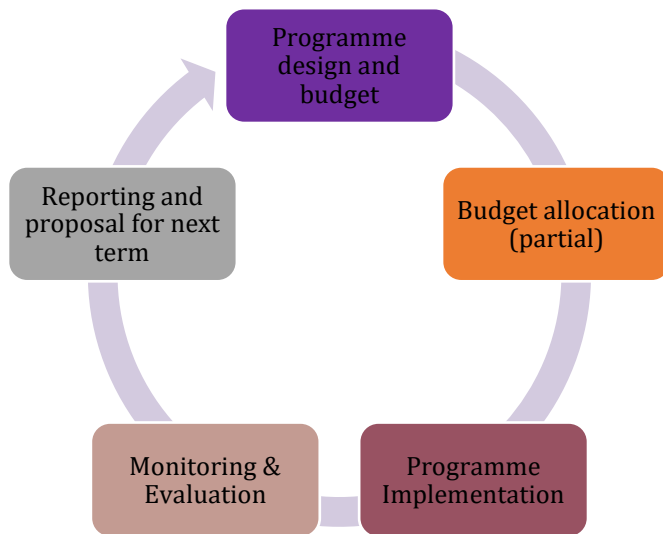


3. Programme Review

3.1. Programme Design and Implementation

The primary budget was based on observations in the field, budget and allocation were largely provided for infrastructure and material support. In Punjab, a larger focus on improving sanitation, health and other awareness-generating activities was present.

Figure 3: Project Planning and implementation process



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

3.2. Programme Relevance

Punjab is one of the highly developed states in the Indian economy. The state of Punjab becoming a major contributor to the country’s food-grain basket could be attributed to the success of the green revolution strategy initiated during the mid-1960s. The state, even today, continues to fare well in the three critical infrastructural elements: electricity, irrigation, and road connectivity. In recent years, however, Punjab has undergone “serious economic crises and began to slip down in the per capita income ranking among Indian states. Its ranking fell from the first position in 1991-92 to sixth in 2009-10 and further fell to 15th position in 2017-18.” (Goyal et al, 2020). The state is faced with a crisis, especially in the cotton belt of its Malwa region with rising suicide rates amongst farmers and agricultural laborers; increased migration (abroad) from Doaba and now from Majha and Malwa regions; mounting water, air and soil pollution leading to an alarming burden of communicable and non-communicable diseases. The study by Goyal et al (2007) indicates that while the state’s HDI increased from 1991 to 2001, there is a significant decline in the overall HDI of the state post-2001. It is in this context that the HDFC’s Bank programme was designed: to improve the well-being of people living in rural India and bring in improvements in their quality of life especially in health, education, skill development and farming.

Table 5: Comparison of Punjab's HDI with all of India average²

Area	1990	2000	2010	2017	Percentage growth (1990 to 2017)
Punjab	0.531	0.601	0.657	0.715	34.6
Firozpur	0.568	0.689	0.606	0.563	-0.8
Amritsar	0.608	0.700	0.685	0.635	4.4
All India (average)	0.428	0.493	0.581	0.639	49.3

The soil health in the state has been deteriorating. Small farmers are working under severe economic constraints. Their earnings are low, and they are indebted — and hence many are compelled to leave farming. The rate of increase in cultivation cost has been much faster than that of produce prices. Therefore, the increase in income from farming has not been sufficient to meet the domestic and farm expenditure, which led many farmers into a debt trap and consequently forced many to commit suicide.

Though literacy levels in the state are higher than in many other Indian states (Census 2011), many students are unable to pass the grade level. In the last few years, Sarva Shiksha Abhiyaan has been very successful in increasing the enrolment at primary schools, however, the quality of teaching and learning, lack of classrooms, over-congestion of present ones and unavailability of basic electricity or drinking water in the rural public schools is a cause of concern.

Image 3: Irrigation infrastructure built under HRDP in Punjab



Despite the high coverage of water (95 per cent) and sanitation (71.0 per cent) in Punjab (as per the World Bank Data), the rural water and sanitation sector still continues to face major challenges. Unsafe drinking water, inadequate availability of water for hygiene, and lack of access to sanitation together contribute to about 88% of deaths from diarrheal diseases. India has the highest number of stunted children worldwide. Household wastewater, sanitation, and hygiene (WASH) practices play a huge role in stunting in India.

In this scenario with the support of HDFC Bank interventions have worked in 4 villages of Amritsar and Taran Taran districts in the year 2017 with a goal to ensuring sustainable development of marginalized rural communities through capacity building of individuals.

² <https://hdi.globaldatalab.org/areadata/> in Goyal et al

4. Study Findings

4.1. Demographic profile

The project villages are spread across 4 project villages. **31% of the population is illiterate** while only **16% have studied till 5th standard** (See Figure 4). This section provides the demographic profile of the respondent's villages under the assessment³.

58% of the total sample are women while 42% of the sample are men. The age group of **26-35, 36-45 and 46-55** have **23%, 20% and 17%** of the sample as respondents. **70% of the sample is Scheduled Caste (SC)**, while **6% are Other Backward Classes (OBC)** in the region. **56%** of the sample have BPL cards and **36%** have APL cards.

The main occupation in the region is **Wage Labor (69%)** followed by **Livestock management (27%)** as indicated in Figure 5.

Figure 4: Educational Status of the respondents (n=413)

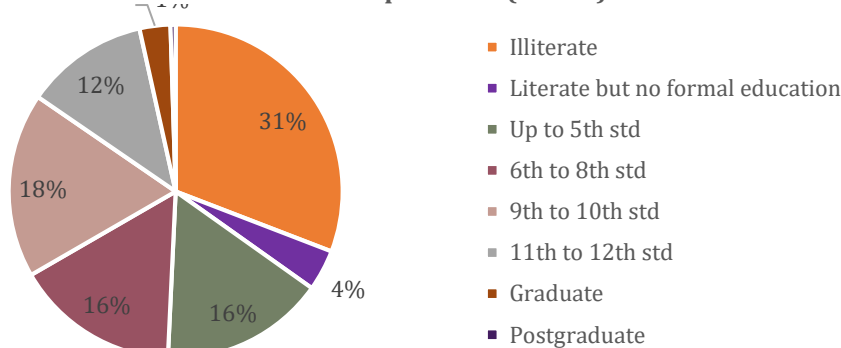
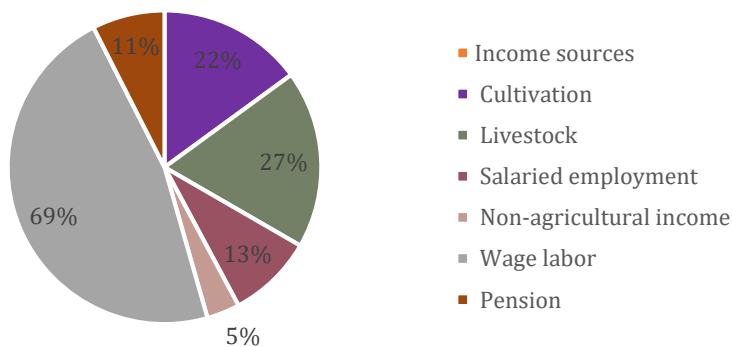


Figure 5: Income Sources (n=413)



³ The total number of respondents for the survey were 413, across 4 project villages

4.2. Natural Resource Management

In Punjab, 36% of the workforce is engaged in agriculture, according to Census 2011. HDFC bank interventions in the region aim to promote sustainable agriculture practices and better farm management the reducing the cost of cultivation, producing safe food, and reducing the health risks of consuming food with high pesticide residues. The formative years of the intervention (2017 onwards) aimed at project mapping and understanding the nature of aid to be given to the villages while the latter half of the interventions focuses on aiding farmers by creating Farmer Interest groups, promoting organic farming water management interventions, increasing green cover in the region, exposure visits and capacity building for various sustainable means of agriculture.

