

Impact Assessment Study Of Holistic Rural Development Programme (HRDP)

Bihar



Prepared For:



HDFC Bank CSR

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Executive Summary

The study centers on measuring the impact of the Holistic Rural Development Programme (HRDP) of HDFC Bank that is **implemented by the Aga Khan Rural Support Programme (India) in the two blocks of Muzaffarpur district in Bihar (Bochaha and Mushahari)**. This study largely focused on understanding the overall process that the HDFC Bank and the implementing organization undertook in carrying out the programme activities, key milestones achieved, the impact created by these activities, and the challenges faced. The **key focus areas of the intervention were Education, Health and Sanitation, Natural Resource Management, Skill building and Livelihood enhancement, and financial literacy.**

Table 1: Summary of key income indicators

Income Indicators (based on median)	Before	After	% Change
Average Net Income from Agriculture (INR)	7885	19530	148%
Average Monthly Income from Skill (income from enterprises) (INR)	500	2500	400%
Average Monthly Income from SHG (INR)	200	200	NA*
Average Productivity of 3 major crops (kg /Acre)	4810	5388	12%
Average Monthly Income from Livestock	1000	1500	50%

**Although the median income remained the same, there has been a 6%¹ increase in the mean income as income rose from Rs. 1491 to Rs. 1582. Moreover, the number of SHG members earning an income also increased by 141% (from 19.76% to 47.6%)*

NRM: NRM was one of the key components of the programme. Findings suggest a **148% increase in the net income from farming** since the inception of the project. While **71% of the beneficiaries have stated that they have increased the usage of natural fertilizers**, **60% of the beneficiaries have also adopted crop diversification**, which was supported under the HRDP. **Crop productivity also went up by 12%**. Due to the erratic supply of electricity, **82% of the respondents also received solar street lights installation near their houses** and 71% of them said they are operational. Moreover, 60% of the surveyed households also received solar lamps for the uninterrupted education of adolescent girls.

Health and Sanitation: About **96% of the respondents who availed health services had availed the health camps** where services like **diagnosis (78%) and referrals (66%) were utilized**. The **usage of individual household toilets went up from 23% before the programme to 99% after the programme** which has led to improvement in the overall health of household members (89%), and safety for women members (90%). **97% of the surveyed beneficiaries under drinking water management were supported by solar water community-based drinking water supply system with reported health benefits**. Further, the **kitchen gardens** made available to ultra-poor households **reduced expenditure on vegetables (70%) and increase vegetable consumption (95%)**.

¹ The increase in SHG income was found statistically significant at 95% confidence interval.

Skill Training and Livelihood Enhancement: The analysis highlights that the project’s impact has been high for the outcome- improved access to agriculture training and services. **94% of the respondents received training on agriculture practices** and it has **helped in improving their capacity to increase productivity (72%), input cost reduction (67%), and timely application of fertilizers and insecticides (77%)**. However, farmers who currently use the agriculture practices are low due to reasons like expensive adoption and lack of any follow-up services. **The median income of enterprises also increased by 400%** according to the beneficiaries. Women groups practicing bee-keeping enterprises are earning Rs.1500-Rs. 2000 annually. Moreover, **the monthly income from livestock rearing increased by 50%**. However, the efforts made in **enterprise development** haven’t proved to be very effective and **challenges remain in the form of a lack of market linkages, training, etc.**

Promotion of Education: The infrastructural developments have **led to improved attendance (86%), concept retention (89%), increased enrolment (75%), and decreased dropout rate (65%) in schools**. Smart classes have proved to be effective in making the classes interesting according to the students. However, all teachers have not been trained to operate the classes which compromise the efficient use of the devices installed. **Toilets renovated and constructed in schools have helped in making students attend school regularly (95%)**. Furthermore, infrastructure demands maintenance due to which educational institutions require a system/committee to look after the repair work.

Financial Literacy and Inclusion: Women who had received training on financial management stated certain key benefits of financial literacy namely, book keeping (81%), a developed habit of saving (95.2%), and improved confidence in managing finances (70%). However, women need to be actively involved in sustained financial activities to enhance and utilize the skills gained.

HRDI Indicators: For assessing the effectiveness of the interventions, the study has used the existing Holistic Rural Development Index (HRDI) created by the programme. The HRDI is arrived at by defining key outcome indicators for each of the domains and developing a composite index. The composite HRDI score indicated a positive impact at **0.67** for Muzaffarpur.

Table 2: Summary of HRDI scores

HRDI Score	Baseline	Endline	% Change
	0.39	0.67	71.7%

Recommendations: The study makes the following general recommendations:

- Timely follow-up services are required after the end of the project as community members reported abandoning the taught practices considering the absence of follow-up services.
- An asset maintenance fund/ committee needs to be established in the programme-supported villages to ensure post-installation maintenance and support.
- More sustainable benefits need to reach the women of the community so they can have a consistent source of income. There is a need to make value chain-based micro and small enterprises that can generate decent jobs for the youth and women. This will help in increasing the outreach of the programme.

Figure 1: Overview of project impact

	Health and Sanitation	Skill Training and Livelihood Enhancement	Natural Resource Management	Promotion of Education	Financial Literacy and Inclusion
Overview of Activities	Health camps, SWM, MHM training, household toilet construction, soak pits, provision of seeds, vermi compost	Farmer field school, IVC, tool bank, green net, animal shelter, backyard poultry, enterprise development	Drinking water supply system, group irrigation system, vermi compost pits, conservation agriculture, solar lamps, solar street lights	Teachers training, mini-libraries, TLM support, hygiene corner, smart class, renovation of AWC, awareness on important events	Training events on women empowerment, financial literacy to SHG
Areas of Improvement	Frequency of health camps, adoption of SWM	Effective training for adequate skill development	Replacement of worn out tools, follow up services	Training of teachers to operate digital infrastructure	More women ought to be assisted in opening bank accounts
Challenges	Infrastructural damage due to floods, health risks due to water logging	Certain enterprises (grocery) not adept to face market competition	Slow adoption of new practices of production	Asset maintenance in school is a challenge	Less understanding of the complex details despite training due to high illiteracy
Recommendations	Convergence with government initiatives and schemes	Supporting/ reviving SHGs for sustainable earning and livelihood	Post installation repair services for solar lights. Convergence with government schemes to promote good agricultural practices	Making SMCs more active in the daily operations of school	More avenues for sustained financial activities

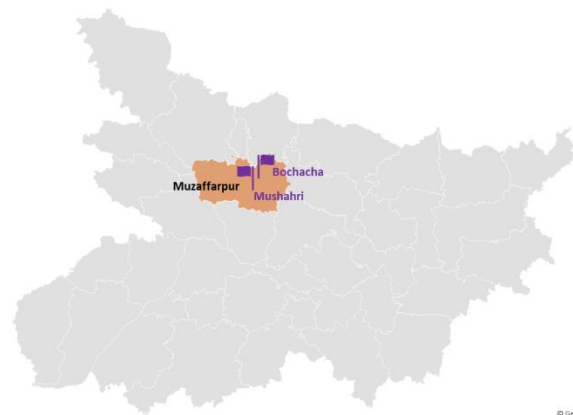
1. Introduction

1.1. Background of the Study

The rate of poverty in India continues to remain high with a large proportion of the rural population being engaged in agriculture and dependent on rain-fed irrigation. Therefore, under its CSR initiative, the HDFC Bank supports programs to deliver holistic rural development and aid the growth and prosperity of the rural population. Within Parivartan, the CSR initiative, the “Holistic Rural Development Programme” (HRDP) is the flagship CSR program under which non-governmental organizations (NGOs) across the country are supported to bring development interventions. The idea of these programs is to ensure the creation of prosperous and content communities by initiating sustainable socio-economic and ecological development. With its holistic approach, the programme caters to the needs of the communities by providing necessary inputs on issues like promoting economic independence through skilling and livelihood opportunities, providing basic infrastructural development, and establishing a better ecosystem that promotes better living conditions. By focusing on developing human capital, management of natural resources, and infrastructure in poor and backward villages, it plans to bring about a socio-economic transformation in the lives of the rural community.

Figure 2: Areas covered under the study

In the assessed HRD programme in **two blocks in the district of Muzaffarpur, Bihar, the implementation partner was Aga Khan Rural Support Programme (India) (AKRSP)**. The programme covered a total of 10 villages, 5 villages per block. The major focus areas for the intervention were Natural Resource Management (NRM), Skill Development & Livelihood Enhancement, Promotion of Education, Healthcare & Hygiene, and Financial Literacy & Inclusion.



1.2. Partner Organization-AKRSP (I)

AKRSP (I) works to promote the progress of rural communities by offering direct support to the local communities. It is active in over 200,000 households in over 2000 villages of Gujarat, Madhya Pradesh, and Bihar. AKRSP (I)'s work's impact has mainly been targeted towards the underprivileged and marginalized communities like Scheduled Castes (SC), Scheduled Tribes (ST), minorities, and women. Over time, AKRSP (I) has also pioneered various participatory development approaches in the country.

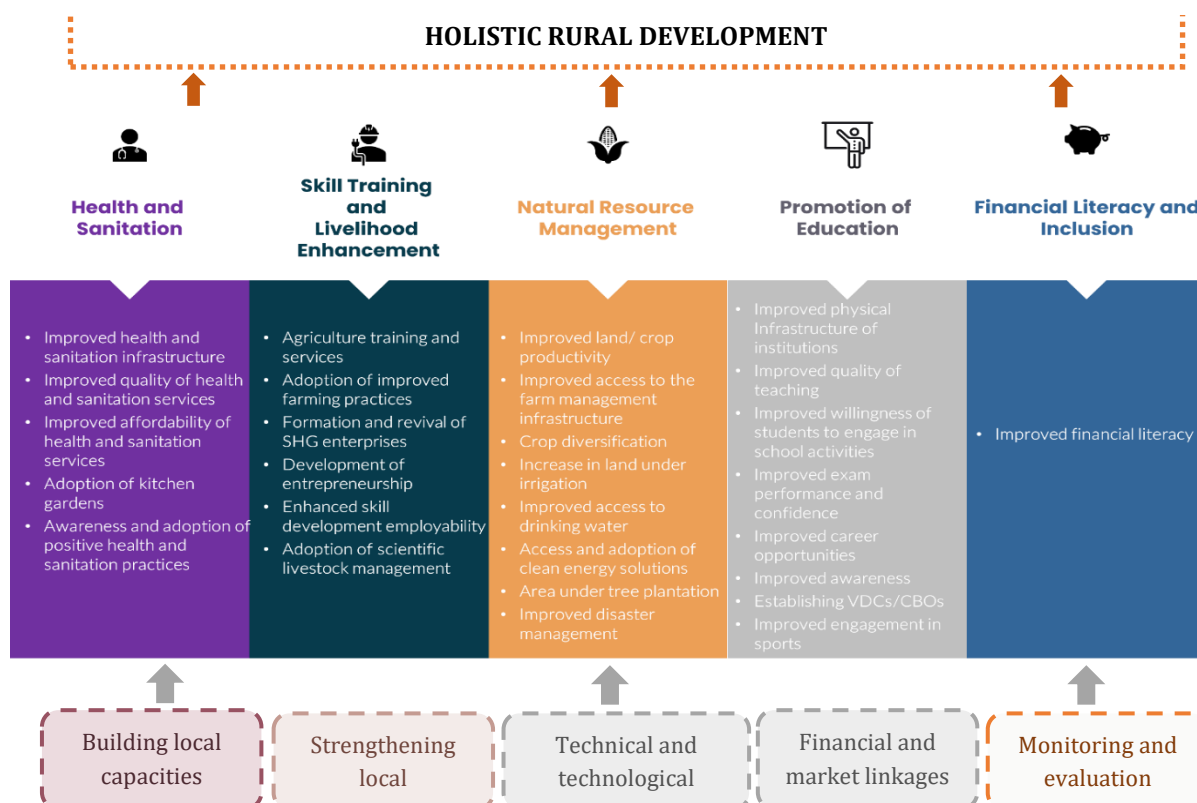
The Holistic Rural Development Project (HRDP) (Project Samvardhan) was initiated in 2016 in 10 villages of **two blocks (5 villages each) namely Bochaha and Mushahari of Muzaffarpur district** in Bihar with the support of HDFC Bank Ltd. AKRSP (I) reached above 2600 households over 5 years (2016-2021). It aimed to generate significant improvement in the quality of life of the rural

community by providing various tools and means through activities for skill development and income generation, infrastructure development, and health and educational advancement. Therefore, **the component of the Multi-Input Area Development (MIAD) approach was adopted by the AKRSP (I) to bring about a considerable difference in the lives of the people of rural Bihar.** AKRSP (I) believed that MIAD will have a faster and more sustained impact on the overall social and economic development of marginalized communities rather than single input approaches. For all the targeted interventions, AKRSP (I) created village-level institutions or user groups to facilitate the delivery of the interventions and ensure sustainability and ownership by the community.

