Impact Assessment Study of Holistic Rural Development Programme (HRDP) Karauli, Rajastan – P0288

Prepared For:

HDFC BANK | PARIVARTAN
A step towards sustainable progress

HDFC Bank Corporate Social Responsibility (CSR)

Prepared By:

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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 Udyogini in the Karauli district of Rajastan during April 2019 till March 2022. This study largely focused on understanding the overall process that the HDFC Bank and the implementing organisation undertook in carrying out the programme activities, the key milestones achieved, the impact created by these activities, and the challenges faced. The key focus areas of the intervention were Natural Resource Management (NRM), Skill Training & Livelihood Enhancement (ST&LE), Health and Sanitation (H&S) and Promotion of Education (PoE). The framework used for the impact assessment was an adaptive version of the DAC criteria - Relevance, Effectiveness, and Sustainability. A comprehensive methodology, comprising both qualitative and quantitative primary data collection, was used for the assessment which was carried out in a participatory manner involving all the key stakeholders of the programme. **The study included a sample size of 422 beneficiaries as respondents as against the planned sample of 400**

NRM: Between 2019 and 2022, HDFC Bank embarked on a truly transformative mission, spanning across six project villages, with a steadfast commitment to rejuvenating water and farm infrastructure while staunchly advocating sustainability. This all-encompassing endeavor encompassed the **revitalization of a remarkable 23 water structures, a feat that included the construction of two anicuts and two community ponds, alongside the meticulous restoration of 13 individual ponds.** The impact of this comprehensive effort was nothing short of monumental, ushering in a profound transformation by **enabling the irrigation of a sprawling 500 acres of land**. Notably, this development directly translated into substantial improvements in the lives of approximately 400 families, primarily through the introduction of an additional crop cycle, a boon to their livelihoods. Concurrently, the project placed extraordinary emphasis on the enhancement of farm infrastructure, resulting in the **refurbishment of an impressive 23 farm ponds and the upgrading of five community structures.** The tangible benefits of these enhancements were readily apparent, directly **uplifting over 190 farmers and amplifying their irrigation capabilities across a vast 400-acre expanse of agricultural land.** A particularly noteworthy facet of this initiative was the seamless integration of solar technology, exemplified by the installation of four solar-powered irrigation pumps. This strategic innovation not only led to a notable reduction in the overall cost of agricultural production but also translated into palpable advantages for 16 households. HDFC Bank's unwavering commitment to the advancement of agricultural practices, the reinforcement of essential resources, and the enthusiastic embrace of sustainable energy solutions during the 2019-2022 timeframe bore fruit in abundance. The average net **income derived from agriculture witnessed a striking ascent, soaring from 30,000 to a remarkable 70,000, marking a momentous 133% increase.** Furthermore, the productivity of the three major crops experienced a meteoric rise, surging from **9 quintals per acre to a remarkable 13 quintals per acre**, reflecting an astounding 44% growth. In essence, HDFC Bank's multifaceted initiatives collectively sculpted more resilient and prosperous communities within these project villages, underscoring the bank's unwavering

dedication to the fostering of sustainable growth and enduring prosperity. In conjunction with these steadfast efforts, the project recognized the critical necessity of expanding irrigation coverage, extending unwavering support in the form of **irrigation pipe provisions to 54 marginal farmers**. This initiative effectively enlarged the cultivable land under irrigation, fortifying the agricultural landscape. Additionally, a monumental milestone was achieved in the realm of sustainable energy solutions, exemplified by the **installation of a staggering 120 solar street lights across 10 project villages**, seven of which had previously been devoid of GRID power supply. Beyond their practical function of illuminating physical spaces, these solar lights metaphorically illuminated the path toward progress and prosperity, casting a bright and hopeful future for these communities.

Skill Training and Livelihood Enhancement:

HDFC Bank, through its (HRDP), has undertaken a transformative mission in six project villages to enhance accessibility to agriculture training and services. This multifaceted initiative engaged **160 farmers in developing vegetable clusters**, bolstered by capacity-building training by the Udyogini team, while **75 households delved into cattle fodder development**, introducing innovative forage solutions. An additional **75 vermi-beds were established to promote organic farming practices**. Despite the challenges posed by the COVID-19 pandemic, the project led to successful harvests for 50 farmers and the cultivation of various vegetables by 60 others. These initiatives collectively revolutionized agricultural practices, resulting in a shift towards **100% adoption of organic manure application**, timely use of fertilizers and insecticides, and consistent adoption of conservation agriculture practices. **50.5% of the beneficiaries quoted that the initiatives led to an increase in income, 48.5% quoted boost in agricultural productivity**, and 35.1% mentioned about reduction in input costs, while also improving soil health and pest management. The agricultural training program significantly improved income and productivity, with **100% of participants reporting positive outcomes**. The project extended its impact by empowering women in the Sapotra block of Rajasthan, **establishing the Wrunda Women Farmer Producers Company and enhancing financial literacy.** Moreover, the project's interventions in livestock management and health have led to substantial improvements, increasing monthly income and enhancing the overall well-being of livestock. These multifaceted efforts underscore HDFC Bank's commitment to sustainable agriculture, economic empowerment, and the well-being of rural communities, driving positive change in these project villages.

Health and Sanitation:

HDFC Bank, through its HRDP, initiated a series of health camps and interventions aimed at enhancing the well-being of tribal women and children in challenging rural environments. These health camps, focusing on dietary improvements, physical activity, and reducing tobacco/alcohol/drug consumption, not only raised awareness but also led to a decrease in disease transmission. Providing free health check-ups, treatments, and medicines, these camps empowered women and children with knowledge about nutrition, immunization, and timely health check-ups. The project reached **approximately 850 individuals, and critical health cases were referred and received treatment at the district level, indicating the camp's success in addressing health-related issues**. Additionally, menstrual hygiene awareness initiatives ensured access to sanitary pads and involved community engagement through health workers and health camps. In response to clean water scarcity, HDFC constructed solar-powered overhead water tanks, significantly reducing waterborne

diseases and burden on women while fostering community involvement. The project's efforts improved access to clean drinking water for over 300 households. These initiatives resulted in a remarkable decrease in waterborne diseases (93%) and enhanced overall health, including digestive well-being, energy levels, and reduced doctor visits. Kitchen gardens were another transformative solution introduced to combat malnutrition, benefiting 313 households and around 1500 family members. These gardens not only **reduced food expenses significantly (96%) but also improved nutrition (89%) and soil fertility (44%).** Overall, HDFC Bank's HRDP health camps, water access initiatives, menstrual hygiene awareness, and kitchen gardens have collectively contributed to the well-being, economic empowerment, and sustainability of these rural communities.

Promotion of Education:

The HDFC Programme has undertaken a comprehensive approach to enhance educational development in collaboration with various project partners. This initiative encompassed the renovation and upgrading of six schools, benefiting approximately 800 students, and the **positive impact on 235 children and 44 pregnant women through the renovation of two Anganwadi centers with upgraded facilities.** Educational material support was extended to ten schools, benefiting around 1365 students, and sports materials supplied to ten schools, **engaging 1365 students in extracurricular activities**. Additionally, the **construction and repair of sanitation units in 11 schools significantly improved hygiene conditions for 780 students**. Despite the installation of smart classes in three government schools, challenges in execution led to missed benefits in two schools. This holistic approach to educational improvement through infrastructure upgrades, materials, and sanitation facilities underscores the project's commitment to fostering a conducive and comprehensive learning environment. Respondents' feedback reflects a diverse range of educational support provided by HDFC, including smart classrooms, school building renovations, libraries, BaLA initiatives, drinking water facilities, learning materials, classroom furniture, separate washrooms, and sports equipment. These efforts reflect HDFC's multifaceted approach to improving educational quality, accessibility, and overall learning experiences. Additionally, Anganwadi centers have witnessed positive outcomes, with the provision of equipment, refurbishments, sanitary amenities, and educational tools enhancing the learning environment and promoting holistic child development for approximately 760 children and 100 expectant women. Thematic education approaches have garnered favorable responses, rendering classes more engaging, improving punctuality, and potentially curbing dropout rates. However, **challenges remain in the effectiveness of School Management Committees (SMCs) and Village Development Committees (VDCs), which display minimal involvement and communication gaps**, impacting the implementation of educational initiatives. These findings collectively highlight HDFC's multifaceted efforts to enhance educational opportunities and infrastructure while identifying areas for improvement in stakeholder engagement and project execution.

Table 1: Summary of Key Income Indicators

Income Indicators (based on median)	Before	After	% Change
Average Net Income from Agriculture (INR)	30,000	70,000	133%
Average Income from Skill (income from enterprises) (INR)	4298	6396	49%

Average Productivity of 3 major crops (Qtl. **/Acre)**	9	13	44%
Income from Livestock	3500	5000	43%
Income from Allied Activities			
Increase in Irrigated Area	2.18	2.72	25%
Decrease in input cost			

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 displays the Holistic Rural Development Index (HRDI) for four thematic areas of intervention within the project. Overall, the HRDI has increased by an impressive 164% compared to the baseline. Particularly noteworthy is the substantial impact seen in the "Sustainable Technologies & Livelihood Enhancement (ST&LE)" category, with an outstanding 320% increase over the baseline. Moreover, there have been significant increases over the baseline in the "Health & Sanitation," "Promotion of Education (PoE)," and "Natural Resource Management (NRM)" categories, reaching 137%, 177%, and 89% respectively.

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
	0.09	**0.17**	**0.05**	**0.21**	**0.08**	**0.19**	**0.09**	**0.25**	**0.31**	**0.82**
% Change	89%		320%		137%		177%		164%	

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 organizations nationwide to implement development interventions. The program aims to create sustainable, socio-economically and ecologically developed communities that are happy and prosperous. Within the HRDP, the "Holistic Rural Development Project" is currently being implemented in 10 villages situated at Sapotra tehsil of Karauli district of Rajasthan. Seven out of ten villages are located in Aravali forest rest three in the fringes of forest. These Villages are deprived of basic infrastructures such as road, electricity, safe drinking water. The community is struggling to access better and remunerative employment opportunities along with basic facilities like quality drinking water, education and health.. 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:

