Impact Assessment Study of Holistic Rural Development Programme (HRDP) Raygada, Odisha – P0246

Prepared For:

HDFC BANK | PARIVARTAN
A step towards sustainable progress

HDFC Bank Corporate Social Responsibility (CSR)

Prepared By:

NRMC
An Intellecap Subsidiary

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Executive Summary

The study centres on measuring the impact of the Holistic Rural Development Programme (HRDP) of HDFC Bank that was implemented by Prayatn Sanstha in the Rayagada Project Area of Odisha during April 2018 till March 2021. This study largely focused on understanding the overall process that the HDFC Bank and the implementing organisation undertook in carrying out the programme activities, the key milestones achieved, the impact created by these activities and the challenges faced. The key focus areas of the intervention were Natural Resource Management (NRM), Skill Training & Livelihood Enhancement (ST&LE), Health and Sanitation (H&S) and Promotion of Education (PoE). The framework used for the impact assessment was an adaptive version of the DAC criteria - Relevance, Effectiveness, and Sustainability. A comprehensive methodology, comprising both qualitative and quantitative primary data collection, was used for the assessment which was carried out in a participatory manner involving all the key stakeholders of the programme. The study included a sample size of 403 beneficiaries as respondents as against the planned sample of 400.

NRM: The project's focus on natural resource management (NRM) aimed to improve access to agricultural input and encourage collaboration amongst the farmers through raising awareness, training and demonstrations, laying emphasis on sustainable farming practices, **for example, 43.2% of the respondents learned about organic manure application, 76.5% got trained in SRI cultivation method training, 34.6% utilised the seed bank establishment, 16% accessed agricultural tools from the tool bank while 28.4% of the respondents availed soil testing facility** from the project support. Furthermore, the installation of **five bore wells in five villages provided lifesaving irrigation for 102 acres of land during monsoon dry spells and irrigated part of the land during winter, benefiting 52 farmers.** In addition, the construction of two check dams and three ponds, along with the de-silting of seven existing ponds, created opportunities for both fish farming and improved irrigation.

The project's interventions have been instrumental in mitigating the adverse effects of a two-year drought that had negatively impacted consistent income generation. Farmers involved in the project managed to maintain income levels similar to previous years, while nearby farmers suffered significant losses. A survey conducted among the beneficiaries highlighted that **93% of respondents reported benefiting from Solar light interventions. Moreover, it was observed that 69% of the installed solar lights are currently operational,** further demonstrating the success and effectiveness of the implemented interventions.

Skill Training and Livelihood Enhancement: The project placed a strong emphasis on empowering women through skill development and livelihood opportunities. Our analysis demonstrates the positive impact of the intervention involving Self-Help Group (SHG) members in enterprise development. Beneficiaries of SHG enterprises reported an **increase in their income from INR 2000 to INR 2500** during the project period, showcasing the project's effectiveness in enhancing women's economic well-being. Qualitative interactions revealed women's enthusiasm for venturing into new businesses and their confidence in managing them. The project also provided training in various fields such as tailoring, mobile repairing, and grocery shop management, significantly contributing to the income and financial independence of women and their families. Additionally, the project supported community members in livestock management, creating an

additional source of nutrition and income for the community. Notably, **farmers engaged in activities such as goat rearing experienced a significant rise in their monthly income from INR 3000 to INR 5000.** Encouragingly, many farmers have continued their livestock-related endeavours even after the project's culmination. The project also prioritised enhancing farmers' skills through training programs, ensuring they have the necessary knowledge and techniques to improve agricultural practices and enhance productivity. This comprehensive approach has positively impacted the economic empowerment of women and improved the overall livelihoods of community members.

Health and Sanitation: The HDFC's HRDP identified the challenges faced by the community in terms of accessing water sources easily, storing drinking water, and raising awareness about the importance of proper nutrition, health, and hygiene. In response, several interventions were implemented to address these issues. **Eight community overhead tanks with solar pumps were constructed, and 32 hand pumps were repaired. These initiatives have had a positive impact on the community, particularly for women. 80.8% of women responded that they now save time to fetch drinking water, while 84.6% reported reduced physical strain and fatigue for fetching water, while 38.5% observe overall improvements in their family's health.** The change in drinking water sources has significantly reduced instances of waterborne diseases, as reported by 64% of households. The implementation of these initiatives has also resulted in reduced fatigue (46.2%) and relief from stomach-related issues (69.2%). Some respondents have also reported an increase in appetite and decreased visits to the doctor. Additionally, **five community bathrooms were constructed, and 204 families were provided with kitchen gardens, promoting better hygiene practices and nutrition**. Qualitative discussions have indicated that improved sanitation infrastructure, including community taps, washing areas, and toilets, has played a role in reducing the spread of malaria within the community. Additionally, health camps and sanitation drives have positively influenced the access to health services for the project villages.

Promotion of Education: The implementation of need-based infrastructural developments in schools has proven to be highly beneficial and has received great appreciation from parents, students and school authorities. In particular, the presence of appropriate sanitation structures in schools has played a crucial role in enhancing children's education and ensuring regular school attendance. **Students from 6 schools where the toilets are constructed and renovated have emphasised that it has significantly helped them in attending school consistently (81.6%)** and due to increase in attendance the students are now spending more time in studies compared to earlier. Additionally, **55% of the respondents reported that their children now have access to clean drinking water at school and 93.1% reported experiencing fewer health issues**. According to teachers, the project's focus on infrastructure development has yielded multiple benefits for students. These include improved exam performance (57%), increased attention span (50%), and an increase in enrolment (50%). Qualitative findings have also highlighted the training of School Management Committee's resulted to the active participation and better coordination among them.

Table 1: Summary of Key Income Indicators

Income Indicators (based on median)	Before	After	% Change
Average Net Income from Agriculture (INR)	15,000	20,000	33%
Average Income from Skill (income from enterprises) (INR)	3,000	4,000	33%
Average Productivity of 3 major crops (Qtl. /Acre)	19	25	32%
Income from Livestock	3000	5000	67%
Increase in Irrigated Area	2.10	2.11	.05%

The above table indicates there is a healthy increase of average net income from agriculture and the income from skill and enterprises have shown a significant increase over the project duration.

HRDI Indicators

The table below illustrates the Holistic Rural Development Index (HRDI) for four project thematic areas. **Overall, the HRDI has increased by 46% compared to the baseline.** The most significant impact was observed in Sustainable Livelihoods and Employment **(ST&LE), showing a remarkable 100% increase over the baseline. Health & Sanitation also saw substantial improvements, with a 42% increase, while Natural Resource Management (NRM) showed a 33% increase**. Promotion of Education (PoE) exhibited a 32% increase. These findings suggest that the project has had a notably positive effect on rural development, with ST&LE and Health & Sanitation areas experiencing the highest improvements, contributing to the overall HRDI increase.

Table 2: Summary of HRDI Scores

Domain	NRM		ST&LE		H&S		PoE		Total	
HRDI Score	Baseline	Endline	Baseline	Endline	Baseline	Endline	Baseline	Endline	Baseline	Endline
	0.06	**0.08**	**0.05**	**0.10**	**0.12**	**0.17**	**0.19**	**0.25**	**0.41**	**0.60**
% Change	33%		100%		42%		32%		46%	

1 Introduction

HDFC Bank's Corporate Social Responsibility (CSR) initiatives encompass a comprehensive approach to rural development. One of the flagship programs under this initiative is the "Holistic Rural Development Program" (HRDP), which provides support to non-governmental organisations nationwide to implement development interventions. The program aims to create sustainable, socio-economically and ecologically developed communities that are happy and prosperous. It is currently being implemented in 15 villages of Rayagada block in Odisha's Rayagada District. Situated at the southern end of the state, the Project Area shares a border with Andhra Pradesh. With a significant tribal population of 57.52%, the Project Area faces high levels of poverty and vulnerability, necessitating intensive support, making it a priority area for the project. The selection of villages for the project was carried out in collaboration with HDFC Bank's local team members. These villages were chosen based on their socio-economic disadvantage and the need for development interventions in various areas, including Natural Resource Management (NRM), Skill training and livelihood enhancement, Health and Sanitation, and Education,

Through this project, HDFC Bank aims to uplift the lives of communities by addressing their holistic development needs. This involves equipping individuals with skills for economic independence, improving basic infrastructure, and creating a conducive ecosystem for better living conditions. By focusing on these key areas, the project strives to bring about positive and sustainable change in the targeted villages, ultimately improving the overall well-being of the residents..

1.1 About HRDP

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

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

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

1.2 Objectives of Impact Assessment

The impact assessment aims at understanding:

- Overall process undertaken for implementing HRDP activities

- Key milestones achieved
- Impact created by HRDP activities
- Challenges faced and how they were managed

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

It seeks to:

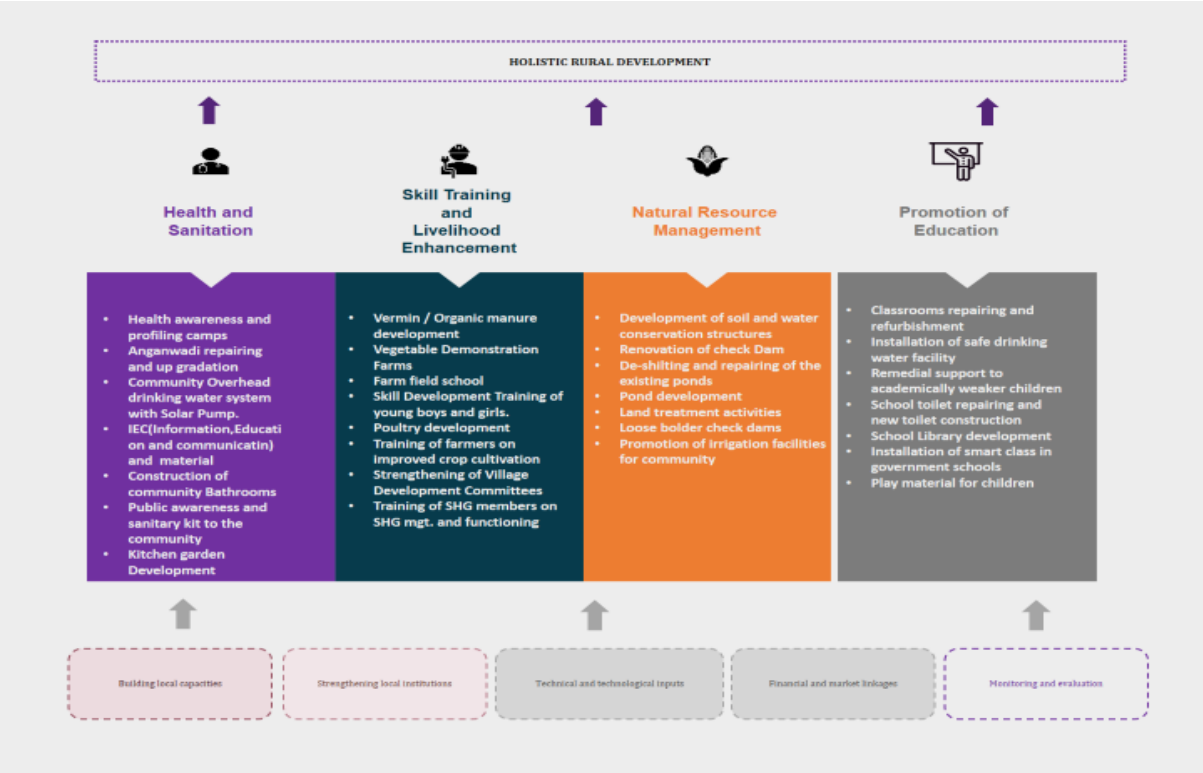
- Critically and objectively evaluate implementation and performance
- Determine reasons for certain outcomes or lack thereof
- Derive lessons learnt and good practices
- Provide evidence-based findings to inform future operational and strategic decisions while planning and funding partner organisations

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

1.3 Conceptual Framework Adopted

The conceptual framework and the areas covered under the assessment are depicted below (see Figure 1). The aim is to build local capacities and strengthen local institutions, while giving technical inputs and conducting evaluation across the four thematic areas. The objectives under NRM, ST&LE, H&S and PoE are enumerated in the figure below.

Figure 1: Conceptual Framework



1.4 About the Project Area

The assessment provides an independent, third-party, detailed assessment report of HDFC Bank's HRDP intervention (under Parivartan) carried out in a backward Project Area of Rayagada, by Prayatn Sanstha, the implementing partner in this Project Area. The programme was undertaken during year 2018 to 2021 and the interventions covered fifteen villages with a goal to ensure sustainable development of marginalised rural communities through capacity building of individuals and institutions. The assessment study was carried out from 05th June 2023 to 14 June 2023..

1.5 About the Implementing Partner

Prayatn Sanstha is a duly registered and reputed non-profit making voluntary development organization. It established in 1992 to enable people to respond to and change their situation of inequality and injustice. Prayatn focuses on education and awareness, community involvement, and collective action as the driving force of social and economic change. Prayatn is guided by the philosophy that a community should be viewed as potential resources that can be honed with the skills and knowledge that will help lift them out of a situation of deprivation. The organisation is registered under society act 1860. It is presently working in different states of the country with the vulnerable sections of the society in parts of Rajasthan, Madhya Pradesh, Uttar Pradesh, and Odisha.

Prayatn Sanstha has implemented the Holistic Rural Development Program (HRDP) in 15 villages in Rayagada block under Rayagada District of Odisha from March 2018 with the support of HDFC Bank CSR Parivartan. The project thematic area is covering all the aspects of Natural Resource Management (NRM), Skill training and livelihood enhancement, Health and sanitation, Education, and Financial Literacy to ensure the positive growth and development among the community people.

2 Research Design and Methodology

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

2.1 Criteria for Assessment

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

- Relevance and Convergence
- Impact and Effectiveness[1]
- Sustainability

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

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

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

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

2.2 Primary and Secondary Data Sources

Primary research included a quantitative household survey that was conducted by the survey team consisting of 6 enumerators and 1 supervisor. With backstopping by one field coordinator. The primary quantitative data was collected using Computer Assisted Personal Interview (CAPI) method where we developed a mobile application to collect data. The qualitative research included in-depth interviews (IDIs), Key Informant Interviews (KIIs) and Focused Group Discussions (FGDs) with project beneficiaries and secondary stakeholders such as the team

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

members of Prayatn Sanstha, the HDFC Bank programme team, local leaders from the project area etc. IDIs were conducted with the specific individuals who were recipients of the project. The qualitative data was conducted by our research coordinator.

Figure 2: An FGD in Progress

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

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

2.3 Sample Size and Distribution

From the nine villages of Rayagada where the project was implemented, beneficiaries were selected using purposive random sampling from a list of beneficiaries obtained from Prayatn Sanstha. Since beneficiary selection was undertaken independently for each thematic area, the selection of more than one beneficiary from a single household was probable. Also, there were instances where a single beneficiary received multiple benefits and support across the four thematic areas. Inclusion of beneficiaries for all thematic areas was ensured. The target sample size across nine villages was 400, out of which 403 sample respondents were reached. The thematic areas wise sample covered was as follows.