1.3. Purpose and objectives of the study

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

Figure 3: Conceptual framework of the implementation



evaluation was also an opportunity to learn about the relevance and effectiveness of such programmes.

2. Research Methodology

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

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

To assess the impact and effectiveness² of the program, the findings seek to establish the values of outcome indicators of all the thematic interventions. These findings are assessed against the outcome indicators finalized during the outcome harvesting stage. Further, through qualitative evidence, the evaluation tries to understand whether and how the program impacted the lives of the community members in the program areas. This was done through an analysis of program outcomes in light of certain variables identified in consultation with HDFC Bank. The findings from primary quantitative data have been substantiated by the information gathered from discussing with the communities/beneficiaries, teachers, students, entrepreneurs, and local institutions at the village level. Through primary data, the study has tried to understand if the program has worked on strengthening the community's capacity to ensure sustainability, and whether any of the activities or strategies adopted have been/could be replicated.

2.1. Design and Methodology

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

The primary research included a quantitative household survey as well as in-depth interviews and focused group discussions with program beneficiaries, the partner NGO, and the HDFC Bank program team. The outcome mapping and result chain development were undertaken in consultation with the HDFC Bank team. The exercise resulted in the identification of standardized key outcomes and

² While from an evaluation perspective impact and effectiveness are two different aspects, in the report, these are used interchangeably

indicators related to each of the programme thematic areas. Based on the standardized list of outcomes and outputs, the questionnaire for the state was developed.

2.2. Sample Size and Distribution

The sample size covered during the field is as follows:

Table 3: Quantitative Sample Covered

District	Health and Sanitation	Skill Training and Livelihood Enhancement	NRM	Promotion of Education	Financial Literacy and Inclusion	Total HHs
Muzaffarpur	398	230	350	52	22	405
Planned	90	90	100	70	50	400

Table 4: Qualitative sample size covered

Block	FGDs					IDIs			
	<i>Business Enterprise</i>	<i>KVS</i>	<i>Community</i>	<i>Women</i>	<i>Head master</i>	<i>PashuSakhi</i>	<i>AWW</i>	<i>Micro enterprise</i>	<i>SHG</i>
Bochaha	1	1	3	1		1		3	
Mushahari		1	1		1	1	1		1
Total	1	2	4	1	1	2	1	3	1
Planned	2	2	4	1	2	2	1	4	2

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

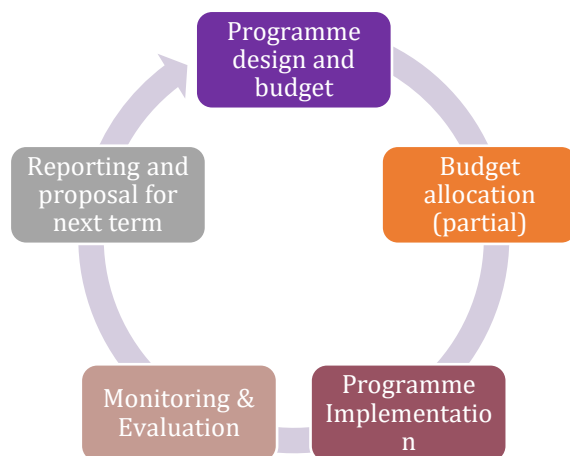
Image 1: Training of field team held in Muzaffarpur, Bihar



3. Program Review

3.1. Program Design and Implementation

Figure 4: Project Planning and implementation process



The programme's interventions are decided on an annual basis, with an annual budget allocation based on the proposal by AKRSP (I) to HDFC Bank. Based on our discussions with the partner team, a preliminary rapid rural appraisal (RRA) for each programme village was conducted in Bihar to explore the problems and constraints in the villages. **The methodology used for the RRA was transect walk, social mapping, and FGDs.** The partner organization prepared an annual work plan wherein activities were

proposed on a need basis, which emanated from the preliminary assessments. While this approach has helped in providing support to the immediate need of the communities, a systematic approach to resolving issues around such needs and a long-term vision and outcomes towards the thematic areas for HRDP remain desirable. Upon field observation, budget allocation was largely provided for infrastructure and material support, individual household toilet construction, soak pit construction, and the establishment of solar water pumps for irrigation and drinking water facilities. Painting and renovation work at schools and Anganwadi centres and the smart class initiative in schools were the areas where the budget was allocated. Improvement in communication and behaviour was also observed, particularly concerning menstrual health management (MHM) and health and hygiene promotion. While the capacity building of farmers, provisioning of seeds, and organic manure was there, interventions in terms of skills for enterprise development (lac bangles) were limited.

Monitoring of the intervention by HDFC Bank is quite frequent 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 taken into the account.

3.2. Program Relevance

NRM: Farmers in Bihar lack **access to affordable irrigation** as many farmers use diesel pumps. Diesel is expensive and pumps are inefficient. The solar-based (electricity-based in some villages) community irrigation system provided under the programme seems relevant for the community as

it aims to address the very problem of affordability and inefficiency in irrigation. Moreover, before the programme and its support in installing solar street lights and providing solar lamps to adolescent girls, **streets remained dark at night due to the absence of street lights** in all the programme villages. The households used lanterns for their lighting needs and there was a complete lack of clean energy solutions. It was expected that **low-priced, healthier, and eco-friendly lighting for the rural population could be achieved by providing solar lighting** either at home or in the street.

Image 2: Irrigation infrastructure adopted under HRDP in Manika Ghazi, Bihar



Skill and Livelihood Enhancement: Agriculture

dominates Bihar's economy, employing 54% of the total workforce (Labour Bureau 2015–16)³. In this context, interventions aimed at **strengthening the agriculture sector were undertaken** by promoting agricultural skill sets, with a focus on value addition to current agricultural produce or livelihood diversification. For further support to rural families, especially women, in increasing income and nutrition, livestock management was also incorporated as a component.

Image 3: Bee Keeping under HRDP in Manshahi, Bihar



The project involved **initiatives such as backyard poultry** that require minimal space, less capital investment, and quick in getting returns that are well distributed throughout the year. Further, in order to deepen the assistance to the ultra-poor landless households and explore the scope for rural entrepreneurship in SME (Small and Medium Enterprises) sector economy, **HRDP took the initiative of setting up individual-**

and group level microenterprises to promote entrepreneurship and livelihood diversification in the community. This component of the programme became more relevant during the COVID-19 lockdown when people lost their sources of income.

Health and Sanitation: The respondents experienced challenges in receiving regular access to clean water. **Hand pumps were the main source of drinking water for them but they were either located 40-50 ft. away or dried up during summers.** Community people **also faced several health issues due to impure water.** Therefore, the HRDP's intervention in the installation of solar-powered, community-based drinking water supply systems was timely and relevant by providing low-cost safe drinking water at the doorsteps of the community.

³ Hoda, Anwarul & Gulati, Ashok & Jose, Shyma & Rajkhowa, Pallavi. (2021). Sources and Drivers of Agricultural Growth in Bihar. 10.1007/978-981-15-9335-2_8.

Moreover, **Bihar remains one of the worst-performing states in terms of health indicators.** Qualitative discussions highlight **poor access of the community to proper medical facilities and poor WASH (Water, Sanitation, and Hygiene) practices.** According to the Swachhta Status Report published in 2016, **Bihar fell in the top 3 states where the rural population still practiced open defecation.** Liquid waste management was also an issue reported by the community causing breeding grounds for mosquitoes and related health concerns. To address the gaps, **HDFC Bank realized the importance of sensitizing the people regarding the need of having toilets and undertook toilet and soak pit construction. It also facilitated government health camps and undertook behavioral change training sessions to promote good health.**

As Muzaffarpur is one of the highest-burden districts when it comes to children under 5 being stunted and underweight while the problem of under-nutrition in women still looms large, the **programme promoted nutritional kitchen garden or landless garden for extra poor households to help them both in terms of nutrition and income.**

Education: In Bihar, **the state of literacy is still the country's lowest**⁴. The children in the rural

Image 4: School infrastructure development- smart class, in Manshahi, Bihar



hinterlands of the state continue to face the problem of access to education⁵. For Muzaffarpur, the dropout rates exceed 35%⁶ and there is a decrease in the proportion of students moving from elementary to secondary school, especially the SCs and minorities. A non-conducive school environment, poor infrastructure, lack of training centres for teachers, poor access, and economic conditions of the families, to a large extent are responsible for children dropping out of school. Further, **Bihar also scored the lowest**⁷ **in terms of infrastructure and facilities in the Performance Grading Index (PGI)**

2019-20 for states and union territories in the field of education⁸. This is a cause of concern as a proper school building with adequate facilities is a must to improve the overall quality of school education. Therefore, the programme's infrastructural support to government schools and Anganwadi centers in this context was found relevant with the aim of bridging the gaps in building a conducive learning environment and increasing the enrolment and attendance rate.

⁴ [Census 2011](#)

⁵ The average literacy is 59.78% in rural and 76.86% in urban areas.

⁶ <https://economictimes.indiatimes.com/news/politics-and-nation/centre-red-flags-school-dropout-rate-vacant-seats-in-bihar-girls-schools/articleshow/78175421.cms>

⁷ A total of 81 points out of 150

⁸ [PGI 2019-20](#)

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. The social profile of the respondents shows that a majority of them belong to the Other Backward Classes (OBC) category and are, therefore, marginalized.

Gender	
Male	33%
Female	68%
Age Category	
18-25 Years	9.6%
26-35 Years	32%
36-45 Years	25%
45-55 Years	18%
More than 55 Years	14%
Social Category	
Scheduled Caste	11%
Scheduled Tribe	1.0%
Other Backward Classes	80%
General	7.2%
Poverty Category	
Antyodaya	5.2%
BPL	61%
APL	32%
Do not have a ration card	2.5%
Income Category	
Cultivation	58%
Livestock	51%
Salaried employment	4%
Non-agriculture income	34%
Wage labour	60%
Pension	4%
Remittances	4%
Other	8%
Cooking fuel Category	
Firewood	83%
LPG	14%
Cow dung cake	3.7%
Drinking water Category	
Piped water into dwelling, yard, or plot	26%
Public tap or standpipe	19%
Tube Well or Borehole	4.9%
Private Hand pump	43%
Public Hand pump	6.7%
Type of house Category	
Kutch house	34%
Semi-pucca house	34%
Pucca house	32%

4.2. Natural Resource Management

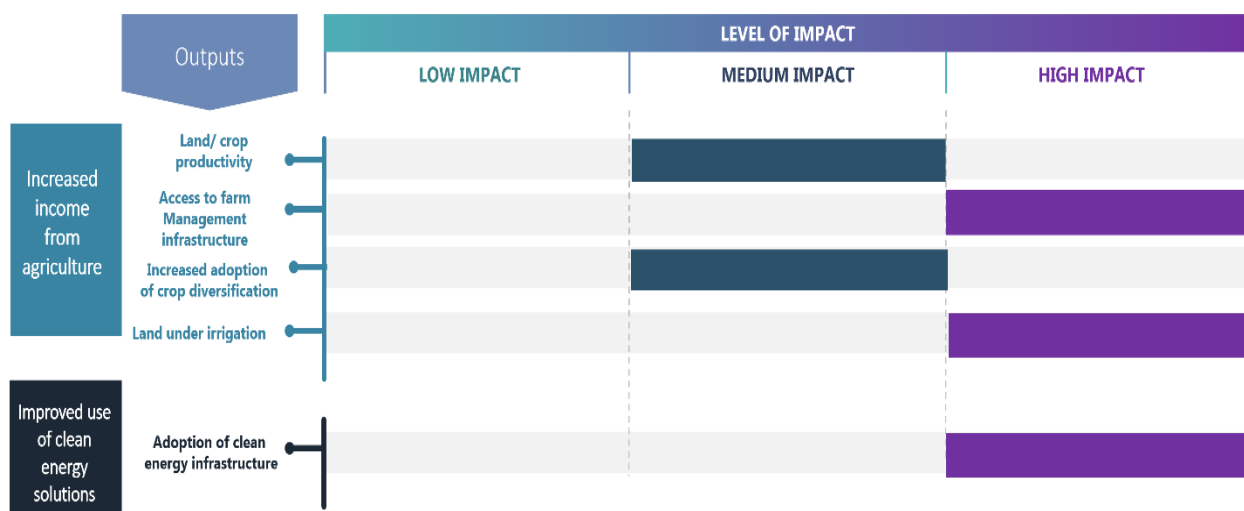
Table 5: Activities under NRM in Bihar

Activity Category	Activities
Irrigation Management	Solar-based group irrigation system
Farm Management	Vermi compost pits, conservation agriculture
Clean Energy	Solar lamps, solar street lights

4.2.1. Effectiveness and Impact

As can be observed from the figure below, the project activities have had a good impact on meeting the outcomes of the programme area. The impact for all outcomes was calculated by taking out averages for all quantitative output indicators. Based on the value derived after the average calculation, the output was assigned a high, low, or medium impact.⁹

Image 5: An overview of project effectiveness and impact in Natural Resource Management



Income from agriculture: In the survey sample, the benefits from agricultural activities were availed by 37% of the total respondents. The interventions around the construction of vermicompost pits, solar-based group irrigation, pesticides or fertilizers, and crop diversification have been the most availed and practiced activities among all the agricultural activities conducted under the intervention. As can be seen from the figure below, there has been an **increase in the net income by about 148%**¹⁰ and an **increase in the gross income by 77% (significant at a 95% confidence interval)**. Data also suggests that input price has also only increased by 5% (from Rs. 9500 to Rs. 10,000) and as the increase in the **gross income is far greater than the increase in the input cost**, it leads to a rise in the net income trends.