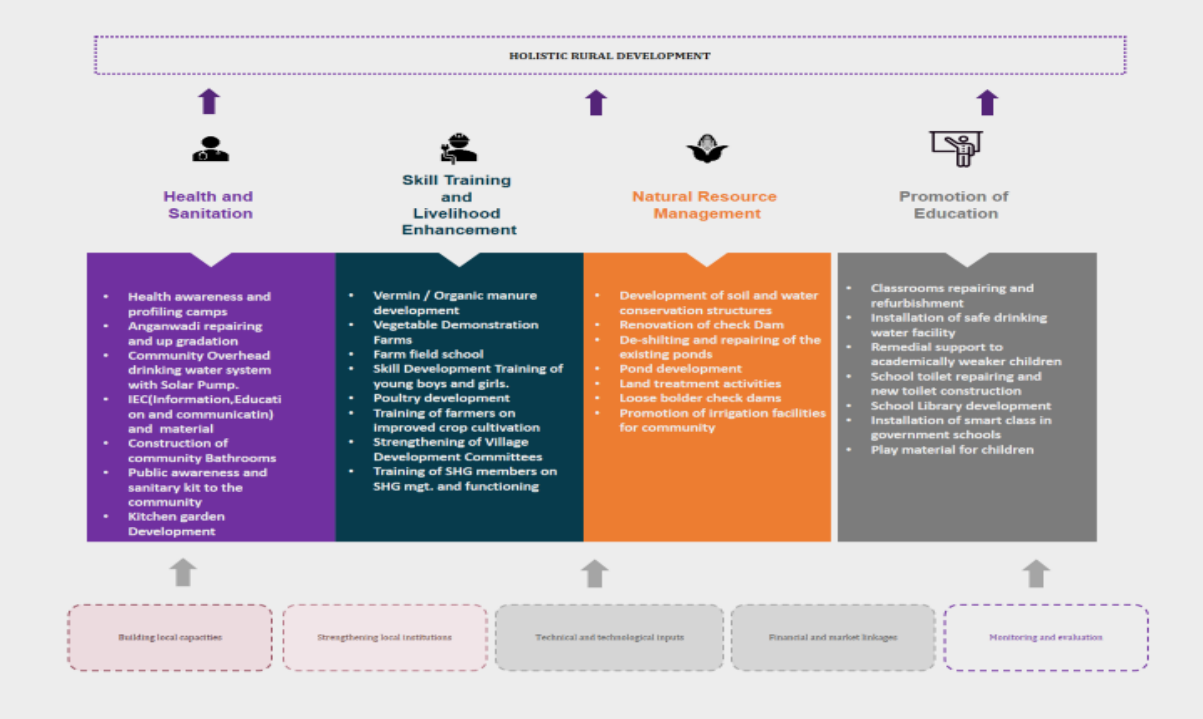
- Critically and objectively evaluate implementation and performance
- Determine reasons for certain outcomes or lack thereof
- Derive lessons learnt and good practices
- Provide evidence-based findings to inform future operational and strategic decisions while planning and funding partner organisations

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 . 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

This assessment offers an extensive and impartial report conducted by a third-party entity, evaluating HDFC Bank's Human Resource Development Program (HRDP) implemented as part of the Parivartan initiative in a disadvantaged region of Karauli district. The program, executed by Udyogini, the implementing partner in this district, spanned from 2019 to 2022 and encompassed interventions in ten villages. Its primary objective was to facilitate the sustainable development of marginalized rural communities by enhancing the capabilities of individuals and institutions. The assessment study took place from July 20th, 2023, to July 30th, 2023.

1.5 About the Implementing Partner

Udyogini means Woman Entrepreneur; the organization was established in 1992 to implement Women's Enterprise Management Training Outreach Program (WEMTOP), a project of the Economic Development Institute of World Bank. The project facilitated Women's Enterprise Management Training to about 20+ NGOs in Odisha, Bihar and Rajasthan. The organization in the past 25 years has been dedicated to empower rural-tribal women by building their entrepreneurship skills. Udyogini has emerged as a leading NGO working to provide customized "Business Development Services" for rural-tribal women in Rajasthan, Madhya Pradesh, Chhattisgarh, Jharkhand and Uttarakhand through working on some selected potential product value chains like Lac, Poultry, Goat and high value agricultural crops. The value chain approach has enabled the organization to equip women in rural-tribal areas with the requisite skills and knowledge to enhance their income and social status. The youth in urban and rural areas are provided with self-employment and skill-based placements while other NGOs and Government projects have availed support from delivery of its business services.

Udyogini is implemented the Holistic Rural Development Program (HRDP) in villages situated at Sapotra tehsil of Karauli district of Rajasthan from July 2019 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 and Education 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 Udyogini.

2.1 Criteria for Assessment

For each thematic area, project activities completed by the Udyogini 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 Udyogini, 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 ten villages of Karauli where the programme was implemented, beneficiaries were selected using purposive random sampling from a list of beneficiaries obtained from Udyogini . 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 ten villages was 400, out of which 422 sample respondents were reached. The thematic areas wise sample covered was as follows. The thematic areas wise sample covered was as follows (see **Error! Reference source not found.**).

Table 3: Sample distribution across thematic areas (N=422)

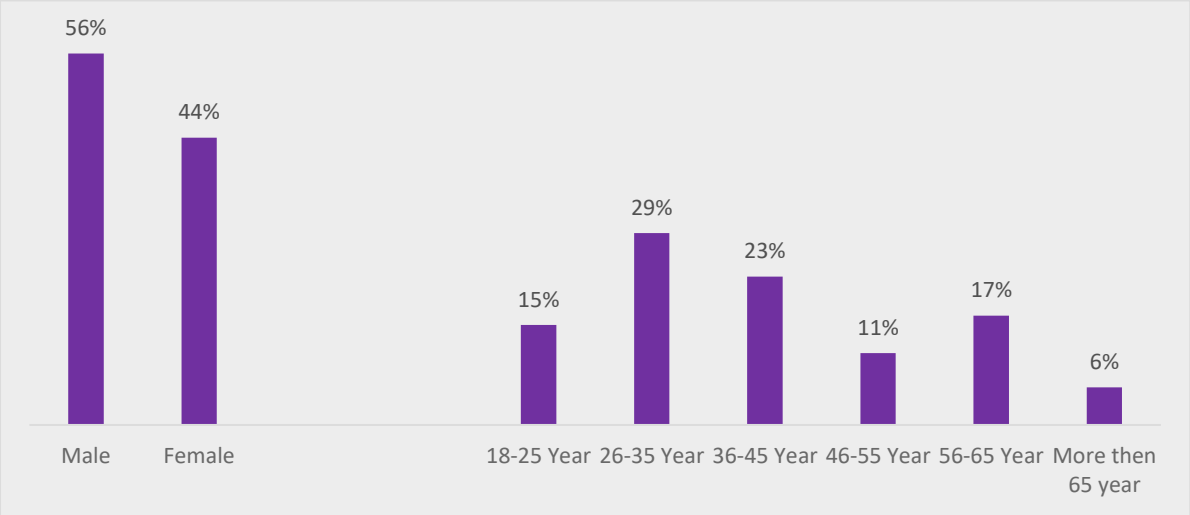
Village Name	NRM	ST&LE	H&S	PoE
Aadadungar	47	5	48	15
Amarwar Tapra	36	6	40	12
Baharda	10	0	10	4
Chiri ki Narouli	38	23	39	32
Chondkiya	23	6	23	9
Daulatpura	75	12	80	17

Marmada	31	12	31	19
Nainiyaki Guwadi	92	35	92	57
Nibhera	27	6	27	19
Ravatpura	28	11	28	11
Total	407	116	418	195

Throughout this project, a comprehensive set of 17 qualitative data collection activities were carried out. These included interviews with various stakeholders such as teachers, farmers, livestock owners, beneficiaries of drinking water initiatives, vegetable farmers, and a pond conservationist. Additionally, focus group discussions (FGDs) were organized with different groups, including farmers, Farmer Producer Organizations (FPOs), vegetable producers' groups, and the general population. Key informant interviews (KIIs) were also conducted with key figures like those associated a migrant vegetable producer, and a staff member from the project implementer.

The total sample includes 56% male and 44% female attributing to the gender distribution of the sample. Similarly, youth (18-55 years) represented majority of the sample (77%) distributed in different age groups. The remaining 23% of the respondents were more than 55 years of age.

Figure 3: Gender and Age Group wise distribution of Sample (N=422)



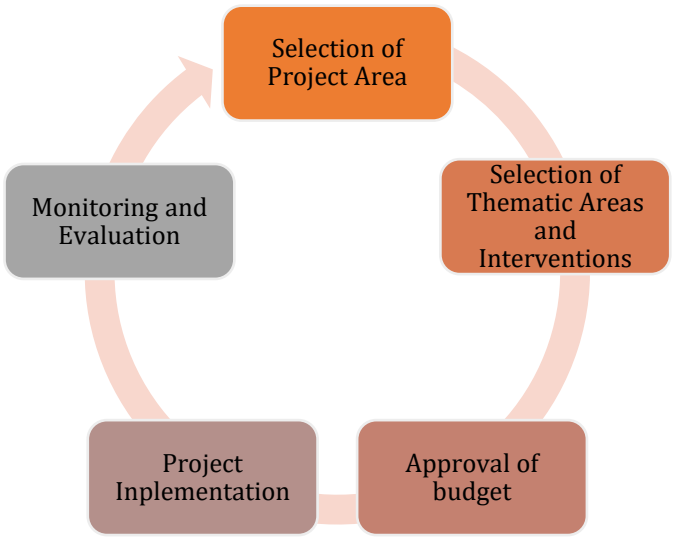
2.4 Training of Enumerators

A gender balanced survey team consisting of 6 local enumerators and 1 supervisor 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

Karauli district, located in the state of Rajasthan, exhibits a distinctive rural-urban demographic composition, with 85.0 percent of its populace residing in rural areas and 15.0 percent in urban centers,. However, concerning gender ratios, the district grapples with a concerning sex ratio of 861, significantly lower than the state's 928. On the educational front, Karauli district boasts a literacy rate of 66.2 percent. Moreover, the district is characterized by a substantial presence of Scheduled Caste and Scheduled Tribe population, accounting for 24.3 percent and 22.3 percent, respectively. This contrasts with the state figures of 17.8 percent for Scheduled Castes and 13.5 percent for Scheduled Tribes. The district's economic landscape is deeply rooted in agriculture, encompassing 71.6 percent of the workforce, comprising cultivators and agricultural laborers, surpassing the state's average of 62.1 percent in this category. The district's Work Participation Rate (WPR) stands at 43.1 percent, with a gender disparity of 9.2 percent points

Delving into occupational breakdowns, Karauli district reveals a distribution of workers, with 53.3 percent as cultivators, 18.3 percent as agricultural laborers, 1.5 percent in household industries, and 26.8 percent engaged in other occupations. . As per the livestock census of 2007, there are a total of 986191 animals in the district. A strategic initiative has been undertaken to bolster the economic resilience of the rural tribal community, aiming to mitigate poverty and vulnerabilities by providing comprehensive business, ecological, and social services to foster economic and social empowerment. 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. HDFC and Udyogini supported initiatives operate across ten

villages situated in Sapotra tehsil, spanning the district's landscape. Among these villages, seven are nestled within the embrace of the Aravali forest, while the remaining three fringe the forest. These villages confront stark infrastructural deficiencies encompassing fundamental necessities such as roads, electricity, and potable water sources. The community grapples with formidable barriers to accessing gainful employment opportunities and is in dire need of core amenities including quality education and healthcare services. Through this project, a concerted effort is underway to uplift this community, effectuating positive change by fortifying economic resilience, thus paving the path towards a more prosperous and secure future.

3.2 Selection of Thematic Areas and Interventions

Considering the above challenges in the project area, The Udyogini proposed HDFC Bank CSR under HRDP interventions focused on promoting water and farm management in addition to clean energy under Natural Resources Management (NRM) theme. 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 programme 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 (see **Error! Reference source not found.**4).

Table 4: Activities under four thematic areas

Activity Category	Activities	Output Indicators
NRM		
Irrigation Management	Renovation of check Dam, Repairing of the farm ponds, Pond development, Anicut constructed,	Income from agriculture
Farm Management	Distribution of Tool, Preparing Organic manure, crop diversification.,	Farm productivity increases
Clean Energy	Installation of Solar Lights	Clean energy
ST&LE		
Agriculture Training and Support	Training of farmers on improved crop cultivation, Crop Demonstration farms, Community seed bank development, Vegetable cluster development, Exposure visit and training, Vermin / Organic farming development. Zero Tiltage wheet Demo	Access to Agriculture Training and Services
Women Empowerment	Group based microenterprise(FPO) formed, trained and functioning,	Skill and Entrepreneurship Development
Livestock Management	Goat rearing, Poultry development, , Animal Health Camps,	Livestock Management
H&S		
Health	Health awareness profiling camp, Covit kit Distribution	Health Infrastructure and Services
Drinking Water Management	Community overhead Tank with solar Pump,.	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, , Digital learning class, Anganwadi repairing and up gradation.	Infrastructure in Educational Institutions
Education Support	School Library development, support for digital learning,	Support to the Education
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 (refer Annexure **Error! Reference source not found.**).