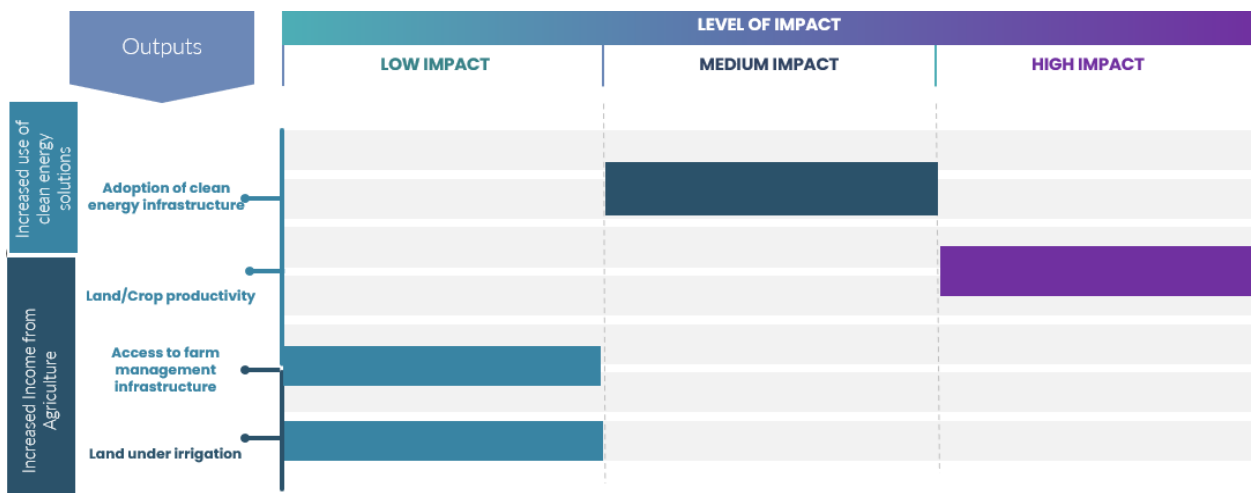
Table 6: Activities under NRM in Punjab

Activity Category	Activities
Clean Energy	Biomass Cookstoves, Solar Streetlights
Plantation	Tree Plantation
Agriculture Support	Agri-tool bank, Community seed bank, Model Farms, Organic Farming methods

4.2.1. Effectiveness and Impact

80 Biomass chullahs were also distributed as part of a clean energy initiative that has helped households switch from regular chullah to the former, to combat issues related to its usage. Chullahs produce a lot of smoke inside the house by burning wood, dung, and crop waste. The smoke may cause acute respiratory, ear, and eye infections. Smoke also causes breathlessness, chest discomfort, and headaches, and this can be fatal for children. Biomass chullah consumes less power and burns most biofuel-generating materials like wood, cow dung, biomass, or wood pellets.

Figure 6: An overview of project effectiveness and impact in NRM (Based on quantitative data)



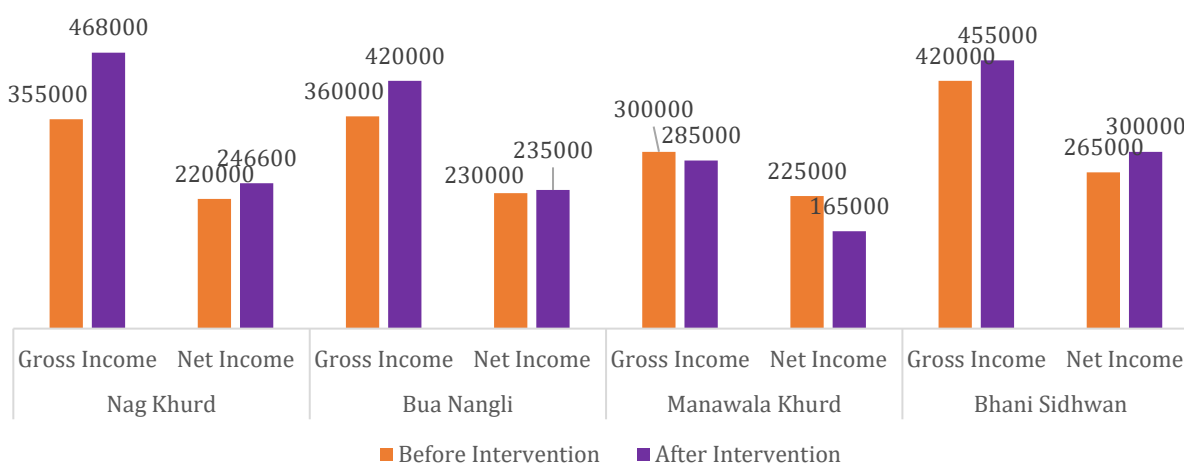
It is a sustainable and safer option for cooking. The project villages of the region did not have streetlights. To address the issue, 10 solar streetlights per project village were installed as part of the

HDFC Bank project and more than half of them are still functional. This was implemented with the consultation of the village Panchayat and other key members of the village. At present, the village solar lights are installed in all the main village roads of the region, lighting up key walkways during nighttime.

Plantation of 200 fruit and timber plants; 100 each in villages Bua Nangli & Manawala Khurd was also carried out as part of the HDFC bank's green cover initiative. Additionally, to aid farmers by reducing input costs, Power Weeder was provided to the PGS group in Nagkhurd. Which is maintained by the PGS group. Bush Cutter and Cow Dung Pot Makers were distributed in other villages.

Income from agriculture: Through HDFC interventions in the region, the promotion of organic farming and irrigation management interventions have led to an increase in net income through the reduction in input costs. Organic pesticides and fertilizers have resulted in high-quality crops and with proper market linkages, HDFC project villages are able to reap the benefits of a growing organic market. Additionally, through the agri-tool bank and distribution of High Yield Variety seeds in the project villages, there has been the setting up of a sustainable system that leads to farmers gaining access to better quality seeds and tools thereby reducing the input cost for the same. This has led to an increase in income in the project villages through HDFC Bank interventions (See Figure 7).

Figure 7: Increase in agricultural income in Rs. (Based on median) (n=55)



There are 40 farmers organized under 7 PGS Groups (Participatory Guarantee System) for organic certification of their agriproduce and through HDFC Bank interventions, model farms were developed with 19 farmers on a small piece of land. Most of the model farms were developed on 0.125-acre land, cumulatively an area of 4.8 acres was covered under these model farms. This experiment was then spread across all 4 project villages demonstrating the use of organic manure and fertilizers for a better crop yield. With market connect through PGS groups, the farmers deemed organic farming interventions to be the most effective for the increase in income.

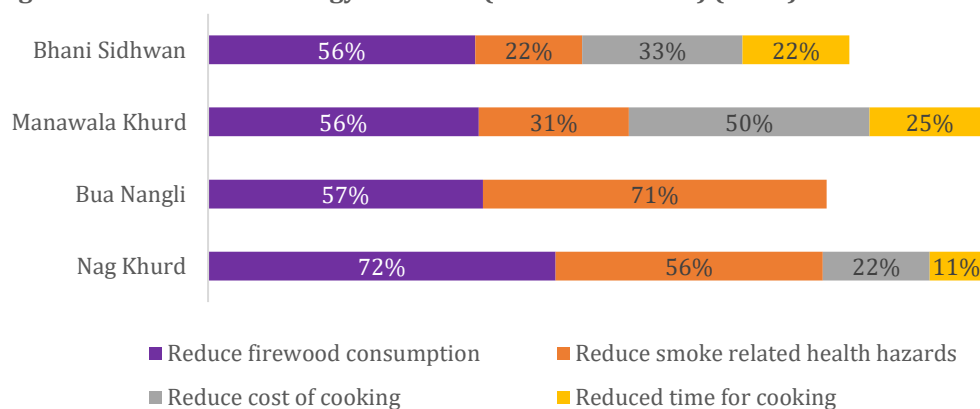
Table 6: HRDP interventions that contributed to the increase in income (n=55)

Perceived Benefits	Intervention	Benefits			
		Paddy	Wheat	Potato	Other Vegetables
Project interventions in seeds and tools		8%	16%	8%	0%
HDFC interventions in irrigation		4%	13%	4%	8%
Interventions in organic farming		90%	84%	92%	92%
Interventions in soil testing and land treatment		21%	34%	35%	8%

Table 6 shows with the help of HDFC Bank interventions, farmers in the villages adopted growing wheat, paddy, and various vegetables apart from their previously grown crops. For growing paddy, farmers were trained in the practice of vermicomposting, which gives better paddy yield. This training has been beneficial for farmers because of which cultivating paddy in the region was adopted. Agricultural seed banks in the villages and routine distribution of high-quality seeds as part of the project intervention helped farmers in growing various vegetables and thereby diversifying their crops. All farmers who adopted other crops apart from their previously grown crops due to HDFC bank interventions have benefitted from demonstrations and training on pesticides and fertilizers.

Use of clean energy solutions:

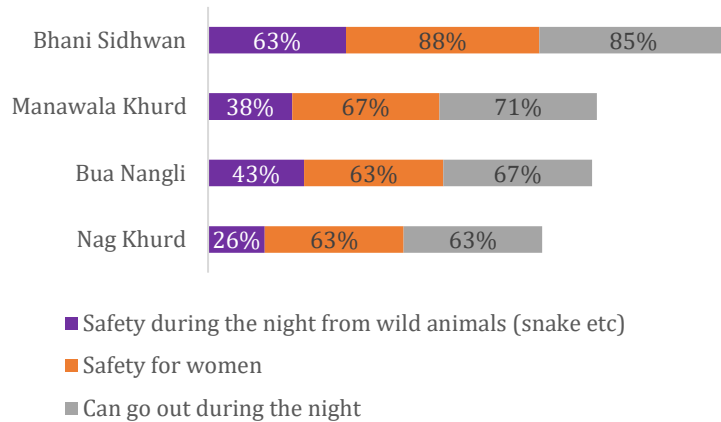
Figure 8: Uses of clean energy solutions (Biomass Chullah) (n=50)



20 households in each project village were distributed smokeless chullah for their households. The beneficiaries were among the most marginalized sections of the village where hazards due to regular chullah were immense. Biomass chullah in the region has helped reduce firewood consumption and smoke-related hazards that occur due to regular chullahs. 50% of the beneficiaries regularly cook meals while 20% use it for preparing food other than key meals like evening tea etc. 50% of the beneficiaries also responded to the slow cooking time of the chullah to be the primary reason for reducing its use.