⁹ >70%- High Impact, Between 40%-70% - Medium Impact, <40%- Low Impact

¹⁰ Increase in average net income has been found statistically significant at 95% confidence level. As reported in the qualitative discussions, the increase in net income could be attributed to the impact of various interventions under agriculture, however, statistical tests do not show a significant correlation between the reported interventions and income change.

The reasons for the increase in net income can be credited to the impact of various interventions around agricultural activities. Qualitative findings also highlight beneficiaries reporting a fall in input cost because of the programme-supported interventions.

Figure 5: Increase in agricultural income

Around **72% of beneficiaries reported an increase in the production of the crops** that were supported under the interventions of the HDFC Bank programme, mainly due to the intervention in organic farming techniques, and the improved irrigation method provided to the farmers. Qualitative findings also substantiate these claims as the farmers expressed their immense satisfaction with the irrigation facilities made available to them.

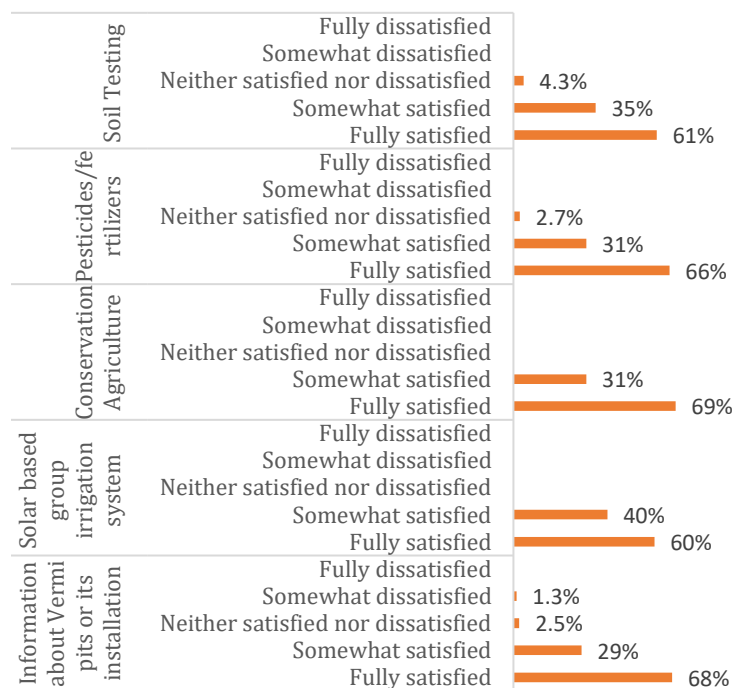
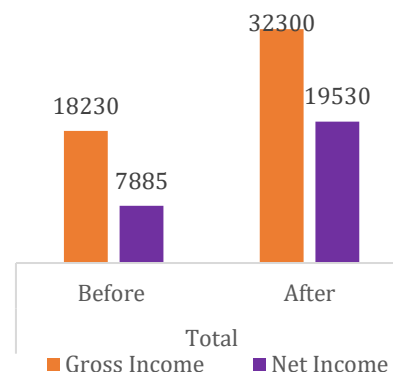


Figure 6: Level of satisfaction with HRDP NRM interventions

The farmers also highlighted that because of the new methods learned, they can produce better quality produce with reduced input costs. The **average productivity** for three major crops (paddy, wheat, and maize) **increased from 4810 kg/acre to 5388 kg/acre for the beneficiaries (a 12% increase¹¹)**. Moreover, about **60% of the beneficiaries have adopted crop diversification practices** supported by the HDFC Bank programme and are satisfied with the same.

During the duration of the project, there has been an **increase in the average land under irrigation from 0.47 acres to 0.55 acres¹² (median figures)**. Further, the interventions around the promotion of the use of organic fertilizers have led to an increase in the adoption of organic fertilizer with 71% of the beneficiaries reporting that they have observed an **increase in usage of organic fertilizer after the project interventions**. Among them, 50% of beneficiaries have adopted the vermicomposting method taught to them in the farm field school. Conservation agriculture, pesticides and fertilizers, solar-based group irrigation, and installation of vermi-pits have made a major contribution towards the increase in income of the

¹¹ The increase in productivity reported is statistically significant at 95% confidence interval.

¹² The change reported in land under irrigation is not statistically significant at 95% confidence interval.

main crops viz., rice, wheat and maize, and potato¹³. Interventions in **organic farming and solar group irrigation have been the major contributors to the increase in the productivity of the main crops** while the weather has been the main reason for a decrease in productivity of the crops according to the beneficiaries. Solar group irrigation pumps have been of high value to the community and have contributed to being an agent of relief for the people, with **100% of the farmers among water for irrigation beneficiaries being satisfied with the intervention**.

Figure 7: HRDP interventions that contributed to an increase in crop production

Intervention	Crop				
	Rice	Wheat	Maize	Potato	Peas
Project interventions in seeds and tools	25%	61%	20%	12%	71%
Interventions in irrigation (GI)	68%	81%	78%	77%	86%
Soil testing and land treatment	21%	14%	16%	16%	14%
Interventions in farming techniques	21%	24%	22%	23%	14%
Agricultural installations	18%	5%	6%	9%	7%
Interventions in organic farming	75%	66%	60%	58%	64%

Use of clean energy solutions: In all the programme villages, street lights were not available before the support from the HRDP programme and it used to get extremely dark at night. Among the solar lamp beneficiaries, the survey findings show that a majority of them receive only 10-15 hours of electricity in a day (51%). Others even reported receiving electricity for 4-10 hours (17%) and less than 4 hours (9.9%). The households used lanterns for their lighting needs while it was unsafe for women and children to walk around in the village after dark as there were no street lights. Therefore, low-cost, eco-friendly, and safe solar lamps were distributed to the adolescents and solar street lights were installed.

The findings have shown that the **use of solar lamps has resulted in improved availability of lighting in absence of electricity (81%) along with improvement in the quality of lighting (94%). Furthermore, the device is environment friendly (80%)**. Solar lamps are not only used for studying (99%) but also have improved study time (85%) and about 68% of the surveyed households are **fully satisfied with the lamps**. Although the community seemed immensely satisfied with the intervention with 43.6% reporting facing no challenge in using solar lamps, **42% of the households did report ‘repair issues’ as a challenge** in its usage.

With regards to the street lights, quantitative findings indicate that **82% of the solar light beneficiary households have access to street lights in their vicinity**. The discussions held with the villagers highlighted their satisfaction with the intervention. Furthermore, **those who didn’t have street lights near their home expressed the need for the same**. These lights have brought benefits for village people in the form of providing safety during the night from wild animals (93%), safety for women (93%), and ease of going out during the night (91%).

However, qualitative interactions indicate that the solar lamps stopped working after a few months and that they could not get them repaired. Some also highlighted that for battery changes, they will have to go to the city, which will be an additional cost. This underlines the **requirement for post-**

¹³ The statistical tests do not suggest a significant correlation ($p > 0.05$) between the project interventions and change in income.

sale technical support which is all the more required in villages. Moreover, like the solar lamps, **29% reported their non-operational status** and voiced the need to get it repaired which highlights the impact the lights have had on their lives.

4.2.2. Case Study

Where farmers across the country are facing multi-faceted challenges, farmers in villages of Bochaha and Mushahari blocks are much relieved as their solar- powered irrigated fields are well irrigated and lush greens.

Agriculture in Bihar suffered mainly due to high input costs, especially that of energy due to inadequate grid electricity supply and a high price of diesel. The pace of rural electrification through grid supply was extremely slow due to lack of public investment. Moreover, the existing groundwater markets were not increasing irrigation or equity. Thus, there was a need for an alternative. AKRSP (I) implemented solar-based group irrigation which functions on a 20% community contribution where a Group Irrigation Committee, comprising of 12 members was formed for operation and maintenance. This solar-based irrigation covers 25-30 acres of land and reaches 30-40 farmers in each village.

Hiralal Bhagat is a farmer from Manshahi. He talked about how farmers in his village used Chinese engines to draw water from the boreholes. When talking about these engines, he complained that they often stopped working due to which farmers had to bear excessive mechanical costs. Moreover, they also demanded more diesel input, contributing to high carbon dioxide emissions and high input costs. However, with the advent of the intervention under the programme, he stresses that things have become easier in comparison to their prior situation. They not only save time used in transporting the engine to the fields but also irrigate more land in lesser time and with lesser fatigue.

“In summer, the level of water went down in the aquifers of boring which impacted the extraction of water using the Chinese engines. This is not the case anymore. The holes dug now are deeper and the pumps are efficient enough to supply water throughout the year.”- Hiralal

The main goals in water management in irrigation are efficiency, equity, and sustainability. With this intervention, the programme seeks to achieve these three goals. Water is now being made available to not only the big and influential farmers but also the small and marginal farmers. Moreover, the current practice of irrigation management is performing well through the involvement of the community members in water distribution and collection of irrigation fees. Further, the intervention has also provided convergence with the Bihar government’s scheme for solar irrigation launched in 2008- Bihar Saur Kranti Sinchai Yojana, to combat the problem of lack of electricity for irrigation.

4.3. Skill Training and Livelihood Enhancement

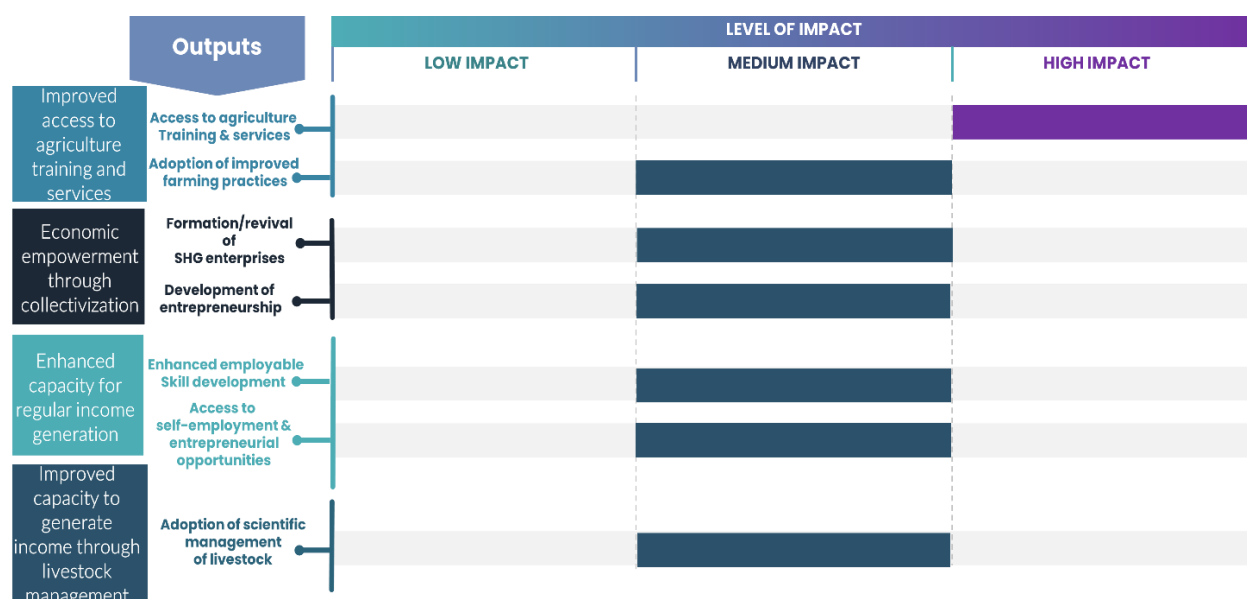
In its 3 years of operation, the project interventions under skill training and livelihood enhancement focused on advancing skills and livelihood diversification approach. The interventions under the thematic area are given below.