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 the umbrella of Natural Resource Management (NRM), a multifaceted approach has been undertaken to enhance the income and improve the quality of life for farmers in the project area. This initiative encompasses various key components, including Irrigation Management through the renovation of check dams, repair of farm ponds, pond development, and the construction of anicuts. These interventions aim to ensure consistent water availability for agricultural purposes, thereby increasing farm productivity and subsequently boosting income from agriculture. Additionally, Farm Management strategies have been implemented, such as the distribution of tools, organic manure preparation, and crop diversification, all geared towards optimizing agricultural practices and bolstering yields. Furthermore, the adoption of Clean Energy solutions, like the installation of solar lights, not only promotes environmental sustainability but also reduces energy costs for rural households, further contributing to improved livelihoods. Collectively, these initiatives under NRM reflect a holistic approach to uplift farmers by addressing their critical needs, enhancing agricultural productivity, and ultimately elevating their overall well-being.

The ST&LE thematic initiatives encompass a wide range of activities aimed at enhancing the capabilities and economic well-being of the community. Agriculture Training and Support programs have equipped farmers with the knowledge and skills needed for improved crop cultivation through training sessions, crop demonstration farms, and the establishment of community seed banks. Vegetable cluster development and exposure visits have encouraged diversification and innovation in agriculture, while vermi composting and organic farming initiatives promote sustainable practices. The introduction of Zero Tillage wheat demonstrations represents a commitment to modern and efficient farming methods. Women Empowerment has been supported through the formation and training of Group-based microenterprises (FPOs), fostering economic independence and entrepreneurship among women. Livestock Management initiatives have supported goat rearing, poultry development, and animal health camps, ensuring the well-being of livestock and expanding income sources. These efforts collectively contribute to skill development, increased agricultural productivity, women's empowerment, and improved livestock management, ultimately enhancing livelihoods and overall community prosperity.

Under H&S, thematic initiatives have been instrumental in promoting the well-being and quality of life in the community. Health awareness profiling camps have helped in assessing and enhancing the health awareness levels among the villagers, leading to improved health outcomes. The distribution of Covid kits during the pandemic demonstrated a commitment to public health and safety, ensuring that the community had access to necessary resources for protection. In terms of infrastructure, the installation of a community overhead tank with a solar pump has significantly improved access to clean drinking water, addressing a fundamental aspect of public health. Additionally, the development of kitchen gardens and the provision of seeds have facilitated the cultivation of nutritious food at the household level, contributing to improved nutrition and overall health. These initiatives collectively underscore a holistic approach to health and sanitation, emphasizing awareness, infrastructure development, access to clean water, and improved nutrition as key pillars in enhancing the health and well-being of the community members.

Under the Promotion of Education (PoE) thematic, a comprehensive set of activities has been implemented to uplift educational institutions and support the holistic development of students. Classroom repairing and refurbishment, along with the construction and repair of school toilets, have greatly improved the physical infrastructure of schools, creating a conducive learning environment. The installation of safe drinking water facilities ensures that students have access to clean water, promoting their health and well-being. The introduction of smart classrooms and digital learning classes reflects a commitment to enhancing the quality of education through technology. Upgrading Anganwadi centres further extends the reach of early childhood education and care. Additionally, initiatives like school library development and support for digital learning enhance educational resources, while providing play materials for children fosters a culture of active learning and improved attendance. Collectively, these efforts under the PoE thematic are instrumental in not only improving the physical infrastructure of educational institutions but also in providing comprehensive support to students, thereby contributing to their overall educational development and future prospects.

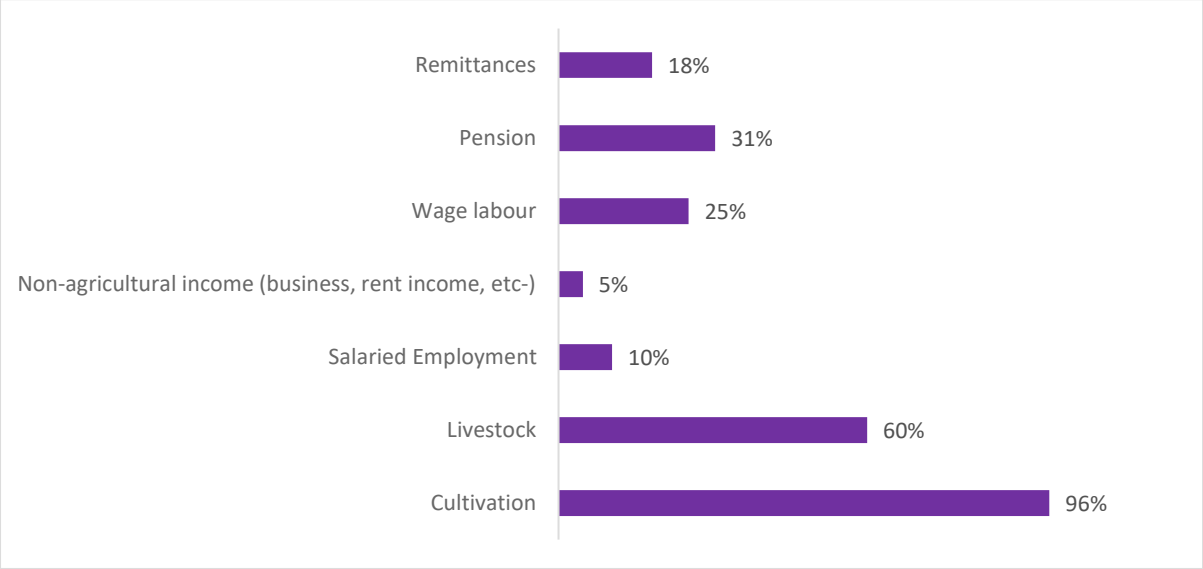
3.4 Monitoring and Evaluation

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 (**Error! Reference source not found.**9) based on selected outcome indicators.

4 Study Findings

The income sources in the project village, managed by Udyogini, are diversified, with cultivation being the dominant contributor at 96% of the respondents engaged in it, indicating the significance of agriculture in the community's livelihood. Livestock contributes a substantial part in the annual income as 60% of the respondents quoted it as a source of income, highlighting the importance of animal husbandry. 10% of the respondents are salaried employees, indicating limited opportunities in formal sector jobs. 5% of the respondents quoted non-agricultural income, encompassing businesses and rent income as one of the income sources. 25% work as wage laborers underscoring the prevalence of manual labor jobs. Pensions play a crucial role, constituting 31% of respondents, lastly, remittances contribute 18%, reflecting the importance of migrant workers' contributions to the village's economy, creating a balanced income portfolio.

Figure 5: Distribution of Sample based on their occupation (N=422)



52% of the respondents have had some formal level of schooling ranging from primary to senior secondary, while 5% are graduate. 9% of them are literate with no formal education. 56% of the respondents are from other backward classes and more than half, 53.8% of them hold BPL cards, followed by 43.4% holding APL cards.

Figure 6: Educational Qualification wise distribution of sample (N=422)

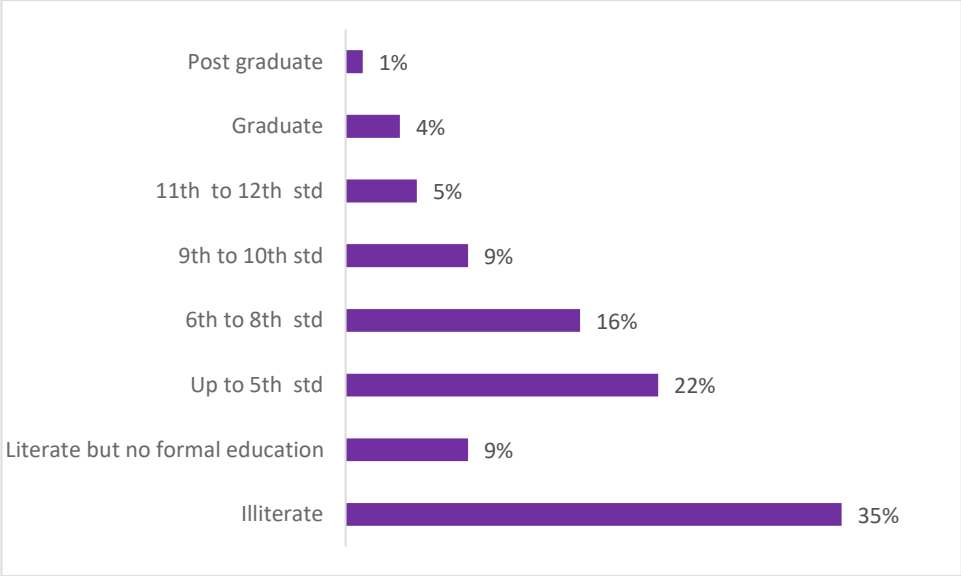
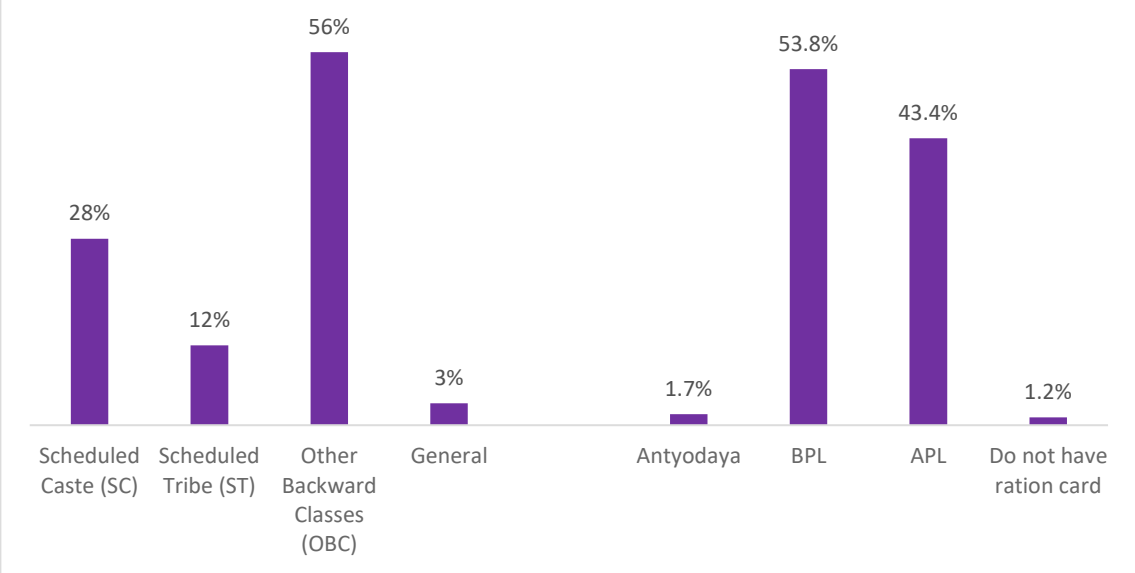


Figure 7: Caste and Income categorisation sample (N=422)



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 (see **Error! Reference source not found.**).

