

Impact Assessment Study Of Holistic Rural Development Programme (HRDP)

Punjab



Prepared For:



HDFC Bank CSR

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Executive Summary

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

In the assessed Holistic Rural Development program implemented in Punjab (one cluster in Amritsar and three clusters in Ferozpur districts of the state), the implementation partner was Shramik Bharti. The major focus areas for intervention were Natural Resource Management (NRM), Skill Development & Livelihood Enhancement, Healthcare & Hygiene and Promotion of Education.

Table 1: Summary of key income indicators

Income Indicators (based on median)	Before	After	% Change
Average Net Income from Agriculture (INR)	156500	143250	-8%
Average Income from Livestock (INR)	18000	30000	67%
Average Income from SHG (INR)	27000	48000	78%
Average Productivity of 3 major crops (Kg./Acre)	1900	2423	28%

Natural Resource Management

Farmer trainings and demonstrations on vermi-composting, crop diversification, and use of pesticides/fertilizers have benefitted the farmers in better agricultural practices. 70% of solar lights across all project villages are still functional. The rest are dysfunctional due to battery drainage. Drinking water management structures in the villages have benefitted the people in the form of availability of clean water that has significantly reduced the spread of water borne diseases common in the region. While ponds were cleaned and repaired as per the project activity, it was not maintained in 3 out of the 8 project villages due to which the alternate source of irrigation provided as per the bank is now not in use. Finally, while biomass cook stoves were distributed in the region, many people have the stoves but have not used it as they were not given proper demonstration on its usage.

Skill Training and Livelihood Enhancement

Skill and Livelihood interventions in the area mainly focused on four fronts: Agriculture training and support, skill training for SHG's, Livestock management and SHG based enterprises. Livestock beneficiaries have been availing reasonably monetary benefits from the intervention. Skill training has proved beneficial to village women for self-sustenance. 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 business.

Health and Sanitation

Soak pits, Sanitation units and Kitchen Gardens were the key intervention areas in the region. While the household sanitation unit and kitchen garden have been fairly successful in the region, The construction of 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.

Promotion of Education

For interventions under Education, the structures are still intact and used commonly in schools. Sports Equipment's, Library set up, and repairment 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 has resulted in less dropout rates and more primary school children going to village primary school instead of block level primary schools.

HRDI Indicators

Table 2: Summary of HRDI scores

Overall HRDI		
Base line	End line	% Change
0.4	0.7	75%

Summary

1. Interventions in NRM, Skill and Livelihood have medium impact due to lack of adequate project handover to local village groups.
2. Sensitization on WASH practices and the construction of soak pits was successful in the region but about 50% of the soak pits are not functional due to poor construction and lack of knowledge to repair the constructions.
3. The HDFC Bank project worked on the formation and support of SHG's in the region but a poor financial and market ecosystem especially the lack of proper market linkages has resulted in 40% of the SHG's becoming inactive in the project area.

Recommendations

1. Formation and maintenance of Village Development Committees that can help oversee the program implementation and can look after project investments (E.g., SHG's, kitchen garden, agricultural implements, soak pits etc.)
2. Community driven approach for the interventions on household wastewater soak pit and the restoration of household toilet wastewater in which GPs can contribute to capital cost.
3. Strengthening and skill training of SHG's that can help connecting business enterprises to the market.

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

Punjab is one of the highly developed states of 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)

Table 3: Comparison of Punjab's HDI with all India average¹

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 state is faced with a crisis especially in the cotton belt of its Malwa region with rising suicide rates amongst farmers and agricultural laborer's; 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 program 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.

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

The assessed HRD program implemented in Punjab (one cluster in Amritsar and three in Firozpur district), the implementation partner was Shramik Bharti.

The major focus areas for intervention were Natural Resource Management (NRM), Skill Development & Livelihood Enhancement, Healthcare & Hygiene, and Promotion of Education. However, the extent of the work in each cluster and each village was undertaken based on the need and varied from place to place.

¹ <https://hdi.globaldatalab.org/areadata/> in Goyal et al

Table 4: Overview of interventions undertaken

Thematic Areas/ Key Interventions	Cluster
Natural Resource Management	Amritsar/Firozpur
Demonstration and procurement of Agri-Implements	Amritsar/Firozpur
Community Seed Banks	Amritsar/Firozpur
Training Cum Exposure Visit of Farmers	Amritsar/Firozpur
Training on Organic Farming	Amritsar/Firozpur
Cleaning of Pond	Amritsar/Firozpur
Skill and Livelihood Enhancement	
Formation and strengthening of women SHG	Amritsar/Firozpur
Training and Distribution of Backyard Poultry	Amritsar/Firozpur
Skill Enhancement of Women groups and development of product in identified crafts	Amritsar/Firozpur
Health and Sanitation	
Household Wastewater Soak Pits	Amritsar/Firozpur
Restoration of Household toilet	Amritsar/Firozpur
Development of Kitchen Garden	Amritsar/Firozpur
Promotion of Education	
Library set up	Amritsar/Firozpur
Aaganwadi BaLa wall paintings	Amritsar/Firozpur
School repairment/ renovation activities	Amritsar/Firozpur
Distribution of Sports Equipment	Amritsar/Firozpur
Toilet construction and Renovation	Amritsar/Firozpur

1.1. 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 empowerment of the poor and underprivileged with special focus on women and children. Their mission is to facilitate and foster people’s democratic institutions, free from exploitations.

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 its 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.

The current assessment is focused on two districts in Punjab: Amritsar and Firozpur, with a total of 8 villages between both districts. Shramik Bharti being the implementation partner in these districts, the objective was to achieve holistic rural development in these areas. The program has worked on capacity building,

strengthening local institutions, providing technical and technological inputs, support financial and market linkages, and timely monitoring of the program implementation. The project was initiated in 2016, and through timely interventions, different activities were taken up in consecutive years up until the project got terminated in March 2021.

1.2. Intervention Areas

Punjab has always been an agriculture-dominated region. About 84 percent of its land is under cultivation & 70% of this land is irrigated through groundwater. However, due to depleting water levels, farmers are forced to deepen their tube wells frequently. The excessive use of chemical fertilizers has not only degraded soil health but also contaminated available water sources.

Though the literacy rate in Punjab is higher than other Indian states (Census 2021), students are unable to pass the grade level due to frequent dropouts. This is primarily because most of the students attend block level schools as opposed to village schools. Only the deprived and disadvantaged sections of the village attend village primary schools. These village schools have poor infrastructural facilities, lack of washrooms in the school premises that make it difficult for young students to stay in school for the given period.

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.

The choice of Firozpur and Amritsar for HRDP is appropriate as Firozpur showed a negative growth rate in HDI between 1990 and 2017, while Amritsar showed a high negative growth rate (-7.3%) during the period 2010 to 2017.

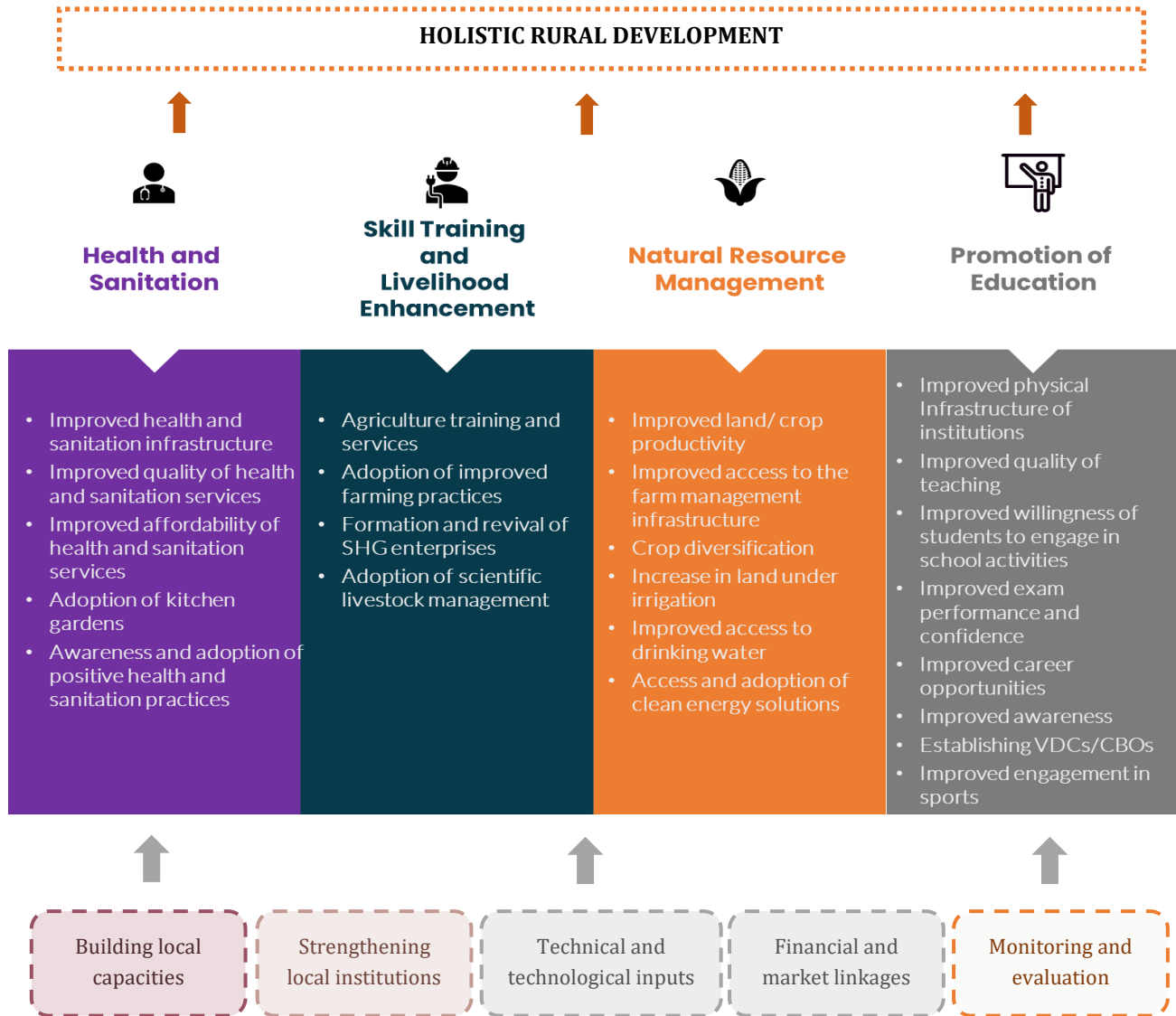
Table 5: HDI for project region²

	Education Index	Health Index	Income Index	HDI
Punjab	0.720	0.680	0.461	0.609
Firozpur	0.559	0.735	0.395	0.545
Amritsar	0.924	0.580	0.402	0.599

² Author's calculation, Goyal et al, 2020

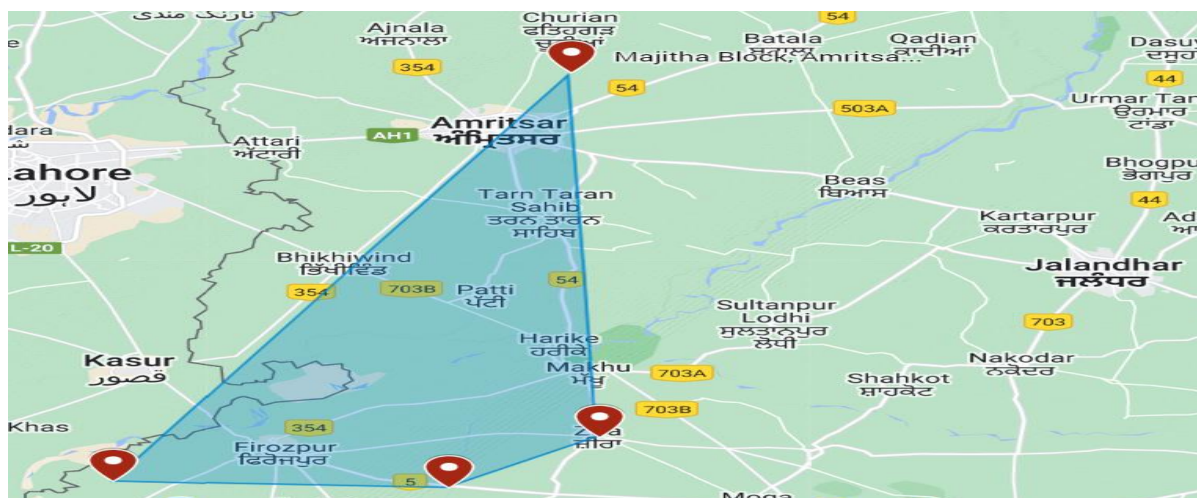
Figure 2: Conceptual framework of implementation

(Positive outlook towards health and sanitation practice, Relief through health and sanitation infrastructure, Improved knowledge of varied agricultural practices through farmer training and field visits, Skill training of women through sustained interventions, backyard poultry practices, Improvement in school infrastructure, Library set up etc.)