Table 6: Activities under skill training and livelihood enhancement in Bihar

Activity Category	Activities
Agriculture Training and Support	The farm field schools, farmers training, and capacity building, IVC, formation of Kisan Vikas Samiti, conservation agriculture, a tool bank, green net/poly house
Livestock Management	Animal shelter
Entrepreneurship Development	Backyard poultry, stitching centre, enterprise development on bee keeping, lac bangles, push cart, grocery

4.3.1. Effectiveness and Impact

Image 6: An overview of project effectiveness and impact and skill training and livelihood enhancement



Agriculture training and services: The interventions undertaken under the programme have had a positive effect on the agricultural skills of the households. Surveyed households have received training on agriculture practices (95%), support in the form of Farm Field School (53%), formation/strengthening of Kisan Vikas Samiti (KVS) (41%), Integrated Vegetable Cultivation (41%), and installation of polyhouse/green net (31%).

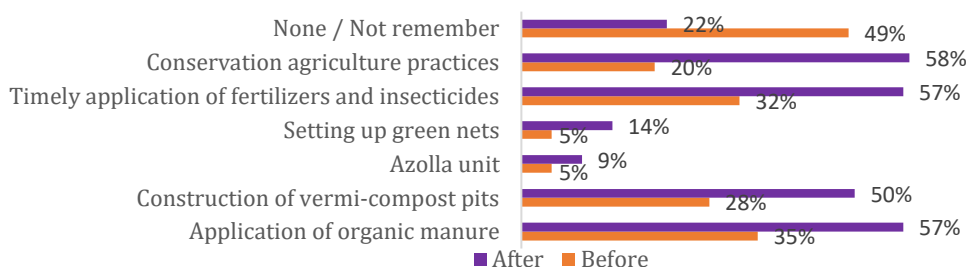
In almost all the programme villages, the programme has established a farmers’ tool bank to provide access to agriculture implements and tools for the farmers. Qualitative findings show that the tools from the farmer’s tool bank are being used by a majority of farmers. The tool bank is being managed by the KVS (wherever functioning) and the tools are accessible on a minimal rent set by the

implementing agency, however, some tools have become nonoperational. The KVs were also found to be operational during the qualitative interactions with a few exceptions where it's non-operational. The Samiti was formed to lead agriculture-related activities within the village and a majority of the Samiti members approached expressed their satisfaction with the intervention.

Various training sessions were organized to build/enhance farmers' skills. The respondents reported attending farming techniques training (83%), exposure visits (63%), training on nature farming (62%), and training in field school (41%). **Of those who attended the training, 78% found it very useful and another 21% found it useful since it helped in improving awareness of sustainable farming practices.** It also improved their capacity to increase productivity (72%), helped in input cost reduction (67%), and in reducing crop losses (53%). Moreover, almost all the respondents reported the HRDP training being the main source of awareness for sustainable farming practices, as a result of which they have become aware of the application of organic manure (89%), construction of vermi pits (82%), timely application of fertilizers and insecticides (77%), conservation agriculture (67%), Azolla units (32%), and IVC (23%). However, **the farmers currently doing these practices were less in number.**

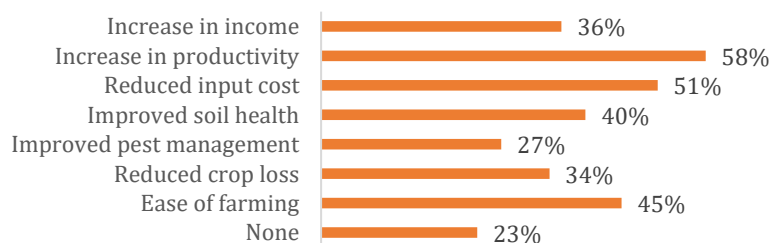
Only about 57% of the respondents reported using organic manure, timely applying fertilizers and insecticides, and practicing conservation agriculture. Another 50% of them use vermi pits, and the figures reported for the use of Azolla units and IVC were substantially low with 22% of the respondents reporting not practicing any of the above mainly because of expensive adaptation (79%) and lack of follow up services (29%). Nevertheless, these figures are still progressing from what was happening before the programme and the numbers have increased as can be seen in the figure below.

Figure 8: Respondents practicing different practices



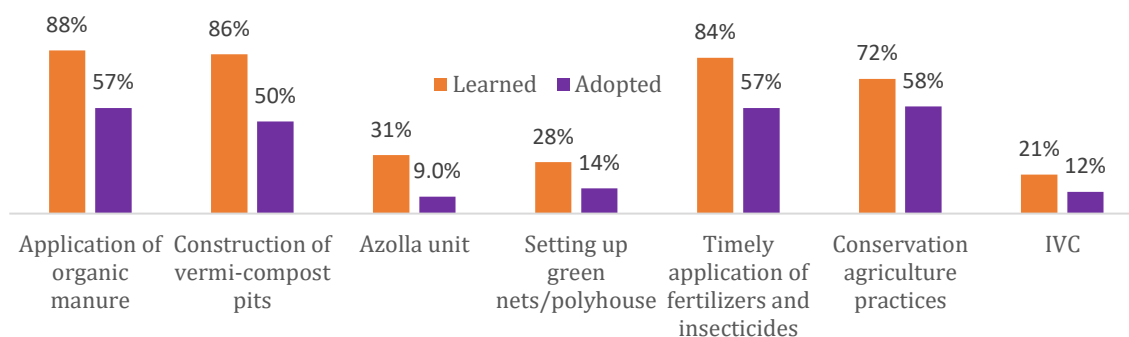
Those practicing the farming practices have noticed improvements in the form of an increase in productivity (58%), reduced input cost (50%), ease of farming (45%), improved soil health (40%), increase in income (36%) and reduced crop loss (34%). However, 23% also reported not experiencing any improvements.

Figure 9: Perceived improvements due to the adoption of agricultural practices



Data shows that the **income increased due to the skills learned to Rs. 5000 (based on median)**¹⁴.

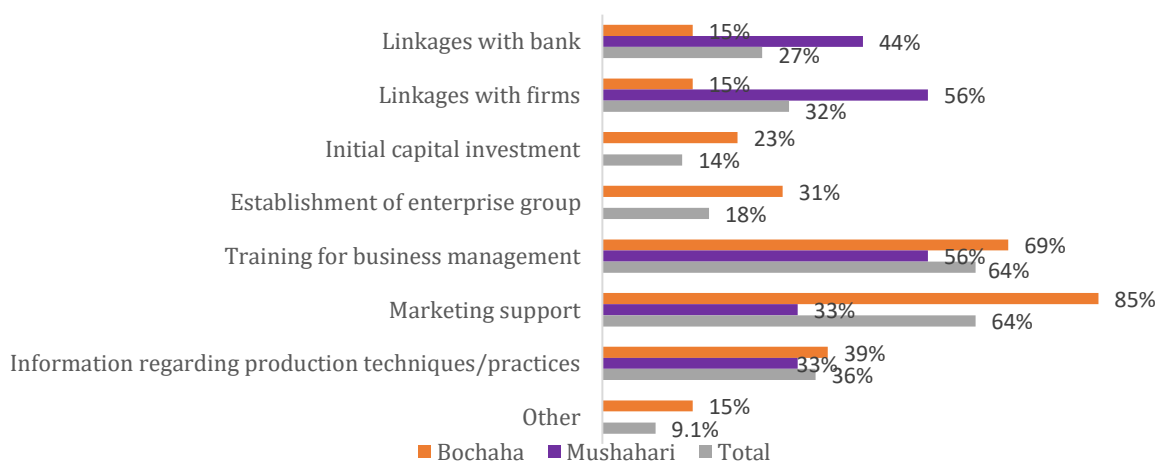
Figure 10: Agriculture practices learned and adopted through HDFC Bank training



Skill and Entrepreneurship Development: The project’s intervention under this thematic supported enterprise development in bee keeping and lac bangles. The COVID-19 pandemic-induced lockdown did not leave the community unaffected. As a means of respite, the HRDP project provided pushcarts and supported the poor and the most vulnerable in establishing grocery shops to earn a living. Therefore, given the scale of the intervention, the survey findings highlight only 11% of the respondents received benefits from skill training and entrepreneurship development. Among them, support for enterprise development was provided to 49% of the respondents under skill development and entrepreneurship interventions.

91% of the respondents also reported that they were able to apply the skills gained through the training. Moreover, in terms of impact on income, **a considerable 86% observed a positive change in their income due to the application of the skills developed.** Annual income (based on median) increased by Rs.5000 due to skills learned since the project started¹⁵.

Figure 11: Type of support provided in enterprise development



¹⁴ Due to lack of baseline data this figure cannot be statistically tested

¹⁵ Due to lack of baseline data this figure cannot be statistically tested

For the development of the enterprises, the project supported the community members by providing training for business management (67%), support for marketing (66%), and information regarding production techniques/practices (36%). **Through the support provided in enterprise development, 82% of the respondents reported benefitting from an increase in income, regular income generation (68%), increase in savings (59%), and getting an additional source of income (50%).** This is also reflected in their income as their **monthly income (based on median) has increased from Rs. 500** (before the project) **to Rs. 2500**(after the project) and thus, there has been a **400% increase**¹⁶.

The **activity on enterprise development for lac bangles didn't emerge as a primary activity for livelihood** according to the quantitative and qualitative analysis. The **women beneficiaries complained that they only received 15 days of training which was not enough to pick up the skill effectively.** While some understood the process of making the bangles, the majority failed. Post training, the female members of the group could only continue for 1- 1.5 months (till the time the raw material lasted). They tried to sell the bangles in the market but it didn't attract many buyers because of the substandard quality of the product and therefore, didn't make enough earnings. The members, however, really appreciated the opportunity since it was a great way to employ women who otherwise had no work and perhaps no income. Further, they even expressed that if they were to be trained again, they would like to be a part of it and make use of the opportunity to earn an additional source of income.

Interactions with the community emphasized that the **results for the push cart and grocery store interventions have been mixed.** For instance, while the **grocery store** acted as a livelihood opportunity in the initial year of its establishment, it is **losing its effect in being a sustainable source of income.** As highlighted in the qualitative discussions, **the lack of proper skills to manage a shop and competition from neighbouring grocery stores is making it hard for their enterprise to survive.** Similarly, women who were provided with sewing machines to start their practices are barely making ends meet through the enterprise due to less customer base, stemming from the fact that members of the community own sewing machines.

The programme provided support for SHG/women's development, especially in the areas of establishing/reviving SHGs, establishing/expanding SHG enterprise/ business activities, and training for SHG members. **There has been a 141%**¹⁷ **increase in the proportion of SHG members reporting earning a monthly income even though the median monthly income earned has remained the same for both baseline and endline (Rs. 200)**¹⁸. However, there has been a small increase of **6% in the mean income** as average monthly income increased from Rs. 1491 to Rs. 1582. Women groups were formed for enterprise development in bee keeping. Each person received 6 boxes, and as per the qualitative analysis, it was found that all operations were handled by one skilled individual who later paid the group members around Rs. 1500-2000 annually and the business was still running. Thus, given the content of the female members with the continuation of the activity even

¹⁶ Not enough sample to establish statistical significance

¹⁷ 19.76% (Baseline)- 47.6% (Endline)

¹⁸ It is to be noted that income was calculated only for people reporting an income. Respondents who reported 0 were excluded as median income would otherwise be 0 for both before and after the project as more than half of the respondents had no income.

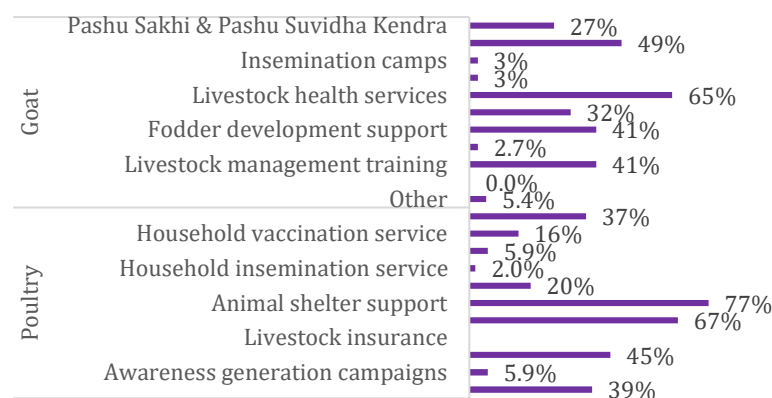
after the end of the project, it becomes imperative to either explore more ways for women to earn an income or provide additional support to strengthen and scale the existing enterprises.

Women, who largely spent time at home, want opportunities to work since they have free time and want to make judicious use of that time in learning something and earning for themselves.

A stitching center where a large number of women could be employed to stitch clothes for big shops in the city was one of the suggestions given by them.