To ensure the village is properly accessible to everyone at night, 12 solar streetlights were installed in the project villages. These solar lights have greatly benefitted people as women and children are able to move more freely at night and the light helps look out for wild animals in the area. The solar lights are set up on all key roads of the village, making the main alleyways light up at night. 32% of the streetlight beneficiaries reported that the streetlights are not functional. This is due to a lack of proper maintenance and the requirement for a new battery.

Figure 9: Perceived benefits solar streetlights (n=150)



At present, while there are 12 solar lights installed in all project villages only half of them are still functional. This is mainly since the batteries for the solar lights stopped working a year after they were installed. The biomass chullah was distributed to only a limited amount of people. Many marginalized families mentioned a lack of knowledge of biomass chullah during its distribution

during project intervention. The training to use the biomass chullah was given to one or two women in the project village who were unable to explain the usage of the chullah to everyone. There are still houses in the village where the biomass chullah is left untouched as the people were unable to understand how it operates. Training with regards to the use and benefit of the chullah is a key challenge in clean energy.

Green Cover: It was observed through HDFC interventions that the farmers as well as local women of project villages were not fully aware of the advantages of trees. To increase awareness about trees and encourage their plantation, awareness drives and tree distribution initiatives were carried out in all 4 project villages. 200 fruit and timber trees were distributed evenly in two project villages to improve their nutrition and wellbeing. People, including school children, teachers and VDC members were made aware of the positive impacts of tree plantation. More than 15 varieties of fruit trees like mango, guava, pear, plum, neem, jackfruit etc. were distributed and planted in the villages.

4.3. Skill Training and Livelihood Enhancement

The largely agrarian population of district Amritsar and Taran Taran has traditionally depended on agriculture for livelihood. But with a large percentage of the population being landless or having marginal land holdings, wage labour is the main occupation amongst the marginalized in the area. Thus, skill development and livelihood enhancement were urgently required. Through HDFC bank interventions, various initiatives to help people develop relevant skills to undertake initiatives to support themselves and supplement their incomes have been implemented. The project intervention has also addressed the skill gap of farmers in adopting agricultural innovation. Additionally, support was provided for women to contribute outside of the home-based jobs by practising stitching, kitchen gardening, goat rearing etc. to develop an additional source of income.

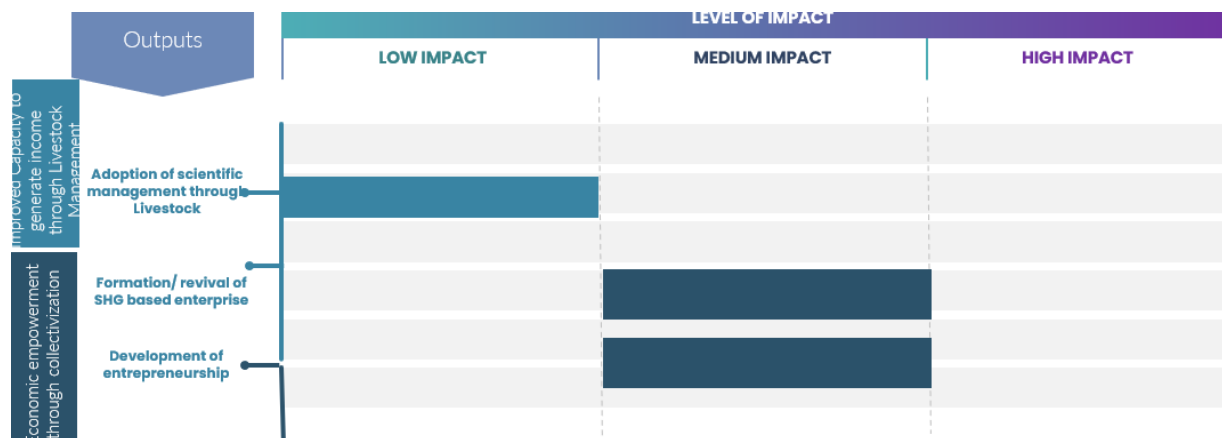
Table 7: Activities under skill training and livelihood enhancement in Punjab

Activity Category	Activities
Agriculture Training and Support	Exposure Visit on Nature Farming, Training of Farmers on Nature Farming
Irrigation Management	Pond Cleaning
SHG-Based Women Empowerment	Formation of SHG's
Livestock Management	Poultry and Goatry Interventions
Entrepreneurship Development	Formation of crafts groups, Formation of PGS groups, Formation of pickle and jam units, Strengthening of artisans

4.3.1. Effectiveness and Impact

One pond in Bhaini Sidhwan and two in Bua Nangli village were cleaned as per the HDFC bank interventions. Additionally, Visits were conducted by nature farming experts from KVK for providing hand-holding support to farmers who were practising multi-cropping using natural farming methods on their farms. Farmers growing millets and alternate crops were visited by agri experts and support was provided to them for improved yield. Additionally, 900 hens were distributed in 4 project villages to support the livelihood of marginal farming families, along with insemination camps, health camps, and training on fodder development. 87 goats were also distributed to households that were regularly trained to improve goat rearing to an enterprise level. There are 9 women Self Help Groups (SHGs) comprising 127 women members who are functional in project villages. Two SHGs have been linked to National Rural Livelihood Mission (NRLM). Additionally, strengthening activities were conducted to improve the functioning and management of women's self-help groups. The women's self-help groups are also engaged in food processing and craft production activities in the region. Through HDFC Bank interventions, meetings were held with members of self-help producer groups for situation analysis and to develop a road map for further action. This exercise helped external consultants to understand the strength and weaknesses of these groups and further a vision-building workshop was conducted based on the outcomes of the observation exercise. Village-level workshops were held with members of self- help groups, and they were trained in bookkeeping, maintaining records, opening a bank account and managing credit and thrift activities.

Figure 12: An overview of project effectiveness and impact and skill training and livelihood enhancement (based on quantitative data)



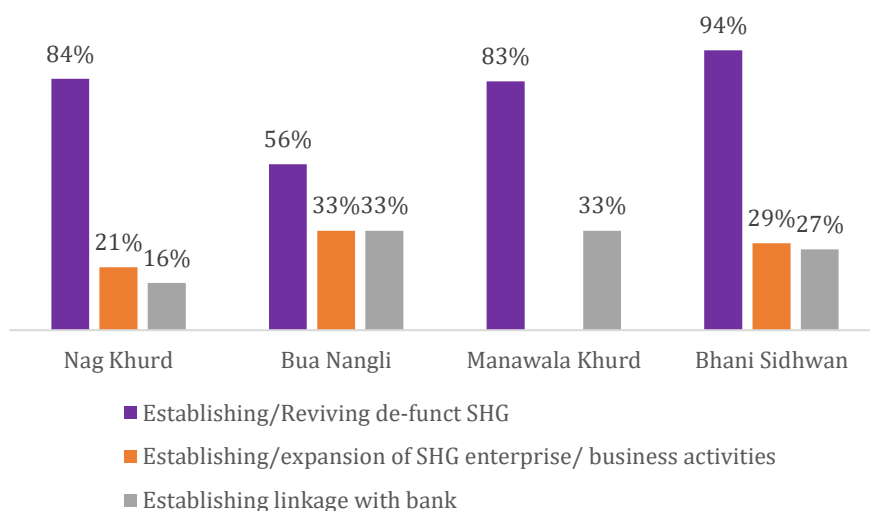
As the biggest user of fertilizer and pesticides in the country, the Punjab region is facing drastic conditions of ecological degradation and the rising cost of farming. With hardly any need for institutional credit and minimal hired labour requirements, the adoption of natural farming serves as a healing touch for the increasing pressure on farmers and natural resources in the region. In this context, the project aimed at promoting natural farming practices among farmers through engagements with people and organizations promoting organic and natural farming in Punjab. These included demonstrations, training in the villages and sensitization of the farmers to adopt natural farming technology to cultivate food free from hazardous chemicals. Additionally, exposure cum training for nature farming was also held from time to time to demonstrate new agricultural methods.

Farmer training was organized in the form of workshops and Farmer Field Schools (FFS) in project villages. The major purpose of this training was to provide handholding support to the farmers for each crop at all the stages of the crop (right from preparation of land to the final crop) which includes land preparation, treatment of the seed, sowing techniques, pest control, use of growth promoters, preparation of bio fertilizer and bio pest control, the collective use of machines (if required) etc. The training provided has translated into effective adoption as a significant proportion of beneficiaries who received training are continuing these practices. A relatively lower rate of continued adoption of organic manure can be attributed to external factors such as market linkages. For instance, qualitative discussions indicated that many farmers discontinued organic farming at a commercial scale as the market for their organic products was not readily available. However, organic vegetables are still being grown for self-consumption.