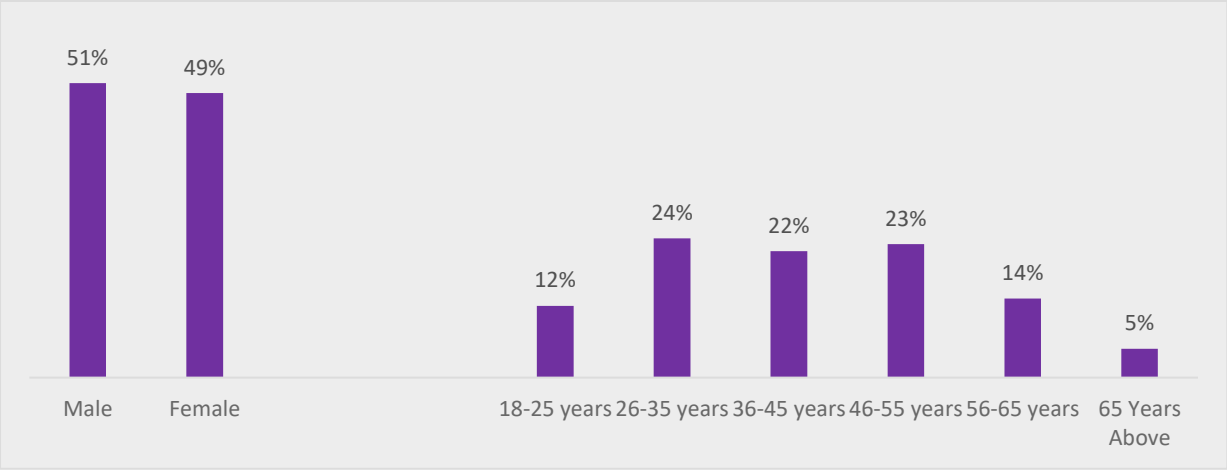
Table 3: Sample distribution across thematic areas

Village Name	NRM	ST&LE	H&S	PoE
Sikharpadu	49	28	49	18
Kuli	52	28	52	25
Tarlabadi(Kotaguda)	30	9	31	13

Beheraguda	46	33	46	13
Temperguda	34	17	32	3
Kampamaligaon	58	48	49	9
Alluabdi	41	31	44	19
Kunjabadi	26	14	27	5
Pitamahal	48	28	49	11
Total	384	236	379	116

A total of 16 qualitative data collection events were conducted in this project. The total sample includes 51% male and 49% female attributing to the gender distribution of the sample. Similarly, youth (18-55 years) represented majority of the sample (58%) distributed in different age groups. The remaining 42% of the respondents were more than 45 years of age.

Figure 3: Gender and Age Group wise distribution of Sample



N=403

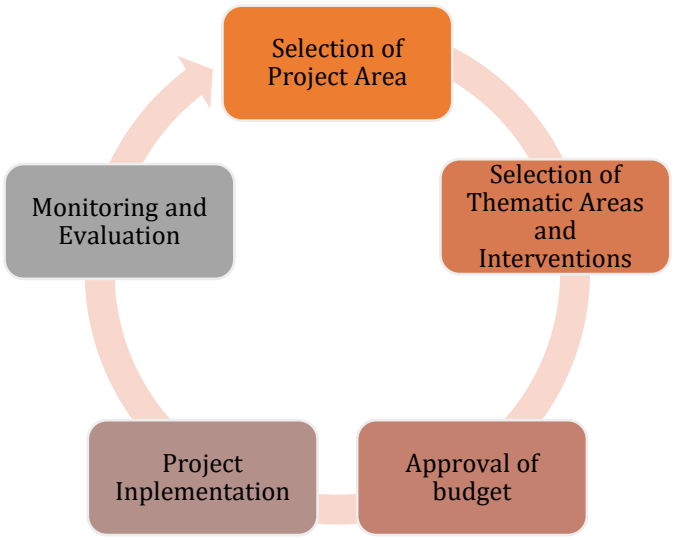
2.4 Training of Enumerators

A gender balanced survey team consisting of 6 local enumerators and 1 supervisor were recruited with requisite education and experience, for data collection. Two days of training were provided to enumerators and supervisors by the field coordinator and the research coordinator. During the training the survey team was explained about the project, data collection tools, how to use CAPI, data collection protocols, data quality control etc. The training included both classroom teaching and mock practice of the survey tool.

3 Review of Project Planning and Implementation

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

Figure 4: Planning & Implementation Process



3.1 Selection of Project Area

The assessment conducted revealed the dire state of agriculture, which serves as the primary source of livelihood for tribal and rural communities in the region. Lack of adequate irrigation facilities poses a significant challenge due to limited water availability for irrigation purposes. **Despite an average rainfall of 1455.74 mm, a substantial portion of cultivable land experiences water scarcity during the Rabi season**. The hilly terrain and poor water retention capacity of the soil contribute to the high run-off. Moreover, tribal farmers lack knowledge about improved farming techniques, and their poverty prevents them from adopting successful lift irrigation systems used in the region. There is also a lack of awareness about soil testing, organic farming methods, and other practices that can enhance agricultural yield under the existing conditions. In addition to agriculture, successful entrepreneurial ventures such as fish farming, poultry farming, and goat rearing can be pursued.

Although self-help groups exist in many villages, only a few engage in income-generating activities. Unemployment and under-employment rates are high, primarily due to a lack of employable skills among the youth. The overall literacy rate in the project area is a mere 42.13%, resulting in most children attending under-resourced government schools. These schools lack essential infrastructure such as classrooms, potable water, functional toilets, boundary walls, and electricity. The quality of education provided is also inadequate, as evidenced by the ASER survey, which indicates low proficiency levels among students in reading and basic mathematical operations. Gender-based discrimination is prevalent in the region, with **female literacy at a mere 40.66% compared to male literacy at 59.34%.** Although the **sex ratio is relatively high at 1028**, the disparities in literacy highlight the need to address gender inequalities.

Healthcare services in the region are lacking, and malnutrition among community members is evident. Diseases like Malaria and typhoid are prevalent, and limited access to health centres forces patients to travel long distances to the project area headquarters. Consequently, they often resort to unqualified practitioners for treatment. Anganwadi centers, intended for the well-being of children, are in poor condition and lack basic amenities such as drinking water. As a result, community members do not regularly send their children to these centres. Substance abuse, particularly alcohol and tobacco, is prevalent, and child marriage is also observed, with approximately 11% of females getting married before the legal age. The availability of clean drinking water and adequate sanitation facilities are additional pressing issues that need to be addressed in the region. Overall, there is a significant need for comprehensive and integrated interventions to address these interconnected challenges and bring about comprehensive and sustainable improvements in the lives of the local population

3.2 Selection of Thematic Areas and Interventions

Considering the above challenges in the area, HRDP interventions focused on promoting water and farm management in addition to clean energy. The project also focused on agricultural training and support, skill training, livestock management, and entrepreneurship development under ST&LE; educational institution development and education support under PoE; health awareness and sanitation practices under H&S.

The activities specific to each village under the project were decided after in-depth consultation with the respective Village Development Committees (VDCs), which were constituted during the beginning of the project implementation. Activities under each of the four thematic areas are as follows.

Table 4: Activities under four thematic areas

Activity Category	Activities	Output Indicators
NRM		
Irrigation Management	Renovation of check Dam, Irrigation facilities, Loose bolder check dams, Pond development, De-silting and repairing of the existing ponds, Digging of Bore well	Income from agriculture Clean energy
Farm Management	Distribution of Tool, Preparing Organic manure, Land treatment activities,	
Clean Energy	Installation of Solar Lights	Clean Energy
ST&LE		
Agriculture Training and Services	Farm field school, Training of farmers on improved crop cultivation, Crop Demonstration farms, Community tool bank development, Agriculture Resource Center development, Vegetable and Rice cluster development, Exposure visit and training, Vermin / Organic manure development	Access to Agriculture Training and Services
Skill and Entrepreneurship Development	Training of SHG members on SHG mgt. and functioning , Paper plate preparing Unit, Income Generation Activities, Skill Development Training of young boys and girls.	Skill and Entrepreneurship Development
Livestock Management	Goat rearing, Poultry development, Fishery Development, Animal Health Camps,	Livestock Management
H&S		
Health	Health Camp, Hygiene related awareness sessions,	Health Infrastructure and Services

Sanitation	Construction of community bathroom, community awareness on Nutrition, water and sanitation on VHND	Sanitation Infrastructure and Services
Drinking Water Management	Community overhead Tank with solar Pump, repair of Hand pumps.	Clean Drinking water
Kitchen Garden	Kitchen garden development, seed provided	Nutritious Food
PoE		
Educational Institutions Development	Classrooms repairing and refurbishment, School toilet repairing and newly constructed, Installation of safe drinking water, Installation of smart class room, Furniture for children, Digital learning class, Anganwadi repairing and up gradation.	Infrastructure in Educational Institutions
Education Support	School Library development, support for digital learning, Remedial support to academically weaker children,	Support to the Education
SMC Strengthening	Training of SMC	Better management
Sports	Play material for children	Improve the Attendance

Each category has been further broken down into sub-categories and activities, along with the focus beneficiary types

3.3 Project Implementation

The interventions comprised a combination of providing direct materials and services such as seeds and sprinklers as farm inputs and implements, along with raising awareness about new agricultural techniques. Additionally, there was a focus on convergence with government schemes like the Mahatma Gandhi National Rural Employment Guarantee (MNREGA) for construction of natural resources infrastructure such as ponds, water harvesting structures etc.

Under NRM, the holistic development of farmers is crucial for ensuring sustainable agricultural practices and rural prosperity. In this regard, various initiatives are being undertaken to enhance irrigation management, farm efficiency, and clean energy adoption. The renovation of check dams and loose boulder check dams, along with the development and desilting of ponds, significantly contribute to efficient water resource management. Improved irrigation facilities, including bore well digging, empower farmers to effectively manage water distribution, leading to enhanced crop yields and income from agriculture. Additionally, farm management practices such as the distribution of tools, preparation of organic manure, and land treatment activities further optimize agricultural productivity. To promote sustainable development, the installation of solar lights not only facilitates clean energy adoption but also enhances the quality of life in rural areas. These collective efforts strive to uplift farmers' livelihoods, boost agricultural output, and promote environmentally conscious practices. By integrating these interventions, a comprehensive approach to rural development is fostered, ultimately contributing to the overall growth and well-being of farming communities.

Under ST&LE, the project is played as a transformative force in rural communities, empowering individuals and reshaping the landscape. Initiatives like farm field schools, crop training, and demonstration farms equip farmers with knowledge for enhanced practices. Community tool banks and Agriculture Resource Centres amplify these efforts, offering vital resources. Clusters focused on vegetables and rice drive local economic growth through specialisation. Exposure

visits expand horizons, enabling adaptation of innovative techniques. Emphasising vermi-composting and organic manure enriches soil and promotes sustainability. Beyond farming, skills span entrepreneurship and livelihood diversification. Training Self-Help Group members cultivates self-reliance, while ventures like paper plate units aid economic independence, especially for women. Youth training builds capable leaders. Livestock projects including goat rearing and poultry development provide income diversity and nutrition. Animal health camps ensure thriving agro-economies. These multifaceted endeavours uplift rural areas, fostering sustainable agriculture, entrepreneurship, and improved livelihoods.

Under H&S, A comprehensive approach was taken which involves focusing on health, sanitation, and sustainability. Health camps and hygiene awareness sessions play a critical role in improving individual health, while constructing community bathrooms and educating about nutrition, water, and sanitation enhances sanitation practices. Installing a solar-powered overhead tank and repairing hand pumps ensures clean drinking water access. Moreover, enabling the cultivation of kitchen gardens through seed provision empowers individuals to grow fresh produce, enhancing nutrition and food security. These combined endeavors establish a holistic framework for community development, elevating living standards and fostering empowerment and resilience among community members

Under PoE, a multifaceted approach is being undertaken to uplift learning environments. This encompasses repairing and refurbishing classrooms, constructing and renovating school toilets, and ensuring the availability of safe drinking water. The integration of technology is emphasised through the installation of smart classrooms and digital learning initiatives, complemented by suitable furniture for students. Furthermore, the renovation and upgrading of Anganwadi centers contribute to early childhood education. To bolster educational support, efforts are directed towards the development of school libraries, facilitating digital learning, and providing remedial assistance to academically challenged students. The strengthening of School Management Committees (SMCs) is pursued through targeted training, enhancing community involvement in educational governance. Recognising the importance of physical activity, provisions for play materials are made, promoting a holistic approach to education. In sum, these concerted endeavours aim to create conducive learning spaces, foster educational growth, and enrich the overall school experience for students.

3.4 Monitoring and Evaluation

The HRDP has a standard monitoring & evaluation approach that was adopted by the implementing partners. These includes reporting of project implementation progress in periodically to the HDFC Bank. In addition, the program implementation team of HRFC bank visits to the project villages at regular intervals to review the project work sites. participate in the training programs, awareness camps and interact with project beneficiaries.

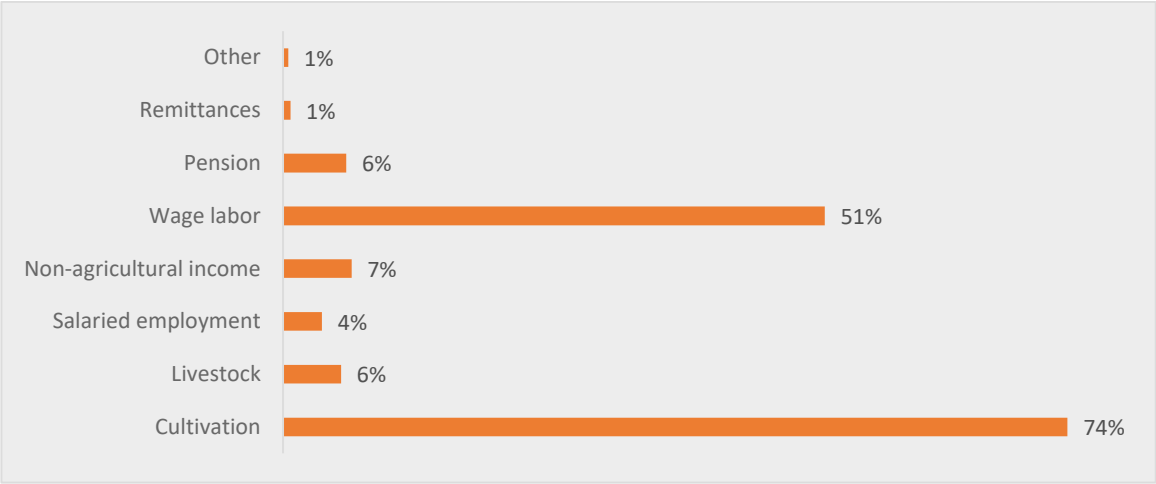
HDFC Bank has specific ask as regards to the project information concerned from the implementing partner. The project data are primarily managed by the implementing partner in spreadsheets that include details of the village wise activities implemented, beneficiaries mapped against each of the project activities, expenditures etc. In addition, the implementing partner submits an annual progress report on the project activities to HDFC Bank along with the plan for the next year. This document serves as the major source of the information that provides a summary of the activities implemented, outputs delivered, and outcomes achieved.

In addition, the HDFC Bank hired NRMC as an external agency to conduct impact assessment of the project after one year of the completion of the project. This is an independent assessment that evaluated using four criteria: relevance and convergence, impact and effectiveness, sustainability, and replicability. This is backed up by the creation of a Holistic Rural Development Index based on selected outcome indicators. The impact of each activity has also been calculated and classified as high, medium, or low impact. The annexure goes into greater detail on these.