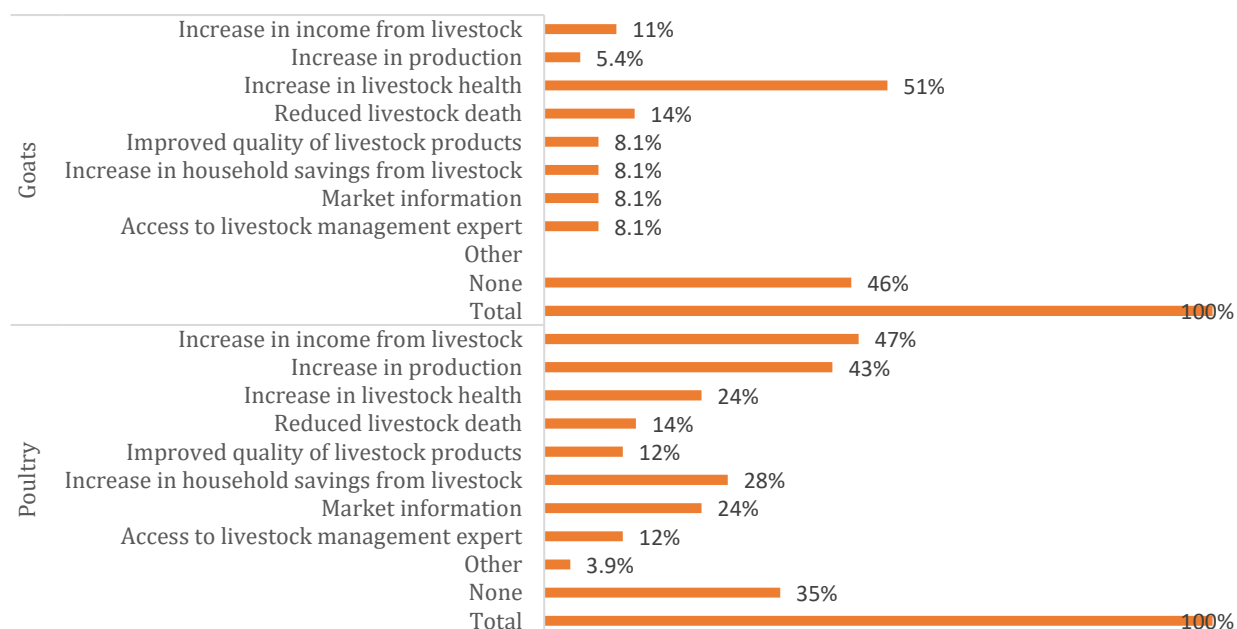
Livestock Management: As per the findings, 21% of the sampled population received benefits under livestock management, of which, 31% and 57% reported having poultry and goats at the time of the survey. Further, 61% of the respondents received support for poultry and 46% of the respondents for goats as these were the only livestock supported under the programme.

Figure 12: Livestock management services availed through HRDP



For the management of goats, the services of *Pashu Sakhi* were made available to the community (27%), along with household vaccination services (47%) and livestock health services (65%). For poultry, animal shelter support (76%) and fodder development support (67%) were largely provided to the community.

Figure 13: Perceived primary benefits of livestock interventions



Moreover, 45% of the respondents reported receiving livestock management training. The training and the intervention, as a whole, have resulted in some benefits for a proportion of the community. As per our analysis, while **51% of the respondents mentioned an increase in livestock health as the primary benefit gained, 46% of them reported no benefits gained** at all. Similarly, **for poultry, only about half of the respondents (47%) reported an increase in income due to poultry and the others stated an increase in production (43%), increase in household savings from livestock (28%), and increase in livestock health (24%) as some of the benefits received.**

Improved livestock health was also a concern highlighted in the qualitative interactions. While some reported that the intervention was effective in providing them with an alternate source of income, some didn't agree with the same as most of the chicks they received died due to poor weather conditions and diseases. Nevertheless, **the community still reported a 50%¹⁹ increase in monthly income (based on median) as their income increased from Rs. 1000 (before the project) to Rs. 1500 (after)²⁰.**

4.3.2. Case Study

For people in the rural India, backyard poultry farming is quite popular and rural India is becoming a place where people are constantly looking at prospects of rearing backyard poultry. It not only provides rural families with income but also nutritionally rich sources of food. Apart from this, it can also help in socio-economic empowerment of rural women.

Women like Tara Devi, 35, from Rohua Birnarayan village of Mushahari, Muzaffarpur, have not only earned additional income through keeping backyard poultry flocks but have also achieved better nutritional security for their families.

Until 3 years ago, Tara says: *"We used to buy eggs to get more nutritious food for our children and family."* When she heard of the HRDP and its assistance, she knew she had to go for it. *"If I am being given chicks and the farm set up, what's the harm?"* Tara was given 40 chicks to rear in the first year along with the necessary training that would help her look after them and keep them alive and healthy.

After three months of managing the country chicken in her backyard, she gained an income of Rs. 5000 from selling the eggs and another Rs. 2000 from selling 4 male chicken. She adds, "Because I raised the chickens in my backyard, I could add egg and meat to our food plates and allow my children to grow well with sufficient protein consumption."

¹⁹ Based on the Pearson correlation test, the correlation between increase in income from livestock and average monthly income from livestock rearing supported by the project is significant at 95% confidence interval. However, statistical tests do not show a significant correlation between the reported interventions under livestock management and income change.

²⁰ It is to be noted that income was calculated only for people reporting an income. Respondents who reported 0 were excluded as median income would otherwise be 0 for both baseline and endline.

4.4. Health and Sanitation

Health and Sanitation is an essential component contributing to rural development and has become even more critical since the pandemic. Diverse interventions on improving health and sanitation were carried out in both the blocks in Muzaffarpur under the programme. The table below presents the key interventions undertaken in the state.

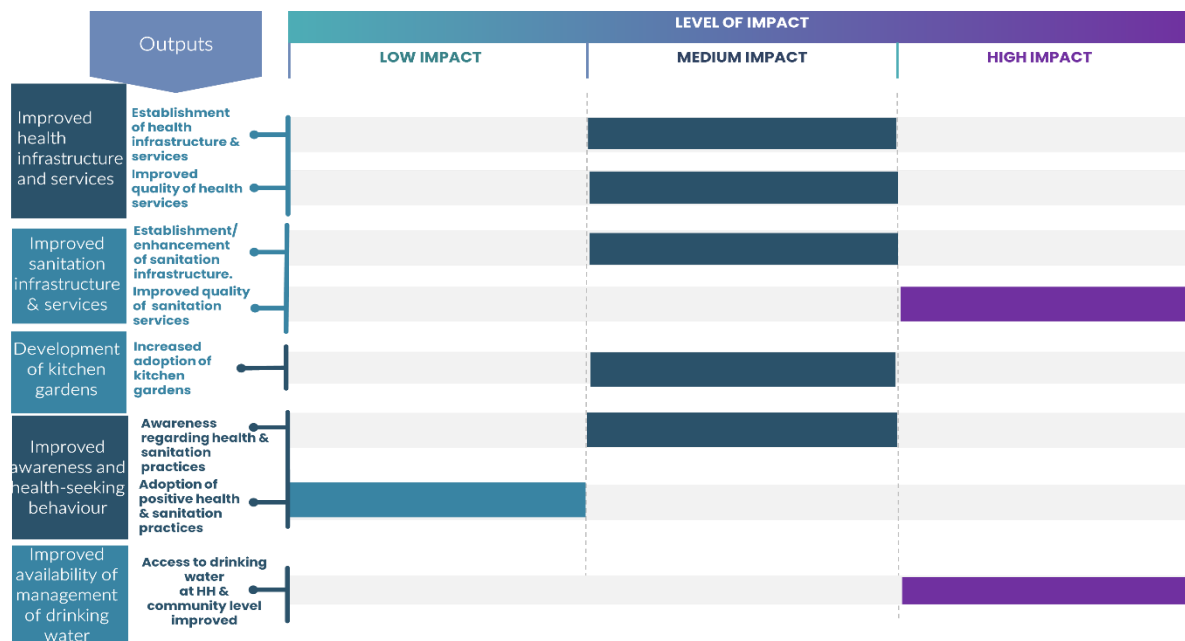
Table 7: Activities under health and sanitation in Bihar

Activity Category	Activities
Drinking Water Management	Solar power community-based drinking water supply system, value addition of existing mini drinking water supply system
Health	Health camps, solid waste management (SWM) and training around SWM, menstrual health management training for adolescents and women, hygiene and behavior change training
Sanitation	Construction of individual household toilets, soak pits with handpump repairing
Kitchen Garden/ Landless Garden	Provision of seeds, vermin compost, zyme

4.4.1. Effectiveness and Impact

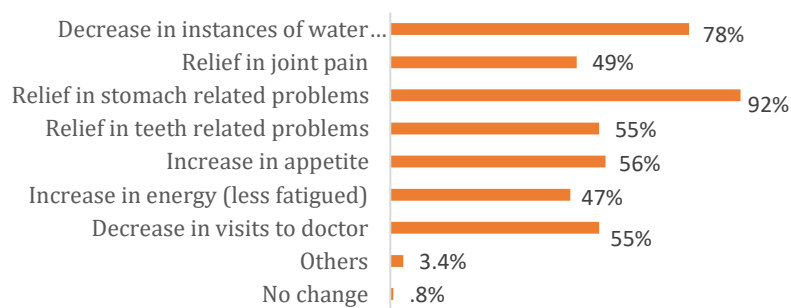
There are diverse interventions on Health and Sanitation under HRDP Bihar, with a focus on health camps, toilets, waste management, awareness creation, and behavioural change. The project performed well in certain outputs such as improved lifestyle choices at a personal level, improved access to sanitation facilities at the household level, improvement in consumption of vegetables, and reduced expenditure on vegetables.

Image 7: An overview of project effectiveness and impact on Health and Sanitation



Availability and Management of Drinking Water: The survey findings suggest that 97% of the surveyed beneficiaries of drinking water management were supported by solar water community-based drinking water supply system, followed by support in the installation or repair of community taps (24%). **100% of them reported a change in the source of drinking water in their households after the project started and almost all (98%) households reported consuming water from the project-supported water source for more than two years.** Before the intervention, the main source of drinking water for the households was private handpump (43%), piped water into the dwelling (42%), and public tap or standpipe (13%). Respondents also observed **improvement in their/ household member's health conditions. 78% reported a decrease in instances of water-borne diseases in the family, 92% reported relief in stomach-related problems, followed by relief in teeth-related problems (55%), relief in joint pain (49%), decreased visits to doctors (55%), increase in appetite (56%) and less fatigue (47%).**

Figure 14: Perceived health benefits of improved drinking water sources



In terms of supply of water, where about 69% of the households were getting 12 months of water supply before the programme, **98% were currently getting water supply in all 12 months of the year.** The average number of months has gone up from 10 to 12 months. Women also have benefitted

from this intervention in terms of saving time in fetching water (94%), saving additional effort in fetching water (82%), and reducing physical strain and fatigue (82%).

Health infrastructure and services: The programme had a component of creating awareness around health to increase health-seeking behaviour among the community and also to provide health services to the community. Health camps organized by the government were facilitated by the implementing agency in the project villages of Mushahari and Bochaha, where the activity of health check-ups was organized. The health camps gave comprehensive data and information regarding the disease occurring within the community.

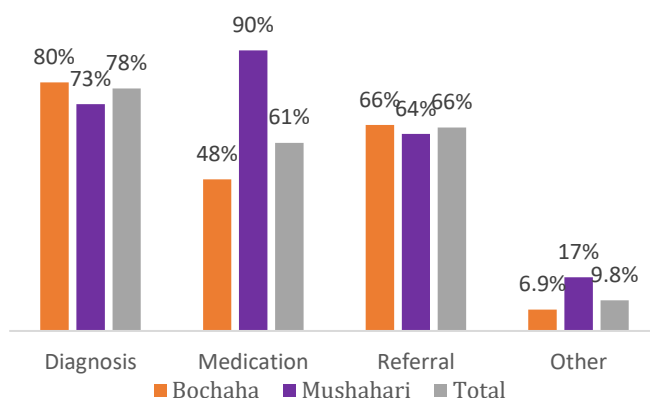


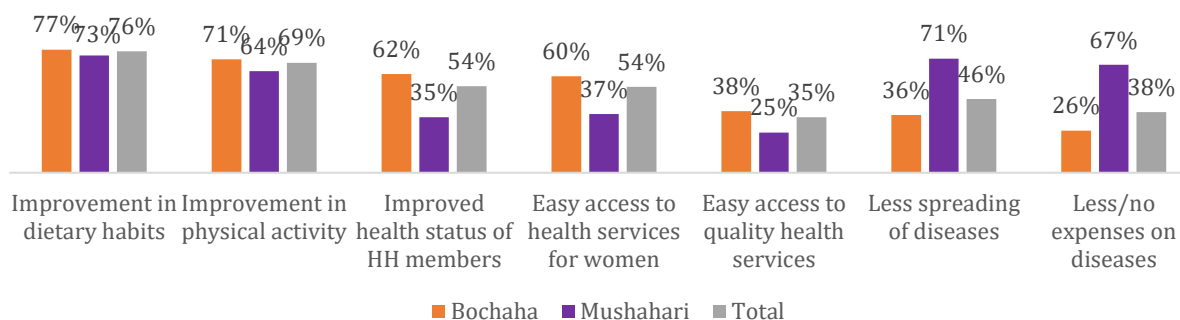
Figure 15: Services availed at HDFC Bank-supported camps/clinics

The health camps undertook the awareness-raising work around health-related concerns and also provided referrals to the district hospital or recommendations to visit the doctor's clinic with the scope of an additional benefit of discount if referred through

camp. The survey shows that 46% of the respondents availed of health services under the programme. Of this percentage, 96% of the respondents availed health camps and 54% availed of hygiene-related awareness sessions in the last year under the HDFC Bank intervention. The qualitative interactions highlight that the average number of times respondents attended the health camps was 2-3 times. Basis the quantitative and qualitative analysis, the main services that they availed at these camps were diagnosis (78%), medication (61%), and referral (66%). Moreover, 70% of the respondents even reported consulting medical services referred. The remaining, however, stated the reasons “cost” and “did not feel the need” for not consulting (29% and 57% respectively).