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

Figure 3: Areas covered under the study (Punjab State, with the two districts Amritsar and Firozpur. Four blocks are covered under the program: Majitha, Zira, Ghall Khurd and Mamdot with 2 villages each where the intervention took place making a total of 8 villages.)



1.3. Purpose and objectives of the study

The impact assessment aims at understanding the overall process undertaken by HDFC bank and partner organization in implementing the program activities, key milestones achieved, impact created by these activities, challenges faced, and the way such challenges were handled.

The project aimed to firstly, improve the quality of teaching and learning in rural government primary schools through capacity building of teachers. Secondly, the project was developed production of safe food with sustainable management of soil health and water resources. The project also focused on building and strengthening people's institutions namely SHG Federations and FPOs (Farmer Producer organizations) and strengthening of Gram Sabhas. The project also aimed at improving the quality of life of village communities through key infrastructural development including clean energy solutions, community natural resources especially water bodies, awareness generation and WASH infrastructure in communities and education institutions for a positive outlook towards everyday problems.

The guiding philosophy behind this study is to add value by showcasing successful initiatives and recommending possible ways to address challenges that exist. **The aim of the impact assessment is to evaluate the project critically and objectively and to determine the reasons why certain results occurred or not, to draw lessons, derive good practices and lessons learnt.**

The study provides evidence-based findings which would inform HDFC Bank in taking operational and strategic decisions while planning and funding partner organizations for such programs. The evaluation is also an opportunity to learn about the relevance of the program implemented, and the effectiveness of such programs.

2. Research Methodology

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

The evaluation tried to understand contextual factors that influence the program design and its implementation and the extent to which such factors have been considered to tailor the program design to suit the local needs. The study has observed if there has been a convergence/ made use of the existing resources of the government, whether different stakeholders involved have worked together to achieve the outcome of the program.

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.

The sustainability of the program has also been discussed by assessing the activities that have been impactful and sustainable. Through primary data, the study has tried to understand if the program has worked on strengthening the community's capacity to ensure sustainability, and whether any of the activities or strategies adopted has been/could be replicated.

2.1. Design and Methodology

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

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

2.1.1. Quantitative Sample Size Calculation

Quantitative Sample Size and Distribution

The quantitative household survey was administered for four thematic areas in each district. A detailed outcome harvesting process was carried out during the inception phase, and after discussions with the HDFC team, the outcome indicators were finalized.

Additionally, to understand the impact in terms of schools, a separate questionnaire was administered over primary school teachers where key HDFC interventions took place.

The sample size covered during the field is as follows:

Table 6: Quantitative Sample Covered

District	Health and Sanitation	Skill Training and Livelihood Enhancement	NRM	Promotion of Education	Total
Amritsar (1 block, 2 villages)	43	19	50	2	114
Firozpur (3 blocks, 6 villages)	108	24	138	39	309
Total	151	43	188	41	423
Planned	120	120	80	120	440

Quantitative Sampling Methodology

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

Since the list of beneficiaries were not available for the study, the beneficiaries were obtained through the process of random sampling where the enumerators went on the field to ask people about the benefits availed through project interventions. The beneficiaries obtained through this method acted as the sampling frame for that program. Since one household might avail more than one benefit from the holistic program, there is a possibility of more than one beneficiary from a single household or a household having more than one intervention area benefit.

2.1.2. Qualitative analysis sample size

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. The detailed sample covered for each stakeholder is given below.

Table 7: Qualitative sample size covered

District	FGDs			IDIs		
	Women/Self Help Group Beneficiaries	Community Members	PGS Farmer Group	Village Head	Teacher	Other Beneficiaries
Amritsar	1			1	2	1
Firozpur	4	2	1	2	6	1
Total	5	2	1	3	8	2
Planned	8			10		

3. Review of Program Design and Implementation

Since no baseline/ need assessment was available for Punjab, a preliminary budget was prepared by the organization that included the remuneration and direct expenses.

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

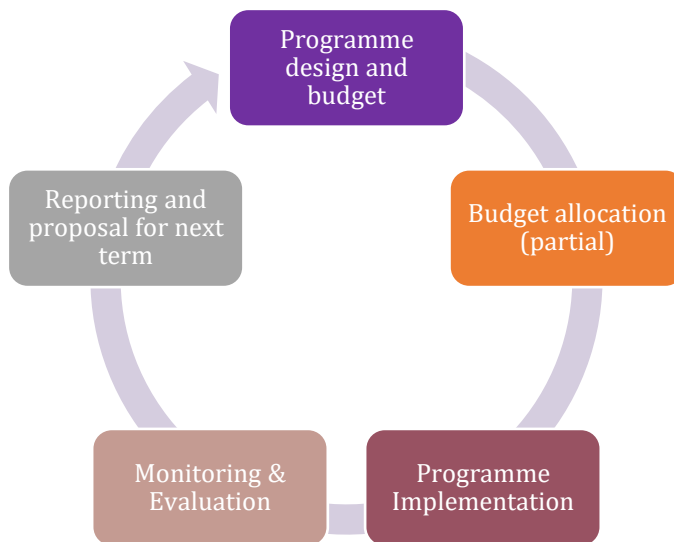


Figure 4: Project Planning and implementation process

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

4. Study Findings

4.1. Demographic profile

This section provides the demographic profile of the respondents covered in the sampled program villages under the assessment.

Out of the 421 samples covered, 56% were male respondents and 44% were female respondents. **70% of the total respondents have Pucca houses** whereas 20% and 10% of the respondents live in Semi Pucca and Pucca houses respectively. Since the intervention for the study mainly focuses on deprived and disadvantaged communities of the area, **75% of the total respondents fall under the Scheduled Caste category**. 21% respondents are from the General category while the rest are from OBC. Half of the sample have Below Poverty Line (BPL) cards while the other half is divided between Above Poverty Line (APL) and people with no ration cards. With regards to the **age wise distribution of sample**, 28% of the respondents are spread across the age groups of 25-35 (115 respondents), 36-50 (125 respondents) and 50+ (117 respondents). The age group of 18-25 make up 15% of the total sample covered.

Members of the household engage in different kinds of income generating activities. **Half of the total sample covered has more than one member per household engaged in wage labor**. Since the demographic profile focuses on disadvantaged communities where intervention took place with regards to the project execution, wage labor constitutes to be half of the source of income in the region. The second common activity in the region is cultivation. Livestock maintenance, salaried employment, and non-agriculture income (shops, rent, business) are the next common activities that different household members are engaged in the region. The respondents have an **equal division of different sources of drinking water including public tap/standpipe, piped water into dwelling/ yard/ plot and tube well/borewell** highlighted in the figure below. All the respondents have electricity in their houses. In terms of the type of fuel used for cooking, **75% use LPG for cooking** while the rest use firewood for cooking at their homes.

Figure 5: Work profile of the respondents

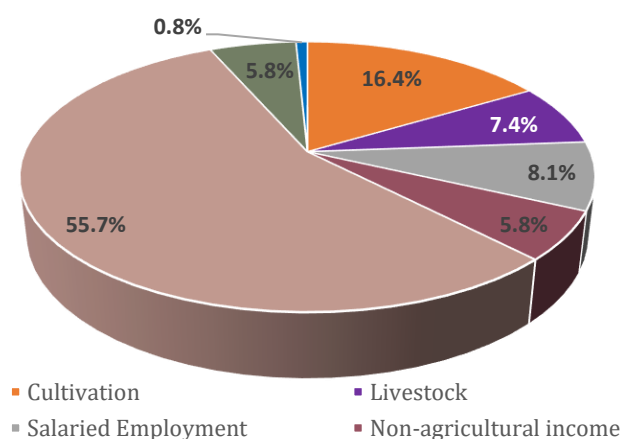
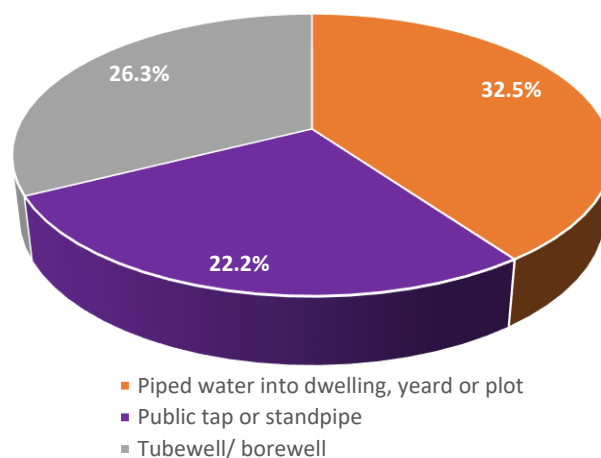


Figure 6: Drinking water system in households



4.2. Natural Resource Management

In Punjab, 35.6% of the workforce is engaged in agriculture, according to Census 2011. HDFC bank interventions in the region aims to promote sustainable agriculture practices and better farm management for the improvement of soil health, reduce the cost of cultivation, produce safe food, and reduce health risks of consuming food with high pesticide residues. The formative years of the intervention (2016 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 Participatory Guarantee System (PGS) groups, creating Agri tool bank, seed bank, training, exposure visits and capacity building for various sustainable means of agriculture.

Table 6: Activities under NRM in Punjab

Activity Category	Activities
Irrigation Management	<i>Cleaning of Pond, Rainwater Harvesting and Recharge pits, Handpump repair</i>
Clean Energy	<i>Biogas, Solar Street Lights, Solar Irrigation pumps, Biomass Cook Stoves</i>
Agricultural Support	<i>Demonstration and procurement of agri-implements, Community Seed Banks, Training cum exposure visit of farmers, Training of Farmers on Nature Farming, Training and assistance for organic farming, Formation of PGS Groups of farmers</i>

Thematic area-wise number of beneficiaries covered during the study is given in section 1 and 2 in the methodology and sampling section. Further, the relevance, effectiveness, and sustainability of activities under Natural Resource Management will be discussed in detail.

4.2.1. Relevance and Coherence

Irrigation Management

Many villages in Punjab suffer problems due to depletion of groundwater and the contamination of soil through chemicals and pesticides. The reduction in groundwater table and its poor quality limits the groundwater access for irrigation. The villages of Bholuwala, Sodhiwala, Tumber Bhan, and Mihan Singh Wala in Ferozpur district all have groundwater problems. The villages also have community ponds as a means for irrigation (nearby lands through diesel pumps), drinking water (livestock) and domestic water. But the ponds were filled with dirt and pollutants making it unfit for common use.

HDFC bank interventions in the region **have cleaned community ponds in 7 villages out of 8**, half of which are clean and functional for irrigation. Repair and construction were also implemented in the ponds for village use. 5 Rainwater harvesting pits have also been constructed in a few village households for proper household water management.

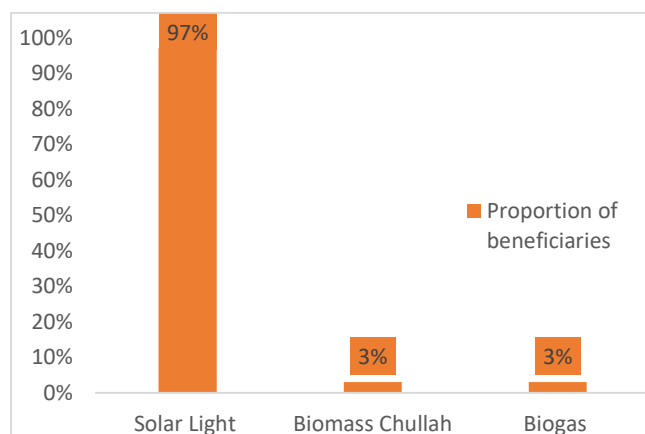
Clean Energy

The project villages of the region do not have streetlights. To address the issue, **60 solar streetlights** were installed as part of HDFC project where more than half of them is 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 the all the main village roads of the region, lighting up key walkways during nighttime.

Biomass chullahs were also distributed as part of 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, 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. It is a sustainable and a safer option for cooking.

The distribution of these units was conducted in the formative years of the intervention and was later discontinued. In Amritsar, the activity of distributing household biogas unit was also practiced in a small section of households to convert their organic waste into clean energy. Since majority of the village members use LPG for cooking at home, these interventions impacted a limited number of households.