4 Study Findings

74% of the respondents quoted agriculture as their primary sources of income, 51% of them depend on wage labor while 6% earn their livelihood from livestock and related activities. Furthermore, 6% of the respondents receive pensions through government social schemes like the Old Age Sanman Allowance Scheme, contributing to their income streams.The quantitative and qualitative sampling methodology has been explained in detail

Figure 5: Distribution of Sample based on their occupation



57% of the respondents are illiterate with no formal education while 42% of the respondents have attended schooling with different grades. 69% of the respondents are from Scheduled Tribe followed by 20% from other backward classes. 87% of the respondents are above the poverty line with only 5% belonging to the BPL category.

Figure 6 Educational Qualification wise distribution of sample

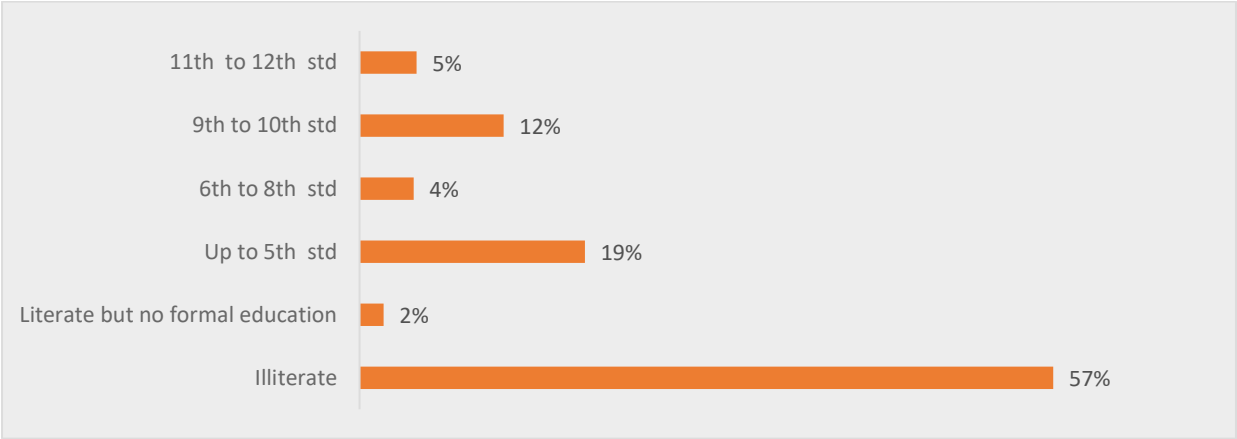
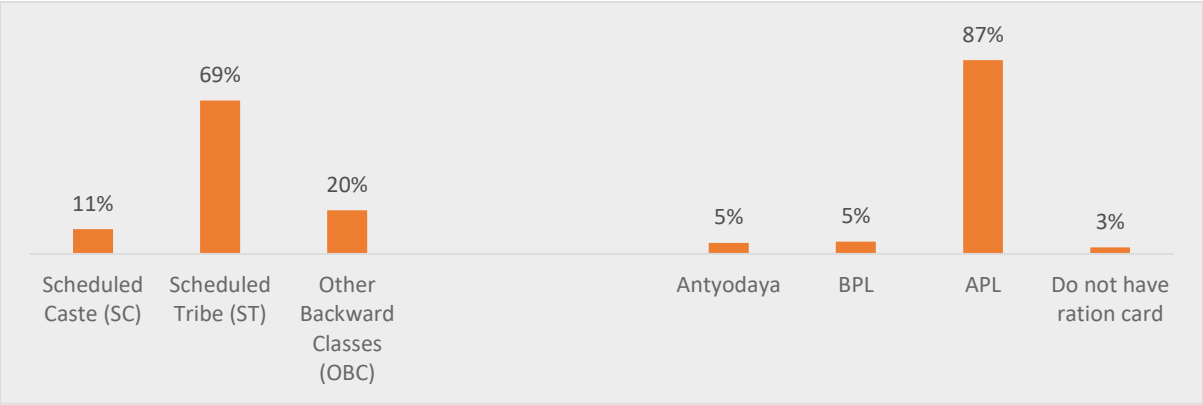


Figure 7 Caste and Income categorisation sample



While the above analysis represents the nature and status of the sample, the following table represents the summary and quantum of activities carried out under each intervention category of the four thematic areas

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

Activity Category	Activities	Nos. (as provided by IA)
NRM		
Irrigation Management	Pond Development De-shilting Digging of Borewell Lift Irrigation Check dam Loose bolder check dam	4 3 5 4 2 15
Farm Management	Tool bank Land treatment	15 100 Hector
Clean Energy	Solar Lights (Street)	110
ST&LE		
Agriculture Training and Services	Field Schools Crop demo farm Vegetable demo farm organic manure development Farmer Training Rice Production clusture Exposure Visit and Training Agriculture resource Centre	9 45 15 5 12 509 4 1
Skill and Entrepreneurship Development	Training SHG members Paper plate unit Member trained Skill Development training	237 10 144
Livestock Management	Goats Rearing Benefited family Poultry No of women Benefitted Fishery Development	73 70 11
H&S		
Health	Health Camps	12
Sanitation	Construction of Community bath room Public awareness and sanitary kit distribution Awareness Campaigns(VHND)	15 1 3
Kitchen Garden Devt.	Training given and seed support	624

Drinking Water Mgt.	Community overhear Drinking water system with solar pump Repair of Hand Pumps	8 20
PoE		
Educational Institutions Development	Class room Repairing and refurbishment installation of safe drinking water Construction/Repair of Separate Washrooms Furniture for children Digital learning class Anganwadi Repair and gradation	12 school 11 school 6 school 3 school 10 school 11
Educational Support	Library Development Remedial Support for academically weaker	15 School 14 School 523 student
SMC strengthening	Training of teacher and SMC	9
Sports	Play Material for Children	15 School

(Source: Project MIS from Implementing Agency)

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

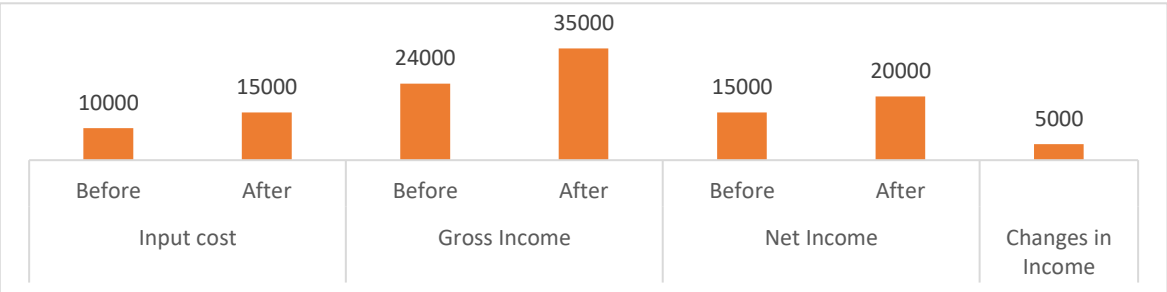
4.1 Natural Resource Management

Natural Resource Management (NRM) stands as a fundamental pillar of HRDP, and its significance becomes particularly pronounced in the context of Rayagada's acute water scarcity. Water conservation and recharge received special attention, leading to a series of impactful interventions. These included the construction of four ponds, cleaning and desilting of three existing ponds, the digging of five bore wells, the establishment of four lift irrigation systems, the construction of two check dams, and the creation of fifteen loose boulder check dams, all designed to replenish groundwater reserves. Additionally, farmers were supported in adopting advanced irrigation techniques and farm management practices, with 100 hectares of land receiving treatment and levelling. The sections below focus on the impact created with regard to these objectives.

4.1.1 Income from Agriculture

The activities conducted have had a positive impact on the income generation capacity of the farmers involved. They have increased the availability of water, improved the irrigation infrastructure, and allowed for the adoption of crop diversification especially for vegetables such as brinjal, cabbage, cauliflower etc. All these has led to an increase in overall income for the farmers by 33% since the start of the project.

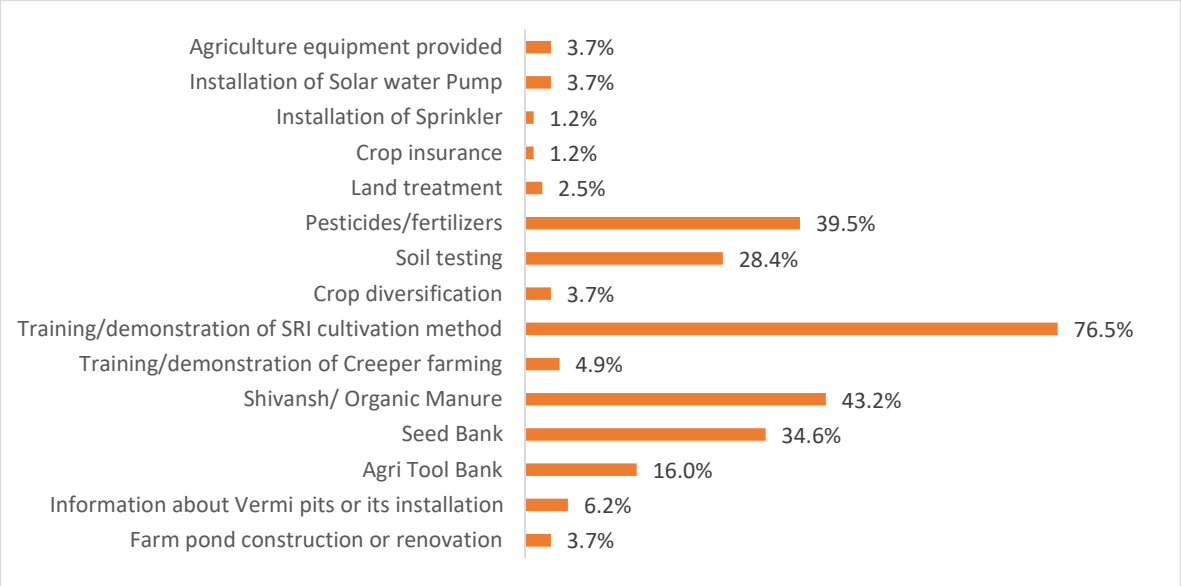
Figure 8: Increase in Agricultural Income (n=81)



Various factors have contributed to changes in the income generation capacity of farmers. Among these factors, the training and demonstration on the Systems of Rice Intensification (SRI)

cultivation, promotion of organic manure, soil testing, seed bank and agri tool bank played a vital role in enhancing their overall income and livelihood .

Figure 9: HRDP interventions that contributed to increase in income (n=188)



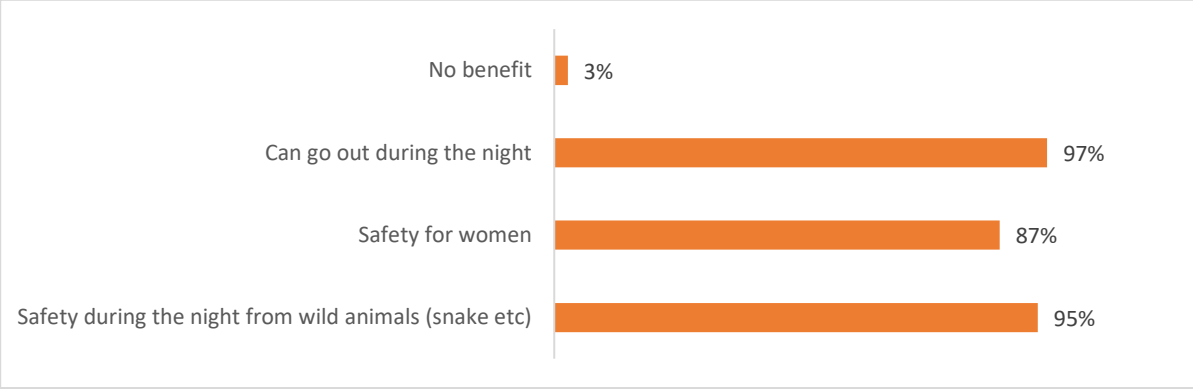
The successful implementation of various interventions has played a crucial role in uplifting the income levels of beneficiaries. Particularly noteworthy is the outstanding impact **of introducing Shivansh/Organic Manure, which was credited by 43.2% of respondents for their income growth.** Additionally, the training and demonstration of the SRI cultivation method proved highly effective, with an impressive **76.5% of respondents acknowledging its contribution to their increased income**. Other interventions that positively influenced income enhancement included soil testing, reported by 28.4% of respondents, and the provision of pesticides/fertilisers, reported by 39.5%. Soil testing helps measure the fertility of the soil and take adequate measures at the right time to enhance it. Agri Tool Bank also played a vital role, leading to an income increase reported by 16.0% of respondents. This facility provides the farmers with right agri-tools thereby improving their efficiency. **Provision of a seed bank proved to be a valuable asset, resulting in income growth reported by 34.6% of respondents.**

Figure 10 Check Dam

4.1.2 Use of Clean Energy Solutions

In many villages of this particular region in Odisha, there was a lack of street light infrastructure, resulting in the cessation of activities after dark. However, as part of the project interventions, 110 street lights were installed. These street lights have had several positive effects on the community. Firstly, they have allowed children to engage in educational activities even during the evening hours. Additionally, the presence of **street lights has enabled the community to participate in various developmental activities such as community meetings and workshops.** Moreover, the visibility provided by the street lights has reduced the risks of accidents and crime, while also encouraging community members to freely move around and carry out their daily tasks like commuting, shopping, and socializing after sunset. According to a survey, **93% of respondents have reported benefiting from these interventions, and it has been observed that 69% of the installed solar lights are currently in operation.**

Figure 11: Perceived Benefits of Solar Street Lights (n=188)



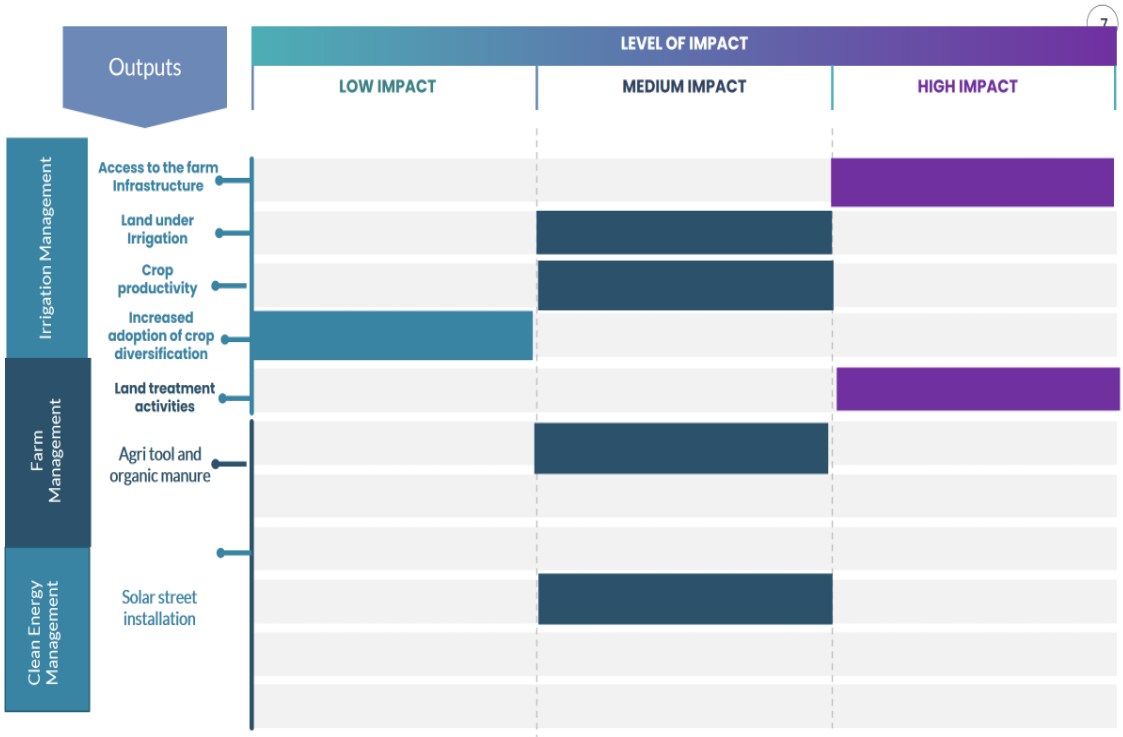
However, to meet the requirement more street lights can be installed. These solar street lights require regular maintenance for their long-term viability. It also requires a basic investment in solar infrastructure in the area for its installation. Collaboration with renewable energy agencies or organizations is needed to assure the availability of high-quality solar lighting systems in order to overcome these difficulties.