The respondents surveyed stated that they or someone in their household has observed a change in lifestyle after attending the health camps. They have observed an improvement in dietary habits (76%), physical activity (69%), the health status of household members (54%), easy access to health services for women (54%), easy access to quality health services (35%), less spreading of diseases (46%) and less expense on diseases (38%).

Figure 16: Perceived benefits of HDFC Bank-supported health camps/clinics



However, while the camps benefitted the community in more ways than one, **the community felt the need for such camps on a monthly or bi-monthly basis.**

Sanitation infrastructure and services: The programme supported the community with sanitation facilities (92%). It undertook the construction of toilets at the household level. The selected beneficiaries were required to make a partial contribution from their end to the construction of the toilet. **Before the intervention, most of the households practiced open defecation (73%). After the initiative of the HRDP programme, 99% of the households reported using individual toilets as against 27% before the intervention²¹.**

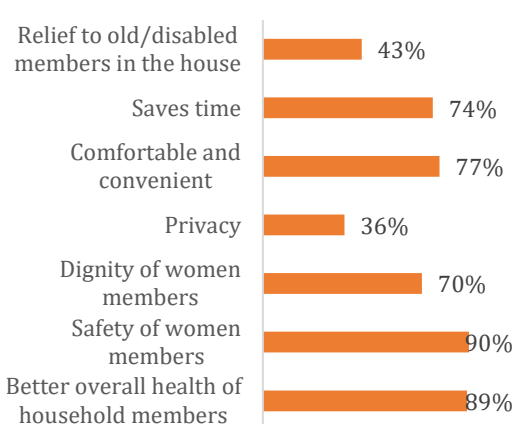
They were provided support mainly in the form of partial payment for construction (47%), materials for construction (68%), and training on utilization (13%). The practice of open defecation is almost negligible due to the support in providing sanitation units. There is a change in the use of the type of toilet in both blocks. **Moreover, based on the qualitative findings, beneficiaries did not find any problem in the structure or functioning of the toilet and seem extremely pleased with this initiative.** Further, 47% also reported having soak pits available to them and their households. Here

²¹ A significant relationship between the two groups (before and after) has been established at 95% confidence interval.

too, the majority received support in the form of materials for construction/renovation (54%), and partial payment for construction (52%).

Due to these sanitation facilities made available to them, **the beneficiaries have reported several benefits as indicated in Figure 17.** Based on qualitative analysis, the beneficiaries are very satisfied with the services they received and the quality of the available sanitation facilities.

Figure 17: Perceived benefits of HH/community sanitation units



Although the benefits are quite obvious and beneficiaries seem content, one challenge that was highlighted with regards to soak pits in one of the villages was that the depth of the pit is small and water overflows if the consumption of water increases. Moreover, due to the high incidence of floods in Bihar, some soak pits have also become damaged. Another area is the practice of solid waste management.

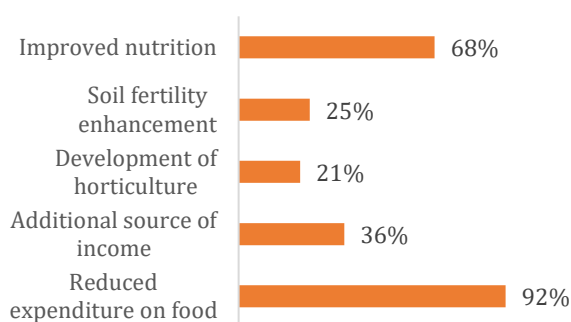
Although 53% of respondents reported dumping solid waste in open areas now as compared to 82% before the project, the figures are still concerning. Moreover, it was highlighted in the discussions that there is a problem

with the proper drainage system, and the drains overflow at times.

Kitchen Garden: To improve the nutritional status of the community, especially the ultra-poor households, and reduce the strain on their income, the project undertook the activity of a kitchen garden and landless garden where the beneficiaries were supported with seeds (97%), training (80%), fertilizers and pesticides (60%), and demonstrations (19%) for vegetables such as cabbage, brinjal, tomato, pumpkin, lady finger, beans, peas, bottle gourd, etc.

Figure 18: Perceived benefits of HRDP-supported kitchen gardens

The median income per month from the kitchen garden reported was Rs. 1850 but only 19% of the respondents who received benefits for kitchen garden reported an earning income from their gardens. Findings show that the **amount spent on buying fruits and vegetables since the project started decreased for 70%** of the households who use vegetables for self-consumption.



Moreover, **the quantity of consumption of fruits and vegetables from the kitchen garden since the project also increased for 95% of the respondents. The respondents saved around 200 rupees every week on buying fruits/vegetables and were satisfied with the support.** These findings are supported by the qualitative interactions where it was reiterated that the produce from

the garden was good and they often sold the vegetables because of the quantity. **In cases where vegetables were sold, respondents earned about 500 rupees in a week (median).**

Awareness and health-seeking behavior: The programme has undertaken multiple interventions for improving awareness of solid and liquid waste management and cleanliness practices one must practice daily. **97% of the respondents stated using toilets instead of open defecation and washing hands using soap after using toilets as cleanliness practices to be followed daily.** Health camps (75%) and awareness sessions (75%) have been the primary source from which they



learned about the same.

Figure 19: Health and sanitation practices learned through different sources

Similarly, 81% of the respondents stated dumping solid waste in a closed pit after segregation was the best way for solid waste disposal. 80% reported soak pits as the best way for liquid waste management though 39% reported releasing liquid waste in water bodies and releasing liquid waste in open areas (31%). As noticed, **although the awareness regarding solid-liquid waste management practice seems high amongst the respondents, its adoption in their life is still a challenge.**

4.4.2. Case Study

Individual Toilets: A gleam of hope for rural women

Rekha revisits the time when she had to walk long distances to find a 'safe' space in the green fields to relieve herself. This entailed discomfort sometimes, especially at night time, since the fear of harassment was constantly there.

The gleam in her eyes grew brighter as she shares how much safer and more comfortable she feels because of the newly constructed 'proper toilets' in the households. Not only has this resulted in behavioural changes, wherein cleanliness and civic sense has increased, but she claims that from health point of view it is a remarkable development. Further, the seasonal factor is huge. During harsh winters, or during excessive rains, it had earlier been very difficult to walk long distances. Adding to that, snake bites and insect attacks were a major source of concern. Rekha's mother, who suffers from chronic back and knee pain, believes that accessible toilets have saved her from the myriad issues she used to face earlier, and in her old age, this was a crucial development.

The village now understands the value of basic civic necessities and their power to revolutionize daily lives in small but impactful ways. The concept of 'dignity of life' and value of sanitation and hygiene, was implicitly highlighted as they talked about their experiences.

4.5. Promotion of Education

The work of HRDP in promoting education is in alignment with the Sustainable Development Goal (SDG) 4, which aims to “ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.” In the assessed programme villages, HRDP is working on promoting quality education through infrastructure improvements and various other activities as listed below–

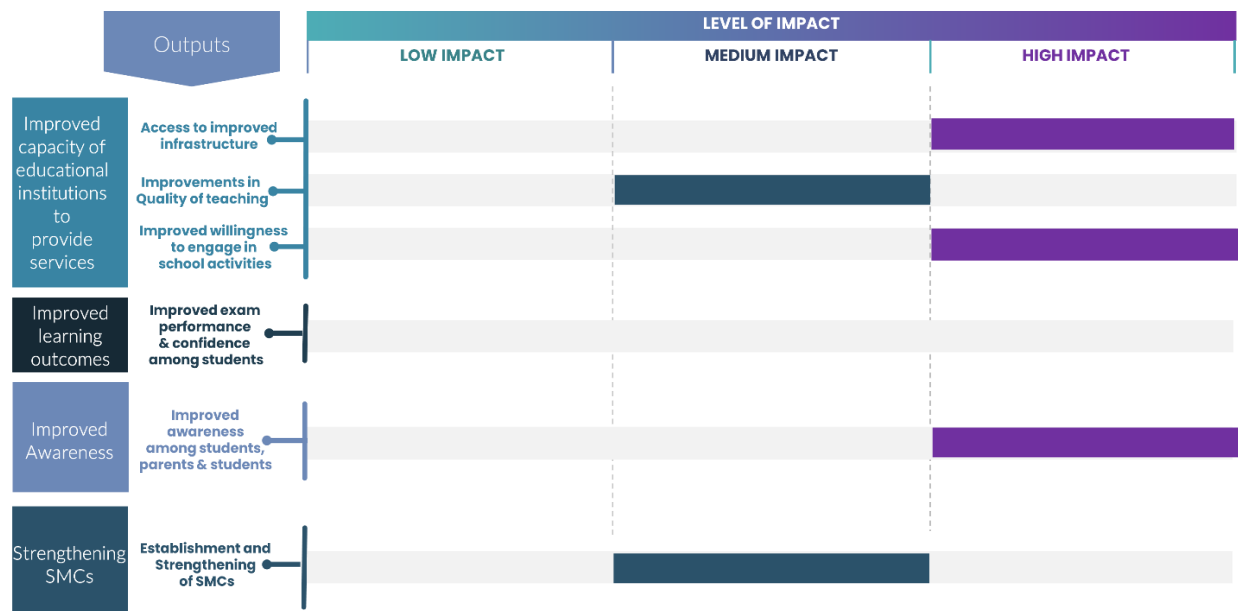
Table 8: Activities under education in Bihar

Activity Category	Activities
Educational Institutions Development	Teachers training on learning outcomes and improving teaching methodology, mini libraries, TLM support in schools, solar power Jal Minar, hygiene corner, toilet renovation, waste segregation, providing play materials, smart class/computer labs, improving the safe and joyful learning environment in schools, renovation of Anganwadi centres, enriched learning/play materials and stationery to anganwadis, strengthening of the school management committee, BaLA
Awareness Generation	Celebration of important events (water day, toilet day, etc.)

4.5.1. Effectiveness and Impact²²

The interventions by HRDP have resulted in achieving better learning outcomes in the schools in the two blocks of Muzaffarpur.

Image 8: An overview of project effectiveness and impact on Education

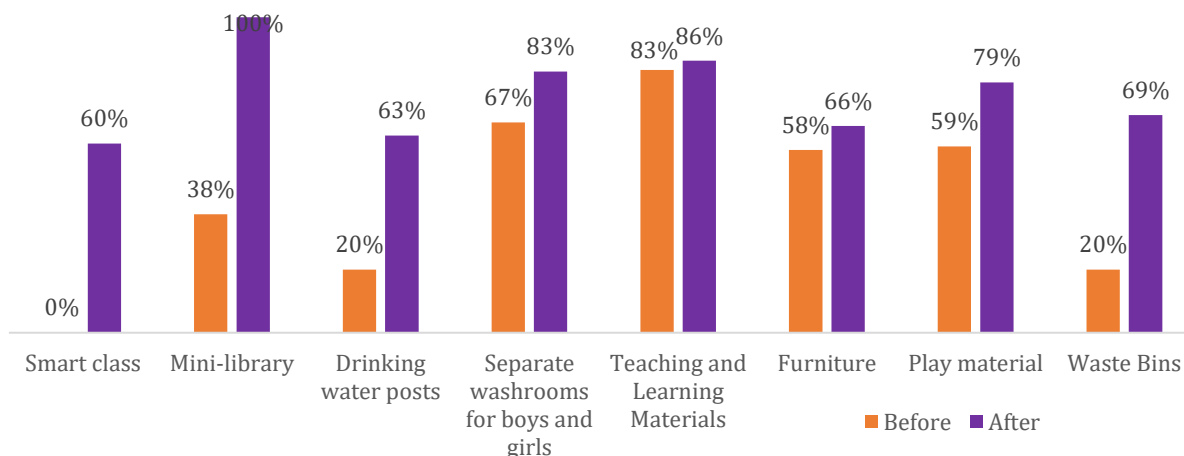


²² Most of the parents did not have awareness about the interventions in school due to which the number of sample respondents among parents were statistically low. Hence, a comparative analysis of parents’ and teachers’ responses cannot be presented. Parents only highlighted improvements like painting/renovation of school buildings.