Figure 7: Utilization of clean energy solutions among beneficiaries



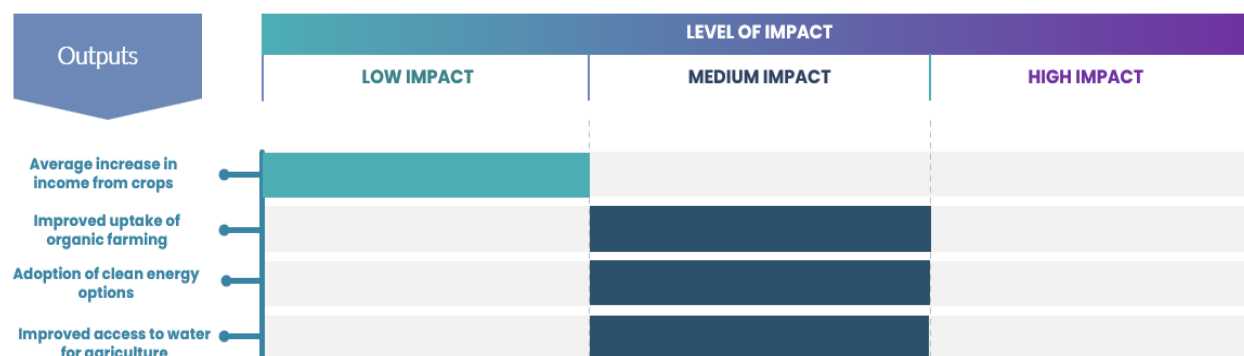
Picture 1: Solar Street lights setup under HRDP



4.2.2. Effectiveness and Impact

HDFC trainings on crop diversification, use of natural pesticides and fertilizers for farmers and interventions in drinking water and irrigation management have all dispersedly helped various village communities. Organic farming training has helped farmers to grow organic crops for their household consumption. Smokeless chullah distributed in households have helped in reducing smoke related hazards in homes. The following figure gives an overview of project effectiveness based on qualitative data collected.

Figure 8: An overview of project effectiveness and impact in Natural Resource Management (Based on Qualitative report)

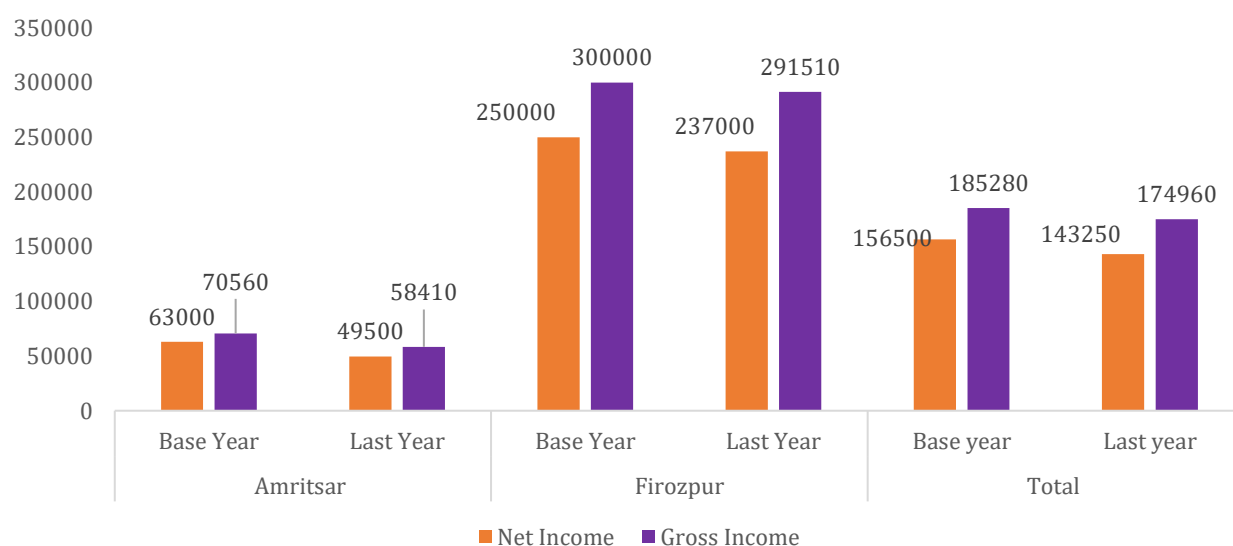


Income from agriculture

HDFC project intervention in irrigation management and water management helped farmers access water for irrigation. Farm management techniques such as use of natural pesticides and fertilizers and crop diversification taught farmers new and innovative methods of farm practice. But as highlighted in the figure below, there has been a depletion of gross and net come as compared to the base year of project intervention to last year after the project implementation.

The Focused group discussions with village farmers from Sodhiwala village and Mihan Singh Wala village highlighted the reason for decrease in income. Due to the onslaught of Covid-19 in March 2020, for the past years there has been a decline in market connectivity for crop yield in the area. The farmer protest in January 2021 also greatly affected the sale of crop in the past year as majority of the village farmers were unavailable to manage and oversee market sale of the produce. **These two factors have led to a 8% decrease in net income which has shown significant positive correlation at 95% confidence interval (p<0.01).**

Figure 9: Change in agricultural income (in Rs)



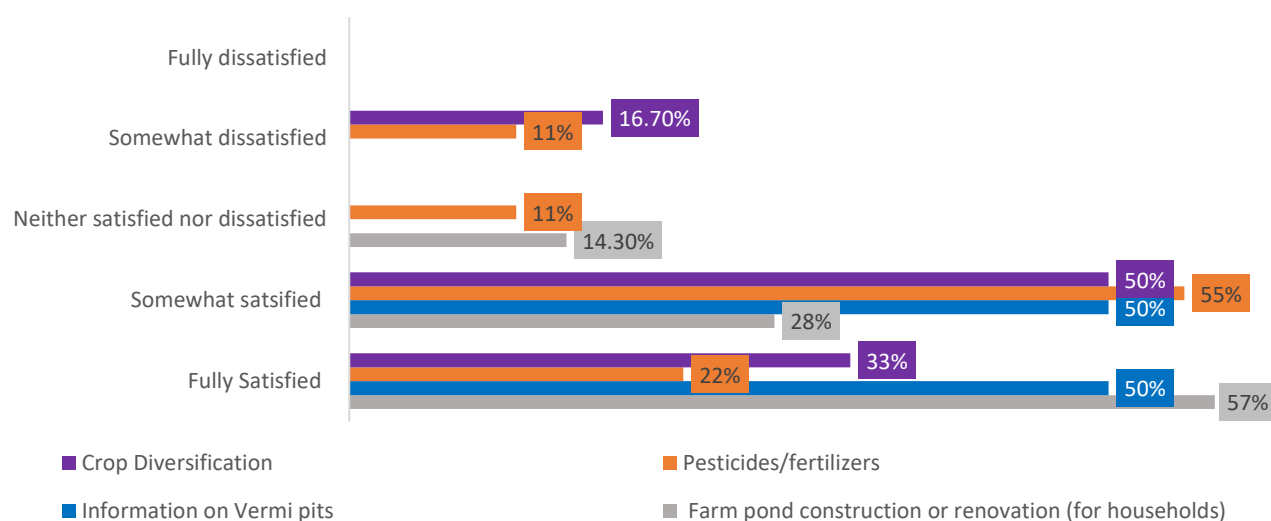
With the help of HDFC bank interventions, farmers in the villages adopted growing wheat, paddy and various vegetables apart from their previously grown crops. For growing paddy, farmers were trained in the practice of vermi-composting, which gives better paddy yield. This training has been beneficial for farmers because of which cultivating paddy in the region was adopted. Agricultural seed bank 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 trainings on pesticides and fertilizers.

Figure 10: HRDP interventions that contributed to increase in income

Crop	Wheat	Paddy	Vegetables
Intervention			
Information about Vermi Pits	33%	100%	0%
Installation of Solar Water Pump	0%	50%	0%
Crop Diversification	33%	0%	66%
Intervention with seeds and tools	60%	100%	100%
Information on pesticides and fertilisers	100%	100%	100%

HDFC training and demonstration of vermi pits has been the most successful activity of the region, through the process of vermi pit composting, farmers adopted the practice of growing paddy in their fields. In the villages where the construction and repairment of pond is still functional, it is being commonly used for irrigation purposes. Mihan Singh Wala and Kaler Mangat do not have functional village ponds due to which the respondents are neutral towards the project intervention.

Figure 11: Level of satisfaction with HRDP NRM interventions

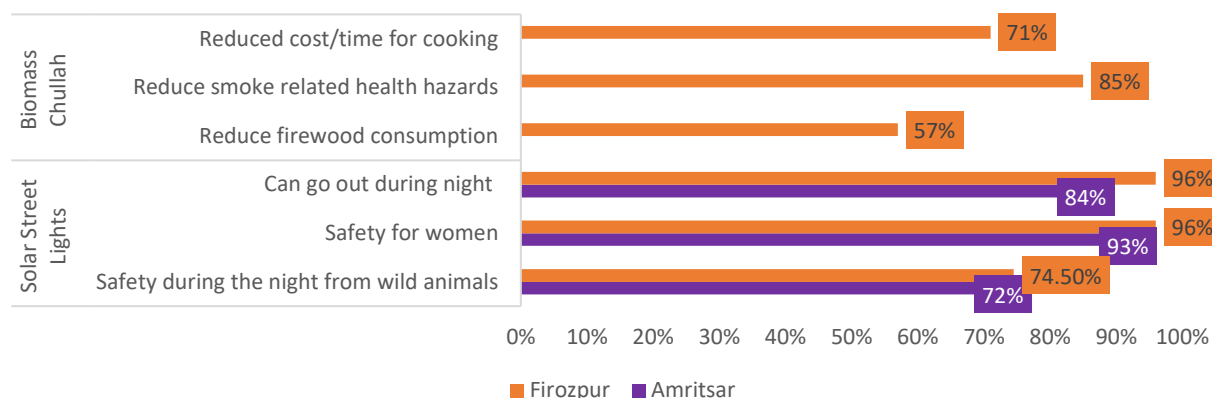


Use of clean energy solutions

To ensure the village is properly accessible to everyone at night, solar streetlights were installed in the project villages. These solar lights have greatly benefitted the 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 in all key roads of the village, making the main alleyways light up at night.

Biomass chullahs were also distributed in project villages of the Firozpur district. It has helped in reducing cost for cooking as well as reducing smoke related health hazards in the house. However, in Amritsar Biomass Chullahs were not provided to the project beneficiaries.

Figure 12: Uses of clean energy solutions



At present, while there are 60 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 only among the beneficiaries in the Firozpur district. 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.

4.2.3. Sustainability and Replicability

Under this thematic intervention, the project support provided demonstrated the capability to continue even after the program ended. The project’s support to sustain improved farm income, adoption of clean energy and irrigation management are demonstrated below:

Table 7: Sustainability of interventions under natural resource management

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

Farmer trainings and demonstrations on vermi-composting, crop diversification, and use of pesticides/fertilizers have benefitted the farmers in better agricultural practices. While ponds were cleaned and repaired as per the project activity, it was not maintained in 3 out of the 8 project villages due to which the alternate source of irrigation provided as per the bank is now not in use. 70% of solar lights across all project villages are still functional. The rest are dysfunctional due to battery drainage. Finally, while biomass cook stoves were distributed in the region, many people have the stoves but have not used it as they were not given proper demonstration on its usage.

4.3. Skill Training and Livelihood Enhancement

HDFC bank interventions aimed to build skill-based training and enterprise for disadvantaged sections of the selected villages for better means of sustenance and livelihood. Under the project, since 2016, there was a systematic attempt to bridge the gap between training and market exposure for small women enterprises that were trained under the HDFC bank project. The beneficiaries of the project have also showcased their craft in various craft bazaars in other cities in Punjab. Additionally, farmers were trained in agricultural practices that are more sustainable and open alternate markets for sale of produce. In Livestock management, poultry and goats were also distributed for sustenance on a need basis. Overall, the interventions have provided alternate means of sustenance.

Table 8: Activities under skill training and livelihood enhancement in Punjab

Activity Category	Activities
Agriculture Training and Support	<i>Demonstration on organic farming and best practices, Training on nature farming</i>
SHG Based Women Empowerment	<i>Formation and strengthening of Women SHGs</i>
Skill Training	<i>Plumber Training and Mason Training, Phulkari craft strengthening, Crochet Weaving, Cookery training, Furniture making</i>
Livestock Management	<i>Distribution of goats and poultry along with assistance</i>

The activity-wise number of beneficiaries covered during the study is given in the methodology and sampling section. Further, the relevance, effectiveness, and sustainability of activities under Skill Training and Livelihood Enhancement will be discussed in detail.

4.3.1. Relevance and Coherence

Agriculture Training and Support

As the biggest user of fertilizer and pesticides in the country, Punjab region is facing drastic conditions of ecological degradation and rising cost of farming. With hardly any need for institutional credit and minimal hired labor requirements, adoption of natural farming serves as a healing touch for the increasing pressure on farmers and natural resources in the region ³. 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

³ Savvy Soumya Misra. (2007, November 30). *Punjab's spiritual farming*. <https://www.downtoearth.org.in/coverage/punjab-spiritual-farming-6918>

adopt natural farming technology to cultivate food free from hazardous chemicals. Additionally, exposure cum trainings for nature farming were also held time to time to demonstrate new agricultural methods.

Getting sensitized by the following interventions, many farmers have come expressed willingness to adopt natural farming which was primarily started through their own kitchen gardens. Members of Sodhiwala PGS group till do organic farming for consumption purposes.

SHG Based Women Empowerment

The villages had prior experience with SHG development which was not sustained for a long time. The constant collectivization and its lack had created a sense of mistrust among village communities for a self-sustaining SHG group and accordingly, SHG based enterprises. The project aimed at reviving the SHG structures while improving awareness regarding the pertinence role SHGs play in serving as an alternate source of income leading to greater financial independence for women. In a focused group discussion with the women in the villages (Mihan Sigh Wala and Khamba village), it was observed that most of the women in the project village are either doing house chores or doing unpaid labor in the fields. The formation and maintenance of SHG groups has helped women combat some of their problems with greater financial independence.