Figure 12: A Solar Light Installed in a Project Village

4.1.3 Impact Observations

Under NRM, access to farm infrastructure and land treatment activities have shown high impact. Major work was done in land treatment and levelling activities on 100 hector land. Crop productivity and diversification have been widely adopted with a medium impact on the respondents.

Figure 13: Level of Impact - NRM



4.1.4 Case Study

"Transforming Agricultural Practice": A Case study of Pond Excavation and Sustainable irrigation in Goudakhilam Village.

The village of Goudakhilam in the Rayagada block of Odisha, was facing a number if challenges related to agriculture and water access. The Village lacked access to irrigation and a significant portion of land in the village was uncultivable due to Lack of water and mountain land scape. To address this issue, the HRDP of HDFC initiated a project silting and repairing the existing pond in which they effectively utilised the previously wasted perennial water source, in the intervention they able to convert 14 acre of non-cultivable mountain land to cultivable one.

A solar lift irrigation structure was constructed as a part of the project. This structure harnessed solar energy to power the irrigation system, providing a sustainable and reliable water supply for newly converted and existing cultivable land. By utilising this innovative irrigation system farmers are now able to cultivate multiple crops each year including vegetables and pulses. Instead of mono crop helping in their income and improved food security for the community. Leveraging this improved infrastructure, the local farmer group embarked on composite fish culture cultivation, adding another dimension to the village's agricultural activities.

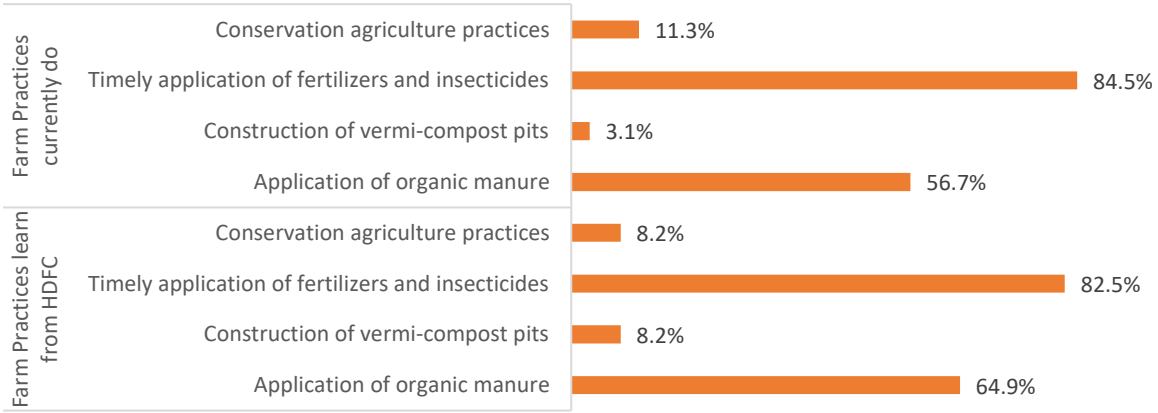
Overall, the project has had a significant impact on the livelihoods and well-being of the residents of Goudakhilam. It demonstrates the importance of community-led development initiatives and the role that organizations like HDFC can play in empowering communities

4.2 Skill Training and Livelihood Enhancement

4.2.1 Access to Agriculture Training and Services

The project interventions consisted of a number of activities aimed at improving accessibility to agriculture training and services. Farm field schools, crop demonstration farms, vegetable and rice cluster etc have proven to be an effective way of training and educating farmers on improved agricultural practices and provided an opportunity to learn from practical examples and hands-on experience. They have helped in enhancing farmers' skills and knowledge in areas such as crop management, post-harvest handling, marketing and financing. These activities have contributed to the overall growth of the agricultural sector, empowered farmers, and positively impacted the livelihood of farmers. HDFC has also conducted activities to promote Vermi-compost and organic manure development, which have contributed to improving accessibility to agricultural training and services. This has been achieved through activities such as training farmers on organic farming practices, promoting the use of organic fertilisers and vermin composting techniques. These initiatives have led to improved soil fertility, better crop yields and the overall adoption of sustainable agriculture.

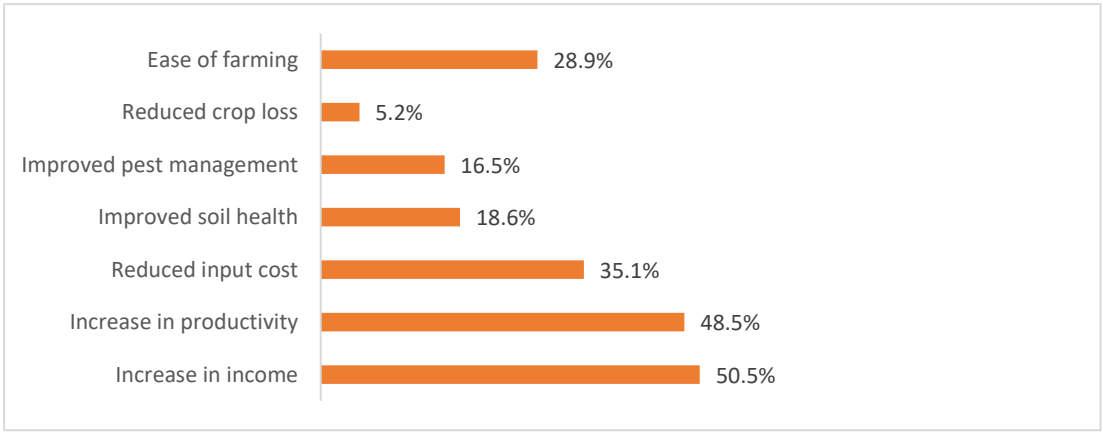
Figure 14: Respondents practising different activities during and after the interventions (n=97)



Agricultural training and support greatly benefitted the **farmers with 85% of the beneficiaries claiming that the interventions were very helpful.** These interventions made significant

progress in improving awareness and adoption of sustainable farming practices, leading to reduce input cost, increased productivity and better crop management. The challenges are the limited availability of resources with the farmer. Hence training support must continue and effort should be made for the up gradation of their skill.

Figure 15: Respondents quoting improvements due to adoption of agricultural practices (n=97)



The introduction of sustainable practices in agriculture has led to increased incomes, productivity, and reduced input cost, among other benefits. **50.5% of the respondents who availed the training/support provided on agricultural activities, quoted an increase in their annual income. 48.5% of the respondents feel the crops productivity has increased, helping them achieve economy of scale. 35.1% quoted a reduction in their agri-input cost due to reduction in their reliance and usage off expensive fertilisers and pesticides.**

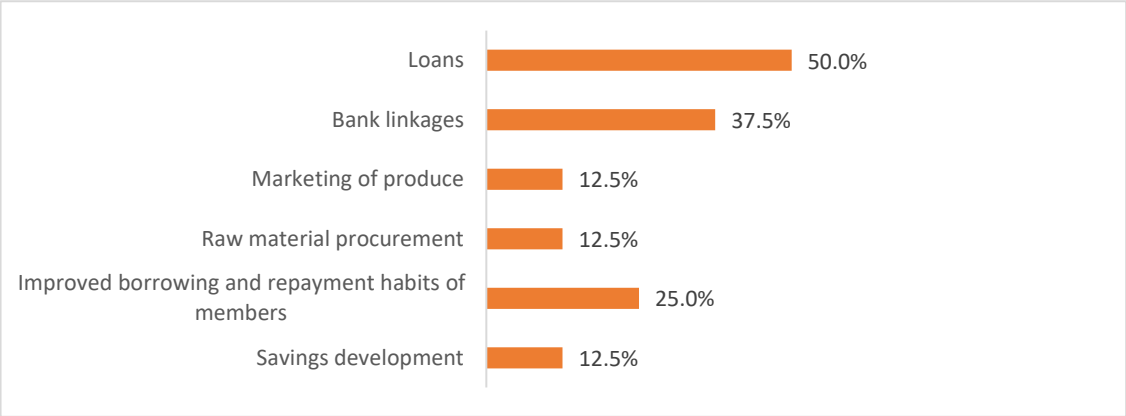
4.2.2 Economic Empowerment through collectivisation

HDFC bank under the HRDP has provided the training to SHG on SHG management and functioning. It is also helped to form new SHG and revived a few. It facilitated inter loaning between SHGs. As a result of this the SHGs are now more financially stable and are able to undertake more income generating activities. The intervention also has been working to strengthen children's collectives. The project has facilitated the meeting and training on child rights, hygiene and sanitation. It also helped to form child cabinet in the targeted village.

Figure 16 Support Provide for groups through HRDP (n=31)

SHGs in the project area received support from HDFC in the form of training in facilitating meeting, record keeping, book keeping, saving management and enterprise/business activities. This support has helped the SHGs to strength their organisation, improve their financial management and generate income. Recognising the existing groups' potential, the project made a strategic decision to focus on strengthening these pre-existing SHGs, the project specifically facilitated capacity-building activities for these groups, while providing support to all SHGs for livelihood development initiatives. Throughout the training period the team actively engaged in creating a platform for collaboration, knowledge sharing and decision making,

Figure 17: Perceived Benefits of SHG development (n=8)

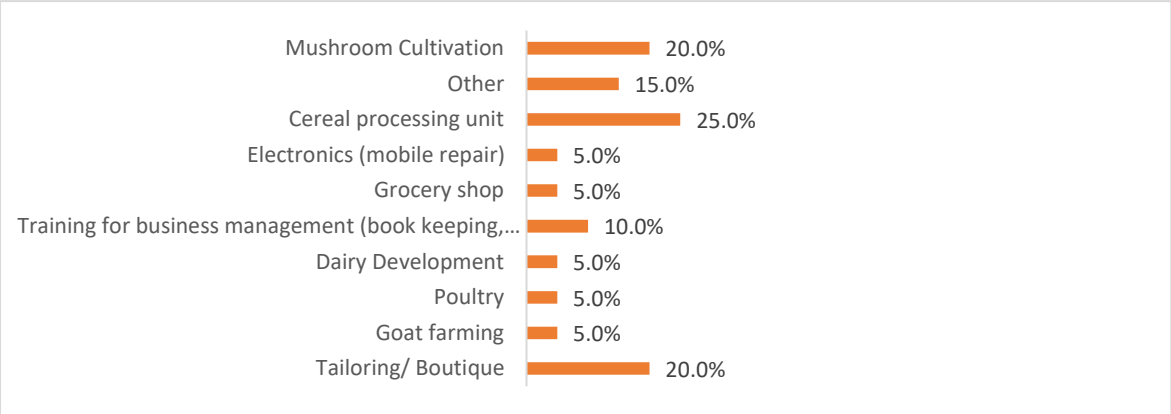


Respondents mentioned about positive outcomes stemming from Self-Help Group (SHG) training and development initiatives. Notably, a **significant 50% of respondents experienced loan benefits, underscoring the program's positive influence on facilitating access to financial resources. Moreover, 38% pointed out successful bank linkages, indicative of an improved financial landscape for participants.** Additionally, 25% acknowledged improved borrowing and repayment habits among members, underscoring the training's efficacy in nurturing responsible financial conduct. These figures emphasise how the program effectively imparts valuable skills, promotes financial inclusivity, and cultivates sound financial behaviours, collectively contributing to participants' comprehensive growth and well-being

4.2.3 Skill and Entrepreneurship Development

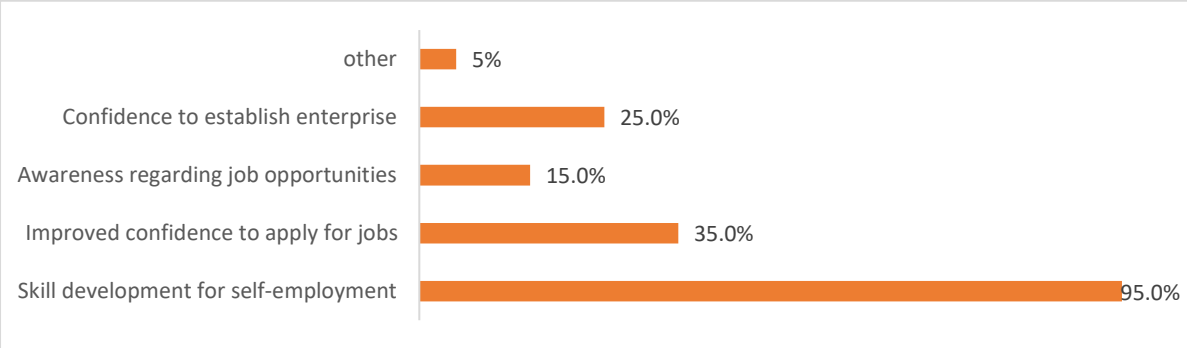
These interventions encompassed a wide range of skill development training programs to empower individuals in various fields such as tailoring/boutique, accounting, grocery shop, mobile repairing, mushroom cultivation and cereal processing unit. The skill development training program is a valuable initiative that is helping to empower young people and improve their economic opportunities. The program is also helping to create a more skilled workforce. Through these skill development initiatives, the project sought to empower individuals with marketable skills enabling them to establish their own businesses or secure employment opportunities. By focusing on a wide range of sectors and providing targeted training, the project aimed to address the specific needs and aspirations of the participants, promoting economic growth and self-sufficiency within the community.

Figure 18: Skill and Entrepreneurship development training services accessed through HRDP (n=20)



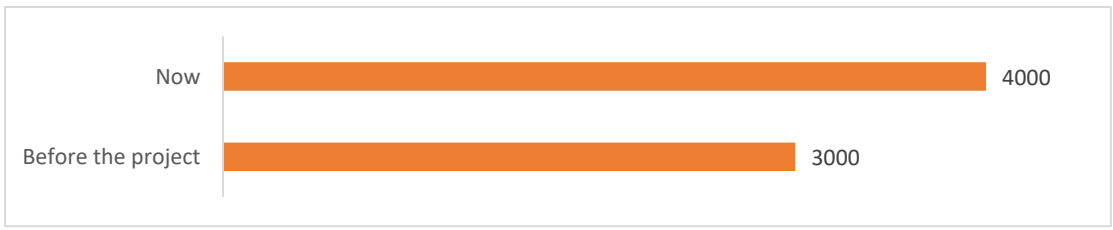
Mushroom cultivation, cereal processing units, and tailoring have been the most preferred choices amongst the respondents with participation of 20%, 25%, and 20% respectively. These figures indicate a strong interest and engagement in these skill areas, underscoring their significance in empowering individuals and promoting entrepreneurial ventures within the community.