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 Lift Irrigation Check dam	23 4 2
Farm Management	Seed Bank Pipe line for Lift Irrigation	2 7200 ft
Clean Energy	Solar Lights (Street)	120
ST&LE		
Agriculture Training and Services	Seminar conducted Zero Tiltage wheat Demo Vegetable Clusture organic Farming Bed Natural Farming Training Exposure Visit and Training Agriculture resource Centre	2 2 150 75 2 1 1
Skill and Entrepreneurship Development	FPO board Training Women capacity building training Finance literacy training	2 11 1
Livestock Management	Goats management training Animal husbandry and vetenery camp Animal husbandry training	10 10 1
H&S		
Health	Health Camps Asha worker Trained	10 10
Sanitation	Distribution Hand washing unit Awareness generation event Hygene Kit Support	80 10 600 10
Kitchen Garden Devt.	Training given and seed support	313 HH
Drinking Water Mgt.	Community overhear Drinking water system with solar pump	4
PoE		
Educational Institutions Development	Class room Repairing and refurbishment Anganwadi Infrastructure Renovated Sports material supported Sanitation unit Constructed Smart class Material given	9 school 5 Anganwadil 10school 11 3 Sdhool
Educational Support	Library Development	10 School
Sports	Play Material for Children	10 School

(Source: Project MIS from Implementing Agency)

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

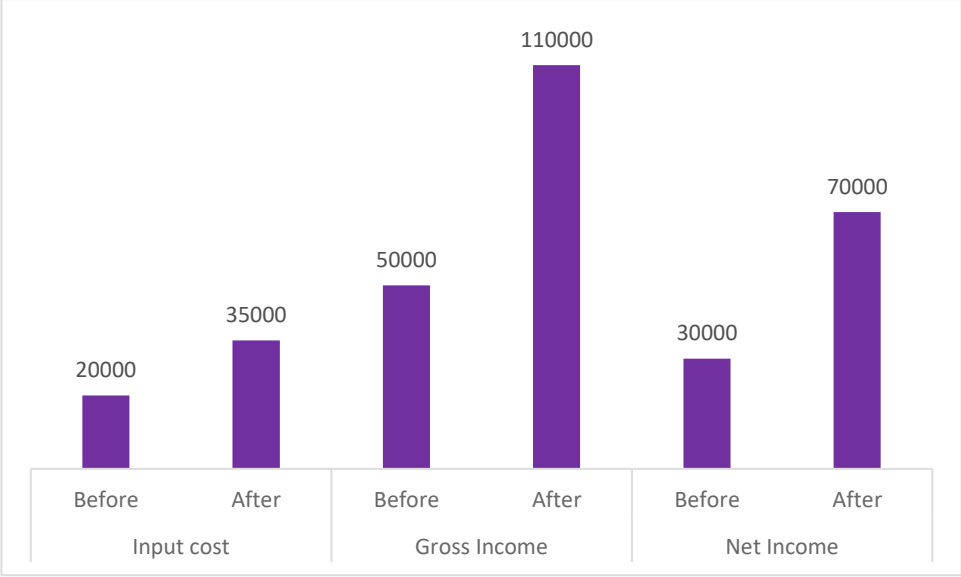
4.1 Natural Resource Management

HDFC Bank undertook a transformative mission across six project villages, focused on revitalizing water and farm infrastructure while promoting sustainability. This comprehensive effort involved **reviving 23 water structures, including anicuts, community ponds, and individual ponds, resulting in irrigation for 500 acres of land, benefiting approximately 400 families** with an additional crop cycle. Farm infrastructure was also enhanced, and upgrading five community structures, **directly impacting over 190 farmers and irrigating 400 acres of agricultural land.** Notably, solar technology integration with four solar-powered irrigation pumps reduced production costs and benefited 16 households. This dedication to agricultural advancement and sustainable energy solutions **led to a 133% increase in average net income from agriculture and a 44% growth in crop productivity**. Furthermore, the project extended irrigation support to 54 marginal farmers, expanding cultivable land, and installed 120 solar street lights in 10 project villages, bringing light and hope to communities, particularly those previously without GRID power supply. Overall, HDFC Bank's multifaceted initiatives fostered resilient and prosperous communities, emphasizing sustainable growth and enduring prosperity.

4.1.1 Income from Agriculture

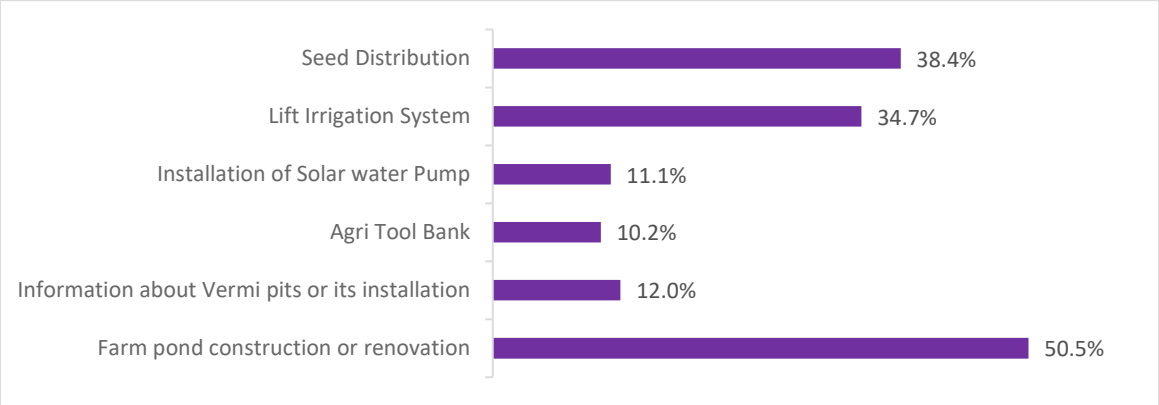
The implemented initiatives have yielded a favorable influence on the farmers' income generation capabilities. These efforts have bolstered water accessibility, refined irrigation infrastructure, and facilitated the adoption of diversified crops, particularly vegetables such as brinjal, cabbage, and cauliflower. This diversification has enabled an additional crop to be cultivated. The collective outcome being that the farmers have experienced a **remarkable 133% surge in their overall income,** underscoring a significant and positive achievement

Figure 8: Income from Agricu;ture (N=216)



The increase in farmers' income is attributed to several factors. Foremost among these is the accessibility of irrigation water. Essential elements like training, organic manure promotion, soil testing, seed banks, and agricultural tool banks have significantly elevated their income and livelihood prospects.

Figure 9: HRDP contribution that contributed to increase in Agriculture Income(N=216)



A substantial **50.5% of the respondents attributed the rise in income to the construction or renovation of farm ponds,** which optimized irrigation efficiency, ensuring a steady water supply for crops. Similarly, 12% acknowledged the pivotal role of spreading knowledge about vermi pits or their installation, enhancing soil quality for heightened plant growth and amplified crop yields. Furthermore, another 11.1% acknowledged the adoption of solar water pumps, minimizing energy costs, thus enabling more efficient irrigation, expanded cultivation, and reduced expenses – collectively elevating farmers' income. **34.7% of respondents credited the integration of lift irrigation systems** for expanding irrigated land, fostering crop diversification, and extending growing seasons – fostering elevated agricultural productivity and, consequently, a substantial income increase. An additional **34% highlighted the distribution of quality seeds** as a driving force behind the income surge, with improved seed varieties directly enhancing the yield and positively impacting farmers' income.

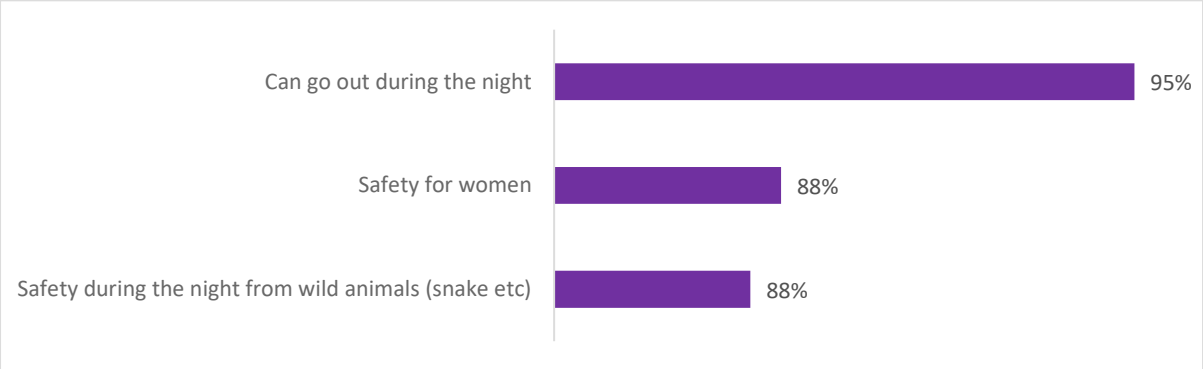
Focused interventions have played a crucial role in bolstering farmers' income. Specifically, the introduction of irrigation has resulted in a notable uptick of 79%, as reported by respondents. Equally noteworthy are HDFC bank's efforts in the provision of quality seeds and tools, that contributed to a commendable growth rate of 39%, as indicated by those surveyed. The implementation of market price interventions has also had a positive impact, with 66% of respondents reporting increased income. Additionally, despite the challenges posed by rising input costs, crop diversification emerges as the primary catalyst, driving income and productivity upwards by more than 100%. **Furthermore, a 2-sample z-test conducted on wheat productivity yielded compelling results, with a p-value of 0.00001 against a z-statistic of 7.76 at a 95% confidence level, confirming the significant influence of these interventions.** Detailed calculations can be referenced in Annexure (D), highlighting the efficacy of these strategies in augmenting agricultural income and productivity for farmers.

Figure 10: Community Pond Deepened

4.1.2 Use of Clean Energy Solutions

The predicament faced by 70% of the villages in the project area, where access to grid power is limited, imposes a multitude of challenges on these communities, severely hampering productivity after sunset and impeding educational pursuits, daily household tasks, and economic activities (for example, tailoring). It is a security risk, making the community vulnerable to accidents, criminal activities, and nocturnal wildlife encounters. According to the study survey, **93% of respondents have reported benefiting from the clean energy interventions, and it has been observed that 67% of the respondent quoted that the solar street lights installed in their area are functional.**

Figure 11: Benefits of Solar Street Lights (N-336)



The survey data highlights substantial perceived benefits, with an overwhelming 95% of respondents quoted about safely venturing out at dark, 88% emphasized on enhanced safety from potential threats such as wild animals, particularly snakes, and an equivalent percentage underscored the augmented security for women. This underscored the transformative impact of improved lighting on both safety and community mobility and a better quality of life. More areas can be covered under solar street lighting, however, it requires regular maintenance and investment in solar lighting infrastructure along with securing the solar lighting systems.