Economic Empowerment through collectivization: In all the project villages, women SHGs were formed through HDFC Bank interventions. Routine meetings were organized by Shramik Bharti with SHG members for a situation analysis of the area to map out small enterprises that could be implemented with training in the area. The findings of the study served as the basis for village-level workshops that were held with members of self-help groups who were trained in bookkeeping, maintaining records, opening bank accounts and management of credit and thrift activities. Figure 13 shows that while 86% of SHG beneficiaries reported HDFC intervention in establishing the units,

26% of SHG members reported bank linkages for their groups. Additionally, training on the backyard kitchen garden, stitching, backyard poultry, goat rearing, and food processing were all conducted under the programme intervention.

Figure 10: Support provided for SHGs through HRDP (n=82)



Through SHG meetings, Savings activities, and internal lending, SHGs have been lending loans to village members for different enterprises that have benefitted women in terms of financial independence. 86% of the respondents mention HDFC bank interventions helped mobilize them in the villages to provide training and handholding support to revive defunct SHGs or build a new ones. The growth of income and savings are the key benefits of being an SHG member. Bhani Sidhwan village SHG were involved in a jam and pickle-making enterprise. This was sold at Amritsar Natural Foods. 72% of SHG members report only a few members are active in the SHG units post-intervention. The key reason for the same is having less time. Due to the onslaught of COVID-19, domestic responsibilities for women increased as, children and the elderly stayed at home following covid protocols, women in the household had additional chores and were unable to find time for the SHG ventures and development. Additionally, SHG enterprises linked to crochet weaving and aachar making came to a halt post the project as the local support in the village kept the kitchen and weaving equipment for themselves. The lack of infrastructural support during the COVID lockdown resulted in the closure of the enterprises.

Livestock Management: Backyard poultry is a necessary livelihood activity for landless and marginal farmers considering its influence on improving the nutrition of the family and its ability to serve as an additional income source. Additionally, goat farming has also been a key intervention here for livelihood development. Under the project, marginalized farmers and families were identified and roughly 40 households have benefitted from backyard poultry and goat farming respectively. Additionally, awareness generation for different types of livestock diseases, vaccination camps, fodder development and livestock management training were all key interventions in the region.

Figure 11: Livestock management services availed through HRDP (n=65)

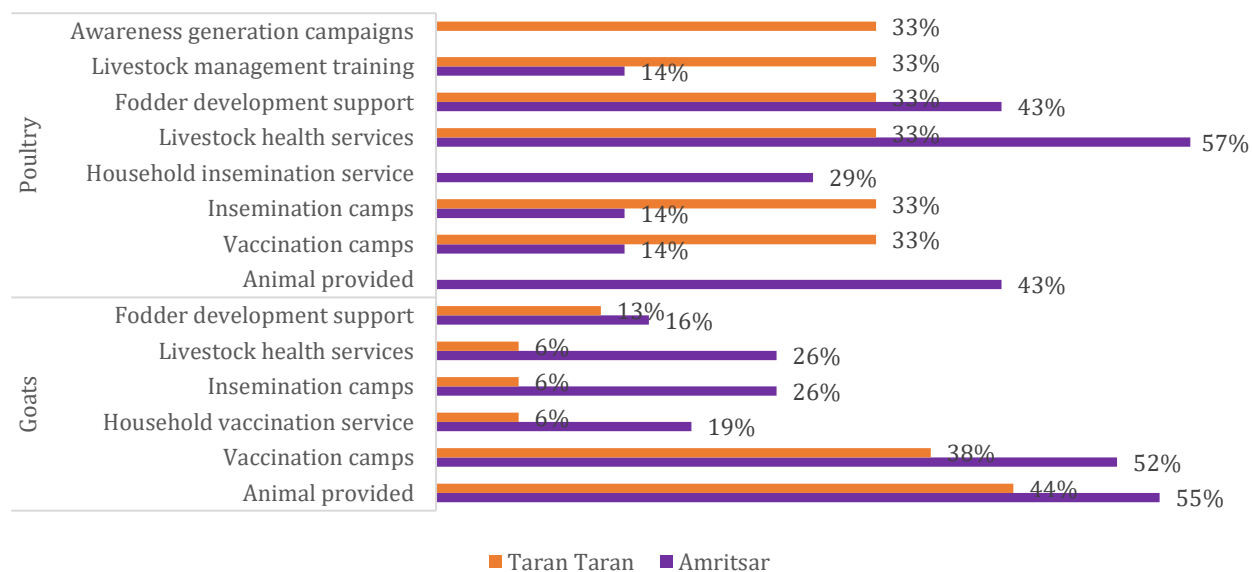
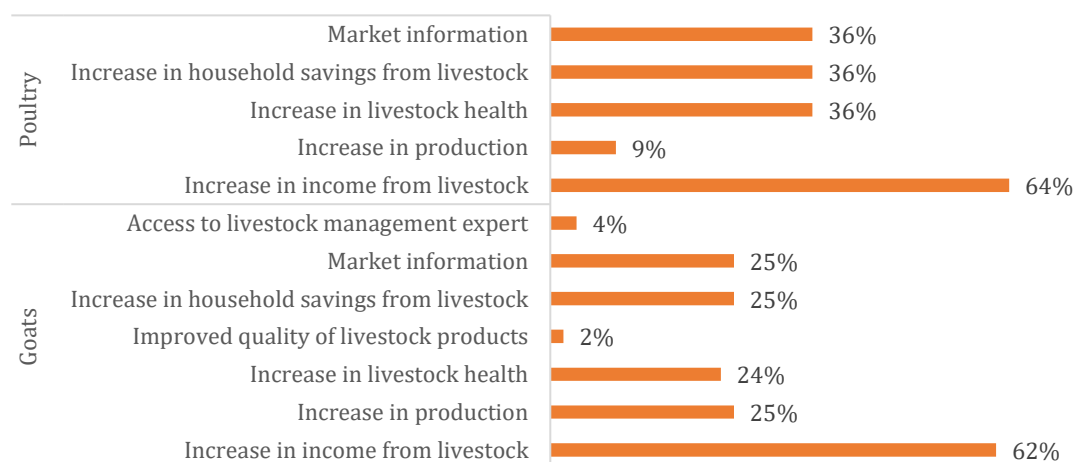


Figure 12 shows the benefits of livestock interventions, majority of the respondents have shown an increase in income from livestock, especially from poultry farming. With an additional source of income in the household the families benefitting from intervention in livestock were given goats in a partial fund. Around five families per village were given two goats each. The goats have been a source of saving as key spending on milk is now available from the goats provided. Moreover, the sale of goat milk that a few households in the villages engage in has also led to an increase in income for the household. Poultry farming also has led to an increase in household income through the sale of eggs and meat.

Figure 12: Perceived primary benefits of livestock interventions (n=65)



4.4. Health and Sanitation

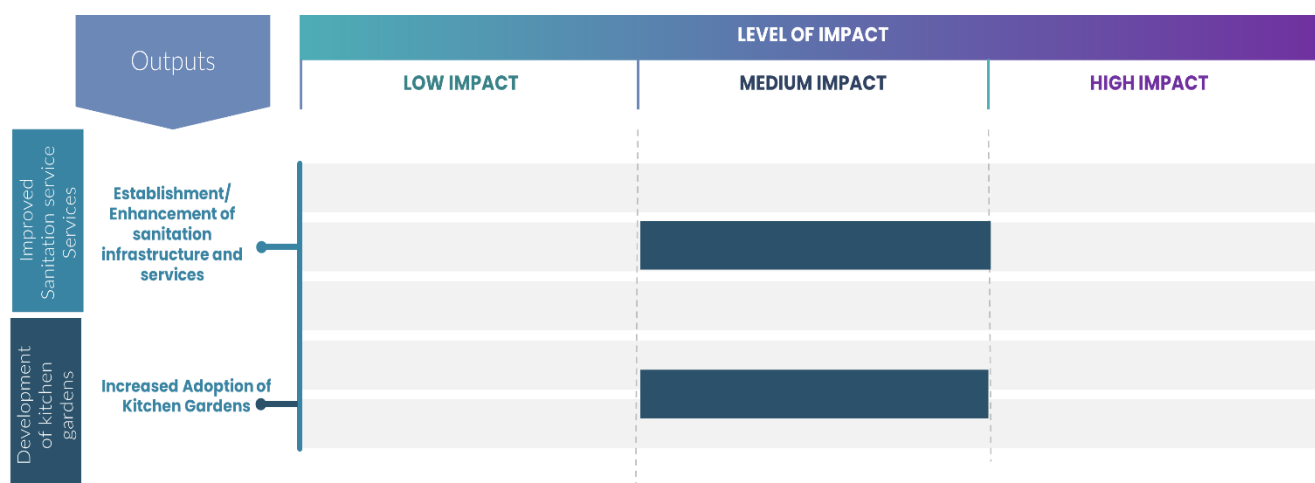
Health and sanitation interventions in the district were aimed to improve health-seeking behaviour and improvement nutrition in the disadvantaged section of the village community along with creating structures for proper sanitation in the villages. The interventions took place during the period 2017 to 2020 wherein the formative years aimed at village mapping and later years were at project execution. As per the project mapping, it was observed that sanitation & hygiene condition is very poor in the proposed villages and open defecation is common. Therefore, health and sanitation interventions are aimed at creating awareness and long-term structures that can benefit marginalized communities in preventing diseases born out of stale water and open defecation practices.