Figure 20: Perceived benefits of skill and entrepreneurship development training services (n=20)



The responses underscore the significant impact of skill development training. An overwhelming 95% of respondents recognized its role in fostering self-employment opportunities. Additionally, 35% noted increased confidence in applying for jobs, while 25% felt empowered to establish their own enterprises. Moreover, 15% expressed heightened awareness about available job opportunities. These insights collectively reflect the comprehensive benefits of skill development, ranging from self-employment prospects to enhanced employability and entrepreneurial confidence, ultimately contributing to individuals' holistic growth and economic advancement.

Figure 21: Change in Average monthly income due to enterprise development(n=7)



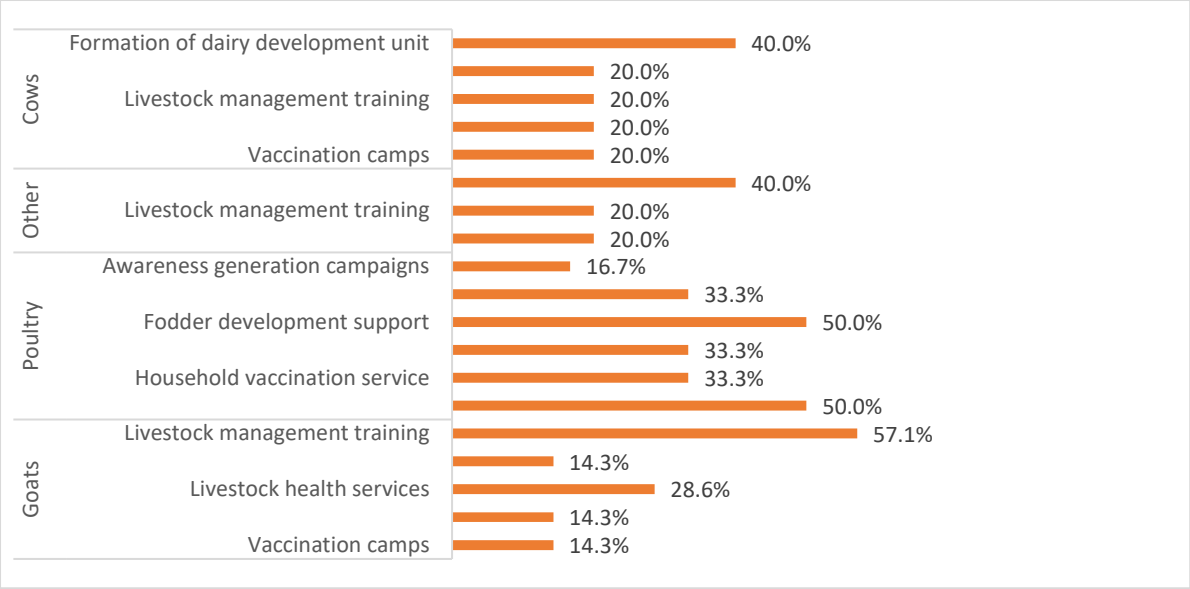
Prior to the commencement of the project, entrepreneurial activities in the area were limited. However, after the intervention and the implementation of various training programs, a significant transformation occurred. The training initiatives encompassed a diverse range of areas including tailoring/boutique, goat farming, business management, grocery shops, electronics (mobile repair), cereal processing units, and mushroom cultivation. These interventions proved to be instrumental in boosting the average income from enterprises, which increased from INR 3000 per month to INR 4000. Through these skill development interventions the HRDP sought to empower individuals with marketable skills, enabling them to establish their own business or secure employment opportunities. By focusing on a wide range of sectors and providing targeted training, the project aimed to address the specific needs and aspirations of the participants, promoting economic growth and self-sufficiency within the community.

4.2.4 Improved Capacity to generate Income Through Live stock Management:

Livestock management plays a crucial role in rural development and sustainable livelihoods. Various activities are conducted under the HRDP of HDFC Bank to promote the well-being and productivity of different livestock species, such as goats, fish, and poultry.

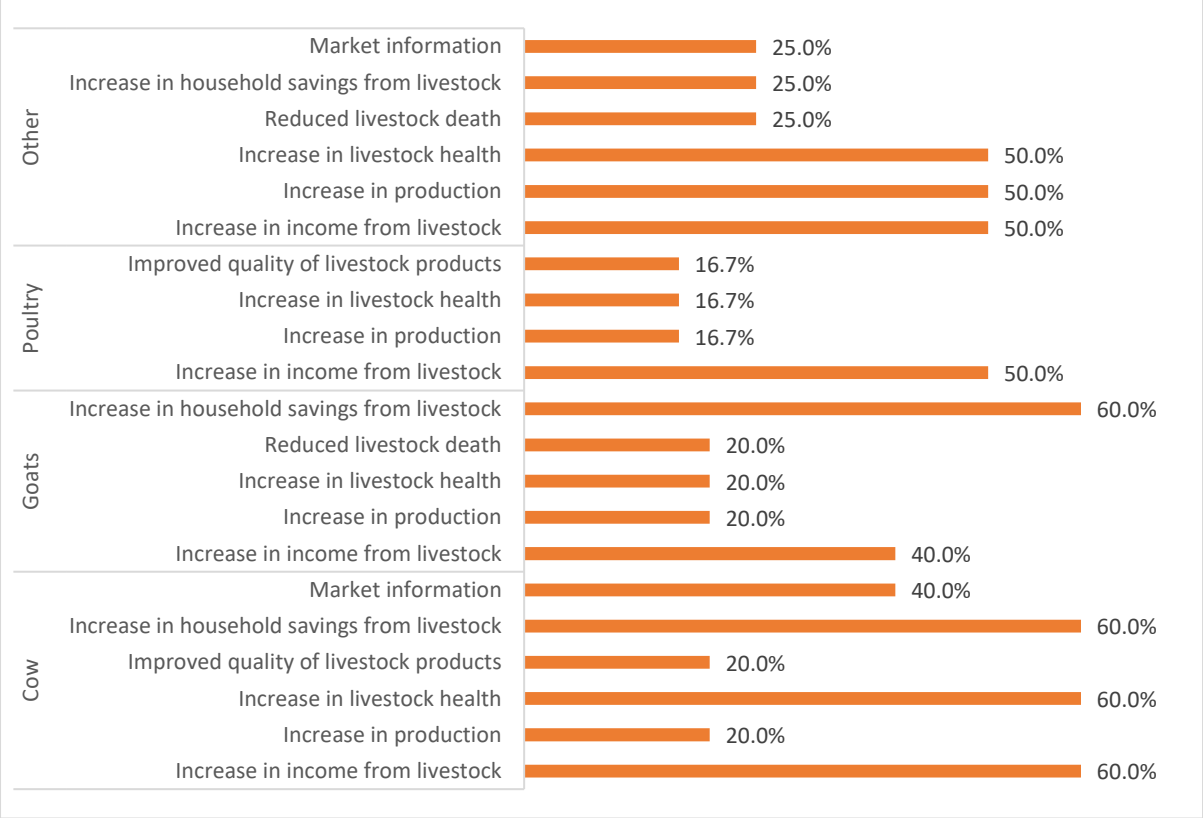
As part of goat management initiatives, efforts are made to provide goats to landless individuals, empowering them with an income source. Additionally, insurance coverage is offered to protect against any unforeseen losses. Vaccination camps are organized to ensure the health and well-being of the goats, preventing the spread of diseases. In fishery development programs, training is provided to groups and individuals interested in fish farming. This training equips them with the necessary knowledge and skills to effectively manage fish ponds. To support the growth of fish, adequate feed and nutrition are supplied. Moreover, efforts are made to develop and improve the existing fish ponds, ensuring the right environmental conditions for fish breeding. Poultry development focuses on training self-help groups (SHGs) in poultry farming techniques. These trainings cover aspects like proper housing, feeding, and disease management. Materials for constructing poultry sheds are provided to SHGs, enabling them to set up their own poultry units. Chemical supplies for sterilization ensure a hygienic environment. Additionally, organizations facilitate access to market linkages, connecting poultry farmers with potential buyers. Furthermore, the distribution of chicks allows farmers to initiate their poultry operations effectively. To support the marginalised, landless households in the project villages, **5 goats were given to each beneficiary household selected under this intervention. The households that maintained the goats well and where their number multiplied were also supported with goat shed. A total of 28 animal health camps were organised in all the nine villages.**

Figure 22 Live stock management services availed through HRDP(n=23)



The adoption of scientific practices has had a positive impact on livestock farmers. It has led to increased income, reduced livestock death rates, improved livestock health, access to real-time market information and linkage to markets. These improvements have helped farmers to increase their savings and improve their livelihoods. **Specifically**, farmers' monthly income **increased from INR 3000 to INR 5,000.**

Figure 23 : Perceived primary benefits of livestock interventions(n=20)

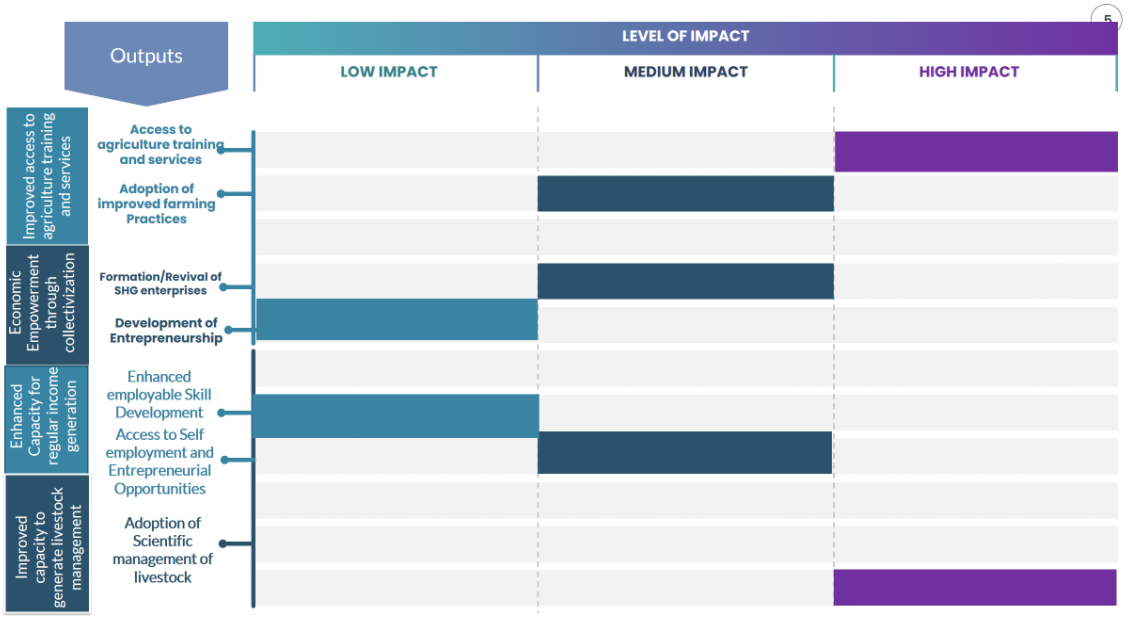


Before the implementation of scientific methods, livestock farmers encountered several challenges such as meager earnings, elevated rates of livestock mortality, and subpar livestock health. However, with the adoption of these scientific procedures, farmers experienced positive outcomes. They were able to augment the production of milk, meat, and eggs from their livestock, enhance the overall well-being of their animals, reduce the incidence of animal deaths, gain access to up-to-date market information, and sell their livestock products at optimal prices. As a result, there was a substantial **increase of approximately 67% in their income.**

4.2.5 Impact Observation

The strategic emphasis on providing access to agricultural training and services, a primary focus under Skill and Entrepreneurship Development (ST&LE), has yielded remarkable results. Large-scale activities such as exposure visits, field trainings, Farmer Field Schools (FFS), and other training have been conducted. This concerted effort has led to a high impact, notably reflected in the widespread adoption of scientific livestock management practices. The project's success in enhancing the knowledge and skills of individuals in agriculture and livestock management underscores its effectiveness in promoting sustainable practices and economic growth within the community.

Figure 24: Level of Impact – ST & LE



4.2.6 Case Study

Arati Kuikar: From poor Farmer to Successful Tailor

Arati Kuikar, a young married woman from a financially struggling farming family in Kampamaligaon village, Rayagada (Odisha), experienced a positive transformation in her life. As they did not own any land, Arati and her husband worked as shared croppers, earning a meagre annual income of Rs. 15,000, which was barely sufficient to meet their basic needs.

However, Arati's fortunes took a turn when the HRDP initiative was introduced in her area. She was given the opportunity to participate in a tailoring training program organized by HDFC Bank and Prayatn Sanstha as part of a skill development initiative.

This program equipped her with the necessary skills and knowledge to establish her own tailoring business from the comfort of her home.

To kick-start her business, Arati received a sewing machine and other essential equipment. Through her hard work and dedication, she successfully built a strong customer base within her community and the village.

Presently, Arati earns approximately Rs. 4,500 per month from her tailoring business, significantly boosting her family's income. She is now able to support her husband and child and has even managed to save some money for future needs.

Arati's success story serves as a testament to the transformative power of education and skill-building programs for individuals facing disadvantages. With the appropriate support and resources, anyone can overcome their circumstances and achieve success. This intervention not only improved Arati's financial situation but also instilled in her a sense of empowerment.

Arati at her tailor

4.3 Health and Sanitation

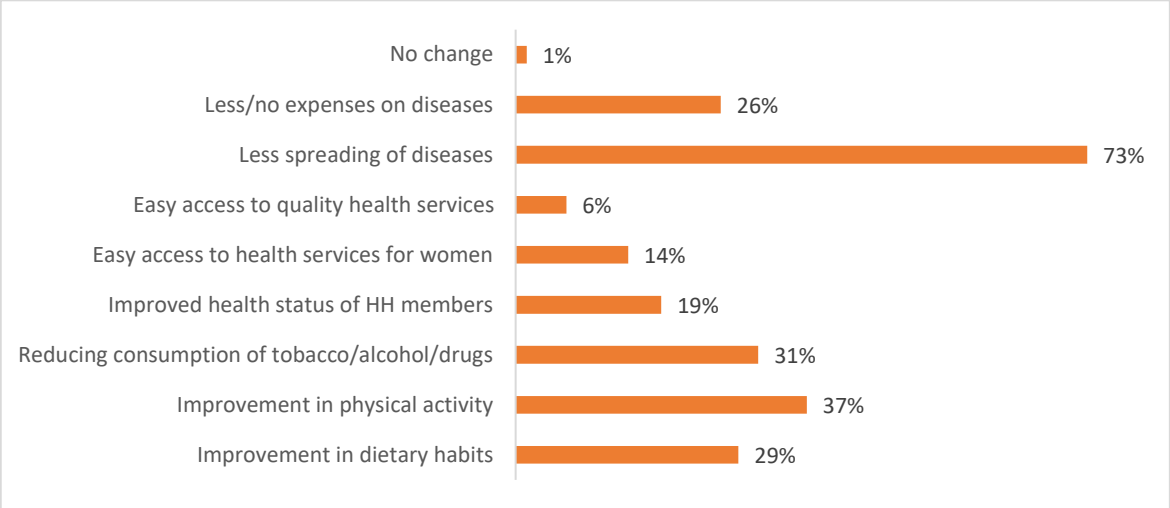
4.3.1 Health Infrastructure and Services

Number of health camps were organised to improve the dietary habits, physical activity, and reduce the consumption of tobacco/alcohol/drugs. The awareness generated through the camp resulted in a decrease in the spreading of diseases. The main objective of the camp was to enhance the health and nutrition status of tribal women and children. Free health check-ups, treatments, and medicines were provided to the attendees. As a result of the camp, women and children gained awareness about the importance of nutritious food, immunisation, and timely health check-ups. The community also became aware of diseases such as sugar, dengue and the causes of skin diseases.