SHGs have been trained in craft and cooking based enterprise development by HDFC Bank project intervention in villages (2 in each village). Their orientation and mobilization meetings were organized in project villages. Initial training of members of SHGs was conducted in day-to-day operations of SHGs and more training on Book-keeping, operation, and management of SHG was organized. The SHG was initially formed among 10-12 women village members, who by the learnings through HDFC bank were able to collect Rs 100 per person per month, which was then used to give SHG loan. These loans were then given on an interest rate of 4-5% which catered to be the SHGs main source of income.

Skill Training

It is necessary that vocational training is delivered to the youth and women of the project villages for financial independence. Vocational training helps stimulating employment opportunities among women of various socio-economic levels and different age groups. Under the HDFC project, training programs were conducted to semi-skilled and unskilled people under various sub projects. Mason and Plumber training was routinely organized in the villages for semi-skilled workforce once a year during program implementation years.



Additionally, crochet weaving and furniture making training were organized for women in key project villages from where the beneficiaries have showcased their work to many melas across major cities in Punjab. Achaar making and biscuit making were also conducted in common kitchen units which were then tied up with markets during festival season for sale.

Picture 2: Winter clothes made by women in Tumber Bhan village who received crochet weaving training under HRDP project in Punjab

Livestock Management

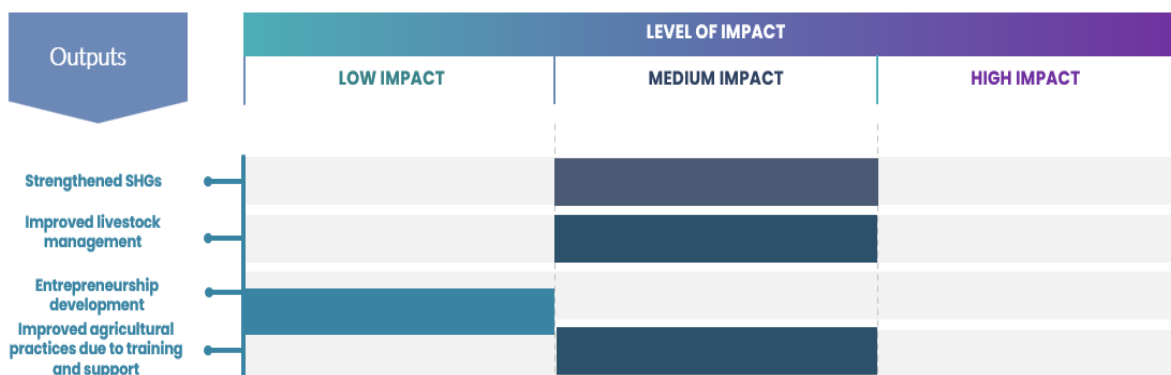
Around 30% of the households in Punjab are involved in livestock-based livelihoods as either their primary or secondary source of income⁴. Farmers in Punjab also rear milk animals for household consumption. During 2013-14, the per capita availability of milk in Punjab was 971 grams per day, which was quite higher than the national average. But the industry still faces problem due to market linkages issues. There has been a steep increase in number of cattle, horses, goats, and pigs in the state which indicates the increasing importance of these animals during recent times. HDFC interventions in the area aim to provide some alternate source of revenue and self-sufficiency on a need basis to beneficiaries in terms of distribution of goats and poultry for animal husbandry.

4.3.2. Effectiveness and Impact

HDFC project implementation for the revival and strengthening for SHG's have helped beneficiaries in bookkeeping, developing business enterprise and gaining financial independence for the sustained period of project implementation. Due to the unavailability of production units and stitching materials that were provided during the project duration, the SHG's ceased to function in some project villages (Kaler Mangat and Dhing Nangal villages in Amritsar, Mihan Singh Wala and Tara Singh villages in Firozpur). Rest four villages in the region either have bookkeeping SHG's or small enterprise SHG's functional after the project intervention in 2021.

The distribution of livestock in project villages have helped beneficiaries through an additional increase in income and respective savings from the livestock. Farmer trainings and exposure visits organic farming practice has now been adopted for household consumption in project villages. The following figure gives an overview of project effectiveness based on Qualitative data collected.

Figure 13: An overview of project effectiveness and impact in skill training and livelihood enhancement (Based on Qualitative Data)



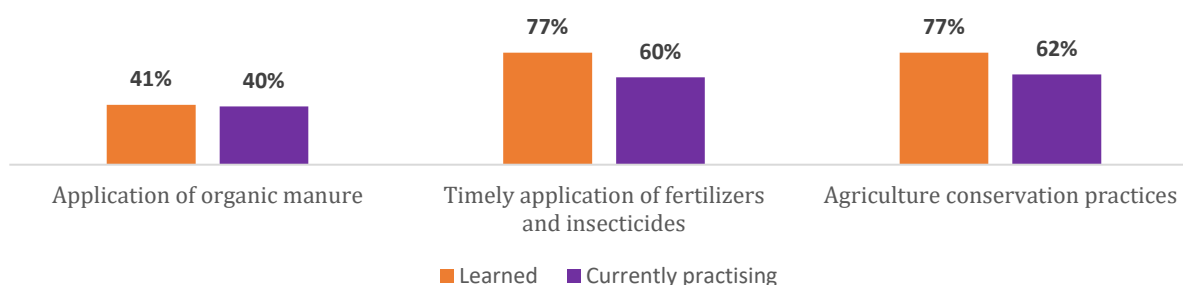
Agriculture training and services

Farmer trainings were organized in the form of workshops and Farmer Field Schools (FFS) in project villages. The major purpose of these trainings 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

⁴ Statistical Abstract Punjab (Government of Punjab) 2022
<http://www.punjabassembly.nic.in/images/docs/Statistical%20Abstract.pdf>

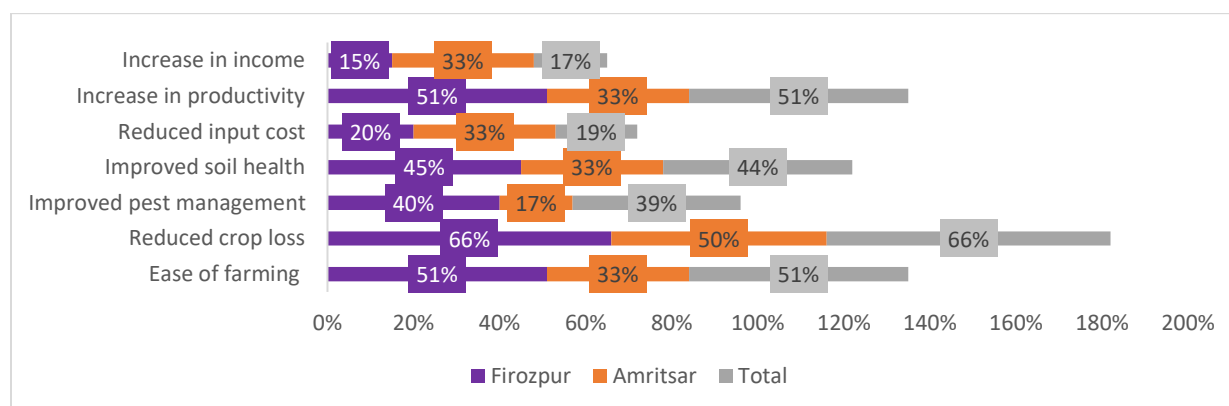
and bio pest control, collective use of machines (if required) etc. The training provided has translated into effective adoption as significant proportion of beneficiaries who received training are continuing these practices. A relatively lower rate of continued adoption of organic manure can be attributed to external factors such as market linkages. For instance, qualitative discussions indicated that many farmers discontinued organic farming at commercial scale as market for their organic products was not readily available. However, organic vegetables are still being grown for self-consumption.

Figure 14: Agriculture practices learned and adopted through HDFC trainings



In addition to high rates of continued adoption, the training beneficiaries also identified several benefits in response to adopting innovative agricultural practices namely in the areas of reducing crop loss, improving soil health, and improving productivity. Majority of the respondents in Firozpur district mention ease of farming, reduced crop loss and increase in productivity to be key benefits of the trainings provided. In the case of Amritsar district, reduction in crop loss and increase in productivity were the major areas of improvement in response to the training and resultant adoption of sustainable agricultural practices in the region.

Figure 15: Perceived improvements due to adoption of agricultural practices

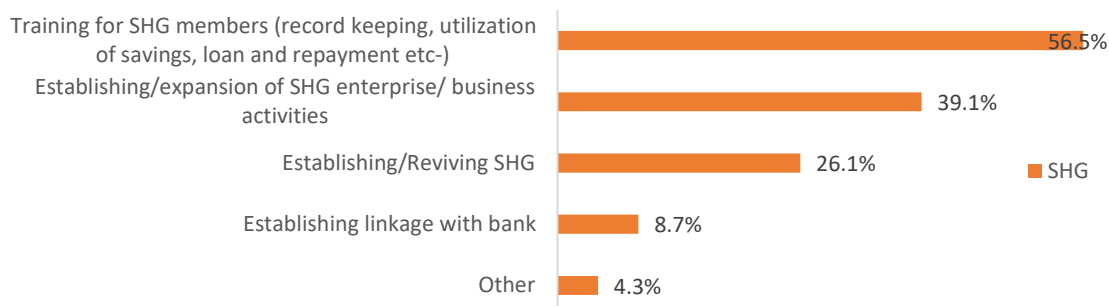


Economic Empowerment through collectivization

Woman Self-Help Groups were initiated in the project villages out of which two SHG's in Firozpur District have been linked to National Rural Livelihood Mission (NRLM). HDFC volunteers organized routine meetings with SHG members for situation analysis of the area to map out business enterprises that can be implemented with trainings 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 of bank account and management of credit and thrift activities. While more than half of SHG beneficiaries reported receiving training, 39% of SHG members reported receiving support for establishing or expansion of SHG based

enterprises. Currently, these SHGs are largely engaged in food processing and craft production activities, in Firozpur and Amritsar districts.

Figure 16: Support provided for groups through HRDP



The following chart shows the change in mean income of SHG members after being deployed in various activities as part of the HDFC bank interventions. Overall, the **average income from various SHG activities has doubled, showing improvements in income generating capacity in response to the training received and market linkages developed through the project**

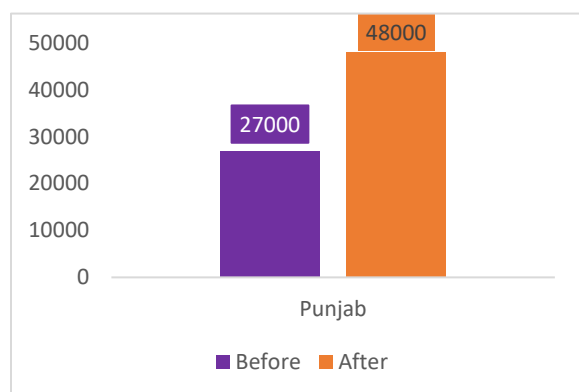


Figure 17: Changes in average personal income from SHG enterprise since project inception (In Rs)

The average personal income from SHG enterprise activities have doubled since project inception. As mentioned in the figure below. However, SHGs in Amritsar reported decline in average income while Firozpur SHGs reported a significant increase in income. For instance, in Amritsar, though women SHG members were able to maintain a steady income during the project, they were unable to sustain after the Covid-19 Pandemic

in March 2020. This is because their SHG enterprise of crochet weaving and achar making came to a halt as the local support in the village kept the kitchen and weaving equipment for themselves. The lack of infrastructural support during Covid lockdown resulted the closure of the enterprise. **The change in income against the baseline income is significant at 0.05 value which is statistically significant in a 95% confidence interval.**

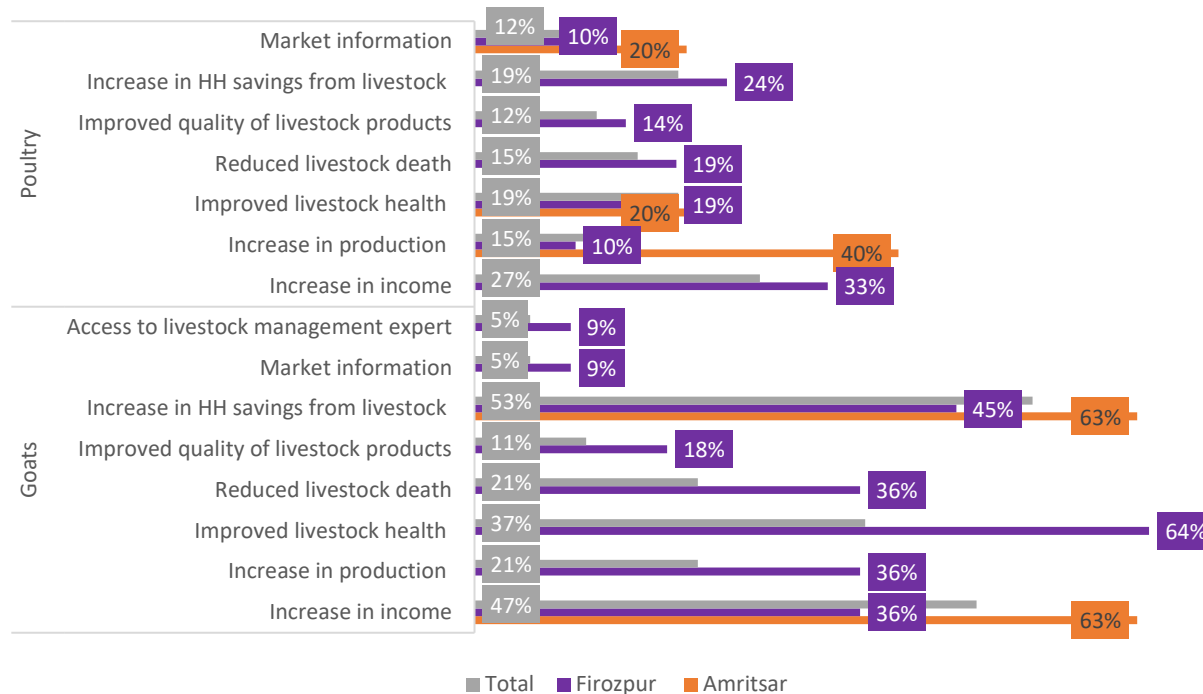
Livestock Management

Backyard Poultry is a necessary livelihood activity for landless and marginal farmers considering its influence on improving 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.