Table 8: Activities under health and sanitation in Punjab

Activity Category	Activities
Sanitation	Household wastewater soak pits, Household toilets
Kitchen Garden	Development and Training for Kitchen Garden

4.4.1. Effectiveness and Impact

Figure 13: An overview of project effectiveness and impact in Health and Sanitation (Based on quantitative data)



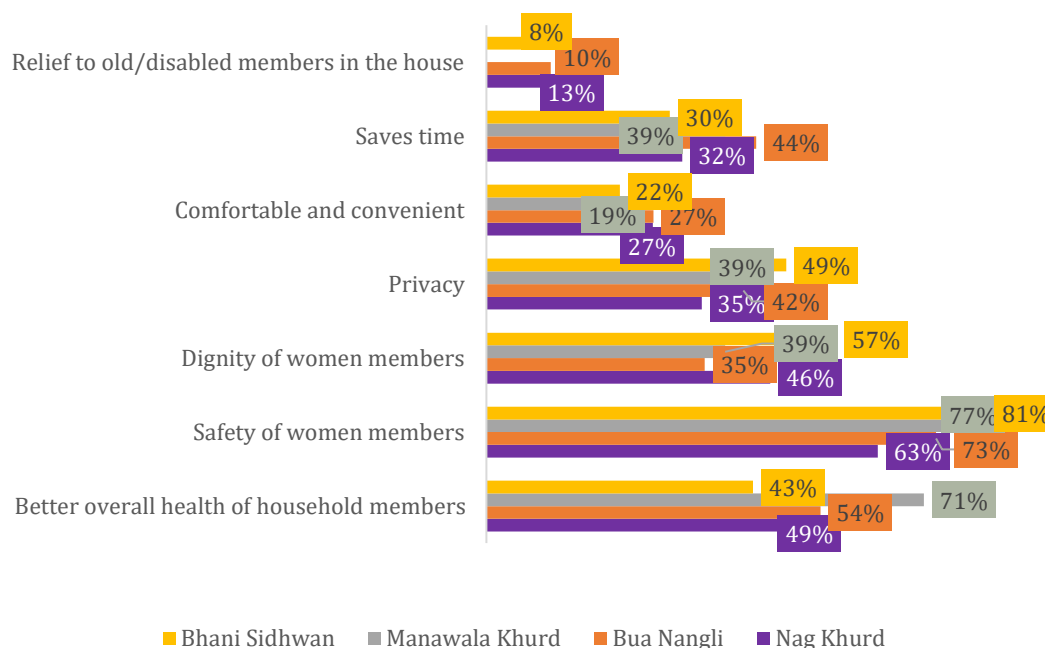
Despite the high coverage of water (95%) and sanitation (71%) in Punjab (as per the World Bank Data), the rural water and sanitation sector continues to face major challenges. Around 70% of the houses with toilets in Punjab are either covered by sewers or have septic tanks, but the effluent from most of these toilets leads into ponds or rivers and continues to be a health hazard. The Punjab Pollution Control Board confirms that human excreta are the main source of pollution in the state's rivers including the Beas and Ravi resulting in various diseases, such as typhoid, dysentery, cholera, hookworm diseases, ascariasis, and viral hepatitis. Unsafe drinking water, inadequate availability of water for hygiene, and lack of access to sanitation together contribute to about 88% of deaths from diarrheal diseases.

With the help of VDC, beneficiaries that did not have access to toilets were selected. HDFC Bank interventions worked with the beneficiaries to construct household toilets in all 4 project villages and a total of 58 household toilets were constructed in the houses. Additionally, 123 wastewater soak pits in selected common spaces were constructed to safely dispose of unusable water. A total of 112 kitchen gardens in 8 project villages were also constructed. The people were trained in the methods of sowing, harvesting, and taking care of different vegetables. The health camps for a checkup of school children and people from the village were held at schools of Bua Nangli, Dhing Nangal, Manawala Khurd and Bhaini Sidhwa. Four camps had 400 schoolchildren and more than 50 elder people. health issues such as lack of calcium, low bone density, digestion problems among children and diabetes and thyroid among elders. Medicines were provided accordingly and advised for a checkup for those who had a serious illnesses, this was conducted once during project intervention.

Sanitation infrastructure and services:

Through HDFC bank interventions, household toilets were constructed in each village, averaging out to 14 toilets per village. Additionally, household wastewater soak pits were constructed to safely dispose of unusable water. This activity was proven to be very beneficial in the regions averaging out to 30 households per village in the region still using wastewater soak pits. 49% of the respondents that have soak pits have received the same through HDFC bank intervention in terms of either partially funding the soak pits or through the provision of tools for construction.

Figure 14: Perceived benefits of household toilets (n=179)



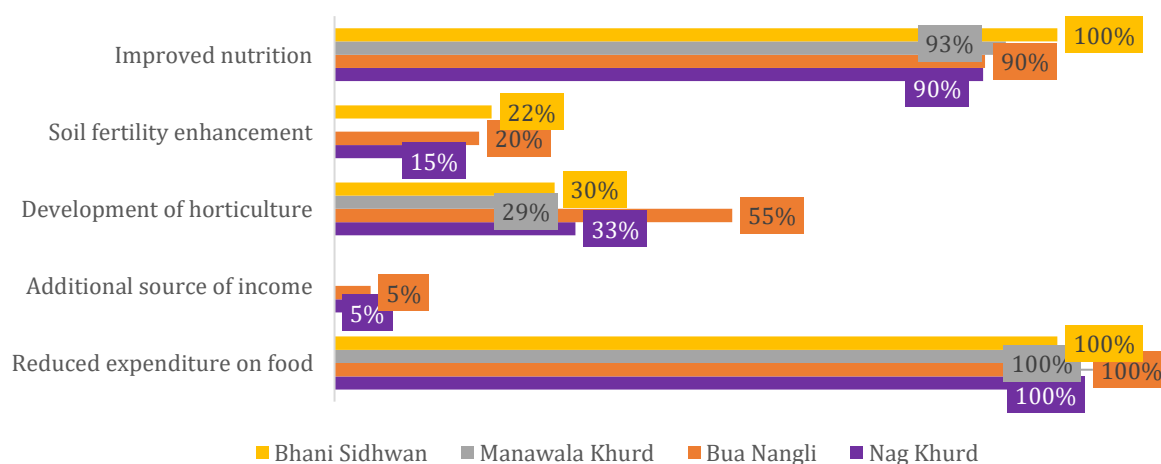
Through the construction of toilets in disadvantaged households, much relief has been provided to women and the elderly in terms of access to safe defecation facilities. Households with toilets are also benefitting the larger community as these are often accessed by members of neighbouring households. Project interventions for sanitation practices have been successful in the region.

The intervention for sanitation units has been key in giving dignity to women members of the household. Unsafe and open defecation facilities had made it a chore for women household members who were getting routine infections through the process. Figure 17 shows that 70% of the respondents claim the use of sanitation units is beneficial for women. 60% of the respondents also mark the better overall health of the household through the proper and adequate maintenance of toilets.

Around 50% of the households have soak pits that are not functional. This is because of the inability of the soak pits to filter out water due to their size. On average, soak pits were constructed to be 7-8ft deep and only 3-4ft wide. This is too small a size to filter water for a long time. The unused soak pit now is filled with gravel and dirt. Thus, while the project intervention for those with functional soak pits proves to be beneficial, it is the size-to-water ratio that is rendering other soak pits in the region unusable.

Kitchen Garden: To provide a sustainable and healthy quality of life to households, HDFC Bank interventions aimed at developing kitchen gardens in households. This was done by providing materials for construction, distributing organic, good-quality seeds to households and training for better farming practices. The households that also sold through their kitchen garden, reported an average income of Rs. 4000 per month from the kitchen garden produce.

Figure 15: Perceived benefits of HRDP-supported kitchen gardens (n=96)



The kitchen garden intervention has been beneficial in reducing expenditure on food, developing horticulture practices, and increasing soil fertility. It has also been largely taken up by women of the household since managing the kitchen is primarily a woman-assigned task in the region. Figure 18 shows that 100% of the respondents note the reduction of expenditure on food due to the homegrown kitchen gardens while 93% of the respondents note the improvement in the nutrition of household members. 60% of the respondents are highly satisfied with the kitchen garden intervention in project villages.

Almost all the respondents who have a working kitchen garden said they would benefit from more detailed training and continuous access to seeds. Out of the households that had kitchen gardens but were not currently functional, the primary reason for the same was a lack of access to resources once the HDFC project ended. The fact that seeds were not available, and any kind of construction aid was not given after the end of the project, the kitchen garden also became dysfunctional.

Awareness and health-seeking behaviour: HDFC Bank project interventions were beneficial in creating awareness around general health and sanitation practices that includes cleanliness, liquid, and solid waste disposal. This was done through training of village youth that then took forward the activity to create house-to-house awareness regarding better practices.