These camps supported around 1279 individuals. **Additionally, 40% of the identified critical health cases are now receiving required treatment at the project area level.** This indicates

the success of the camp in addressing and providing necessary care for health-related issues in the community.

Figure 25: Perceived benefits of HDFC bank supported health camps/clinics (n=354)

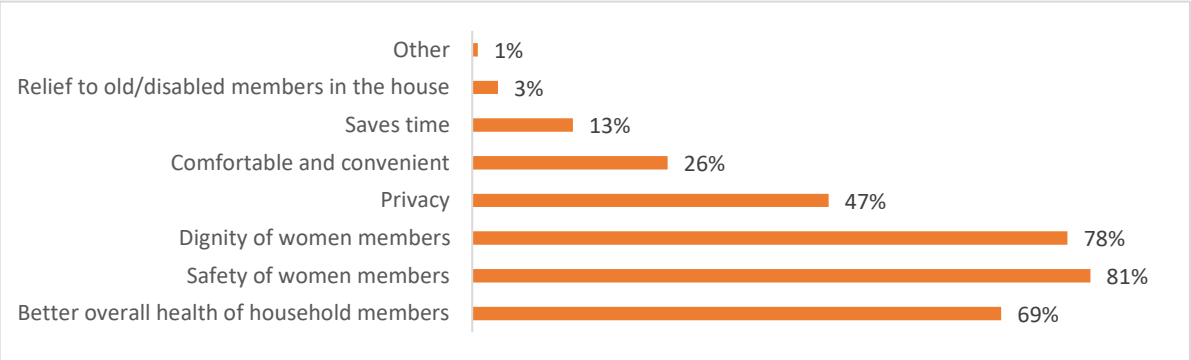


The analysis indicates several positive trends, including improvements in dietary habits, physical activity, reduction in tobacco/alcohol/drug consumption, improved health status, reduced disease spread and decreased expenses on diseases. However, there is a need to amplify focus on easy access to quality health services and especially for women. To address these issues, it is important to design the health camp with a specific focus on meeting the healthcare needs of women, including reproductive health, maternal care, family planning, and other gender-related concerns. Creating a safe and supportive environment where women feel at ease accessing services and discussing their health issues is crucial

4.3.2 Sanitation Infrastructure and Services

In the villages where the project was implemented, many households do not have a bathroom. As a result, women have to use public sources of water like ponds and rivers to wash themselves and their clothes, which can cause health problems like skin rashes, infections, and poor menstrual hygiene, in addition to shame and discomfort. To solve this problem, a community bathroom was built on a sharing basis. People contributed 20% of the cost in the form of labor. To maintain the bathroom, a monthly maintenance fee is collected from each family, and a women's committee manages it.

Figure 26: Perceived Benefits Sanitation Infrastructure(n=266)

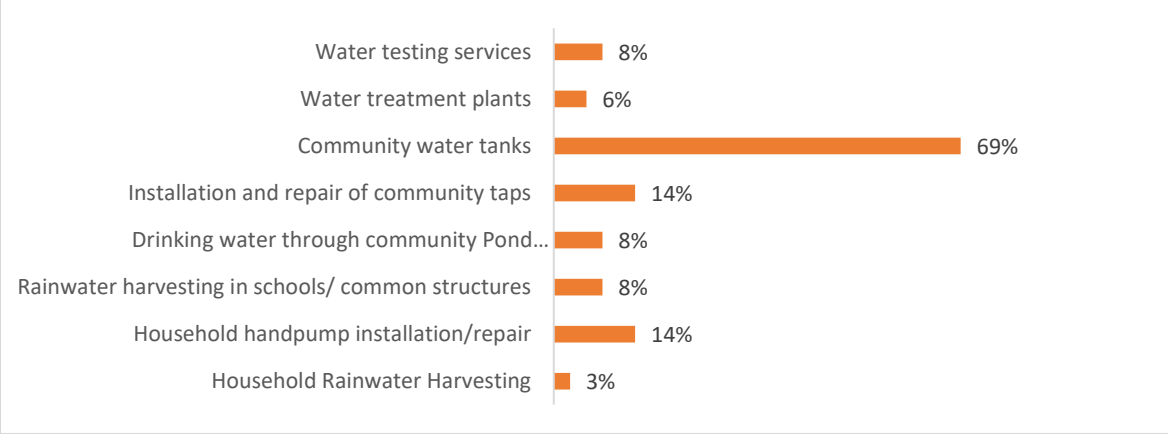


The interventions received widespread recognition for their positive effects on household members. A significant majority of **69.2% acknowledged the interventions' ability to improve overall health, while an overwhelming 80.8% expressed their contribution towards enhancing women's safety. Additionally, a substantial 77.8% recognised the interventions' role in upholding the dignity of women within the household.** Furthermore, nearly half of the respondents, accounting for 46.6%, highlighted the perceived benefit of increased privacy resulting from these interventions. Collectively, these findings showcase the interventions' favourable impact on health, safety, dignity, and privacy within the households.

4.3.3 Availability and management of Drinking Water

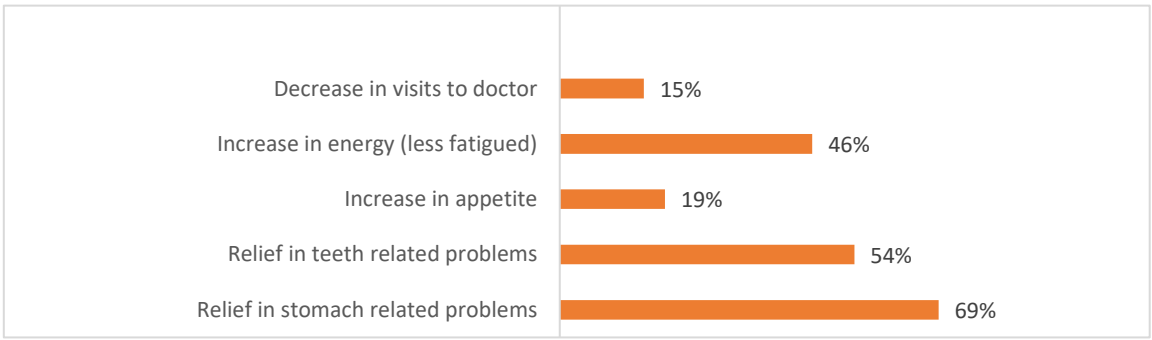
Water scarcity is a major issue faced by rural communities in Raygada, Odisha. In order to address this issue, HDFC intervened as a part of the HRDP project to provide safe drinking water to the household. **The project supported the construction of overhead water tank with a solar pump which lifts water from borewell and the repair of tube-wells in that area. The villagers also contributed their share of 20% by providing labor.** The implementation of the project by HDFC has had a significant impact on the community. The project has provided safe drinking water to the community, which has led to a reduction in water-borne diseases and workload on women. The community participation in the project has fostered a sense of ownership and responsibility towards the project. The success of the project can be attributed to the use of sustainable and innovative technologies such as the solar pump and the overhead water tank. Overall, the project has improved the quality of life of the community members and has set an example for other villages who are facing the similar problem.

Figure 27 : Drinking water management services availed through HRDP(n=36)



The implementation of the project has had a profound impact on the community, bringing about a range of positive changes. The availability of clean drinking water has resulted in several benefits, including a reduction in instances of water-borne diseases, relief from stomach and teeth-related problems, increased energy levels, and fewer visits to the doctor. The project has also brought about significant changes in household drinking water sources, with community members transitioning from using contaminated water sources to accessing clean and safe drinking water provided by the project. This shift has had a substantial impact on the health outcomes and overall quality of life for the community members. Furthermore, the inclusion of community water tanks, which was reported by 69.4% of respondents, has contributed to the success of the project. These outcomes serve as an inspiring example for other communities facing similar challenges, highlighting the potential for positive change through improved access to clean drinking water.

Figure 28 Perceived health benefits of improved drinking water sources(n=26)



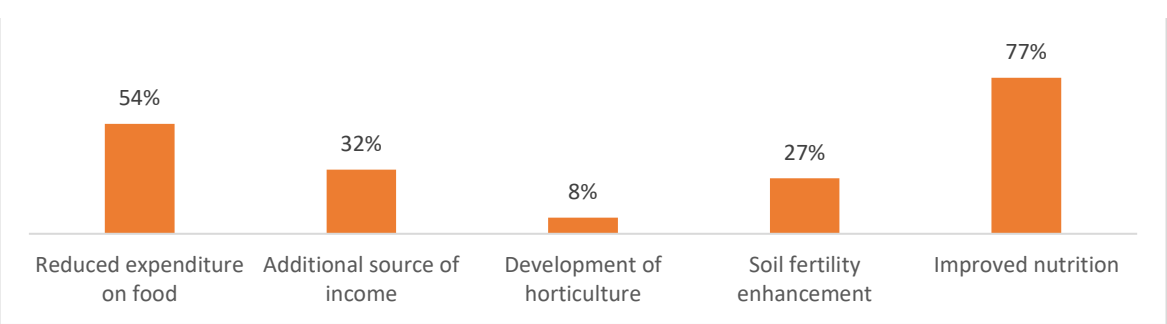
The entire community has experienced a significant transformation through the installation of an overhead solar water tank and the repair of a tube well. This has resulted in the availability of clean and safe drinking water, leading to a **remarkable decrease in water-borne diseases such as diarrhoea, cholera, and typhoid, as reported by 65.4% of respondents.** Additionally, the interventions have brought **relief from stomach-related issues for 69.2% of individuals and alleviated teeth-related problems for 53.8% of the community members**. Furthermore, the access to clean water has contributed to increased energy levels, with 46.2% of respondents feeling less fatigued. The project's main challenge lies in the maintenance of the infrastructure, which has been addressed by forming a subcommittee of women under the VDC to oversee the project. To ensure financial sustainability, families have contributed through minimum

subscription fees, which are then utilized for the maintenance of the infrastructure. These efforts reflect the community's commitment to sustaining the benefits of clean water access.

4.3.4 Kitchen Garden

Kitchen gardens are a great way to improve nutrition. This region is dominated by tribal people and malnutrition is a problem faced by them. HDFC with the help of the implementing partner helped increase the availability of vegetables by providing seeds and saplings to the community. In some cases, the community also had to protect the garden from animals by building a fence. This initiative has been successful, and people have not only eaten the vegetables themselves but also shared them with their neighbours and sold the excess to get some financial support for their family. Earlier, they had to purchase vegetables from market which was very expensive, but now they are taking vegetables from their own Kitchen Garden, thus, saving money.

Figure 29 Perceived benefits of HRDP supported kitchen gardens(n=212)

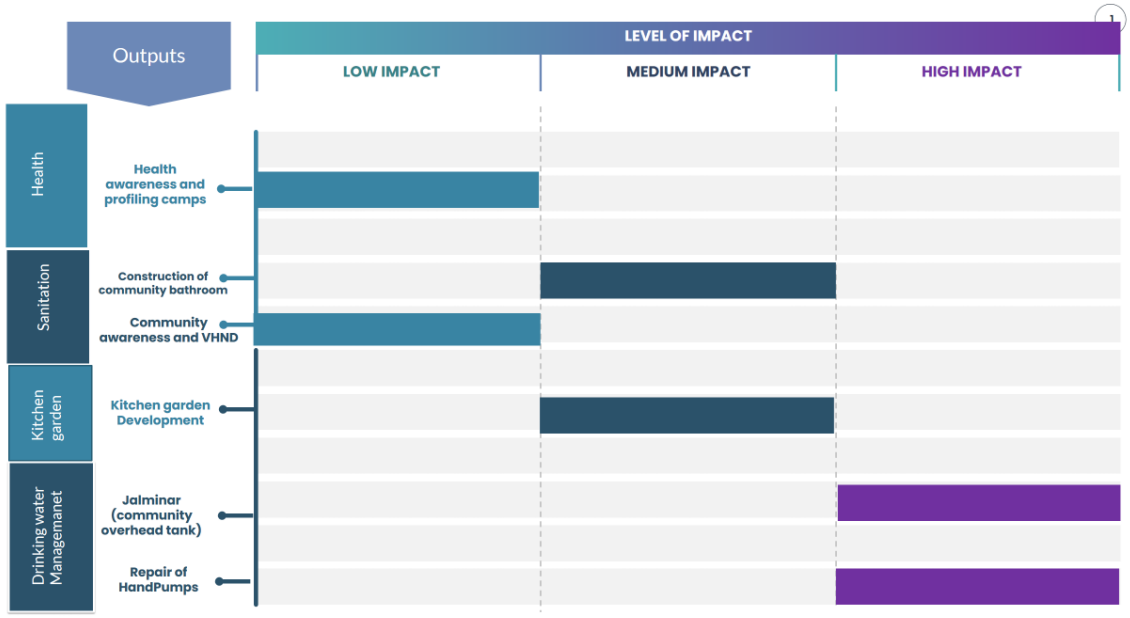


The HRDP-supported kitchen gardens have been perceived to bring a range of benefits to the community. A significant **76.9% of respondents recognised that these gardens have led to improved nutrition**, emphasising the positive impact on the overall health and well-being of individuals. Furthermore, **54.2% reported a reduction in expenditure on food**, highlighting the economic advantage of having access to home grown produce. The kitchen gardens have also served as an **additional source of income for 31.6% of participants,** providing an opportunity for financial stability and independence. Collectively, these perceived benefits demonstrate the valuable role of HRDP-supported kitchen gardens in promoting better nutrition, reducing food costs, generating income, and fostering environmentally friendly farming practices.

4.3.5 Impact Observation

Significant impact has been observed in the Health and Sanitation (H&S) sector, particularly in the construction of 8 JALMINARS. More than 2500 individuals have directly benefited from these installations. Additionally, the repair of 20 hand pumps has extended its reach to approximately 6000 people, ensuring access to safe drinking water. These initiatives have played a pivotal role in reducing health issues within the community, underscoring the profound positive influence of improved water access and sanitation facilities on the well-being of the local population

Figure 30: Level of Impact - H&S



4.3.6 Case Study

Overcominh Blind Beliefs: The Story of Abhi Kandagori's Fight against acute Malnutrition

Abhi Kandagori, son of Dharma and Bhawani Kandagori, came from a poor family in Nuakasili, a village with no road connection. When Abhi was born, he was very underweight, only 1.7kg. The doctor suggested he go to a special center for nutrition treatment, but his mother didn't want to go due to the beliefs in their community.