The analysis highlights the outputs where the programme performed well namely, access to improved physical infrastructure, improved willingness to engage in school activities, and improved awareness among students, parents, and teachers. Other outputs which although have done well but require further attention are improved quality of teaching and exam performance and strengthening of SMCs.

Educational Institutions: A combination of multiple activities targeted toward improving enrolment, attendance, and learning outcomes were undertaken in the programme area of Muzaffarpur. **The programme focused on equipping schools with infrastructure such as – basic furniture, BaLA, smart-class, drinking water facilities, and renovation based on the need of the school.** The programme has also helped in providing training and supporting teachers in improving learning outcomes.

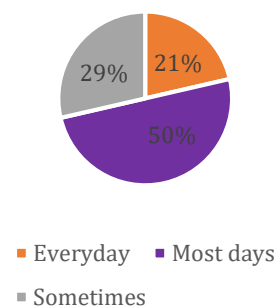
Figure 20: Infrastructural services available before and after project inception



Upgradation of the physical infrastructure of the schools has led to visible positive outcomes. The improvements of the schools have been by way of renovations, learning materials, smart class set up, setting up of libraries, and setting up of drinking water facilities. **Teachers** from all the sampled villages reported that schools are now equipped with basic facilities which were either non-existent or not functioning properly before HRDP. They **have observed various changes among students due to project infrastructure developments namely improved attendance (86%), concept retention (90%), increased enrolment (76%), decreased dropout rates (66%), improved exam performance/grade (45%), and improved attention span (52%).**

Figure 21: Usage of smart class as reported by students

For intervention in smart-class, the survey showed the intervened schools did not have access to smart classes before the intervention of the programme. The schools received projectors, monitors, software, and materials for the smart classes to set up the smart classes in all the schools. The students are taught both CBSE and Bihar board course that has engaging



visuals and animations. **A survey of the students found that almost 100% of the students stated that they like using smart class and they even assisted the teacher in operating it in the classroom. The students reported that the smart class is being used on most days of the week (Figure 35). The smart classes according to the students have made it easier for them to understand the lessons (93%), lessons are easy to remember now (93%), and lessons are more interesting (86%).**

Before the intervention, 73% of the sample reported not having access to drinking water posts. The programme established drinking water facilities and 74% of the teachers reported that they were all in working condition and for the remaining, some were working. The teachers highlighted that students sometimes break the taps due to which some of them are not in working condition. According to the teachers, **this facility has also helped in improving attendance (80%) and in preventing diseases from unclean drinking water (67%).** All students support this claim and 100% of them state the benefits of fewer health issues and clean drinking water as the benefit they have derived from the facility. Further, all surveyed students said they use drinking water posts.

The furniture received by the programme was also reported to be in working condition (100%). A corner in the classroom in school is designated for the library and about **63% of the students were reported to make use of this facility on most days. Others use it sometimes.** 68% of the teachers reported not having mini-libraries at school before. When asked, how frequently it was used by the students, almost 50% said it is used every day. The library has benefitted them in improving reading habits (96%) and in reading material beyond the syllabus (77%). While this percentage is not bad in itself, the rest of the students were reportedly using the libraries sometimes. The qualitative interactions, however, highlighted that the students were fonder of the smart class lessons than reading books from the library.

Having a proper sanitation facility is a crucial factor in maintaining school attendance. **As highlighted by the students, the renovation of toilets in school has helped them in attending school regularly (96%) and the toilets are being used by them every day.** Moreover, students have benefitted from the learning and play material materials received. **About 92% of them reported that learning material has improved their interest in going to school, 85% of them reported it has increased their confidence to go to school and 71% of them reported having access to relevant study material for the class.** Similarly, teachers have also reported the learning material's help in improving teaching. All of them reported that it makes it easier to hold students' attention and for students to understand the concepts.

Hygiene is very essential and HDFC Bank focused on establishing a hygiene corner in classrooms to promote better hygiene practices in students, and both teachers and students tend to agree with the fact that it has led to proper health and hygiene behaviour. Teachers reported awareness sessions being held in school under the programme, namely International Literacy Day (38%), Global Handwashing Day (86%), World Water Day (38%), sanitation, hygiene, cleanliness awareness generation sessions (90%), etc.

All the students expressed interest and satisfaction in coming to school every day. From qualitative discussions, teachers and Anganwadi workers have reported that the number of children

coming to schools and Anganwadi centres has increased, particularly after the renovation works and the use of play toys has also aided in this regard.

Figure 22: Perceived benefits of infrastructural services according to teachers and AWWs



The benefits received by AWCs have led to increased interest in going to AWC (86%), improved learning among children (86%), improvement in quality of teaching (43%), and better school infrastructure (57%).

Some challenges that the programme faced that were highlighted during the qualitative findings were the unwillingness of the school authority to take certain facilities, for instance, the hesitancy of the school to take computers because of the fear that they might get stolen and there was no one to look after it. Moreover, **the school management committee is not operational in many areas post the intervention. The committee can play an imperative role in managing the school affairs and needs, like looking after the broken drinking water taps and ensuring that students attend school.**

4.6. Financial Literacy and Inclusion

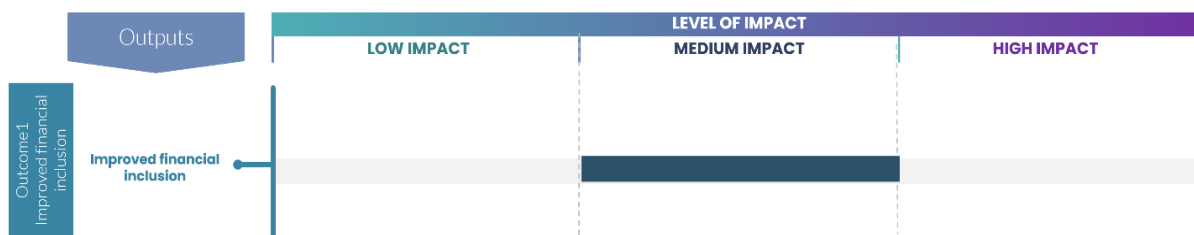
Financial literacy improves the quality of life. The HRDP project while ensuring economic empowerment for the women kept this aspect in mind and provided training on women empowerment and financial literacy to women in the bee keeping and lac bangles group.

Table 9: Activities under financial literacy and inclusion in Bihar

Activity Category	Activities
Financial Literacy	Training events on women empowerment, financial literacy to SHG,

4.6.1. Effectiveness and Impact

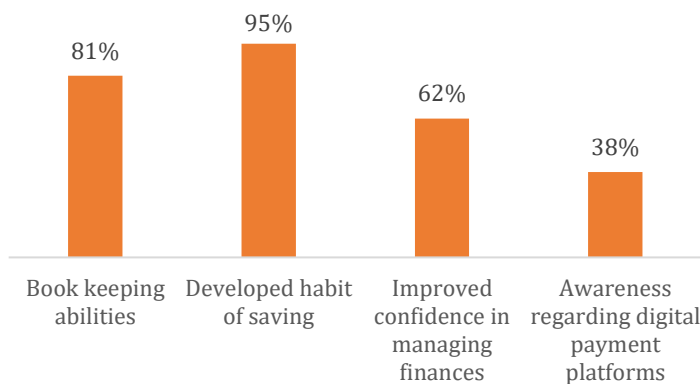
Image 9: An overview of project effectiveness and impact on Financial Literacy



Financial Inclusion: The intervention under financial literacy was mainly covered under the enterprise development activities. However, the sample size for the thematic was very small. Of the 5% who received support for financial literacy, 95.4% of respondents received training in financial literacy/ management. They state certain key benefits of financial literacy namely, bookkeeping (81%), a developed habit of saving (95%), and improved confidence in managing finances (70%). Given the scale of the intervention, the survey conducted had limited questions for this theme due to which it's difficult to arrive at a concrete conclusion.

Figure 23: Perceived benefits of financial literacy/ finance management training

The data findings show that respondents had bank accounts before the project, however, when looking at the data gender-wise, we find that women still now do not have bank accounts in their names. This needs to be looked into and women should be assisted in opening their bank accounts to manage their finances.



4.7. Sustainability

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

Table 10: Sustainability of interventions in all thematic areas

Support provided	Structures established	Technical Know-how	Usage	Maintenance
Natural Resource Management				
Solar-based group irrigation system	✓	✓	✓	✓
Vermicompost pits	✓	✓	✓	✓
Conservation agriculture		✓	✓	✓
Distribution of solar lamps to adolescent girls	✓	✓	✓	
Installation of solar street lights	✓	✓	✓	✓
Skill Training and Livelihood Enhancement				
Farm field school	✓	✓	✓	
Farmers' training and capacity building,		✓	✓	
Formation of KVS	✓	✓	✓	✓
Tool Bank	✓	✓	✓	✓
Conservation agriculture		✓	✓	
Green net/poly house	✓	✓	✓	
IVC		✓	✓	
Animal shelter	✓	✓	✓	✓
Enterprise Development				
Health and Sanitation				
Solar power community-based drinking water supply system	✓	✓	✓	✓
Health camps	X	✓	✓	X
Solid waste management (SWM) and training around SWM	X	✓	X	X
Hygiene and behavior change training	X	✓	✓	X
Menstrual health management training for adolescents and women	X	✓	X	X
Construction of individual household toilets	✓	✓	✓	✓
Soak pits with handpump repairing	✓	✓	✓	X
Kitchen/Garden	✓	✓	✓	X
Promotion of Education				
Teachers training on learning outcomes and improving teaching methodology	✓		✓	✓

Strengthening of School Management Committee	✓	✓	✓	✓
Enriched learning/play materials and stationery to anganwadis	✓	✓	✓	✓
Safe and joyful learning environment in schools	✓	✓	✓	✓
Renovation of anganwadi centres	✓	✓	✓	✓
Smart class/computer labs	✓	✓	✓	✓
Providing play materials	✓		✓	
Waste segregation	✓		✓	
TLM support in schools	✓	✓	✓	
Toilet renovation	✓		✓	
Solar power jal minar,	✓		✓	
Mini library, Hygiene Corner	✓	✓	✓	
Celebration of important events (water day, toilet day, etc.)		✓		
Financial Literacy and Inclusion				
Training events on women empowerment	✓		✓	
Financial literacy to SHG	✓	✓	✓	

The sustainability of the interventions is looked at from the criteria of structures established, technical know-how, usage, and maintenance.

The **group irrigation and drinking water systems have been handed over to the committees** that were formed during the installation of the systems. Since the institution is self-managed, they maintain books of records and handle the operations (collection of monthly dues for its usage) and maintenance of the systems. The committees charge a minimal amount and their constitution has ensured the sustainability of the intervention. The **vermi-pits constructed are functioning well** and their beneficiaries **have retained the knowledge about its use and are trying to shift towards organic manure.**

The intervention that has proved to be the most sustainable is the training of the farmers who **not only adopted better farm practices but also expressed their satisfaction with them as the training has helped in reducing their input costs.** Few field schools are **continuing with their operations and meet once or twice a month and take training.** Similarly, the KVS has proved to be quite effective with the *Samiti* managing the tool bank and maintaining records of the rented farm tools. While **functioning KVSs in some villages will ensure that better farming practices continue over time,** nonfunctioning *Samitis* raise concern. **Providing animal shelter has shown positive results in the sense that community members could still make use of the shelter provided to them and continue with backyard poultry.** They also have the necessary training regarding the upkeep of the chicks. As was observed in the field, some poly house/ green nets are still being used and are functional, however, a majority did not continue with the poly house once it broke or got damaged in the weather. Further, the lack of proper skill training and not-so-satisfactory

response from the beneficiaries of enterprise development points to the need to work towards making these interventions more viable.

Health camps and awareness sessions have helped in **improving awareness around better health and hygiene practices**. However, the outcome of the adoption of solid waste management practices has only been achieved partially. The household sanitation units and the soak pits have been greatly appreciated by the community and are in use. The Kitchen/Landless gardens provided to promote health and nutrition in the ultra-poor are still functioning for a majority of the villagers interacted with, while for some the vegetable saplings went bad and they abandoned the practice altogether.

The **interventions in education have performed well in aspects of structures established and usage** which has resulted in producing a conducive environment for learning at school by achieving technologically advanced infrastructure support, improved sanitation facilities, and use of learning aids. The training and support provided to the teachers ensure the sustainability of interventions like mini-library, smart classes, and improved teaching-learning methods. The **upgraded infrastructure and new opportunities to learn, along with play materials is a step towards ensuring the sustainability of the intervention**. However, maintenance of drinking water posts and smart class (where needed) has barely been undertaken which **creates uncertainty about its sustainability aspect**. Further, qualitative discussions with the **school teachers highlighted that they did not receive any training on how to operate the smart class**. Training to operate the smart class will not only aid the current teachers in school but also the new joiners.