There has been a 25% increase in the disposal of waste in closed pits and a 1% decrease in burning it in the open. While the majority of the population is still openly throwing waste, there is an urgent need to create waste management structures to properly dispose of waste.

4.5. Promotion of Education

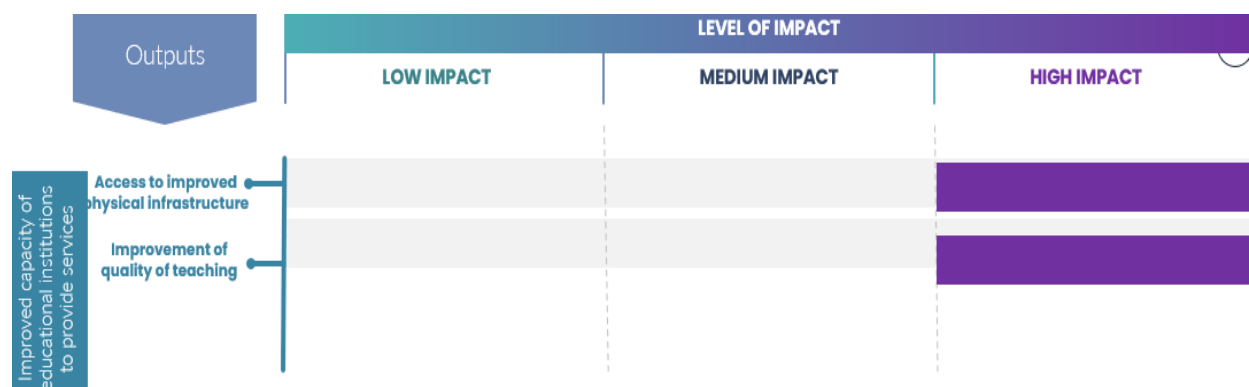
Under the HDFC programme, the purpose of improving the quality of education in government primary schools is a key objective. The project intervention aims at infrastructural development in primary government schools that can have a lasting impact on children and their education. For the same, wall repair, library set up, distribution of sports goods and repair of school toilets were all taken up as part of the intervention. Additionally, routine workshops were conducted to make school a fun place and through organizing cultural events, children have learnt about key festivals and engaged more with school activities. All this was done with the active involvement of teachers and school management. In the final stages of the project in 2020, Anganwadi rooms in primary schools were also repaired with BaLa wall paintings. This is reflected by an increase in the attendance of students in these schools during the current academic session.

Table 9: Activities under education in Punjab

Activity Category	Activities
Educational Institutions Development	Construction/ Repairment of school toilets, Repairment of school walls, BaLa wall paintings in Anganwadi room, Distribution of chairs
Education Support	Distribution of TLM, Library books distribution
Awareness Generation	Independence Day, a women’s day celebration
Sports	Distribution of sports kits

4.5.1. Effectiveness and Impact

Figure 16: An overview of project effectiveness and impact in Education (Based on Quantitative data)



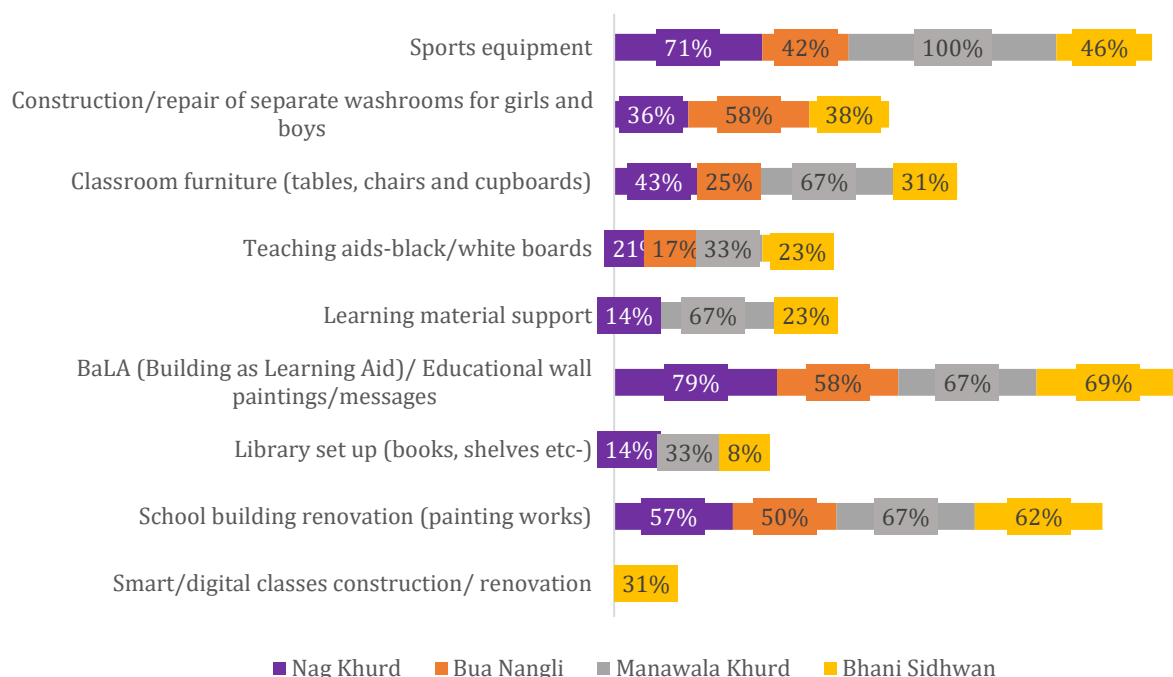
The school playground was constructed 1 in Manawala village, and 2 in Bua Nangli village which are used by primary school children. School whitewash and BaLa walls were painted in all project schools during the COVID-19 lockdown. School infrastructure of Government Primary Schools in Nagkhurd, Manawala Khurd and Bhaini Sidhuwan village was improved by repairing the roof and floor of the classrooms. Government Primary Schools in Manawala Khurd and Bhaini Sidhuwan villages were also given fans and tube lights for their classrooms. 500 books given to each school in the project village in English, Hindi and Punjabi to increase interest in reading among school children.

Additionally, awareness generation activities for various days such as women’s day, earth day etc. were conducted by HDFC bank volunteers. The sustained infrastructural interventions in the region have made the classrooms more interesting and exciting for primary school students who reported through qualitative interviews, that the colourful walls and paintings around schools make them look forward to going to class every day. Thus, interventions in education have been beneficial in the region.

Educational Institutions: Intervention for education is key in primary schools as it is the first formal education received by children. The children in the project villages usually go to block schools for further studies. Interventions in primary schools are necessary to help children have a positive outlook towards education.

It is necessary for children to have good, well-maintained bathrooms in schools so that they don’t have to go home between classes. For the same, HDFC interventions repaired school toilets that are safe and hygienic for children. Additionally, the whitewashing of school walls and BaLa paintings in Anganwadi rooms and other school walls have improved the children’s interest in going and playing around the school campus. Amritsar district villages also benefited from repair works around the school property. Chairs were also distributed to government schools; the small chairs are used in multiple ways during school activities.

Figure 17: Infrastructural services available after project inception (n=22)



To engage young children in reading and writing, a library shelf along with 500+ books was given to each primary school in the project villages. This has greatly benefited young students as the difficulty level of the books matched the children’s and the diversity of language: English, Hindi and Punjabi

make for varied types of readings. The library set-up and the rotatory distribution of books are still active in schools. Under the HDFC project intervention, sports equipment like cricket fixtures, balls, badminton rackets etc. has been distributed in all project primary schools to develop an interest in sports and for general activities to be conducted in schools during playtime. Sports equipment distributed was both: for outdoor and indoor sports activities. This has greatly benefitted schoolchildren as they often use the material during lunch and after school. It also makes many students look forward to going to school again the next day. Education infrastructure that is built as part of the project intervention has helped in regularizing attendance in primary school through the construction of toilets. As school children previously went home for using washrooms, they would often not come back to class. This has now been reduced. The construction of the library, distribution of sports goods and school BaLa wall paintings have aided the schoolteachers to have alternate teaching modules.

Table 7: Perceived benefits of infrastructural services according to teachers/ students (n=22)

Perceived benefits				
Intervention	Lessons are more interesting	Lessons are easier to understand	Syllabus covered faster	Lessons are easy to remember
Smart class	83%	50%	50%	100%
Classroom furniture	100%	100%	60%	60%
Bala	71%	71%	57%	86%
Learning Materials	100%	80%	40%	0%

4.6. Sustainability

The project support provided demonstrated the capability to continue even after the programme ended. The project's support to sustain improved outcomes is demonstrated below.

Under this thematic intervention of Natural Resource Management, the project support provided demonstrated the capability to continue even after the Programme ended. Farmer training and demonstrations on vermicomposting, crop diversification, and the use of pesticides/ fertilizers have benefitted the farmers in better agricultural practices. 50% of solar lights across all project villages are still functional. The rest are dysfunctional due to battery drainage. Finally, while biomass cookstoves were distributed in the region, many people have the stoves but have not used them as they were not given a proper demonstration of their usage. The project's support to sustain improved farm income, adoption of clean energy and irrigation management are demonstrated below.