A year later, HDFC CSR intervened after hearing about Abhi's poor health during a community meeting. Abhi's weight had only reached 2.5kg, which was still very low. Even after talking to community organizers and the AWW staff, Abhi's mother didn't want to take him to the hospital.

Then, the HDFC Parivartan team, along with a doctor, got involved. They talked to the parents and convinced them to follow the treatments. The HDFC team provided medicine, food, milk, cereal powder, and vegetables for one month. After a lot of effort, Abhi's mother started to understand the importance of food and feeding, and she began to follow the advice. The team continued to provide necessary food and monitor Abhi's progress. In just three months, Abhi gained 2.3kg and looked much healthier.

This case shows how treatment is important and how beliefs can affect communities. Through successful treatment at home, the community started to understand the importance of getting help and stopped believing in old ideas. Abhi's story proves that

education and intervention can make a big difference in helping disadvantaged children overcome challenges and improve their health.

4.4 Promotion of Education

4.4.1 Infrastructure in Educational Institutions

The infrastructure of educational institutions plays a crucial role in shaping the quality of education delivered to students. To address this, Smart/digital classes construction or renovation has revolutionized the way students learn by providing them with access to digital resources, making learning more interactive and engaging. School building renovation, especially painting works, has improved the aesthetics of the school environment, creating a positive and welcoming atmosphere for students, which enhances their learning experience. The establishment of libraries provides students with access to a wide range of books and resources, promoting a reading culture among students. BaLA or educational wall paintings/messages make learning more interactive and engaging, helping students to retain information better and enhancing their creativity. The provision of clean and safe drinking water through drinking water posts, drinking water tanks, and RO filters is essential to reduce water-borne diseases, which improves the attendance and performance of students. Learning material support, classroom furniture, and separate washrooms for girls and boys, sports equipment, and remedial coaching centers are all crucial infrastructure projects that contribute to creating a conducive learning environment for students. These activities have a significant impact on the quality of education provided to students, enhancing their learning experience, promoting their well-being, and improving their academic performance. 37.6% of the respondents quoted smart classes been set up at their children's schools, 56% mentioned about setting up of a library. Separate washrooms for girls and boys were quoted by majority.

Figure 31: Various activities supported by HRDP Project interventions (n=93)

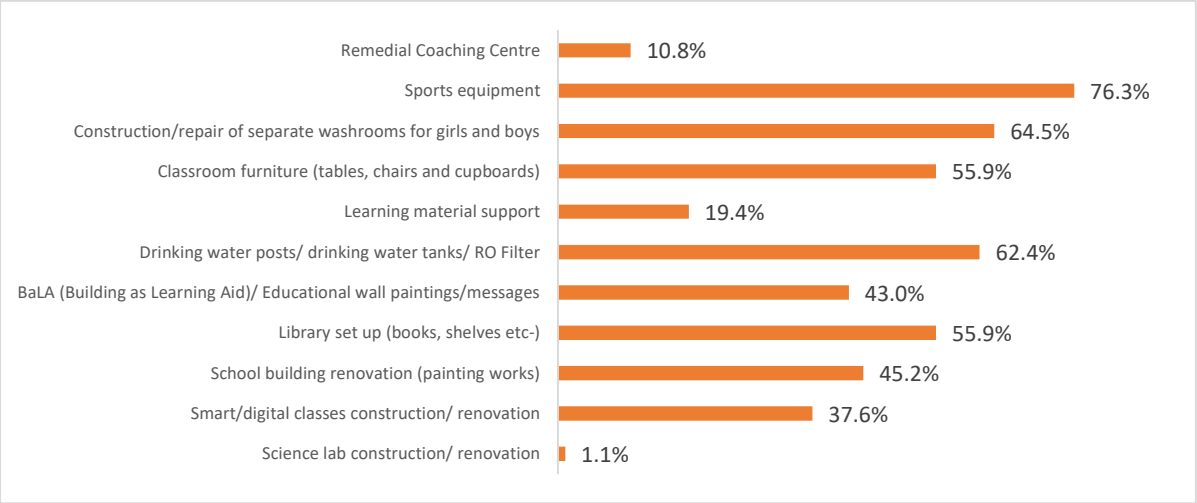
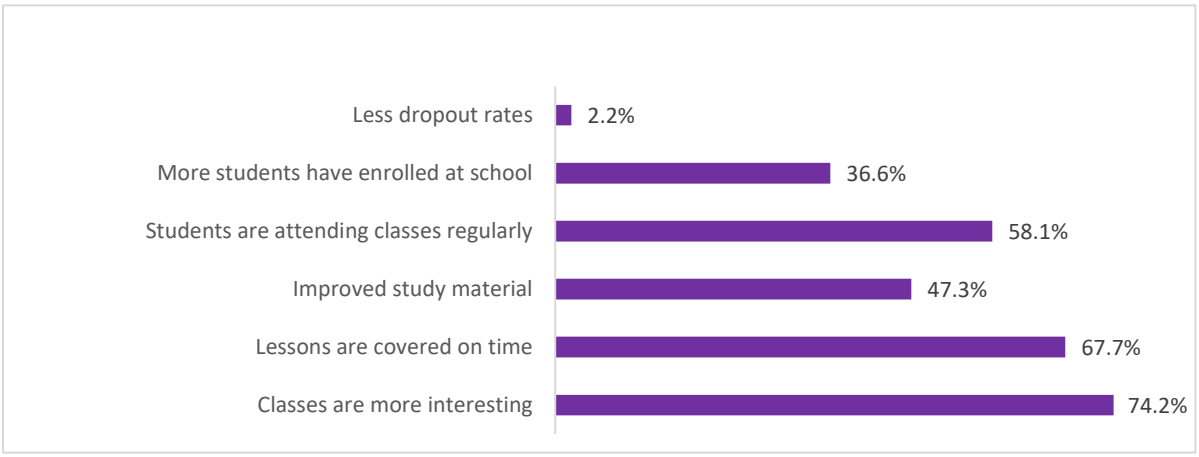


Figure 32: Perceived benefits from improvements in school activities(n=93)



The interventions on various initiatives taken under HRDP has demonstrate a positive impact aimed at improving the education sector. According to the feedback received, a significant majority of **74.2% reported that classes have become more interesting**, indicating an improvement in the quality of teaching materials and methods. Furthermore**, 67.7% mentioned that lessons are being covered within the designated time frame**, ensuring that students can complete their syllabus as intended. Additionally, 47.3% expressed satisfaction with the enhanced study materials provided, which have contributed to a more enriching learning experience. Another notable result is that 58.1% of students are attending classes regularly, highlighting the positive impact of the interventions in promoting regular attendance. The quality of learning material, the infrastructure provided by the HDFC has created a conducive environment. As a result of these initiatives, students are attending classes regularly. Additionally, more students are enrolling in school and the dropout rates have decreased, indicating that students are more likely to continue their education. The perceived benefits highlight the positive impact that such initiatives have on students.

4.4.2 School Management Committees:

The School Management Committees (SMCs) play a crucial role in the present day education system. It has been developed with an understanding to strengthen the golden triangle; children, teacher and community. In order to strengthen the SMCs, a series of activities along with the training were conducted to increase the understanding of the SMC members on their roles and responsibilities in school management processes in government schools, and helping them develop action plans to improve the education in their schools. The outcomes of the training were significant, with a **total of 267 SMC members trained to perform their roles and responsibilities effectively,** which will help them manage their schools more efficiently.

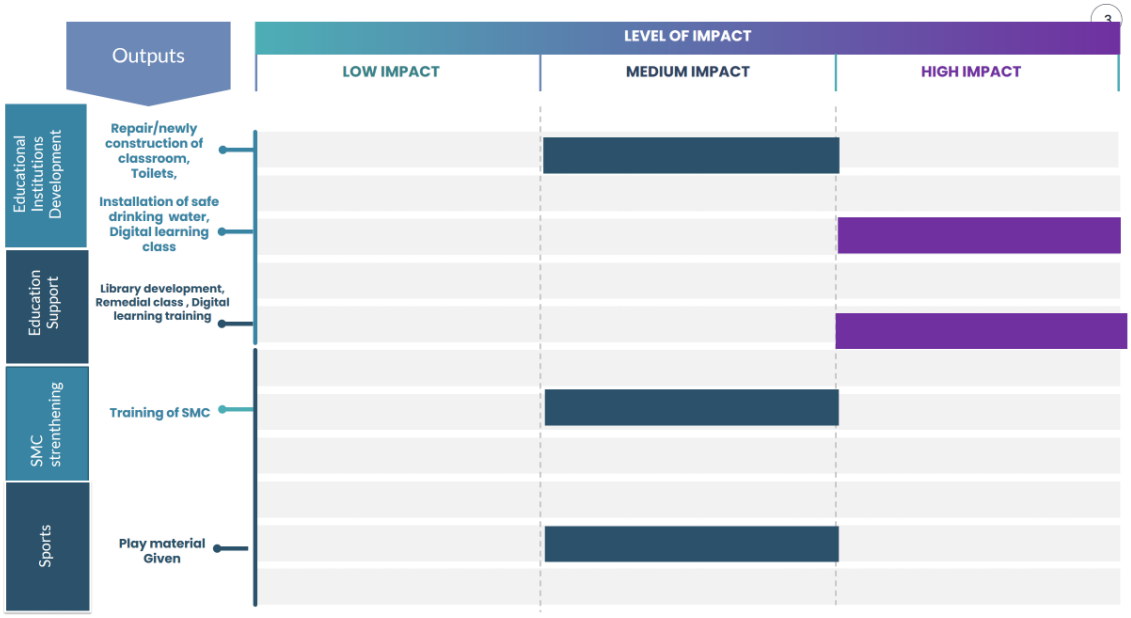
Figure 33: Perceived benefits of strengthening SMCs(n=15)

The project made significant paces in enhancing the understanding and engagement of SMC members, as well as fostering community involvement in the education system However, the project also faced challenges, particularly due to the COVID-19 pandemic that occurred during its implementation years. The pandemic disrupted regular school activities and posed significant obstacles to the project's progress. School closures, remote learning, and health concerns made it difficult to conduct in-person trainings and engage with SMC members effectively. The pandemic necessitated the adoption of alternative approaches, such as virtual trainings or remote communication, which may have presented technical and logistical challenges

4.4.3 Impact Observation

The impact assessment reveals a substantial positive outcome, particularly in the installation of safe drinking water facilities and the development of libraries, remedial classes, and digital learning initiatives. These efforts have generated high impact, significantly improving access to clean water and enhancing educational resources and support. Furthermore, outputs such as the repair of schools, construction of toilets, training for School Management Committees (SMC), and provision of play materials have yielded a medium level of impact. While they have contributed positively to education and infrastructure development, they may require additional efforts or time to achieve higher levels of impact .The following sub-sections provide details on the findings in each of the four thematic areas.

Figure 34: Level of Impact - PoE



4.4.4 Case Study

"Overcoming Adversity:The Story of Maitri Kulesikha's Education Journey"

Maitri Kulesikha, a student from Kandhamaligaon Village in Rayagada Project Area, Odisha, faced numerous obstacles in pursuing her education. Coming from a poverty-stricken family, Maitri's parents, who worked as daily labourers, burdened her with household responsibilities, leading to the discontinuation of her studies. Additionally, an administrative error on her admission certificate misspelled her caste, further hindering her access to high school.

However, when remedial classes were introduced in her village, the team learned about Maitri's situation and successfully convinced her parents to allow her to attend these classes. Despite the challenge of correcting her caste certificate, the team took the initiative to rectify the error and ensured her admission into a school. After a year-long hiatus, Maitri resumed her studies and her consistent attendance at the remedial classes greatly improved her al knowledge and academic performance.

In 2023, Maitri successfully completed her Board Exam, showcasing her resilience and determination in the face of adversity. Her inspiring journey exemplifies the transformative

power of education and highlights the profound impact it can have on the lives of underprivileged children.

4.5 Holistic Rural Development Index (HRDI)

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

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

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

The HRDI calculation for project P0246 implemented in Rayagada has been given in the following table.

Table 6: HRDI Calculation for P0250

Domain	NRM		Skill		H&S		ED		Total	
HRDI Score	Baseline	Endline	Baseline	Endline	Baseline	Endline	Baseline	Endline	Baseline	Endline
	0.06	**0.08**	**0.05**	**0.10**	**0.12**	**0.17**	**0.19**	**0.25**	**0.41**	**0.60**
% Change	33%		100%		42%		32%		46%	

The theme-wise indicators were assigned varied weights to arrive at the composite HRDI score of 0.60 indicating a notable positive change toward the desired impact from the baseline score of 0.41. There is no healthy change in NRM due to consecutive drought years in the project area, but ST&LE has doubled over the baseline. H&S and POE have shown a good improvements as well.

5 Analysis of Assessment Criteria

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

- Relevance and Convergence
- Impact and Effectiveness[2]
- Sustainability

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

5.1 Relevance and Convergence

The project's relevance and convergence become evident through the assessment conducted, revealing the pressing challenges faced by tribal and rural communities reliant on agriculture in the region. The scarcity of irrigation facilities due to water limitations during the Rabi season, exacerbated by the hilly terrain and poor soil retention, highlights a critical hurdle. Tribal farmers lack awareness of improved techniques and face economic constraints in adopting effective irrigation systems. Moreover, unfamiliarity with soil testing, organic farming, and yield-enhancing practices hinder agricultural progress. In parallel, the absence of income-generating activities among self-help groups reflects unemployment and under-employment issues. Subpar literacy rates contribute to inadequate education, marked by lacking infrastructure and learning outcomes.

Gender inequalities persist, as evidenced by low female literacy. Healthcare services are lacking, causing community members to resort to unqualified practitioners, while malnutrition and diseases like Malaria prevail. Poor conditions of Anganwadi centers hinder children's well-being. Substance abuse and child marriage further compound challenges. Clean water and sanitation access are lacking, necessitating comprehensive interventions to holistically address these interconnected issues. The project's role lies in converging efforts to bring about meaningful and sustainable improvements, addressing the multidimensional aspects of the local population's lives.

5.2 Sustainability

The sustainability of the project is ensured through the development and strengthening of community-based organisations that continue to drive the activities even after the project's completion. The capacity building of these organisations developed and maintain indigenous community-based systems and mechanisms. In the current project, three institutions have been established: Village Development Committees (VDCs), Child Clubs, and Self-Help Groups.

Through regular meetings, multiple trainings, and facilitation of village development plans, these organisations are sensitised and equipped with the necessary skills to continue their work independently. The VDCs consist of adult members and are responsible for overseeing project-level activities, monitoring progress, and ensuring maintenance. Sub-committees are formed within the VDCs, each comprising five members who are directly accountable for specific project components. For example, the **Jalminar committee, consisting solely of female members,**

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

takes charge of the community overhead tank. To ensure sustainability, a monthly contribution of Rs.10 is collected from each family for maintenance purposes. Similarly, the Pani Panchayat committee oversees lift irrigation and solar bore well irrigation, while the Agriculture Tool Bank committee manages the agriculture equipment provided in the Agriculture Resource Centre. The tool bank establish a reasonable charge for renting the tools. Other committees, such as the Education committee, Anganwadi committee, Swatch committees, and Panchayat committee, handle various responsibilities related to dropout prevention, quality education, infrastructure development, monitoring Anganwadi services, maintaining cleanliness, and coordinating with government departments, respectively.

The VDCs assume overall responsibility for all committees, and a block-level VDC federation has been formed to oversee the project villages at a higher level. By empowering these community-based organisations and establishing a robust framework of committees, ensures the continuity and sustainability of the interventions after the conclusion of the project.