The chart below shows benefits of livestock interventions, majority of the respondents have shown an increase in household savings from livestock, specially from goat 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 goat each. The goats have been a source of saving as key spending on milk

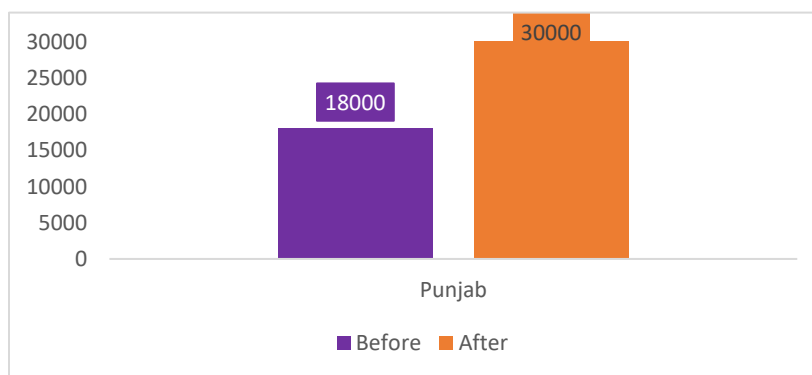
is now available from the goats provided. Moreover, the sale of goat milk that a few households in the villages engage in have also led to an increase in income for the household. Poultry farming too has led to an increase in household income through the sale of eggs and meat.

Figure 18: Perceived primary benefits of livestock interventions



The following table shows the increase in income through Livestock rearing and related interventions in the area. The commercial selling of goat milk and the sale of chicken meat and eggs have led to an increase in household income for families. **The increase in income from Livestock against the baseline income is significant at 0.02 value which is statistically insignificant in a 95% confidence interval.**

Figure 19: Change in average monthly income due to improved livestock rearing



4.3.3. Sustainability and Replicability

Under this thematic intervention, the project support provided demonstrated the capability to continue even after the program ended. The project's support to sustain improved skill and entrepreneurship outcomes are demonstrated below:

Table 9 - Sustainability of interventions under skill and livelihood

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

Skill and Livelihood interventions in the area mainly focused on four fronts: Agriculture training and support, skill training for SHG's. Livestock management and SHG based enterprises. Livestock beneficiaries have been availing reasonably 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 is the primary aspect for 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 business.

4.3.4. Case Study

SHG's in Mihan Singh Wala and Khamba Villages.

Mihan Singh Wala village had the formation of two women SHG's that were trained in two separate enterprises. One SHG was trained in crochet weaving and the other in aachar making. At the start of the project, the women were able to make a suitable income of around Rs300 per month from the aachar units and crochet tops that were made. This was done through the aid of the project. A utility kitchen near the Agri-tool bank was created for women to jointly work on creating aachar. This was slowly transitioned into biscuits and desserts. The project supervisor then sold the produce to local markets. The crochet weaving SHG too were given weaving equipment's and few of the SHG women even went as far as Delhi to showcase their work. But as the project reached its final stages and Covid-19 protocols in March 2020 resulted in various lockdowns throughout the regions, the consultants did not come visit the village. The processing unit in the common kitchen also disappeared. Local women blame the on-field supervisor of the village Mr. Ranjit for the same as they believe he sold the equipment's during the lockdown. The crochet weaving SHG too, kept calling their supervisor Ms Seerat for their crochet equipment but eventually she too stopped picking up their calls. At this moment, the SHG's have no contact in the market and no equipment for their business enterprise. They want nothing more than to restart what they have learnt for over two years.

Khamba village had a single crochet weaving SHG that was taught how to weave crochet onto furniture. This was jointly learnt by 10-12 village women. In Khamba, government supported SHG's are also organized who help with providing local loans and do bookkeeping for the same. During the end of the project, the crochet equipment was handed over to a local SHG member Ms Sukhvinder Kaur. At present, the SHG has only five women working in the crochet furniture enterprise. They sell their product to local villages and few annual bazaars in big cities nearby. Recently, they also took loan from the other government SHG on an interest of 5%pa and are looking forward to the Diwali season for selling their furniture in markets in Delhi.

4.4. Health and Sanitation

Health and Sanitation interventions in the district were aimed to improve health seeking behavior in disadvantaged section of village community along with creating structures for proper sanitation in the villages. The interventions took place from the time of 2016 to 2020 wherein the formative years aimed at village mapping and later years were of project execution. As per the project mapping, it was observed that water, sanitation & hygiene condition is very poor in the proposed villages and open defecation is common. Therefore, health and sanitation interventions 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 10: activities under health and sanitation in Punjab

Activity Category	Activities
Drinking Water Management	<i>Repairment of pumps in villages, training, and awareness generation</i>
Health	<i>Health camp for awareness</i>
Sanitation	<i>Household Wastewater Soak Pits, Restoration of Household Toilet, Menstrual Hygiene Education in Community</i>
Kitchen Garden	<i>Seeds for Kitchen Garden, training workshops on Kitchen Garden</i>

The activity-wise number of beneficiaries covered during the study is given in the methodology and sampling section. Further, relevance, effectiveness, and sustainability for activities under Health and Sanitation will be discussed detail.

4.4.1. Relevance and Coherence

Health and Sanitation

In Punjab, despite the high coverage of water (95%) and sanitation (71%) in Punjab (as per the World Bank Data)⁵, the rural water and sanitation sector continues to face major challenges. Around 70 percent of the houses with toilets in Punjab are either covered by sewers or they have septic tanks, ⁶but the effluent from most of these toilets leads into ponds or rivers and continues to be a health hazard. The Punjab Pollution Control Board⁷ confirms that human excreta are the main source of pollution in the state's rivers including the Beas and Ravi resulting in various diseases, including 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.

⁵ <https://documents.worldbank.org/en/publication/documents-reports/documentdetail/658221498205457047/india-in-punjab-rural-water-and-sanitation-sector-improvement-project-p150520-implementation-status-results-report-sequence-06>

⁶ Source: <https://dwss.punjab.gov.in/>

⁷ Central Ground Water board, Government of India

<https://documents.worldbank.org/en/publication/documents-reports/documentdetail/658221498205457047/india-in-punjab-rural-water-and-sanitation-sector-improvement-project-p150520-implementation-status-results-report-sequence-06>



Picture 4: Toilet built under HRDP in Sodhiwala village, Punjab

Through the project interventions, there is considerable improvement with regards to better understanding health issues in the villages. The construction of wastewater soak pits in households has resulted in adequate water management in households. Most of them are still functional. Finally, through 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 neighboring households. Project intervention for sanitation practices have been successful in the region.

Kitchen Gardens

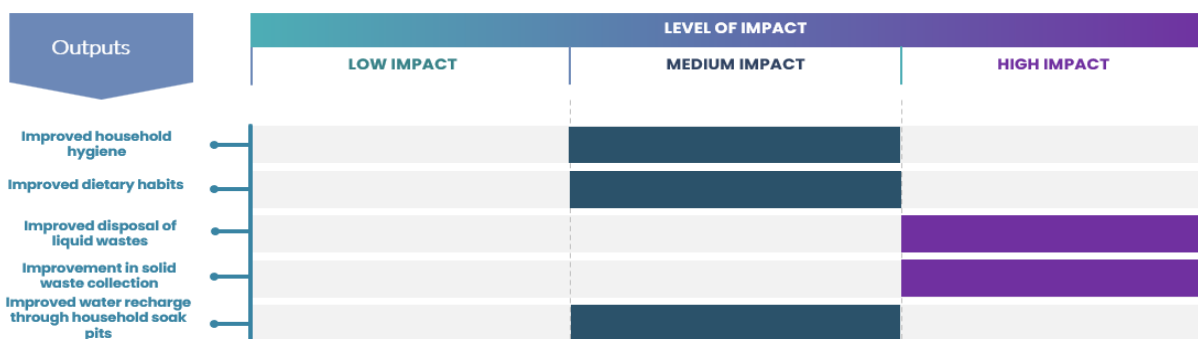
While the agriculture census of the state boasts of high production of nutritious crops like wheat, jowar and bajra and has abundant stock of fruits like kinnow, more than 50% children and women in the state suffer from deficiency diseases like anemia and problem of having poor weight for height, as per the latest National Family Health Survey (NFHS-5). Agricultural wage laborers, on the other hand, do not have access to the food they grow and the nutritional value of crops consumed is low. Thus, problems related to malnutrition in poorer households of the region are rampant.

In this context, interventions the kitchen gardens are highly beneficial in providing chemical free vegetables to families and saving their expenses. The activity also helps in developing willingness to adopt nature farming in their farmlands. For low-income households, the use of kitchen garden helps in adoption of sustainable agricultural practices for better nutrition security.

4.4.2. Effectiveness and Impact

With HDFC led awareness campaigns in the region, the people are more informed with regards to solid and liquid waste management systems. For liquid waste management, soak pits were constructed in households across villages, which have been beneficial in dispensing liquid wastes from home. However, because of the size of soak pits constructed, it is not in a functional state in almost half of the households. The awareness programs have made the people more informed on better hygiene and sanitation practices. The following figure gives an overview of project effectiveness based on Qualitative data collected.

Figure 20: An overview of project effectiveness and impact in Health and Sanitation (Based on Qualitative Data)

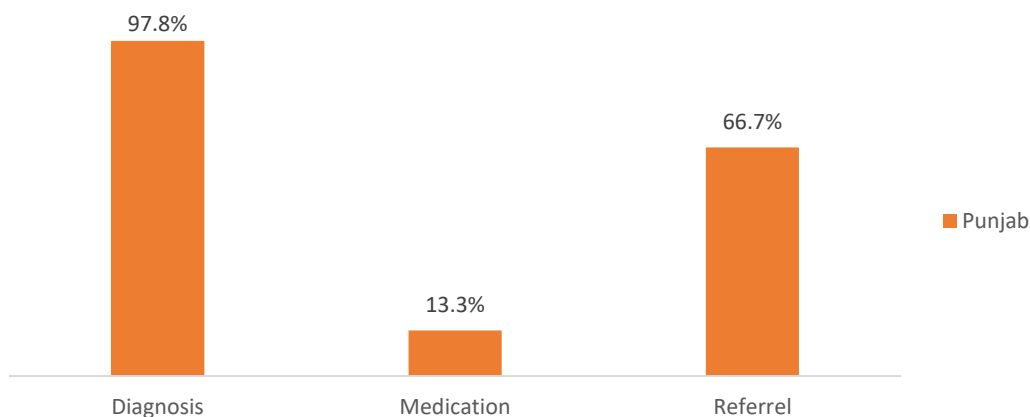


Health infrastructure and services

Through HDFC bank interventions, health camps were organized in the region. The health camps were either general health campus for primary checkup or for dental checkups, providing advice and suggestions for all dental issues. Additionally, training was conducted for local youth of the regions for leading awareness campaigns throughout their villages for better health and sanitation practices. These activities were mainly conducted in the three blocks of Firozpur district and thus, the intervention was mainly done in 6 villages.