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

Skill and livelihood interventions in the area mainly focused on four fronts: Agriculture training and support, and skill training for SHGs. Livestock management and SHG-based enterprises. Livestock beneficiaries have been availing of reasonable monetary benefits from the intervention. This directly caters to the sustainability aspect of the project for consistent impact. Similarly, skill training has proved beneficial to village women for self-sustenance and as a social activity to bond and meet. Market linkages for the skill-based activities conducted are the primary aspect for the long time sustenance of the project. Nature and organic farming training given to farmers and SHG enterprise development could not sustain after the project due to the lack of connectivity from other key stakeholders for new emerging businesses. While ponds were cleaned and repaired as per the project activity, it was not maintained in 1 out of the 4 project villages.

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

Through HDFC bank project support, Soak Pits, Sanitation units and Kitchen Garden interventions have attained the capacity to be successful interventions in the health and sanitation sector of the region. In terms of maintenance, various issues become considerable. Since the soak pits are not deep, it has been unable to filter out water in households due to which many households have soak pits but are inactive now. Kitchen gardens in households have also been maintained at individual capacity. After project implementation, seeds were not available and thus the kitchen gardens are not functional.

Support provided	Structures established	Technical Know-how	Usage	Maintenance
Health and Sanitation				
Sanitation	✓	✓	✓	
Kitchen Garden	✓	✓	✓	

For all the interventions under education, the structures are still intact and used commonly in schools. Sports equipment, library set up, and repair of school infrastructure during the end phase of the project are still intact and in proper use. The far-reaching benefits for the students in terms of interest have resulted in less dropout rates and more primary school children going to village primary schools instead of block-level primary schools.

Support provided	Structures established	Technical Know-how	Usage	Maintenance
Promotion of Education				
Educational Institutions Development	✓	✓	✓	✓
Education Support	✓	✓	✓	✓
Awareness Generation	✓	✓	✓	✓
Sports	✓	✓	✓	

4.7. Holistic Rural Development Index (HRDI)

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

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

Table 8: Holistic Rural Development Index for Punjab project area

Domain	NRM		Skill and Livelihood		Health and Sanitation		Education		Total	
	Base line	End line	Base line	End line	Base line	End line	Base line	End line	Base line	End line
HRDI Score	0.15	0.17	0.08	0.16	0.16	0.23	0.07	0.09	0.32	0.50
% Change	13%		100%		44%		29%		56%	

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

5. Conclusion

5.1. Summary of Findings

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

In the assessed HRD programs in 2 blocks of Amritsar and Taran Taran of Punjab, the major focus areas for intervention were Natural Resource Management (NRM), Skill Development & Livelihood Enhancement, Healthcare & Hygiene and Promotion of Education. The project can be deemed effective in creating noticeable changes in the income generation capacity of farmers through improved productivity, reduced input cost, and capacity building of farmers to adopt sustainable and innovative agricultural practices. Furthermore, the project also brought about changes in facilitating access to clean energy solutions such as solar streetlights. 200 Fruit trees were also distributed to more rural households improving their nutrition and well-being half of them were still planted to provide green cover in the region.

The project activities within skill and livelihood enhancement also have opened economic opportunities not just for farmers, but for SHG women in the community. These beneficiary categories, who otherwise have limited access to economic opportunities benefitted from the project by gaining the skills, technical support, and physical capital to undertake and expand entrepreneurial activities during the project period. While sustained profit generation is yet to be achieved, the project was successful in initiating entrepreneurial activities in the community among women that have motivated more women to start their own income generation activities. Livestock interventions through animal health camps and the distribution of goats and poultry helped small and marginalized farmers to have an extra source of income which was especially beneficial during the COVID-19 lockdown in the region.

For project activities in health and sanitation, the construction of wastewater soak pits has resulted in adequate water management in households. Most of them are still functional. Through the construction of toilets in disadvantaged households, much relief has been provided to women and the elderly in terms of access to safe defecation facilities. Households with toilets are also benefitting the larger community as these are often accessed by members of neighbouring households. Project interventions for sanitation practices have been successful in the region.

HDFC interventions in promoting education have been the most effective in the region, as smart classrooms in selected schools have benefitted students to take more interest and regularize their attendance in schools. Additionally, the repair of school toilets is safe and hygienic for children to use during school hours. Additionally, the whitewashing of school walls and BaLa paintings in Anganwadi rooms and other school walls have improved the children's interest in going and playing around the school campus.

5.2. Recommendations

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

Natural Resource Management: There is a need for time-to-time dissemination of information on farming techniques and innovative methods of organic farming backed by expert advisory in future interventions. For a committed push to organic agriculture, the concept can be seeded and promoted through the vehicle of farmer-producer organizations for better effectiveness of the initiative. Social acceptance of the smokeless chullah needs to be relooked at. While the intervention is beneficial, however, if the intervention (especially for smokeless chullah) is socially and culturally aligned, it may not be taken up by the community. After-sale technical service for solar streetlights is required. Given the remoteness of the area, it was difficult for the community to access technical support once the equipment broke down. Ensuring market linkages will ensure better price realizations for farmers and tangible impacts. Since the traditional channels are long with a large number of intermediaries, the share of farmers in consumer prices is comparatively lower.

Skill and Livelihood Enhancement: To improve the effectiveness of the activities supported under the theme there is a need to provide a range of critical services, such as business development support, mentoring, finance, as well as access to the banking system as funding through the individual's savings stifles their consumption needs. Additionally, work needs to be done by the partner NGO in developing a more formalized set-up where people start understanding how to do business, and have begun savings and maintaining cashbooks for businesses. For the long-term sustainability of the interventions, the project can incorporate training of youth in the villages on parapet services for better access to basic veterinary services as well as information on livestock management.

Health and Sanitation: The Programme could have sought to utilize a community-driven approach for the interventions on household wastewater soak pits or the restoration of household toilet wastewater in which GPs could have contributed to capital cost. This could have been supported by mobilization and capacity-building activities under HRDP.

Promotion of Education: Teaching aids have the potential to be more than a medium for the transmission of knowledge, but this needs to be backed by new skills, competencies and attitudes among teachers who are going to design and develop materials and support learners using these aids. It is not enough to establish the basic infrastructure, it must be consistently maintained and upgraded. Therefore, appropriate technical knowledge needs to be ensured to operate smart classes, and also to optimize the use of educational aids. Additionally, an asset maintenance fund/ committee needs to be established in the Programme-supported schools to ensure the necessary maintenance of support functions such as - drinking water posts and smart classes. Proactive convergence with ongoing schemes of the government will ensure efficient use of resources.

6. Annexures

6.1. Detailed Activity List

Sl No	Focus area	Category	Sub-category	Activity	Beneficiary Type
1	Promotion of education	Educational Institutions Development	Infrastructure renovation	Renovation of all primary schools including Whitewash, roof, floor repairing. Anganwadi rooms were also repaired with additional chairs and tables being distributed in all project villages.	School
2	Promotion of education	Educational Institutions Development	Infrastructure renovation	School Playground facility developed 1 in Manawala village, 2 in Bua Nangli	School
3	Promotion of education	Educational Institutions Development	Teaching Aid	500 Books were distributed in each project school for library formation	Students
4	Promotion of education	Educational Institutions Development	Infrastructure development	Smart classroom was constructed in Nag Khurd	School
5	Promotion of education	Educational Institutions Development	Infrastructure development	Sanitation units (Toilets) - consisting of separate girls and boys toilets with taps for hand washing constructed in all the project villages.	School
6	Promotion of education	Education Support	Education Support	Play way Learning Activities in all project villages were distributed	Students
7	Promotion of education	Education Support	Education Support	Sports kits were distributed in all project villages	Students
8	Promotion of education	Awareness Generation	Awareness Generation	International Women's Day, World Environment Day, Independence Day and Teacher's Day were celebrated.	Students
9	Promotion of education	Awareness Generation	Awareness Generation	Handwash Training was conducted in all project schools	Students
10	Health and sanitation	Sanitation	Wastewater Soak Pits	123 soak pits constructed across project villages	Community
11	Health and sanitation	Sanitation	Community Toilets Construction/ Renovation	Total 58 household toilets constructed	Community
12	Health and sanitation	Health	Health Camps	The health camps for checkup of school children and people from village were held at schools of Bua Nangli, Dhing Nangal,	Community