6 Recommendations

To further improve the outcomes of HRDP in Rayagada Project Area of Haryana, the following recommendations are made for the HDFC Bank's *Parivartan* and HRDP teams and the implementing partner, under each thematic area:

Natural Resource Management

1. Encourage the use of farm management techniques that are suitable for the local weather condition which will help farmers improve their agricultural practices.
2. Ensuring crop insurance to farmers to mitigate the risk of crop failure due to drought and other climatic challenges.
3. Construction of seed banks ensure a steady supply of seeds and promote crop.
4. Market linking to the product harvested.

Skill Training and Livelihood Enhancement

1. Offer advanced training programs on production and the use of modern machines/tools. Ensure that all members of group receive training to keep up with market demands.
2. Provide continuous support to enterprises through handholding initiatives. Assist them in establishing marketing tie-ups, developing business plans, and accessing the govt. schemes.

Health and Sanitation

1- Provide training and information sessions to community members to enhance their knowledge and understanding of health issues, proper hygiene practices, and the importance of sanitation.
2- Organise regular sensitisation programs to educate the community about common health issues and preventive measures
3- Collaborate with the local government health departments to support and strengthen existing health infrastructure.

Promotion of Education

1. Provide refresher training and support to school teachers and staff in operating smart classes. This will enhance their teaching skills and enable them to utilize technology effectively in the classroom.
2. Establish Remedial class and provide assistance to the SMC in managing coaching classes for the students.
3. Converge with Govt. department to allocate funds for repair , maintenance

Annexures

A Sampling Methodology

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

A.1 Quantitative Sample Size Calculation

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

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

Where,

N= sample size

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

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

S_e= margin of error, set at 5%;

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

Thus, the estimated maximum sample size is *(enter number).*

A.2 Quantitative Sampling Methodology

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

Stage 1 – Selection of beneficiaries:

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

Stage 2- Sampling for villages:

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

A.3 Qualitative Sample Size Calculation

Qualitative tools of In-depth Interviews (IDIs) and Focus Group Discussions (FGDs) were administered for obtaining information about the remaining themes as well as to enrich the household survey information with a deeper understanding. Since there was no baseline available for this evaluation, recall method was used in the household survey to assess the change that has happened over time. For this purpose, the respondents were asked to recall the value of critical indicators that they could recall from the time the programme started.

B HRDI Methodology

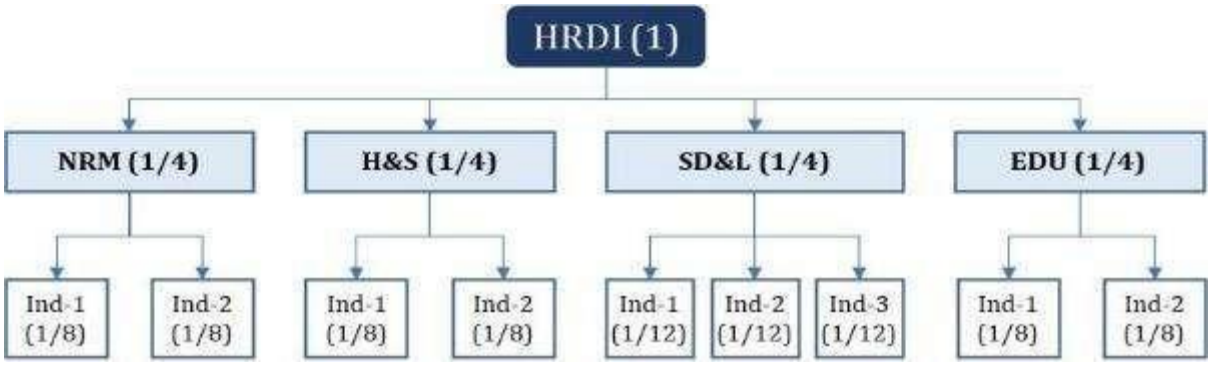
The outcome indicators included in the HRDI were obtained from different domains and are consequently measured on different scales. Therefore, to ensure the comparability of these indicators, all the indicators were converted into discrete variables such that the indicators could be measured between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

B.1 Indicator Weights

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

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

Figure 35: Domain and Indicator Weights



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

Table 7: Example of HRDI Calculation

Thematic Area	Indicators	Formula
NRM	Proportion of farmers with net income above median	(1/4) x (1/3) = 0.083
	Proportion of farmers reporting increased productivity of three main crops above median (before and after)	(1/4) x (1/3) = 0.083
	Percentage of farmers reporting access to irrigation	(1/4) x (1/3) = 0.083
ST&LE	Percentage of households who are getting skill training & reporting increase in income from job/enterprise/self-employment	(1/4) x (1/2) = 0.083
	Percentage of HH reporting income above median from livestock	(1/4) x (1/2) = 0.083
H&S	Percentage of households reporting increase availability of drinking water facility	(1/4) x (1/2) = 0.083
	Percentage of households with access to improved toilet facility	(1/4) x (1/2) = 0.083
	Percentage of households reporting increase in use of fruits/vegetables from the nutrition garden	(1/4) x (1/3) = 0.083

PoE	Percentage of respondents reporting increased access to functional school physical infrastructure (drinking water posts, separate washrooms, furniture etc.)	(1/4) x (1/2) = 0.125
	Percentage of respondents reporting increased access to functional learning infrastructure (library, science labs, smart class, etc.)	(1/4) x (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.

B.2 Analysis Plan

HRDI for each district was calculated at two points in time i.e., before and after HRDP and can be compared cross-sectionally to understand which indicators contributed to an increase or decrease in HRDI value. Since the value attribution of the indicators is in proportion, the HRDI value numerically ranges between 0 and 1. Once all the indicators are standardized and weighted, a sum of these weighted indicators are utilized to calculate the value of HRDI.

B.3 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. It was considered at baseline, then all the farmers were sorted across the seven blocks/villages 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 endline 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: Summed up all the indicators (i.e., weighted sum) to calculate the HRDI value at baseline and endline.

Step 7: Calculated the relative change in the HRDI value from baseline to endline.

Table 8: HRDI Calculation for Rayagada

Domain	Indicators	Baseline	HRDI	End line	HRDI	% Change
NRM	Proportion of farmers with net income above median	0.14	0.06	0.19	0.08	33%
	Proportion of farmers reporting increased productivity of three main crops above median (before and after)	0.09		0.09		
	Percentage of farmers reporting access to irrigation	0.02		0.03		

Domain	Indicators	Baseline	HRDI	End line	HRDI	% Change
ST&LE	Percentage of households who are getting skill training & reporting increase in income from job/enterprise/self-employment	0.08	0.05	0.15	0.10	100
	Percentage of HH reporting income above median from livestock	0.05		0.19		
	Percentage of SHG members reporting income above median from rural enterprises	0.08		0.13		
H&S	Percentage of households reporting increase availability of drinking water facility	0.12	0.12	019	0.17	42
	Percentage of households with access to improved toilet facility	0.04		015		
	Percentage of households reporting increase in use of fruits/vegetables from the nutrition garden	0.31		0.33		
PoE	Percentage of respondents reporting increased access to functional school physical infrastructure (drinking water posts, separate washrooms, furniture etc.)	0.43	0.19	0.50	0.25	32
	Percentage of respondents reporting increased access to functional learning infrastructure (library, science labs, smart class, etc.)	0.33		0.50		
Total			**041**		**0.60**	**46**

C Overview of Impact Calculation

Impact of the programme was calculated based on the averages of quantitative output indicators as demonstrated below (see **Error! Reference source not found.**0).

Table 9: Impact Calculation

Outputs	Output Indicators		Output Avg	Impact Level
NA. Increased income from agriculture				
Land/ crop productivity	Average change in productivity of crops (3 major crops) grown (quintal per acre)	111%	54%	Medium
	Change in Proportion of households who have irrigated land	50%		
	Change in Average Irrigated land in Acre	0.5%		
Access to the farm management infrastructure	Proportion of beneficiaries satisfied with the quality of available services (in farm management)	95%	80%	High
	Proportion of farmers who use both, chemical and natural fertilizers	78%		
	The proportion of farmers reporting a decrease in the use of chemical fertilizers	68%%		
Increased adoption of crop diversification	Proportion of farmers diversifying their crops to kapas (cotton) with project support.	04%	27%	Low
	Proportion of farmers who report income increase due to crop diversification (base = farmers who adopted crop diversification)	50%		
Land under irrigation	Increased area under irrigation	65%	45%	Medium
	NA (4). (b). The proportion of farmers who received support for irrigation	25%		
Increased use of clean energy solutions				
.Adoption of clean energy infrastructure	Proportion of HHs using clean energy infrastructure (Base=all)	69%	57%	Medium
	Proportion of households fully satisfied from using clean energy infrastructure (Base=clean energy beneficiaries)	45%		
Improved access to agricultural training and services				
Access to Agriculture training and services	Proportion of farmers who reported project training services are useful	92%	77%	High
	Proportion of farmers who demonstrate awareness regarding sustainable farming practices	62%		
Adoption of improved farming practices	Proportion of farmers who continue to practise conservation agricultural practices	22%	41%	Medium

	Proportion of beneficiaries reporting an increase in productivity due to better farm management	49%		
	Proportion of farmers reporting increased income	51%		
Enhanced capacity for regular income generation				
Enhanced employable skill development	Percentage of women who accessed skill development training	7%	27%	Low
	Percentage of women who report improved income through skill development	17%		
	Proportionate increase in average income from enterprise	25%		
	Percentage of women who report increased savings through skill development	57%		
Improved capacity to generate income through livestock management				
Adoption of scientific management of livestock	Proportion of beneficiaries who received support in livestock management services	6%	29%	Low
	Proportion of beneficiaries reporting an increase in income from livestock management (goats)	40%		
	Proportion of beneficiaries reporting improved livestock health	37%		
	Proportionate increase in average income from livestock	33%		
Improved health infrastructure and services				
Establishment/ enhancement of health infrastructure and services	Proportion of beneficiaries who gained access to health services	88%	81%	High
	Proportion of beneficiaries reporting lifestyle changes due to improved access			
	Proportion of beneficiaries who availed free medications at camps	84%		
	Proportion of beneficiaries who consulted medical references from camps	70%		
Improved sanitation infrastructure and services				
Establishment/ enhancement of sanitation infrastructure.	Proportion of beneficiaries who gained access to sanitation services	66%	59%	Medium
	Proportion of HHs with access to Household/community sanitation units (toilets/bathing enclosures)	30%		
	Proportion of beneficiaries reporting safety of women due to improved access	81%		
H.D Improved awareness and health-seeking behaviour				
Awareness regarding health	Improved awareness regarding cleanliness and sanitation practices	39%	34%	Low

and sanitation practices	(Using toilets instead of open defecation)			
	Improved awareness regarding waste management	28%		
Adoption of positive health and sanitation practices	Increase in no. of HHs adopting proper solid waste management practices	20%	32%	Low
	Increase in no of HHs adopting proper liquid waste management practices	44%		
Improved availability and management of water				
Access to drinking water at household and community levels improved	The proportionate number of HHs reporting change in source of drinking water	73%	87%	High
	The proportion of households reporting improved well-being due to the availability of clean drinking water.	100%		
Improved capacity of educational institutions to provide services				
Access to improved physical infrastructure	Proportion of students/schools who report gaining access to functioning smart classrooms/ Bala/science labs/libraries/learning aid/furniture/sports equipment	81%	87%	High
	Proportion of schools who gained access to clean and functioning sanitation units/drinking water posts at education institutions	93%		
Improvements in quality of teaching	Proportion of teachers regularly utilizing smart classrooms/libraries/science lab (Regularly= Everyday+ Most days)	67%	69%	Medium
	Proportion of students who regularly use smart classrooms/science labs/ libraries for lessons ((Regularly= Everyday+ Most days)	70%		
Improved willingness to engage in school activities	Teachers reporting improvements in attendance due to improved infrastructure	100%	65%	Medium
	Proportion of teachers reporting an increase in enrolment post infrastructure development	50%		
	Proportion of institutions reporting a decrease in dropout rates	43%		

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

D Two Sample Proportions Z Test

The two-sample proportions z-test is a statistical hypothesis test used to determine whether two proportions are different from each other. The null hypothesis of the test is that the two proportions are equal, while the alternative hypothesis is that the two proportions are not equal.

The test statistic for the two-sample proportions z-test is given by the following formula:

z = (p1 - p2) / sqrt(p*(1-p)/(n1 + n2))
where:

p1 is the proportion in the first sample
p2 is the proportion in the second sample
p is the pooled proportion, calculated as (p1n1 + p2n2)/(n1 + n2)
n1 is the sample size of the first sample
n2 is the sample size of the second sample
The z-statistic is then compared to the standard normal distribution to determine the p-value of the test. A p-value less than alpha (typically 0.05) indicates that the null hypothesis can be rejected, and there is evidence to suggest that the two proportions are different.

The two-sample proportions z-test can be used to test for a difference in proportions between two groups of people, such as men and women, or two different brands of products. The test can also be used to compare the proportions of two different populations, such as the population of a city and the population of a state.

Here are some of the assumptions of the two-sample proportions z-test:

- The two samples are independent.
- The two populations are normally distributed.
- The sample sizes are large enough (n1p1n2*p2 > 10) (Basically the Central Limit theorem should apply for the sampling distribution of the z-statistic can be approximated by the standard normal distribution.)

If these assumptions are not met, the results of the test may not be reliable.

The two-sample proportions z-test is a powerful tool for comparing two proportions. However, it is important to be aware of the assumptions of the test and to ensure that the data meets these assumptions before using the test.

Assumptions:

- Independence: The two samples must be independent of each other.
- Normality: The two populations must be normally distributed, or the sample sizes must be large enough (n1p1n2*p2 > 10).
- Binomial distribution: The population does not need to follow a binomial distribution, but the test is more powerful if it does.

The z-test conducted for one indicator- Proportion of farmers with average productivity of Paddy a above baseline median-is shown below.

Table 10: Z - Test conducted for P0246

Indicator	Proportion of farmers with average productivity of Paddy
p1 (proportion of first sample-endline)	57

n1 (sample size of p1)	84
p2 (proportion of second sample-baseline)	42
n2 (sample size of p2)	84
p	0.589285714
Calculation	0.075911612
z statistic	1.975982
	Statistically significant as it is less than our alpha value (0.05)
p-value for the z statistic	0.0488

E Theme-wise Sustainability Matrix

The programme support provided demonstrated the capability to continue even after the programme ended. The programme's support to sustain improved outcomes are enumerated below (see **Error! Reference source not found.**).

Table 11: Theme wise sustainability matrix

Support Provided	Structures Established	Technical Know-how	Usage	Maintenance
NRM				
Irrigation Management	✓	✓	✓	✓
Farm Management	✓	✓	✓	✓
Clean Energy	✓	✓	✓	X
ST&LE				
Agriculture Training and Support	✓	✓	✓	✓
Entrepreneurship Development	✓	✓	✓	
Livestock Management	✓	✓	✓	
H&S				
Health			✓	
Sanitation	✓	✓	✓	✓
Drinking Water Management	✓	✓	✓	✓
Kitchen Garden	✓	✓	✓	
PoE				
Educational Institutions Development	✓	✓	✓	✓
Education Support	✓	✓	✓	✓
Awareness Generation	✓			