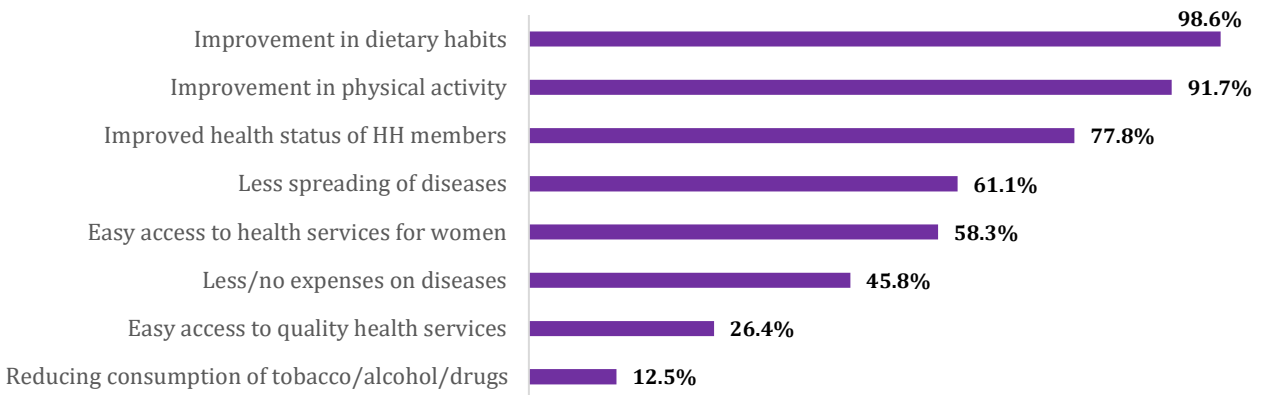
The health camps were mainly organized in 3 blocks (6 villages) of Firozpur district. The health camps have proven to be beneficial in terms of raising awareness for various diseases and on hygiene practices. It has also benefitted women to access the camps to address their specific issues. As shown in the table, the camps were organized under the intervention arena, but it does not translate to access to quality services.

Figure 21: Services availed at HDFC supported camps/clinics in Punjab



Many respondents did not go to the referred medical facility because of cost reasons. Another common reason was the facility being far away from the village. While local Public Health Centers are functional in the villages, specific issues related to diabetes, cardiovascular problems and other internal issues that require medical care are unavailable to the public due to lack of specialized hospitals nearby.

Figure 22: Perceived benefits of HDFC bank supported health camps/clinics

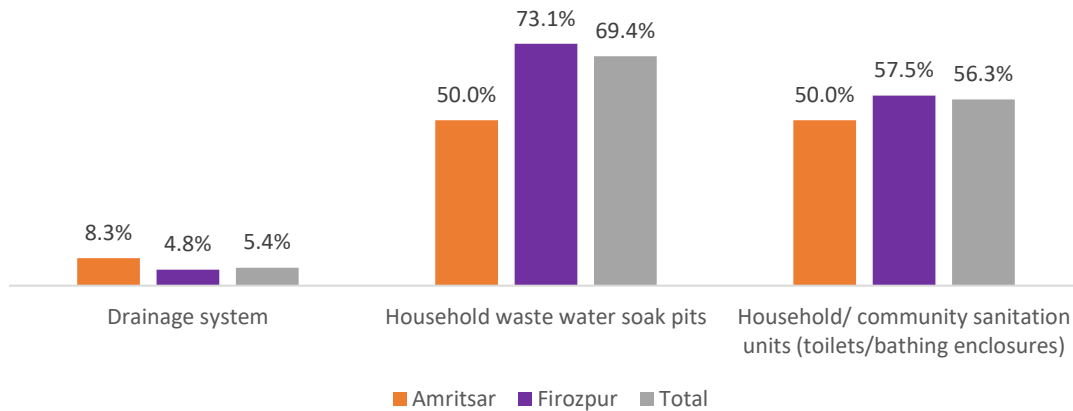


HDFC health camps in the region have been beneficial for awareness generation. But without adequate support from the government in terms of better access to healthcare, the problem of accessing specialized healthcare remains an issue in the region.

Sanitation infrastructure and services

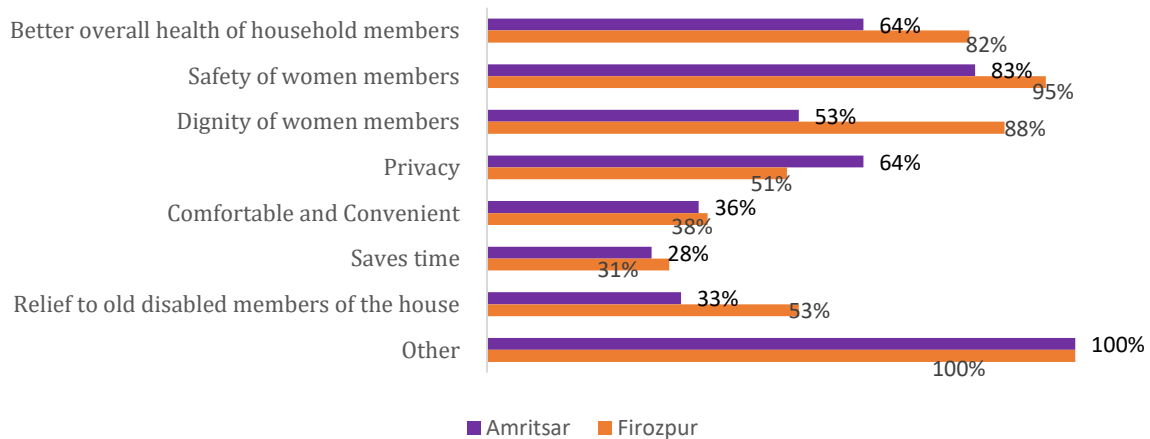
Through HDFC bank interventions, household toilets were constructed in each village, averaging out to 15 toilets per village. Additionally, household wastewater soak pits were constructed to safely dispose unusable water. This activity was proven to be very beneficial in the regions averaging out to 30 households per village in the region still using wastewater soak pits. 94% of the respondents that have soak pits have received the same through HDFC bank intervention in terms of either partially funding the soak pits and through provision of tools for construction.

Figure 23: Sanitation services available to respondent households



For construction of toilets and bathing facilities in the villages, households have benefitted in terms of increase in health, dignity, and safety of women members. Majority of the respondents have also benefited from the household toilets and bathing units as other members of different houses have also from time to time availed these facilities making it a communal shared space for many.

Figure 24: Perceived benefits of HH sanitation units

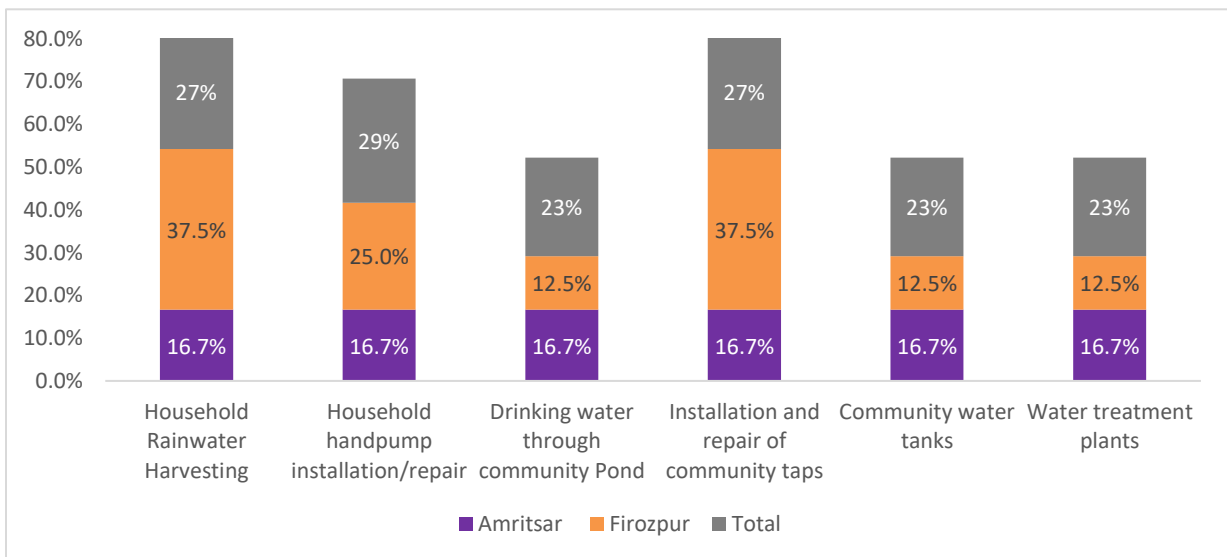


Around 50% of the households have soak pits that are not functional. This is because of the inability of the soak pits to filter out water due to its size. On an average, soak pits were constructed to be 7-8ft deep and only being 3-4ft wide. This is too small a size to filter water for a long time. The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

Availability and Management of Drinking Water

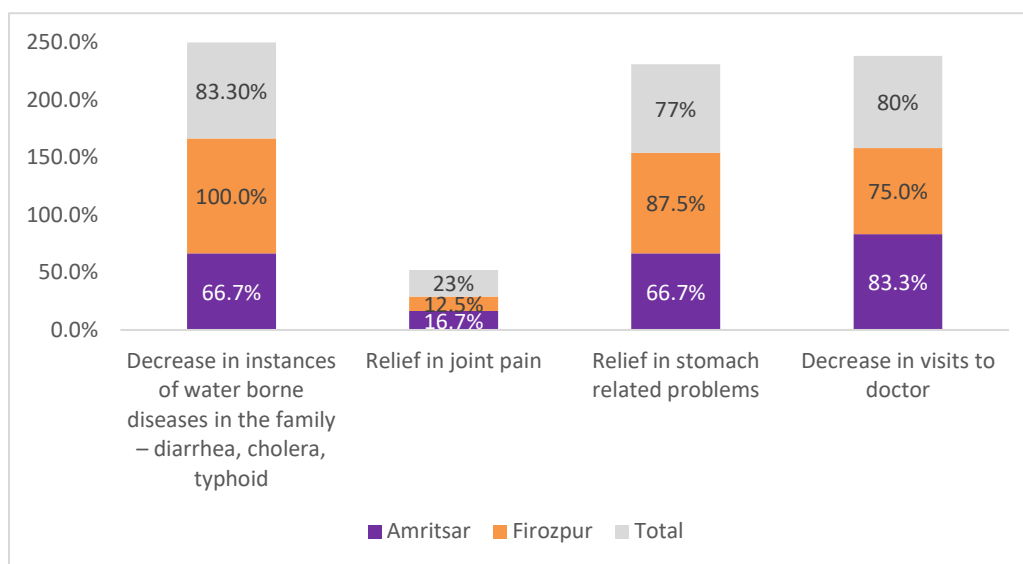
Drinking water intervention in the area was conducted as per the requirements of specific villages and households. Household rainwater harvesting units and community taps repair have been the key areas of intervention in the region. This has impacted the villagers as the community taps are mostly used in more marginalized areas of the villages where common structures have made drinking water facilities more readily available.

Figure 25: Drinking water activities supported by HDFC project



Since the availability of drinking water was in a distance through public dwelling or common handpumps, people in the village despite having handpumps at home in a non-working condition, have been travelling distances to fetch drinking water. If drinking water is not readily available at home, many would use tap water to quench thirst or use the same for cooking. Thus, with the HDFC interventions in the region, the health benefits to the village community have been significant. Through qualitative group discussions with women in the villages, there has been a significant decrease in water borne diseases like typhoid, cholera etc., relief in stomach related problems which has decreased in visits to the doctor.

Figure 26: Perceived health benefits of improved drinking water sources

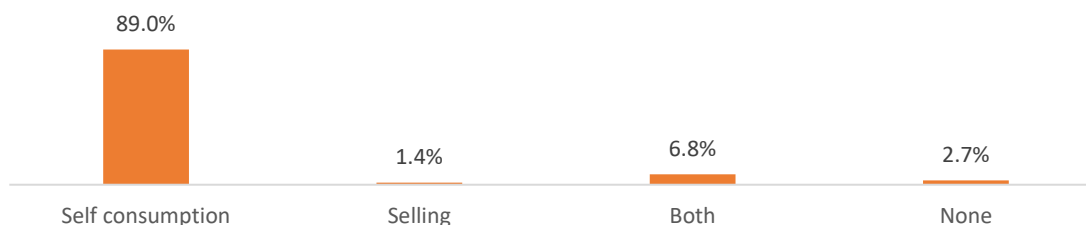


The rainwater harvesting units that were constructed in village households were constructed only in key stakeholder houses in the village as they have a terrace and a pucca house. The rainwater harvesting units while functional do not have proper piping system to the rest of the house and thus the rainwater harvesting unit only benefit one section of the house and not the entire unit.

Kitchen Garden

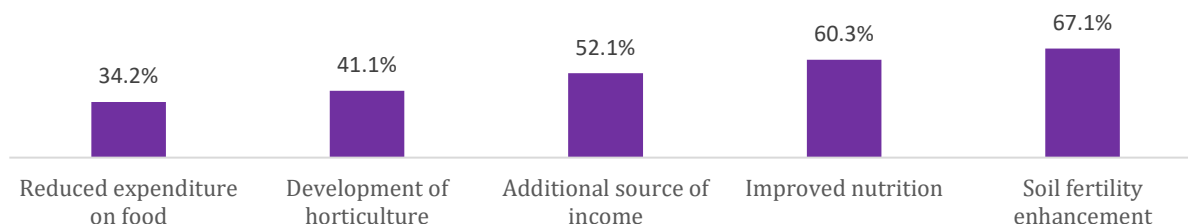
To provide sustainable and healthy quality of life to households, HDFC bank intervention aimed at developing kitchen garden in households. This was done through providing materials for construction, distributing organic, good quality seeds to households and training for better farming practices. For the households that also sold through their kitchen garden, reported an average revenue of Rs. 200 per month from sale of kitchen garden produce.