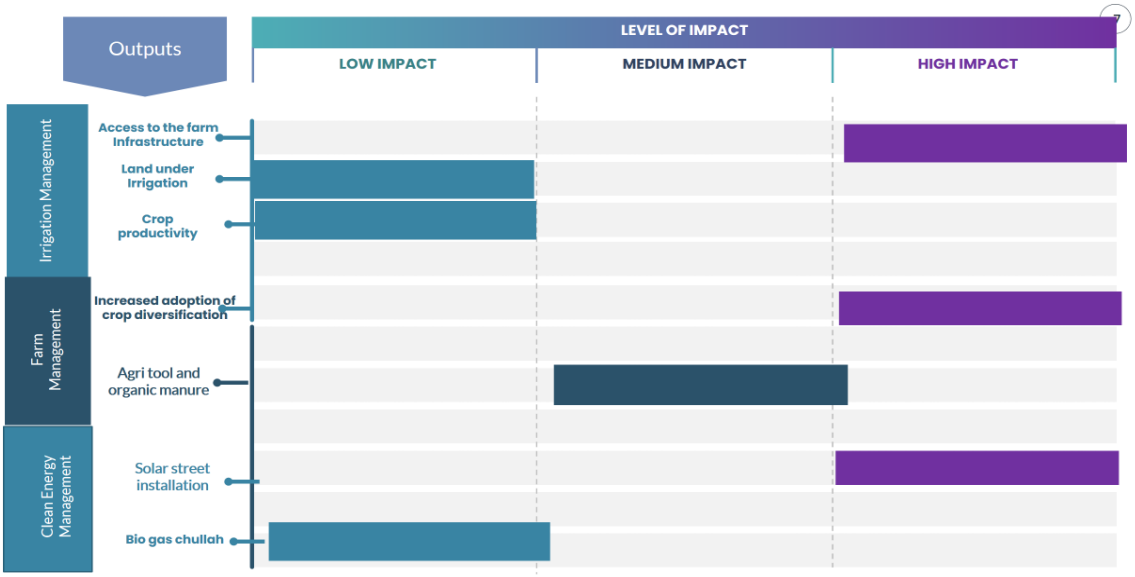
Collaborative efforts with renewable energy organizations emerge as a necessary step to ensure the procurement of top-tier solar lighting systems, thereby effectively addressing these challenges outlined in the preceding analysis.

Figure 12: A Solar Light Installed in Project Village

100% of the respondents in the quantitative study were satisfied with the solar lights. However, a few of the solar lights in the villages had stopped working in the last year due to a lack of repair and maintenance, as pointed out by 40% of the respondents.

4.1.3 Impact Observations

Figure 13: Level of Impact - NRM



Under NRM, access to farm management tools and crop diversification have shown high impact. Major work was done **with respect to soil testing and levelling, with 328 and 1060 beneficiary farmers respectively.** The conservation of natural resources and adaptation of clean energy has shown moderate impact as it requires continuous support to the communities for ensuring repair and maintenance of the NR structures and solar equipment. Irrigation and crop productivity has shown low impact due to consecutive years of drought and low rain fall during the terminal years of the project. However, the beneficiaries acknowledged that the NR assets created will help them in future during a good rain fall year and also supported in saving their crops during interim day spells.

4.1.4 Case Study

"A Tale of Transformation: From Despair to Prosperity through Pond Restructuring"

In the picturesque village of Baharda, nestled within the hilly terrain of the Karauli district, the Chandkiy family, consisting of Kalua Chandkiy, Ram Kasi Chandkiy, and Nawal Chandkiy, found themselves grappling with a challenging existence heavily reliant on agriculture. The scarcity of water had forced them into a cycle of cultivating only paddy and a small amount of mustard, leaving their lives ensnared in the clutches of poverty. Education for their children was a distant dream, and their health suffered due to their inability to afford proper care. Their lives were marked by despair until 2018 when a transformative project was introduced in their area.

Embracing the project with hope, the Chandkiy family participated actively. The project's focal point was the desilting and deepening of their pond, which became a game-changer for them. This rejuvenated pond emerged as the primary source of irrigation, breaking the monotony of monocrop farming. With newfound access to water, they transitioned to a diversified agriculture system, cultivating three crops annually. Moreover, their exposure to the project introduced them to the potential of vegetable farming.

Through sheer hard work and determination, the Chandkiy family harnessed the potential of their revitalized pond and expanded their agricultural ventures. Their annual income surged to a substantial 3.5 lakhs, a remarkable increase of 2.7 lakhs compared to their previous earnings. This newfound prosperity translated into a happier life for them. The excavation , desilting and deepening of the pond not only improved their agricultural output but also ensured consistent

water supply throughout the year for both farming and livestock needs. This reliable water source had an invaluable impact on their overall well-being.

The Chandkiy family's journey serves as a compelling case study in the field of Natural Resource Management (NRM). The restructuring of their pond, facilitated by the project, not only transformed their lives but also provided a blueprint for sustainable agriculture in hilly regions. Their story underscores how strategic interventions, focusing on water resource management, can break the shackles of poverty, empower communities, and create a brighter future. Pond restructuring, in this NRM thematic area, has proven to be a catalyst for positive change, elevating the Chandkiy family from hardship to happiness.

4.2 Skill Training and Livelihood Enhancement

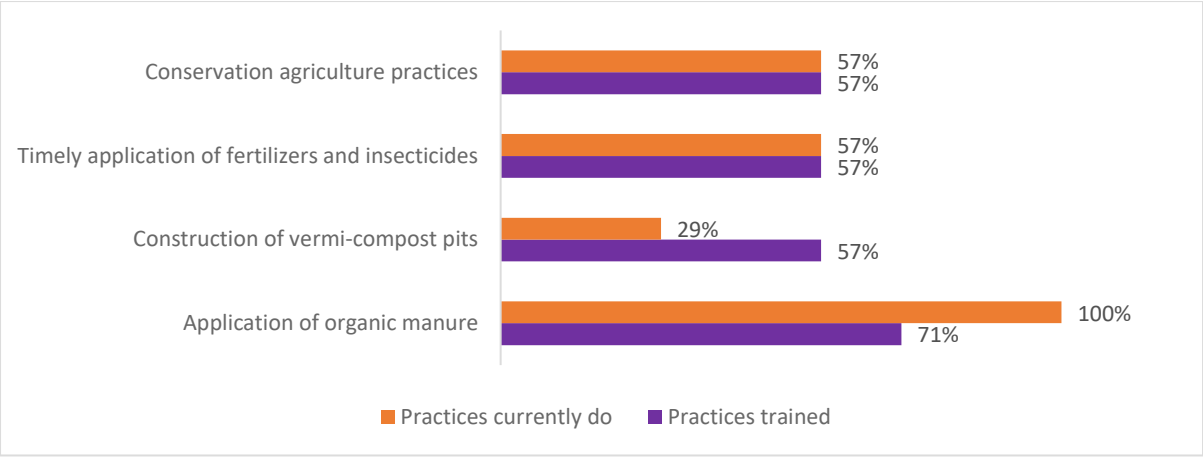
4.2.1 Access to Agriculture Training and Services

HDFC bank under HRDP has undertaken a number of activities aimed at improving accessibility to agriculture training and services. Engaging actively, **a cohort of 160 farmers embarked on the development of vegetable clusters**, guided by capacity-building training facilitated by the Udyogini team. This training furnished them with invaluable insights into optimal practices for village cultivation. Another commendable undertaking involved **75 households delving into cattle fodder development**, supported by the project, where the introduction of Barseem (Trifolium alexandrinum) provided a novel forage solution. Advancing the cause of organic farming, **75 vermi-beds were established as demonstrative installations in collaboration with individual farmers.** Notably, despite the challenges posed by the COVID pandemic, 50 farmers persevered and harvested their crops, realizing significant earnings ranging between INR 20,000 and INR 30,000. Moreover, **60 enterprising farmers ventured into the cultivation of various vegetables – including tomatoes, okra, bottle gourd, and tinda** – fortified by project-provided agricultural inputs. This endeavor further reverberated its impact by facilitating training and capacity-building endeavors for over 100 farmers, effectively cultivating a culture of vegetable farming. The holistic approach encompassed the identification, selection, and training of target farmers, coupled with sustained on-field support from agricultural experts for disease, pest, and soil nutrient management. Remarkably, the farmers' plots showcased the cultivation of eight distinct types of vegetables, further enriching the agricultural landscape.

Enhancement of agricultural practices through demonstration plots for wheat and gram, while the adoption of a zero tillage wheat demo plot underscored the commitment to progressive

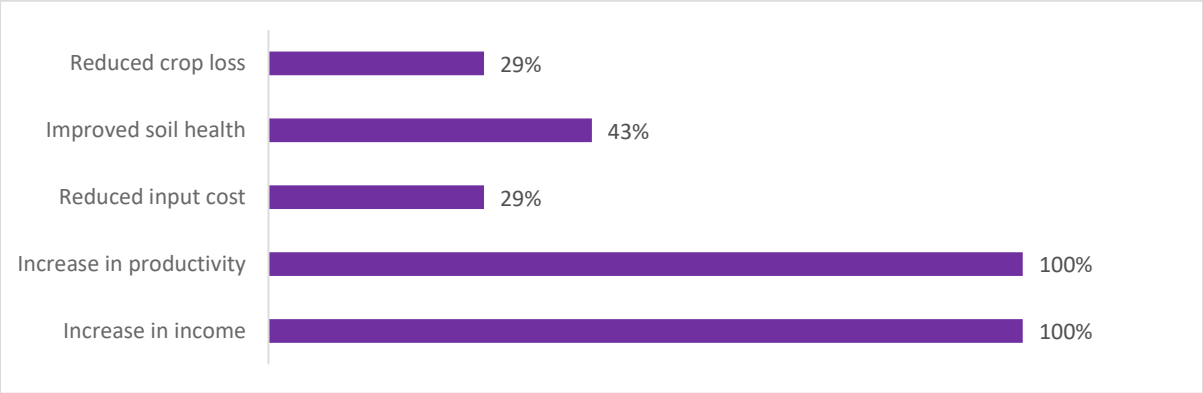
farming methods. Collectively, these multifaceted efforts contributed to the transformation of agricultural practices and livelihoods.

Figure 14: Respondents Practising Different Activities During and After the Interventions (N=7)



These data showcases a significant shift in farming practices, reflecting a commendable progress towards sustainable and productive agricultural methods. The transition to **100% adoption of organic manure application, compared to the initial 71%**, is particularly noteworthy. This shift underscores a heightened awareness and commitment to enriching soil health and fostering natural nutrient replenishment, both of which play a pivotal role in boosting crop yield. The continued adherence to timely application of fertilizers and insecticides at 57% demonstrates a steadfast commitment to maintaining optimal plant health and pest control. The consistent adoption of conservation agriculture practices at the same percentage affirms the recognition of their long-term benefits in preserving soil structure, minimizing erosion, and promoting water retention. While the decrease in vermi-compost pit construction from 57% to 29% reflect some challenges, it remains **an area for potential growth as farmers recognize the manifold advantages of nutrient-rich compost for enhanced plant growth**. Overall, the upward trajectory in adoption of various practices suggests a holistic approach towards sustainable agriculture, resulting in improved productivity and quality of crops.

Figure 15: Perceived improvements due to adoption of agricultural practices(N=7)



The perceived benefits gleaned from the agricultural training have yielded remarkable outcomes, as highlighted by the respondents. All of the participants reported experiencing a tangible increase in income, underscoring the pivotal role that the training has played in augmenting their economic well-being. Respondents attested to a noticeable rise in productivity, reflecting the valuable knowledge and techniques imparted through the training. It is noteworthy that while 29% of participants acknowledged reduced input costs, there remains room for further improvement in this aspect. The training has also contributed to enhancing soil health, as reported by 43% of respondents, a crucial factor in sustaining long-term agricultural productivity. Similarly, the training has aided in mitigating crop loss, acknowledged by 29% of participants, yet this outcome too holds potential for further enhancement. Overall, these responses affirm the far-reaching positive impact of the agricultural training program, particularly in terms of increased income and productivity, with opportunities for continued growth and improvement in input cost reduction, soil health enhancement, and crop loss reduction.

4.2.2 Access to Skill and Entrepreneurship Development

The 2017-18 report from the National Statistical Office (NSO) sheds light on a concerning statistic: 43.7% of girls aged five and above have not received formal education or enrolled in any educational institution. The state of Rajasthan stands out with the lowest literacy rate for women at 57.6%, underscoring the need for initiatives to promote gender equality.