With regards to financial literacy, women were provided information about the importance of being financially literate, however, they need to be actively involved in sustained financial activities to get better at the skills gained.

4.8. Holistic Rural Development Index (HRDI)

According to the World Bank, there are multiple dimensions involved in achieving the goals of rural development and the resulting mixture raises agricultural production, generates new jobs, enhances health, increases communication, and provides better living infrastructure. Rural development is defined by the World Bank as the improvement in the social and economic environment of the rural population. Thus, the fundamental aims of rural development include planning, creating, and using the resources such as land, water, and manpower in order to promote equal opportunity for the population reliant on them.

HDFC Bank in its document explaining HRDI stated that since HRDP aimed to achieve holistic rural development through a multitude of interventions that would lead to overall improvements across related dimensions and therefore the programme introduced significant variability in the interventions. Therefore, it was not possible to ascribe a single impact indicator that might be able to accurately, capture the overall performance of HRDP. Since the index aimed to create comparability across the various blocks, similar indicators were used for the calculation of HRDI in Bihar. Based on our calculation, the HRDI for the studied clusters is presented in the table below.

Table 11: Holistic Rural Development Index for Muzaffarpur, Bihar

Domain	NRM		Skill and Livelihood		Health and Sanitation		Education		Overall HRDI	
HRDI Score	Baseline	Endline	Base line	Endline	Baseline	Endline	Baseline	Endline	Baseline	Endline
% Change	0.15	0.18	0.07	0.14	0.05	0.16	0.12	0.20	0.39	0.67
	20%		100%		220%		66.6%		71.7%	

Since the program did not have an available baseline, the baseline was captured through the recall method. The indicators were selected and assigned weights based on their relative contribution to the final expected outcome across all domain-wise interventions. While most of the indicators were found to be relevant for the study in Bihar, some needed modifications in accordance with the program and also in accordance with the study design, and the information collected. The detailed methodology can be accessed in Annexure 6.4.

Further, the thematic-wise indicators were assigned weights to arrive at the composite HRDI score of **0.67** indicating **a notable positive change toward the desired impact** from the baseline score of 0.39.

5. Conclusion

5.1. Summary of Findings

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

In the assessed HRD programs in 2 blocks of Muzaffarpur, Bihar, the major focus areas for intervention were Natural Resource Management (NRM), Skill Development & Livelihood Enhancement, Promotion of Education, Healthcare & Hygiene, and Financial Literacy & Inclusion. The project interventions have been **effective in creating visible changes in the income of farmers through improved productivity, capacitating farmers to adopt sustainable and innovative agricultural practices**. Furthermore, the project also brought about changes in facilitating access to clean energy solutions such as solar lamps and solar street lights due help the community deal with the problem of erratic power supply.

Within skill and livelihood enhancement, the project activities brought **economic opportunities for farmers, SHG women, and ultra-poor households**. These beneficiaries, to some extent, have benefitted from the project by gaining the skills, technical support, and capital to undertake and expand entrepreneurial activities during the project duration. Support provided under backyard poultry turned out to be fruitful for some women beneficiaries. However, sustained income and profit generation are yet to be achieved.

The health interventions aimed at facilitating access to health and sanitation services have been **effective in terms of improving household health status and bringing about positive lifestyle changes**. The adoption of kitchen gardens has contributed to improved dietary diversity and a reduction in expenditure on vegetables.

Lastly, to bring about positive learning outcomes in schools, the project undertook the task of **improving/enhancing the infrastructural and learning environment at schools**. Several project interventions were undertaken including installation of drinking water posts, smart class, mini-library, construction/renovation of separate washrooms for boys and girls, etc. that has resulted in improved attendance, decreased dropout rate, and concept retention according to the teachers. Parents are also very pleased with the developments in schools. However, **the project's impact on providing teacher training (digital and pedagogical) has been relatively low**.

5.2. Recommendations

Based on the observations and analysis of primary and secondary information presented in the report, the study recommends strategies for the programme to meet the desired outcomes better.

Health and Sanitation

- More menstrual hygiene management **sessions and affordable sanitary pads need to be made accessible to adolescent girls and women**, along with **bins for their safe disposal**.
- The intervention in **solid waste management** hasn't shown a high impact and therefore, **proper waste disposal and collection aspects of the plan need to be worked on**.
- Some villages lack a system of proper drainage and also complain about water logging due to floods. This standing water becomes a breeding ground for mosquitoes. Therefore, **pest control measures need to be taken, along with support in removing water-filled after a flood**.
- **Frequent health camps should be organized to ensure timely diagnosis and cure**.

Skill Training and Livelihood Enhancement

- **Establishing/strengthening more SHGs in rural areas and providing them with employment opportunities** will play a pivotal role in enabling financial inclusion and ensuring women a sustainable means of livelihood.
- **Skill training and employment opportunities, especially for the youth and women are a need**. Women have expressed their need to get trained so they could get some additional income sitting at home. Moreover, lac bangles beneficiaries who were trained for a very short period desire more training to get more skilled at making good quality bangles.

Natural Resource Management

- Post-installation repair service is required for solar lamps and streetlights as it is difficult for the community to access technical support due to the remoteness of the area.

Promotion of Education and Financial Literacy

- **Appropriate technical knowledge needs to be ensured to operate smart classes, and also to optimize the use of educational aids for both the old and new teachers (appointed after the programme) in the school**.
- **An asset maintenance fund/ committee needs to be established in the programme-supported schools to ensure the necessary maintenance of supports such as - drinking water posts and smart classes**. Moreover, this committee will also help in looking after devices like computers.
- The efforts to strengthen SMCs have not shown any considerable results and the parents, during the qualitative interactions highlighted their discontentment with the same. Therefore, **efforts toward making SMCs more active in the daily operations of the school are needed to ensure good educational outcomes**.
- Women need to be assisted in opening their bank accounts for managing their finances.

6. Annexures

6.1. Detailed Activity List

Activity Category	Activities
NRM	
Drinking Water Management	Solar powered community-based drinking water supply system
Irrigation Management	Establishment of Solar based Group Irrigation System
Farm Management	Construction of vermi-pits, conservation agriculture
Clean Energy	Solar Lamp for Adolescent Girls (students), Street Solar Light
Skill Training and Livelihood Development	
Agriculture Training and Support	Farm field school, farmers training and capacity building, IVC, formation of Kisan Vikas Samiti, conservation agriculture, tool bank, formation of FPO, green net/poly house
Livestock Management	Animal shelter
Entrepreneurship Development	Backyard poultry, stitching centre, enterprise development on bee keeping, lac bangles, push cart, grocery
Health and Sanitation	
Health	Health camps, solid waste management (SWM) and training around SWM, menstrual health management training to adolescents and women, hygiene and behavior change trainings
Sanitation	Construction of individual household toilets, soak pits with handpump repairing
Kitchen Garden	Provision of seeds, vermin compost, zyme
Promotion of Education	
Educational Institutions Development	Teachers training on learning outcomes and improving teaching methodology, mini libraries, TLM support in schools, solar power jal minar, hygiene corner, toilet renovation, waste segregation, providing play materials, smart class/computer labs, improving safe and joyful learning environment in schools, renovation of anganwadi centres, enriched learning/play materials and stationery to anganwadis, strengthening of school management committee, BaLA
Awareness Generation	Celebration of Important Events (Water Day, Toilet day, Global Handwashing Day)
SMC Strengthening	Capacity Building of SMCs
Financial Literacy	
Financial Literacy	Training events on women empowerment, financial literacy to SHG

6.2. Sampling Methodology

The quantitative household survey was administered for 5 thematic areas in each district.

6.2.1. Quantitative Sample Size Calculation

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

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

Where,

N = sample size

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

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

S_e = margin of error, set at 5%;

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

Thus, the estimated maximum sample size is 400

Quantitative Sampling Methodology

All 10 programme villages were selected for the study. The stages of sampling are explained as follows:

Stage 1 – Selection of beneficiaries:

The list of beneficiaries in each of the components from all villages acted as the sampling frame for the programme. This list was obtained from the implementing partner – AKRSP (I). Simple random sampling was done to select the required number of households from within the list. Since beneficiary selection was undertaken independently for each programme, the selection of more than one beneficiary from a single household was probable.

Stage 2- Sampling for 10 villages:

Sampling for each village was done using the Probability Proportionate to Size (PPS) method. The percentage of the total number of beneficiaries in a village was taken out from the total beneficiaries. This percentage was then converted into a sample per village. The outliers were adjusted across villages to cover the sample size of 400.

Stage 3- Sampling for activities:

The sample calculated for each village was then proportionally distributed amongst various activities.

6.2.2. Qualitative Sample Size Calculation

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

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

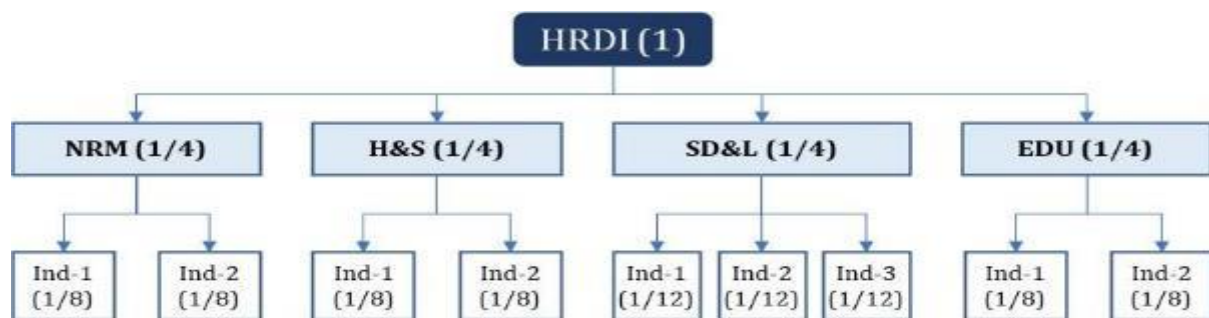
6.3. HRDI Methodology

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

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

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

Domain and indicator weights²³



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.

²³ NRM: Natural Resource Management | H&S: Health and Sanitation | SD&L: Skill Development and Livelihoods | EDU: Education

Project X		
<i>Natural Resource Management</i>	The proportion of farmers with net income above median	$(1/4) \times (1/3) = 0.083$
	Percentage of farmers reporting access to irrigation	$(1/4) \times (1/3) = 0.083$
	Proportion of farmers with area under irrigation (Ha) above median	$(1/4) \times (1/3) = 0.083$
<i>Health and Sanitation</i>	Percentage of households with access to improved drinking water facility	$(1/4) \times (1/3) = 0.083$
	Percentage of households with access to improved toilet facility	$(1/4) \times (1/3) = 0.083$
	Percentage of households with increased access to soak pits	$(1/4) \times (1/3) = 0.083$
<i>Livelihoods and Skill development</i>	Percentage of SHG members participating in rural enterprises	$(1/4) \times (1/4) = 0.0625$
	Percentage of households with improved skills in Agriculture	$(1/4) \times (1/4) = 0.0625$
	Proportion of households with income from Livestock above median	$(1/4) \times (1/4) = 0.0625$
	Proportion of SHG women with income from enterprise above median	$(1/4) \times (1/4) = 0.0625$
<i>Education</i>	Percentage of students reporting increased access to functional learning infrastructure (library, science labs, learning aids, etc.)	$(1/4) \times (1/2) = 0.125$
	Percentage of students reporting increased access to functional school physical infrastructure (drinking water posts, separate washrooms, etc.)	$(1/4) \times (1/2) = 0.125$

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

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

Method to calculate HRDI

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

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

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

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

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

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

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

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

Domain	Indicators	Baseline	HRDI	End line	HRDI	% Change
NRM	Proportion of farmers with net income above median	0.25	0.15	0.34	0.18	20%
NRM	Percentage of farmers reporting access to irrigation	0.25		0.24		
NRM	Proportion of farmers with area under irrigation (Ha) above median	0.11		0.11		
H&S	Percentage of households with access to improved drinking water facility	0.08	0.05	0.12	0.16	220%
H&S	Percentage of households with access to improved toilet facility	0.09		0.33		
H&S	Percentage of households with increased access to soak pits	0.04		0.20		
Skill	Percentage of SHG members participating in rural enterprises	0.05	0.07	0.16	0.14	100%
Skill	Percentage of households with improved skills in Agriculture	0.13		0.19		
Skill	Proportion of households with income from Livestock above median	0.04		0.08		
Skill	Proportion of SHG women with income from enterprise above median	0.05		0.12		
ED	Percentage of students reporting increased access to functional learning infrastructure (library, science labs, learning aids, etc.)	0.30	0.12	0.44	0.20	66.6%
ED	Percentage of students reporting increased access to functional school physical infrastructure (drinking water posts, separate washrooms, etc.)	0.17		0.34		
Total		0.39		0.67		71.7%