Figure 27: Utilization of kitchen garden produce



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.

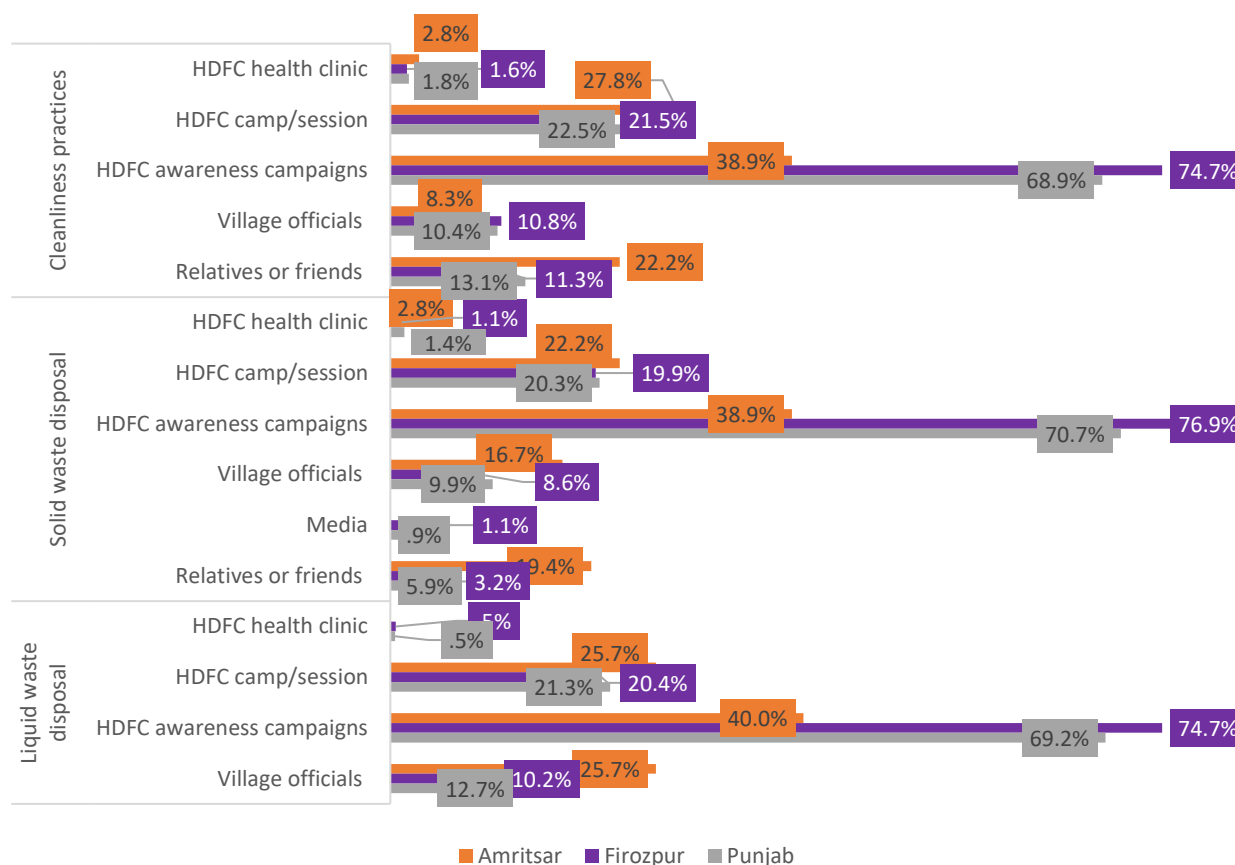
Figure 28: Perceived benefits of HRDP supported kitchen gardens



Almost all the respondents who have a working kitchen garden said they would benefit with more detailed training and continuous access to seeds. Out of the households that had kitchen garden but were not currently functional, the primary reason for the same was lack of access to resource 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

Figure 29: Health and sanitation practices learnt through different sources



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.

The activity was successful in the region as awareness regarding waste management was mainly generated through HDFC Bank awareness campaigns and HDFC camps and sessions as seen in the figure below.

4.4.3. Sustainability and Replicability

Under this thematic intervention, the project support provided demonstrated the capability to continue even after the program ended. The project's support to sustain improved health and sanitation outcomes are demonstrated below:

Table 11 - Sustainability of interventions under health and sanitation

Support provided	Structures established	Technical Know-how	Usage	Maintenance
<i>Household Wastewater Soak Pits</i>	✓	✓	✓	
<i>Construction of Household Sanitation Units</i>	✓	✓	✓	✓
<i>Construction of Kitchen Garden</i>	✓	✓	✓	
<i>Construction of Bathing Enclosures</i>	✓	X	✓	✓
<i>Drinking Water Management</i>	✓	✓	✓	✓

Through HDFC bank project support, Soak Pits, Sanitation units and Kitchen Garden interventions have attained the capacity to be successful interventions in health and sanitation sector of the region. Drinking water management structures in the villages have benefitted the people in the form of availability of clean water that has significantly reduced the spread of water borne diseases common in the region. In terms of maintenance, various issues have been flagged above. 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 garden in households have also been maintained at individual capacity. After project implementation, seeds were not available and thus the kitchen gardens are not functional.

4.5. Promotion of Education

Under the HDFC program, the purpose of improving 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, repair of school toilets and development of kitchen garden 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 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 attendance of students in these schools during the current academic session.

Table 12: Activities under education in Punjab

Activity Category	Activities
Educational Institutions Development	<i>Construction/ Repairment of school toilets, Repairment of school walls, Development of kitchen garden, development of soak pits, BaLa wall paintings in Anganwadi room, Distribution of chairs</i>
Education Support	<i>Library books distribution, Punjabi learning writing workshops, Art and Theatre workshops</i>
Awareness Generation	<i>Independence Day celebrations, Lohri Celebrations</i>
Sports	<i>Distribution of sports equipment's and indoor games</i>

The activity-wise number of beneficiaries covered during the study is given in the methodology and sampling section. Further, relevance, effectiveness, and sustainability for activities under Education will be discussed in detail.

4.5.1. Relevance and Coherence

Educational Institutions Development

Intervention for education is key in primary schools as it is the first formal education received by children. There are no high schools in the project villages barring Tara Singh Wala village, and thus the children 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 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. Kitchen garden and soak pits were also constructed on the school premises for the provision of nutritious food and better waste management.



Picture 5: Bala wall in Kaler Mangat Village, Punjab

Education Support

For engaging young children in reading and writing, library shelf along with 800+ books were 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 is still active in schools. Additionally, Punjabi speaking workshops, art workshops and theatre workshops with education volunteers through HDFC bank have greatly impacted the children to be more creative and immersive.

Sports

Picture 6: Sports equipment provided through HRDP

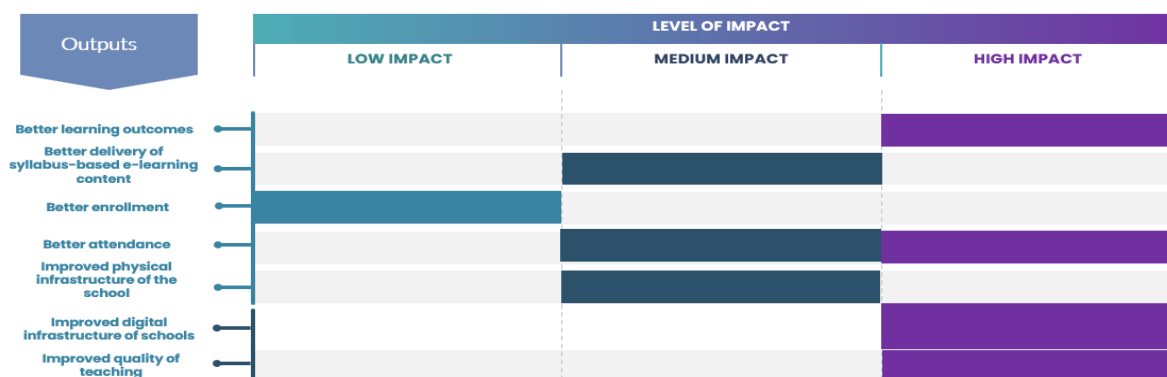


Under the HDFC project intervention, sports equipment's like cricket fixtures, ball, badminton rackets etc. has been distributed in all projects primary schools to develop interest in sports and for general activities to be conducted in schools during playtime. Sports equipment's distributed were both: for outdoor and indoor sports activities. This has greatly benefitted school children as they often use the material during lunch and after school. It also makes many students look forward to going to school again the next day.

4.5.2. Effectiveness and Impact

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 reduced. The construction of library, distribution of sports goods and school BaLa wall paintings have aided the schoolteachers to have alternate teaching modules. The following figure gives an overview of project effectiveness based on Qualitative data collected.

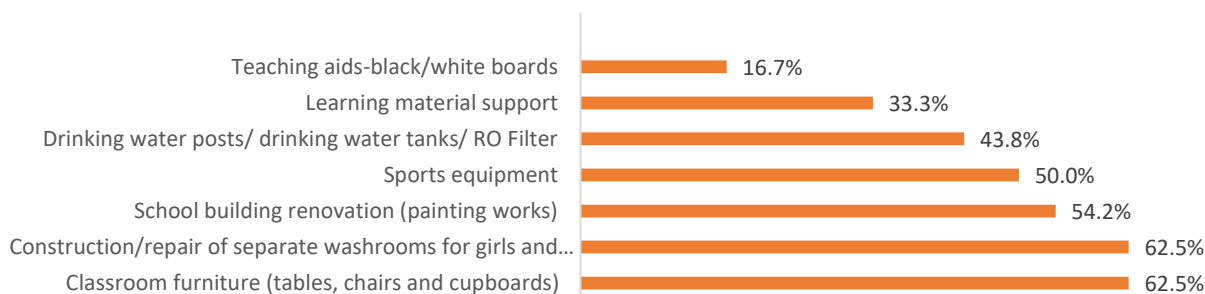
Figure 30: An overview of project effectiveness and impact in Education (Based on Qualitative Data)



Educational Institutions

The construction of school toilets has benefitted in regularly among students in classes. The setting up of school playground in Dhing Nangal village in Punjab along with swings has made students look forward to coming to school as mentioned by the village primary school teacher. With the renovation of school property and BaLa wall paintings, children and teachers mention that a “positive environment has been created to teaching and learning” One Khamba primary school in Firozpur district also received drinking water tank for their school set us as it was not previously available.

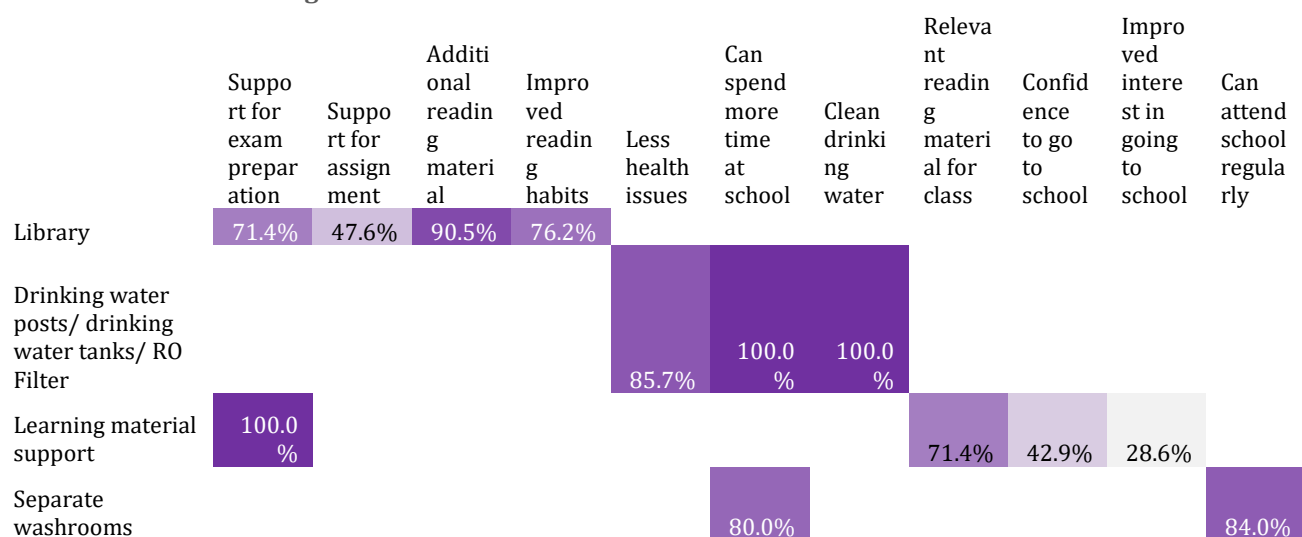
Figure 31: Infrastructural services made available through the project



The table shows perceived benefits from various interventions conducted for promoting education in the project villages. Upon asking the beneficiary students about the interventions, many students responded to it becoming easier to go to school because of construction of school toilets. The workshops including Punjabi reading and speaking classes, celebrations in school during national festivals, distribution of stationary, games period after school made it a fun experience for students directly resulting in increased attendance in classrooms. This is necessary for primary school education and to create interest in education sessions given.