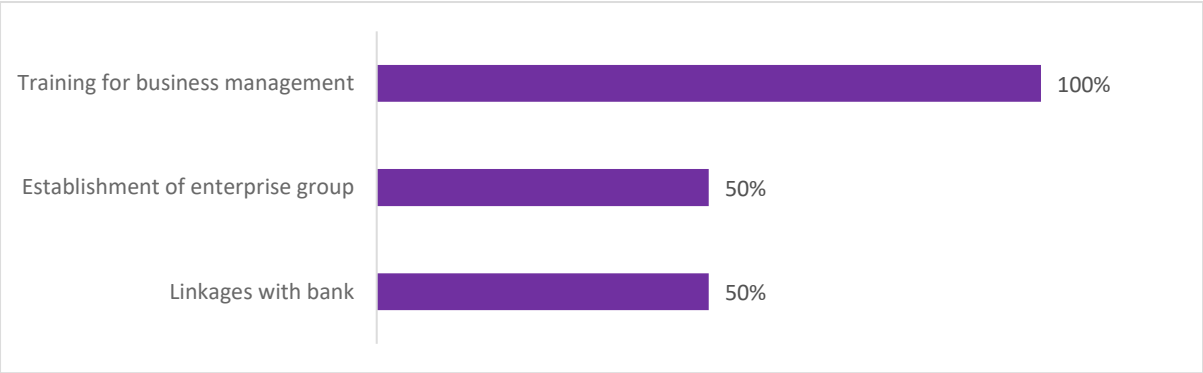
Udyogini has partnered with HDFC in the remote Sapotra block of Rajasthan with a primary objective to elevate the socio-economic status of women by actively involving them in village development activities. A strategic approach was adopted, appointing a woman representative from each village to spearhead the efforts towards economic empowerment. These representatives were provided with training, including financial literacy and communication skills, to equip them for their pivotal role.

A remarkable milestone was reached as the Wrunda Women Farmer Producers Company (FPC) was formally established in the heart of Sapotra. The significance of this achievement cannot be overstated, given the societal norms and challenges prevalent in the region. Overcoming these hurdles, ten resolute women laid the foundation for a company aimed at reshaping cultural norms and promoting gender inclusivity.

Drawing upon local resources and expertise, Udyogini, along with FPC's board of directors, meticulously drafted a comprehensive three-year business plan. This blueprint encompassed various aspects, from product manufacturing to market linkages, and set forth an ambitious vision for the company's growth trajectory. A notable highlight was a visit to the Ibtada Foundation in Alwar, where 23 active participants from Wrunda FPO engaged in a firsthand exploration of FPO governance and operational dynamics. This exposure facilitated a deeper understanding of the value chain, fostering transparent record-keeping practices and overall FPO operations.

The outcome of these collective efforts was tangible: a significant surge in enterprise income, surpassing the 6000-rupee mark per month. This transformative journey not only elevated the economic prospects of these women but also instilled in them the confidence to engage with district officials, a testament to their empowerment and newfound agency.

Figure 16: Perceived benefits of skill development training (N=2)



Regarding linkages with banks, half of the beneficiaries quoted linkages with banks as a positive outcome of the skill training. It reflects the project's endeavor to foster a collaborative environment, enabling entrepreneurs to pool resources, share knowledge, and collectively navigate challenges. Such group formations likely contributed to a supportive ecosystem that enhances the overall resilience and competitiveness of the enterprises. The comprehensive training evidently played a pivotal role in enhancing the entrepreneurial capacities of the participants.

4.2.3 Improved Capacity to Generate Income Through Livestock Management

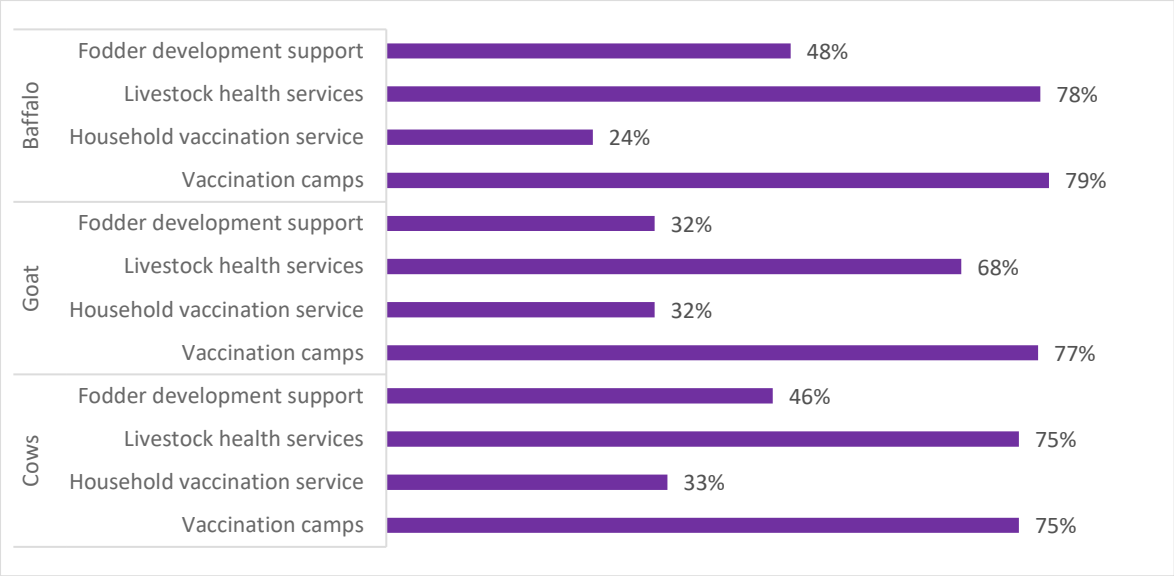
A comprehensive range of initiatives aimed at enhancing livestock management and agricultural practices has been meticulously implemented within the project villages. **Ten goat management training sessions have been conducted across the project villages**, effectively reaching out to over a hundred farmers. The discussions during these sessions delved deep into the nuances of goat rearing practices, ensuring the widespread adoption of optimal techniques. This approach also facilitated the identification and rectification of inefficiencies inherent in traditional goat management practices, allowing for a marked improvement in overall efficiency.

The impact of the project has extended to cattle as well, with a commendable total of **4,097 animals benefiting from well-organized animal health camps within the ten project villages**. Notably, these interventions were instrumental in **addressing critical issues such as Foot and Mouth Disease (FMD), premature deliveries, injuries, tick infestations, and fever among the livestock**. This holistic approach towards animal husbandry underscored the project's commitment to the overall well-being of the community's valuable livestock assets.

A notable milestone was achieved through a three-day animal husbandry training conducted jointly by KVK and Udyogini in the Daulatpura village, which saw active participation from 35 farmers. This immersive training equipped participants with vital skills and insights, leading to the issuance of certificates by KVK upon successful completion. This certification unlocked avenues for them to secure loans from financial institutions.

The project's impact is evident in the substantial increase in monthly income from livestock. This shift, from an average of 3,500 to 5,000, serves as a testament to the efficacy of the interventions.

Figure 17: Livestock management services availed through HRDP (N=144)



The feedback provided by respondents regarding the impact of the project on livestock management and health, particularly in relation to cattle, goats, and buffaloes, offers valuable insights into the efficacy of interventions facilitated by HDFC. The data elucidates a spectrum of view points and experiences among participants, shedding light on both successful outcomes and potential areas for improvement.

In the context of cattle, the substantial acknowledgment (75.0%) of the positive impact of vaccination camps in disease prevention and the delivery of essential immunizations. This underscores the effectiveness of organized vaccination efforts in enhancing livestock health and mitigating disease-related vulnerabilities. Although a smaller proportion of respondents (33.3%) reported benefiting from household vaccination services, this finding indicates the perceived value of convenient on-site veterinary assistance. Majority of the respondents (75.0%) recognized the positive influence of livestock health services such as treatments for diverse ailments and general health management. The moderate response rate (45.8%) for fodder development support highlights an area with potential for growth. This signifies the need for intensified efforts to enhance the availability and quality of fodder for cattle, potentially benefiting a larger segment of participants.

Shifting to goat management, a significant number of respondents (77.3%) acknowledged the positive impact of vaccination camps in prioritizing disease prevention and the advantages of immunization. While a smaller proportion (31.8%) of respondents benefited from household vaccination services, this finding suggests avenues for addressing barriers to access and heightening awareness.The notable response rate (68.2%) for livestock health services among goat owners indicates effective measures in addressing health concerns within goat herds. This highlights the importance of accessible and proficient veterinary care. Likewise, the moderate response rate (31.8%) for fodder development support mirrors the result for household

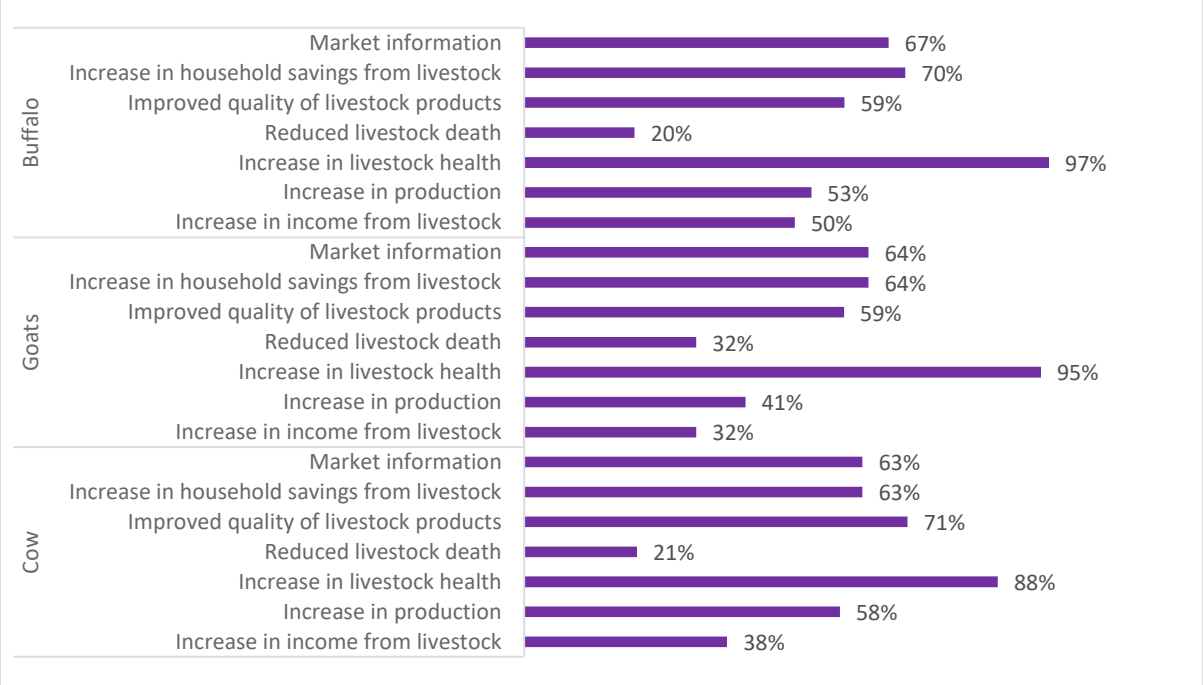
vaccination service, signaling an opportunity for increased outreach and refining efforts to enhance the reach of these interventions.

Turning to buffalo, majority of the respondents(78.6%) acknowledged the positive outcomes resulting from buffalo vaccination camps in prioritizing immunization and preventive healthcare measures for these animals. The comparatively lower response rate (24.5%) for household vaccination service indicates the potential for enhanced promotion and accessibility, particularly in providing on-site veterinary care for buffaloes.