				Manawala Khurd and Bhaini Sidhwa. 4 camps had 400 school children and more than 50 elder people. health issues such as lack of calcium, low bone density, digestion problems among children and diabetes and thyroid among elders. Medicines were provided accordingly and advised for checkup for those who had serious illness.	
13	Health and sanitation	Health	Kitchen Garden	112 kitchen gardens in 8 project villages were constructed.	Community
14	NRM	Farm Management	Agri Tool Bank	In all project villages Power Weeder has been provided to PGS group in Nagkhurd. Bush Cutter and Cow Dung Pot Makers were also distributed in other villages.	Farmers
15	NRM	Green Cover	Plantation drives	Plantation of 200 fruit and timber plants; 100 each in village Bua nangli & Manawala Khurd.	Farmers
16	NRM	Farm Management	Community Seed Bank	Provided in all Project Villages	Farmers
17	NRM	Farm Management	Model Farms	10 model farms were developed to promote organic farming	Farmers
18	NRM	Irrigation Management	Pond Development and Deepening	1 pond in Bhaini Sidhwan and 2 in Bua Nangli village cleaned	Farmers
19	NRM	Clean Energy	Street Solar Lights installation	Solar streetlights were installed in project villages	Community
20	NRM	Clean Energy	Biomass Cookstoves	80 biomass cookstoves were given to households in all 4 villages i.e., 20 households in each village	Community
21	Skill development and livelihood enhancement	Skill Training	Skill Training	Farmer Support and Training	Farmers
22	Skill development and livelihood enhancement	Skill Training	Skill Training	Training in Food Processing and Packaging	Community
23	Skill development and livelihood enhancement	Skill Training	Skill Training	Promotion of Organic Composting for project villages were conducted	Farmers
26	Skill development and livelihood enhancement	Entrepreneurship Development	Formation of SHG	Self Help Groups were established in all project villages	Women
27	Skill development	Entrepreneurship Development	Formation of FPO	FPO'S were established in all project villages	Farmers

	and livelihood enhancement				
28	Skill development and livelihood enhancement	Entrepreneurship Development	Formation of VDC	VDC's were established in all project villages	Community
29	Skill development and livelihood enhancement	Livestock Management	Goatry	To support the livelihood of small and marginal farming families 17 families were supported with 2 Goats each and trained in goat rearing.	Community
30	Skill development and livelihood enhancement	Livestock Management	Poultry	To support the livelihood of small and marginal farming families 15 families were supported with backyard poultry activities	Community

6.2. Sampling Methodology

The quantitative household survey was administered for 4 thematic areas in each district.

6.2.1. Quantitative Sample Size Calculation

For this study, the formula for the calculation of finite sample size for the 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 400

Quantitative Sampling Methodology

Stage 1 – Selection of villages

All 4 villages were sampled for the survey. The cluster sampling method was adopted for the sample selection for the quantitative survey.

Stage 2 – Selection of beneficiaries:

The list of beneficiaries while available for the study helped in sampling the field in terms of villages where interventions took place. After the sampling plan per village per thematic area, the beneficiaries were obtained through the process of random sampling where the enumerators went

on the field to ask people about the benefits availed through project interventions. The beneficiaries obtained through this method acted as the sampling frame for that Programme. Since one household might avail more than one benefit from the holistic Programme, there is a possibility of more than one beneficiary from a single household or a household having more than one intervention area benefit.

6.2.2. Qualitative Sample Size Calculation

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

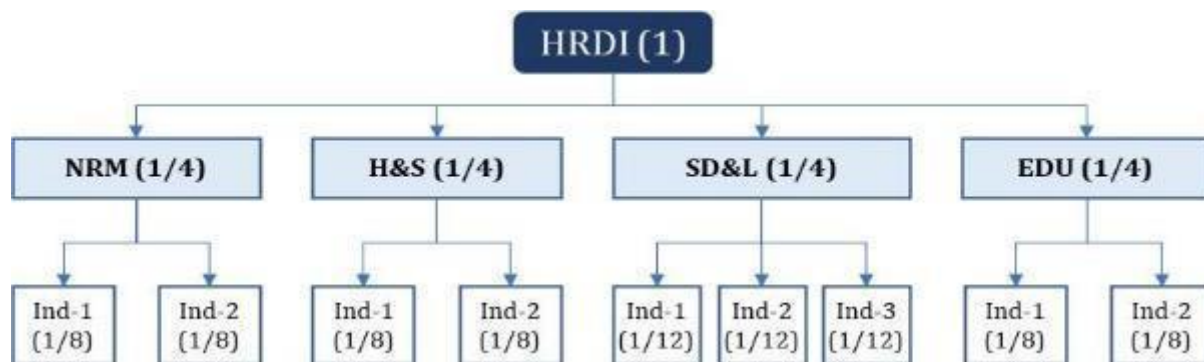
Since there was no baseline available for this evaluation, recall method was used in the household survey to assess the change that has happened over time. For this purpose, the respondents were asked to recall the value of critical indicators at the start of the Programme.

6.3. HRDI Methodology

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

Indicator Weights

Image 4: Domain and indicator weights⁴



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

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

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

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.

Natural Resource Management	Average productivity of crops (3 major crops) grown (quintal per acre)	$(1/4) \times (1/2) = 0.125$
	Area under irrigation (Ha)	$(1/4) \times (1/2) = 0.125$
Health and Sanitation	Percentage of households with access vegetables in nutrition garden before intervention	$(1/4) \times (1/2) = 0.125$
	Percentage of households with access to improved toilet facility	$(1/4) \times (1/2) = 0.125$
Livelihoods and Skill development	Percentage of SHG members participating in rural enterprises	$(1/4) \times (1/2) = 0.125$
	Percentage of households with improved livestock health	$(1/4) \times (1/2) = 0.125$
<i>Education</i>	Percentage of students reported functional smart class before/after project	$(1/4) \times (1/2) = 0.125$
	Percentage of students having learning material before/after the project	$(1/4) \times (1/2) = 0.125$

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

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

Domain	Indicators	Baseline	Weight	HRDI	Endline	Weight	HRDI
NRM	Average productivity of crops (3 major crops) grown (quintal per acre)	24	10%	0.15	23.5	10%	0.17
NRM	Area under irrigation (Ha)	4	90%		5	90%	
H&S	Percentage of households with access vegetables in nutrition garden before intervention	36	50%	0.16	80	50%	0.23
H&S	Percentage of households with access to improved toilet facility	90	50%		100	50%	
Skill	Percentage of SHG members participating in rural enterprises	28	50%	0.08	81	50%	0.16
Skill	Percentage of households with improved livestock health	38	50%		50	50%	
ED	Percentage of students reported functional smart class before/after project	20	50%	0.07	33	50%	0.09
ED	Percentage of students having learning material before/after the project	35	50%		40	50%	

6.4. 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
Increased income from agriculture				
Land/ crop productivity	Proportion of farmers reporting an increase in production of crops that were supported under HRDP	87%	79%	High
	Proportion of farmers reporting increased input efficiency after the intervention	65%		
	Proportion of farmers reporting increased income from crops that were supported under HRDP.	87%		
	Average increase in income from crops that were supported under HRDP (% change)	78%		
Access to the farm management infrastructure	Proportion of beneficiaries satisfied with the quality of available services (in farm management)	82%	38%	Low
	Proportion of farmers currently practicing organic farming/conservation agriculture/other sustainable practices	33%		
	The proportion of farmers reporting an increase in the use of natural fertilizers?	0%		
Land under irrigation	Increased area under irrigation	50%	34%	Low
	The proportion of farmers who received support for irrigation	19%		
Increased use of clean energy solutions				
Adoption of clean energy infrastructure	Proportion of HHs using clean energy infrastructure (Base=all)	43%	44%	Medium
	Proportion of households reporting benefits from using clean energy infrastructure (Base=clean energy beneficiaries)	36%		
Economic empowerment through collectivization (Only for SHG members)				
Formation/ revival of SHG-based Enterprises	Proportion of members who received support with establishing/reviving SHGs	86%	40%	Medium
	Proportion of members who received support with establishing/reviving SHG enterprises	27%		
	Proportion of members whose SHGs are currently functioning	7%		
Development of entrepreneurship	Proportion of SHG members undertaking entrepreneurial activities	40%	51%	Medium
	Proportion of SHGs with increased savings	50%		

	Proportion of SHG members reporting improved income	63%		
Improved capacity to generate income through livestock management				
Adoption of scientific management of livestock	Proportion of beneficiaries who received support in livestock management services	16%	25%	Low
	Proportion of beneficiaries reporting an increase in income from livestock management	55%		
	Proportion of beneficiaries reporting improved livestock health	6%		
Improved sanitation infrastructure and services				
Establishment/enhancement of sanitation infrastructure.	Proportion of beneficiaries who gained access to sanitation services	43%	46%	Medium
	Increase in no of HHs with access to sanitation infrastructure/ facilities	60%		
	Proportion of beneficiaries reporting benefits due to improved access	35%		
Development of Kitchen gardens				
Increased adoption of kitchen gardens	Proportion of HHs reporting income gains from kitchen gardens	3%	61%	Medium
	No of HHs received seeds/training in the kitchen garden	52%		
	No of HHs with improved vegetable/fruit consumption due to kitchen gardens	98%		
	Proportion of HHs reporting improved nutrition	92%		
Improved capacity of educational institutions to provide services				
Access to improved physical infrastructure	Proportion of students/schools who report gaining access to functioning smart classrooms/ Bala/science labs/libraries/learning aid/furniture/sports equipment	50%	75%	High
	Proportion of schools who gained access to clean and functioning sanitation units at education institutions	100%		
Improvements in quality of teaching	Proportion of teachers regularly utilizing smart classrooms	67%	83%	High
	Proportion of students who prefer/regularly use smart classrooms	100%		

0%-40%	Low
>40% - 70%	Medium
>70%-100%	High