Out of 8 schools in project villages, construction of soak pits and kitchen garden was done in 5 schools. Out of these, only two soak pits are functional and none of the kitchen gardens are functional. This is mainly because of lack of proper maintenance of the structures. The school kitchen garden was not used for vegetable growth and the soak pits stopped working after 2 years of being constructed. They were not maintained or repaired afterwards. Due to lack of funds given by the Panchayat. Primary schools in Tara Singh Wala, Khamba and Kaler Mangat primarily faced these challenges

Figure 32: Perceived benefits of infrastructural services



4.5.3. Sustainability and Replicability

Under this thematic intervention, the project support provided demonstrated the capability to continue even after the program ended. The project’s support to sustain improved health and sanitation outcomes are demonstrated below:

Table 13 - Sustainability of interventions under education

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

For all the interventions under Education, the structures are still intact and used commonly in schools. Sports Equipment’s, Library set up, and repairment 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 has resulted in less dropout rates and more primary school children going to village primary school instead of block level primary schools.

“HDFC’S OWN SCHOOL” IN DHING NANGAL VILLAGE, PUNJAB

Upon entering Dhing Nangal’s primary school, one can see the HDFC project banner on the main gate of the school. The school’s sole teacher, Ms. Shaily Sharma told us about how HDFC bank had adopted Dhing Nangal primary school to completely transform how it looks now. Since Majhitha block school is nearby the village, most children receive their primary school education from the block school. Primary school here is mainly attended by families from marginalized background who could not access the block level school education.

In the school, according to Ms. Shaily Sharma, upon distributing library books and shelves, the library/ playroom was first carpeted, renovated and painted for children to read and enjoy indoor games distributed by HDFC.

Anganwadis room and outdoor walls of school was painted with BaLa, making the entire school colorful and enriching for students to come to. Additionally, with the construction of toilets and repairment of school kitchen, children can now stay in school for longer periods of time. Ms. Shaily also mentioned how she always keeps the library shelf open for students to pick up any book, anytime.

In the backyard of the school, upon Ms Shaily’s request, outdoor park was created for students to play in. Swings were put in the park, and it was fenced across the borders.

4.6. Holistic Rural Development Index (HRDI)

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

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

Table 14: Holistic Rural Development Index for Punjab Project

Domain	HRDI Score	
NRM	Base line	0.02
	End line	0.03
	% Change	50%
Skill and Livelihood	Base line	0.9
	End line	0.13
	% Change	-86%
Health and Sanitation	Base line	0.12
	End line	0.18
	% Change	50%
Education	Base line	0.05
	End line	0.08
	% Change	60%
Overall HRDI	Base line	0.4
	End line	0.7
	% Change	75%

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 and Recommendations

Based on the observations and analysis of primary and secondary information presented in the report, the study recommends strategies in terms of two pathways (to be decided by HDFC Bank) for the program to meet the desired outcomes better.

Conclusion

HDFC program interventions in 8 villages of Punjab have impacted 1200 beneficiaries across various domains of Natural Resource Management, Education, Health, and Skill Enhancement. Though the project initiated self-sustenance through the use and trainings of various cultivation methods, formation and organizing SHG's and promoting backyard poultry, through qualitative interviews and group decisions with the people, it has been observed that a proper exit plan with adequate information for self-sustenance has not been achieved. The following are recommendations for a more holistic approach to the project intervention:

Natural Resource Management		
Activity	Challenge/ Potential for Improvement	Recommendation
Training and Support in Organic Farming	Barriers related to market support and facilities	<ul style="list-style-type: none"> • Time to time dissemination of information on farming techniques and innovative methods of organic farming backed by expert advisory in the future interventions would ensure sustainability in adoption of these practices. • Integrated and organized supply chain for a scale-up • Support needed on certification, separate supply chain facilities such as separate godowns, outlets, processing facilities etc. • 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.
Distribution of Smokeless Chullah	Lack of usage after distribution	<ul style="list-style-type: none"> • Social acceptance of the smokeless chullah needs to be relooked. 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.
Solar Street Lights	Half of the solar streetlights are not functional	<ul style="list-style-type: none"> • After-sale technical service is required. Given the remoteness of the area, it was difficult for the

		community to access technical support once the equipment's broke down.
Promotion of Agriculture practices, distribution of seeds and vegetable cultivation	High-value horticulture crops and vegetable cultivation was not adopted due to lack of market linkages and long-term sustainability	<ul style="list-style-type: none"> • Ensuring market linkages will ensure better price realizations for farmers and tangible impacts. Since the traditional channels are long with large number of intermediaries, the share of farmers in consumer price is comparatively lower. • Activities around connecting farmers directly to consumers or linking them to smaller market channels will impact farmer's share in consumer prices. • Promotion of post-harvest techniques for collection and storage will impact the shelf-life and quality of products.
Skill Training and Livelihood Enhancement		
Activity	Challenge/ Potential for Improvement	Recommendation
Formation of Agri Tool bank	The tools in the tool bank were not communally used as certain village members either sold the tools or did not share it amongst farmers	<ul style="list-style-type: none"> • Procurement of appropriate tools with a proper system of custom hiring with proper rules on renting, management and maintenance is required in the project area.
Skill based Enterprise in project villages	There were hurdles in setting up a skill-based self-employment unit by the beneficiaries and they were unable to get placed through recruitments by the organized or unorganized sector. The consistent gap in capital and support for rural self-employment options continued. In the absence of strong linkages to employers and orientation towards the needs of the labor market, the prospects for the development of relevant skills are limited.	<ul style="list-style-type: none"> • 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
Creation and Maintenance of SHG's in villages	While selecting people to be supported for self-employment under HRDP, priority was given to the vulnerable beneficiaries. The qualitative discussions indicate that not many of those provided support reported strengthening of livelihood, income generation and improvement in savings.	<ul style="list-style-type: none"> • More needs to be done to bring about an increase in net income, increase in business assets, and creation of additional employment. • Work needs to be done by the partner NGO in developing a more formalized set-up where people start understanding how to do business, have begun savings and

		maintaining cashbooks for businesses.
Farmer Trainings	Participation from the farmers and community for trainings has been challenging across the clusters, as the farmers reported that they are busy with agricultural work throughout the day or are not willing to travel a distance for such trainings.	<ul style="list-style-type: none"> This often leads to a cost for the program if the batch size is small. The program may decide on a 'training of trainer' model in such cases which may help in increasing the outreach.
Livestock	Distribution of Livestock but lack of adequate training on vaccination, business development and maintenance	<ul style="list-style-type: none"> For 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		
Activity	Challenge/ Potential for Improvement	Recommendation
Construction and repair of household toilets and	Lack of maintenance and construction of toilets and soak pits due to capital cost	<ul style="list-style-type: none"> The program could have sought to utilize a community driven approach for the interventions on household wastewater soak pit 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.
Education		
Activity	Challenge/ Potential for Improvement	Recommendation
Teacher Trainings	Lack of proper training for teachers	<ul style="list-style-type: none"> 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, but it has to 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. 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 post and smart classes. Proactive convergence with ongoing schemes of the government will ensure efficient use of resources.

General Recommendations:

- Need to revamp the project design approach
- Robust monitoring and information management
- Develop perspective plan
- Ensure community participation in project planning and implementation
- Adopt a systemic approach in project implementation
- Better convergence with government programs
- Institutional handover of the project assets to community-based institutions
- Set up an appropriate exit strategy

6. Annexure

6.1. HRDI Methodology

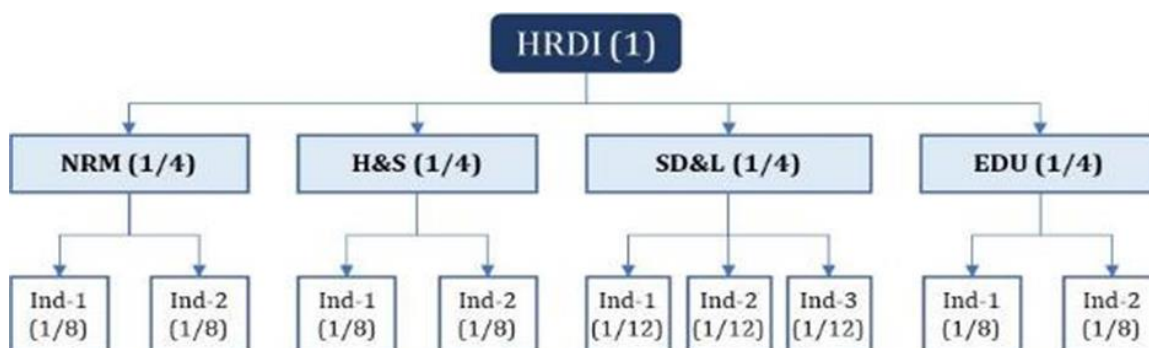
The outcome indicators included in the HRDI were obtained from different domains and are consequently measured on different scales. Therefore, to ensure the comparability of these indicators, all the indicators were converted into discrete variables such that the indicators could be measured between 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 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 weights⁸



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.

⁸NRM: Natural Resource Management | H&S: Health and Sanitation | SD&L: Skill Development and Livelihoods | EDU: Education

Domain	Indicator	Weight
Project X		
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	HH has access to improved toilet facility	$(1/4) \times (1/2) = 0.125$
	Percentage of households with access to improved drinking water facility	$(1/4) \times (1/2) = 0.125$
Livelihoods and Skill development	Income from SHG	$(1/4) \times (1/2) = 0.125$
	Income from Livestock	$(1/4) \times (1/2) = 0.125$
Education	Average monthly attendance rate in school	$(1/4) \times (1/3) = 0.083$
	Dropout rate in schools	$(1/4) \times (1/3) = 0.083$
	Percentage of students reporting increased access to school infrastructure (library, sports equipment etc.)	$(1/4) \times (1/3) = 0.083$

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.

6.2. Sampling Methodology

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

6.2.1. Quantitative sample size calculation

For this study, the formula for 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:

$$N = Z^2 \times P(1 - P) \times D \div (S)$$

Where,

N= sample size

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

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

S_e = margin of error, set at 5%;

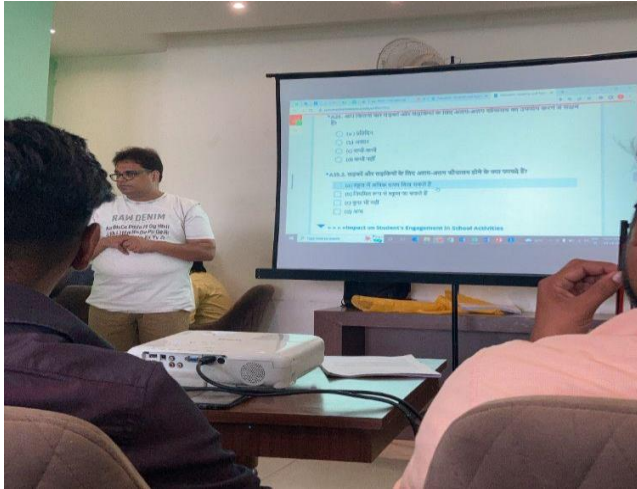
D_{eff} = factor for design effect, set at 1 (no design effect)

Thus, the estimated maximum sample size is 400.

Quantitative Sample Size and Distribution: A detailed outcome harvesting process was carried out during the inception phase, and after discussions with the HDFC Bank team, the outcome indicators were finalized.

6.2.2. Qualitative Sample Size Calculation

Qualitative tools of In-depth Interviews (IDI) and Focus group discussions (FGD) were administered for obtaining information about the remaining themes as well as to enrich the household survey information with a deeper understanding. All 10 of the intervention villages were selected for the



study. A multi-stage cluster sampling method was adopted for the sample selection for the quantitative survey.

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

Picture: Training of field team held at Punjab

6.2.3. Challenges in data collection

Data collection on the field was met with a few challenges. The list of beneficiaries for the project were not available to the field data collection team. This made the survey process challenging. Moreover, without the list of beneficiaries, the team was met with challenges with regards to finding farmer groups and key informants who have benefitted from the program. In some of the villages like Sodhi Wala and Mihan Singh Wala, schoolteachers who were part of the project implementation got posted elsewhere during the 5-year period and were unavailable to meet the field survey team.

Additionally, the list of local resource people from the village who had overseen the process of project implementation were unavailable during the day of field work despite informing them two days in advance. This made the process of finding beneficiaries time consuming which resulted in a lower count for focused group discussions.