Figure 18: Change in average monthly income due to improved Livestock rearing (N=144)

Prior to the integration of scientific approaches, beneficiaries faced a range of difficulties including modest earnings, high livestock mortality rates and inadequate animal health support services. Nonetheless, upon embracing these scientific methodologies, beneficiaries perceive an increase in production of milk, meat, and eggs from their livestock, improved general welfare of their animals, curtailed instances of livestock loss, gained access to current market insights and realized optimal returns on the sale of their animal products. Consequently, there was an increase of around 43% in their overall income.

Figure 19: Perceived primary benefits of livestock interventions (N=144)



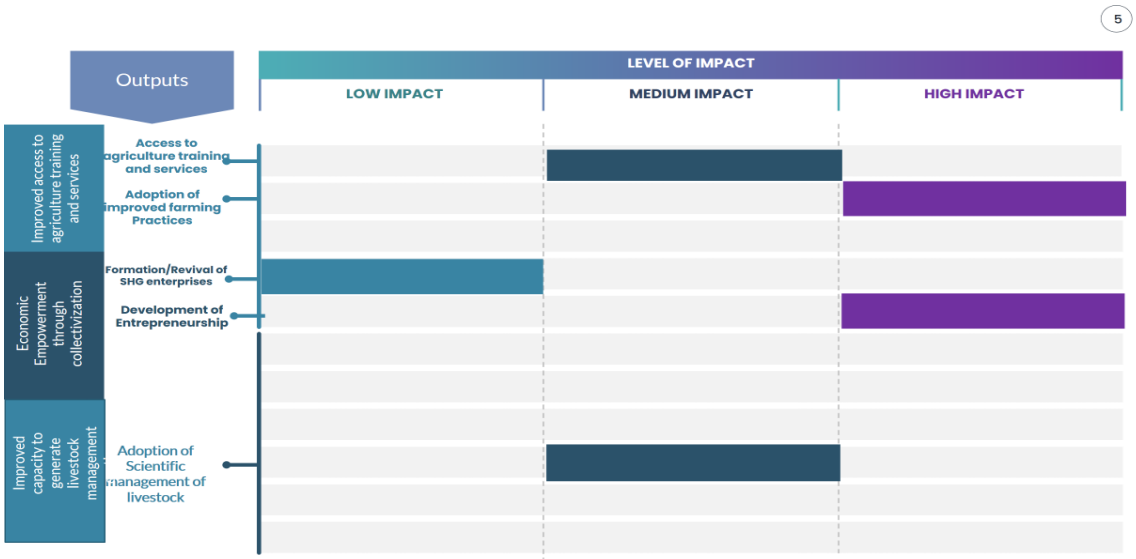
The respondents' perceived benefits from various livestock categories highlight notable trends, with the top two responses from each category illustrating significant advantages. For cow owners, a substantial 88% recognized a remarkable increase in their cattle's health. 71% of respondents acknowledged an improved quality of livestock products. Among goat farmers, 95% of the beneficiaries quoted a significant increase in livestock health, emphasizing the pivotal role of scientific approaches in promoting goat well-being. Additionally, 64% noted an increase in household savings from livestock. 97% of the buffalo owners quoted an improvement in livestock health. Similarly, 70% highlighted an increase in household savings from livestock.

In summary, the impact of scientific methods on livestock health, improved product quality, and enhanced household savings, affirm the pivotal role of modern approaches in driving positive outcomes across various facets of livestock management.

4.2.4 Impact Observation

The initiative encompassed a comprehensive approach to boosting farmers' income by 133%, achieved through various interventions such as training in improved crop cultivation, establishment of Crop Demonstration farms, development of Community seed banks, creation of Vegetable clusters, exposure visits, and Vermin/Organic farming development. Notably, the adoption of techniques like Zero Tillage wheat demos played a pivotal role. The process involved meticulous steps, beginning with farmer identification and selection, followed by capacity building in intercropping techniques guided by agricultural experts, supplemented by continuous on-field support. A significant milestone was the formation, training, and operationalization of group-based microenterprises (FPOs). Further enhancing livelihoods, a comprehensive 3-day Animal Husbandry training program conducted jointly by KVK and Udyogini at Daulatpura village equipped participants with valuable skills, leading to KVK-issued training certificates enabling farmers to access bank loans for Livestock ventures. This inclusive approach encompassed Goat, sheep, and Cattle rearing, resulting in a substantial income increase from 3500 to 5000 per month.

Figure 20: Level of Impact – ST & LE



4.2.5 Case Study

Empowering Rural Women Through Entrepreneurship: A Case Study of Wrunda Women Farmer Producers Company

The stark reality of the 2017-18 National Statistical Office report revealed Rajasthan's women literacy rate at the lowest in the country and particularly in Dang village, entrenched gender bias exacerbated the situation. To confront this issue the project aimed to enhance women's socio-economic status by actively engaging them in community-driven initiatives. The establishment of Village Development Committees (VDCs) and the selection of women representatives marked pivotal steps. These women underwent rigorous training, encompassing financial literacy and communication skills, aimed at equipping them for leadership roles.

An exceptional achievement emerged as the Wrunda Women Farmer Producers Company (FPC) emerged in the heart of Sapotra. At the forefront was Pushma Devi, alongside other dedicated women, whose pivotal roles led to the establishment of the FPC, with Pushma Devi eventually becoming a Board of Director member. This accomplishment was nothing short of remarkable, challenging societal norms and barriers, while fostering a culture of gender inclusivity.

Transitioning to operational stages, the FPC collaborated with local resources and expertise. Udyogini, in partnership with the FPC's board, meticulously crafted a robust three-year business plan that encompassed diverse aspects, from product manufacturing to forging market linkages and pursuing ambitious growth. With production figures of 12 tons of Buffalo milk ghee, 200 kg of Cow milk ghee, and 60 kg of Goat milk ghee, alongside the procurement and sale of Bajara seed, wheat, and pasu aahar, their revenue surpassed expectations, recording over 4 lakh.

The journey of the Wrunda Women FPC exemplifies the transformative potential of women-centric initiatives in revitalizing rural economies. Their collaborative efforts with HDFC, unwavering commitment to education, and innovative business strategies illuminate the pivotal role of women's economic empowerment in driving societal progress. Beyond diversifying livelihoods, the FPC stands as a resounding testament to breaking down gender barriers, radiating hope as a catalyst for gender parity and holistic rural development.

"Transforming Lives through Agricultural Empowerment: The Inspiring Journey of Kailash Chandra"

In the small village of Chir ki Naroli, a 45-year-old man named Kailash Chandra faced daunting challenges. As the youngest of four brothers and the sole provider for his own family of four, he toiled as a daily laborer in Kaila Devi, a place located 30 kilometers away from his home, earning a modest annual income of approximately 1.5 lakhs. However, a ray of hope emerged when the HDFC intervention entered the scene, heralding a profound transformation in Kailash's life. With his elder brothers residing outside the district, Kailash bore the responsibility of supporting his family. Although they engaged in small-scale wheat and mustard cultivation for personal consumption, it was the advent of the HDFC initiative that altered their fate. HDFC intervention entered the scene, heralding a profound transformation in Kailash's life. With his elder brothers residing outside the district, Kailash bore the responsibility of supporting his family. Although they engaged in small-scale wheat and mustard cultivation for personal consumption, it was the advent of the HDFC initiative that altered their fate.

Kailash enthusiastically enrolled in the program, receiving training in scientific farming methods and discovering the potential of cash crops. Thanks to the concerted efforts of HDFC and the Udyogini Team, irrigation in the region underwent significant improvement. Empowered by newfound knowledge and resources, Kailash fully embraced agriculture. His wheat and mustard production not only met their family's needs but also yielded surplus crops that he successfully sold in the market, benefiting from improved market connections.

Furthermore, the introduction of vegetable clusters enabled him to cultivate a diverse range of vegetables throughout the year, including brinjal, okra, tomatoes, chili peppers, bottle gourd, and more, depending on the season. His income from these endeavors soared, reaching an impressive 4 lakhs annually, even after covering input costs amounting to 1 lakh. Kailash's journey is nothing short of remarkable; his annual income doubled to 3 lakhs, significantly enhancing his family's standard of living. With access to nutritious, homegrown food and the ability to remain with his family in their village, Kailash now relishes a fulfilling life that was once a distant aspiration.

In essence, Kailash Chandra's transformation from a struggling daily laborer to a thriving and empowered farmer underscores the immense impact of targeted interventions and agricultural empowerment. The HDFC initiative not only boosted his income but also elevated his overall quality of life.

4.3 Health and Sanitation

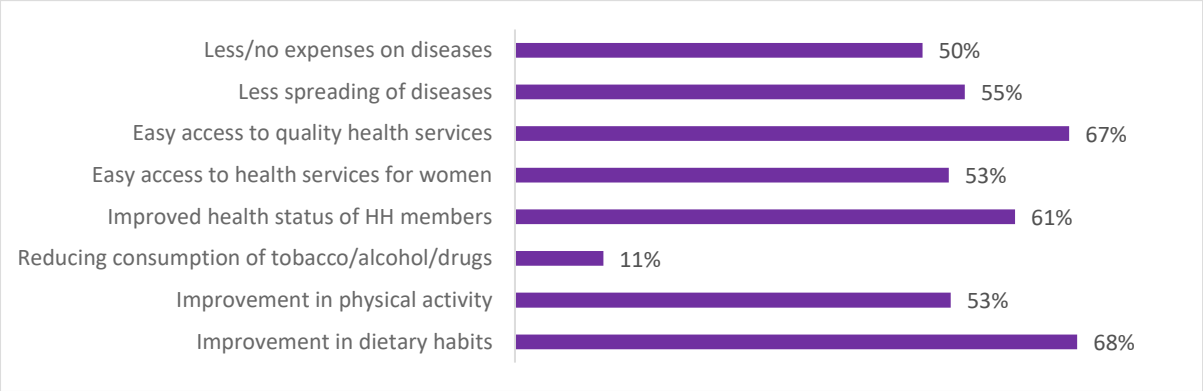
4.3.1 Health Infrastructure and Services

Under the health and sanitation interventions, **10 general health camps were organized throughout the project duration**, featuring **multiple doctors specializing in various medical**

fields attending these camps. These health camp was organized 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, immunization, and timely health check-ups. The community also became aware of diseases such as sugar, dengue, and the causes of skin diseases.

These camps benefited around 850 individuals. Additionally most of the identified critical health cases are now receiving treatment at the district level. This indicates the success of the camp in addressing and providing necessary care for health-related issues in the community..

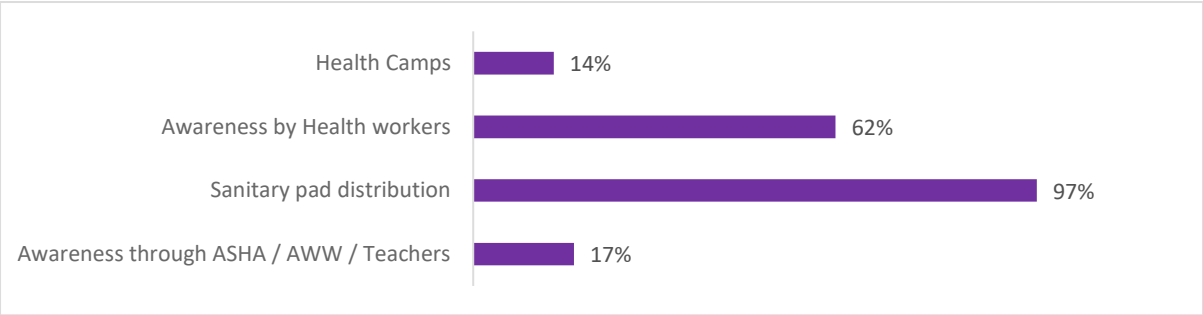
Figure 21: Perceived Benefits of HDFC Bank Supported Health Camps/Clinics (N=410)



The perceived benefits garnered from the HDFC HRDP health camps, as reported by the respondents, encompass a range of positive impacts. Notably, a significant proportion acknowledged improvement in dietary habits (68%) and the subsequent enhancement of the health status of household members (61%), reflecting a noteworthy focus on nutritional well-being. Moreover, the accessibility of quality health services emerged as a pivotal outcome, with easy access for both women (53%) and the community at large (67%). This streamlined access likely contributed to the reduction in disease transmission (55%) and a decrease in associated expenses (50%). While improvements in physical activity (53%) and the reduction of harmful substance consumption (11%) demonstrated positive trends, they indicated areas where the program could potentially deepen its influence. Overall, the HDFC HRDP health camps appear to have achieved considerable success in fostering improved health behaviors, accessibility, and disease mitigation within the community

4.3.2 Sanitation Services availed

Figure 22: Menstrual hygiene awareness campaign (N=29)

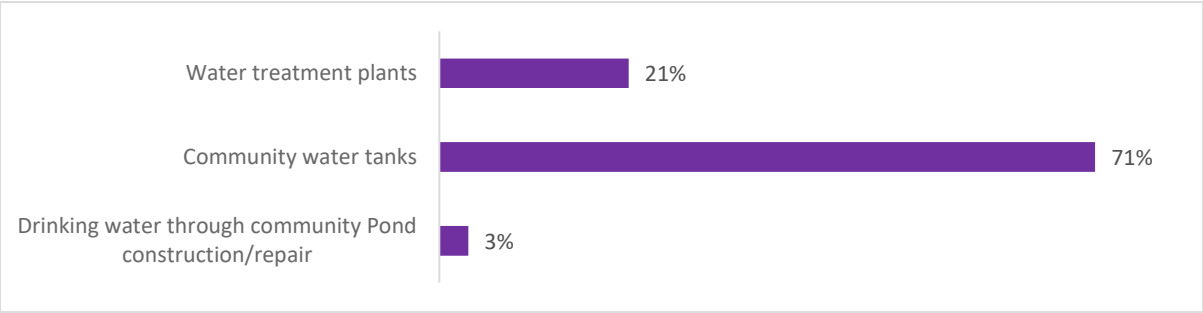


The Menstrual Hygiene awareness initiatives conducted as part of the project demonstrated a comprehensive approach to addressing this vital aspect of women's health. **A substantial 97% of respondents reported availing sanitary pad distribution, underscoring the project's success in ensuring access to essential menstrual hygiene products.** Additionally, health workers played a significant role, with 62% of respondents benefiting from awareness efforts conducted by them. Although the percentage was relatively lower, the **involvement of ASHA, AWW, and teachers (17%) highlighted the collaborative community engagement approach**. Health camps (14%) also contributed to the dissemination of vital information. Collectively, these endeavors showcased a multifaceted strategy, aligning with the project's commitment to raising awareness and promoting improved menstrual hygiene practices among women within the community.

4.3.3 Availability and Management of Drinking Water

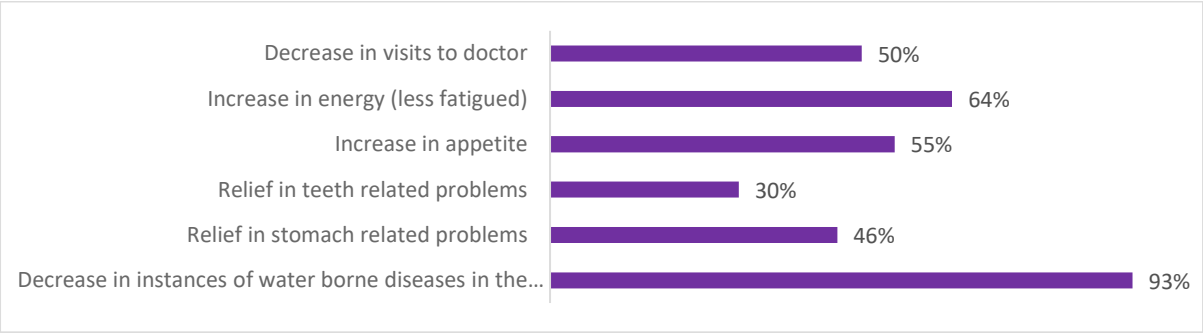
Situated in a hilly and challenging terrain, the rural communities are regularly confronted with a critical issue of scarce clean drinking water. In response, HDFC, as part of the HRDP project, undertook a transformative initiative to ensure access to safe drinking water for households. This involved construction of an innovative solar-powered overhead water tank. The project's impact has been profound, as it not only provided a sustainable solution to water scarcity but also led to a reduction in waterborne diseases. Community involvement fostered a sense of ownership, reflecting a shared responsibility towards the project's success. The installation of solar-enabled community drinking water system in **Daulatpura, Rawatpura, and Marmada villages has benefitted over 300 households**, with assured clean drinking water access. Notably, **200 households previously lacking such access in Nainiyaki Guwadi now benefit from the fourth solar-based drinking water plant,** extending its impact to a nearby school. This holistic initiative has significantly elevated the quality of life for the community, while also serving as a model for other villages grappling with similar water-related challenges.

Figure 23: Drinking water management services availed through HRDP (N=126)



The respondents' feedback regarding the households that have benefited from various drinking water activities supported by HDFC reveals significant trends. A majority of respondents (71%) highlighted the impactful role of community water tanks, underscoring their instrumental contribution in addressing water scarcity challenges. These tanks have evidently emerged as a key solution, ensuring access to clean drinking water for a substantial portion of households. Additionally, 21% of respondents acknowledged the positive impact of water treatment plants, showcasing the project's commitment to ensuring the provision of safe and potable water. While a smaller percentage (3%) cited drinking water through community pond construction/repair, it indicates the project's multi-pronged approach. Collectively, these efforts reflect HDFC's successful endeavors in improving drinking water access and quality, substantially benefiting households within the community.

Figure 24: Perceived health benefits of improved drinking water sources (N=76)



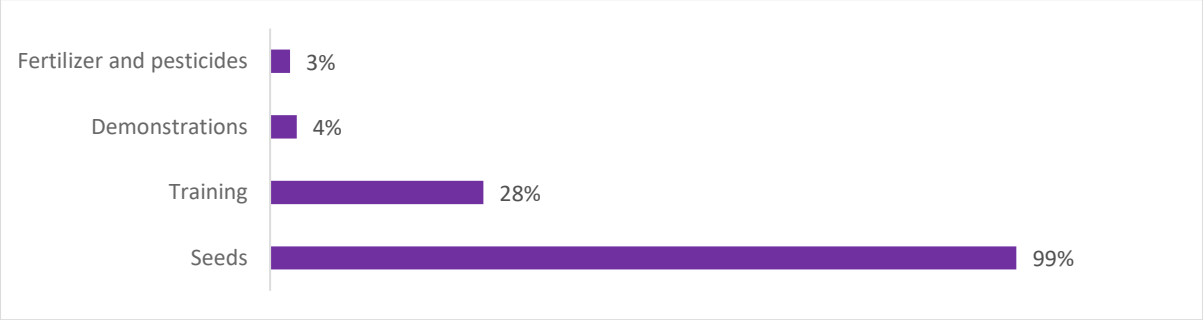
Respondents' feedback concerning the changes in health attributed to different sources/methods of drinking water supported by HDFC bank reveals substantial positive impacts. A notable 93% reported a significant decrease in instances of waterborne diseases within their families, marking a remarkable achievement in mitigating conditions such as diarrhea, cholera, and typhoid. Additionally, a substantial proportion of respondents experienced relief in stomach-related issues (46%) and an increase in appetite (55%), reflecting improved digestive well-being. The adoption of enhanced drinking water sources also translated to tangible health benefits, with 64% noting increased energy levels and reduced fatigue. Importantly, nearly half of the respondents (50%) reported a decrease in doctor visits, showcasing the project's role in alleviating health concerns and subsequently reducing healthcare burden. The overall results underscore the significant

strides made in enhancing community health and well-being through HDFC bank's initiatives in drinking water access and quality improvement.

4.3.4 Kitchen Garden

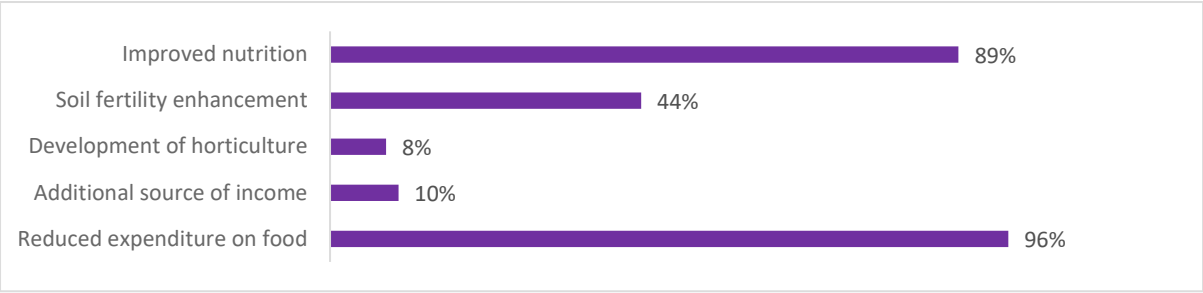
Kitchen gardens have emerged as a transformative solution to address malnutrition issues prevalent among the tribal population dominating this region. HDFC, in collaboration with NGO partners, effectively tackled this challenge **by providing seeds and saplings,** thereby augmenting vegetable availability. The community's proactive involvement, including building protective fences, safeguarded these gardens from animals. The success of this initiative resonates through the improved nutrition of both individuals and the broader community. Notably, vegetables from these gardens were shared among neighbors and even sold, generating vital financial support for families. This shift from purchasing expensive market vegetables to consuming homegrown produce has led to substantial savings. **Kitchen garden training and seed support extended to 313 households enlightening them on the advantages of nutritious intake and promoting dietary diversity.** Seasonal vegetables like spinach, radish, fenugreek, pigeon pea, onion, and coriander were introduced, resulting in enhanced dietary patterns benefiting approx. **1500 family members across 313 households.** This initiative exemplifies how targeted interventions can yield multifaceted positive outcomes, combating malnutrition and fostering self-sufficiency within the community.

Figure 25: Support received from HDFC (N=113)



According to the respondents' feedback, the project support for kitchen gardens has been characterized by diverse elements. Notably, a substantial 99% of respondents acknowledged receiving seeds, signifying the project's emphasis on initiating and sustaining the gardens. While training was provided to 28% of respondents, it emerges as a significant but comparatively less widespread component of the support. Demonstrations, at 4%, played a limited role in educating the community about effective gardening practices. The distribution of fertilizers and pesticides, at 3%, served as a complementary aid for garden maintenance. In essence, the project's approach to kitchen gardens encompassed a comprehensive strategy, ranging from providing essential seeds to equipping the community with knowledge and resources for successful cultivation, highlighting its holistic efforts to promote self-sufficiency and improved nutrition.

Figure 26: : Perceived benefits of HRDP supported Kitchen Garden (N= 113)



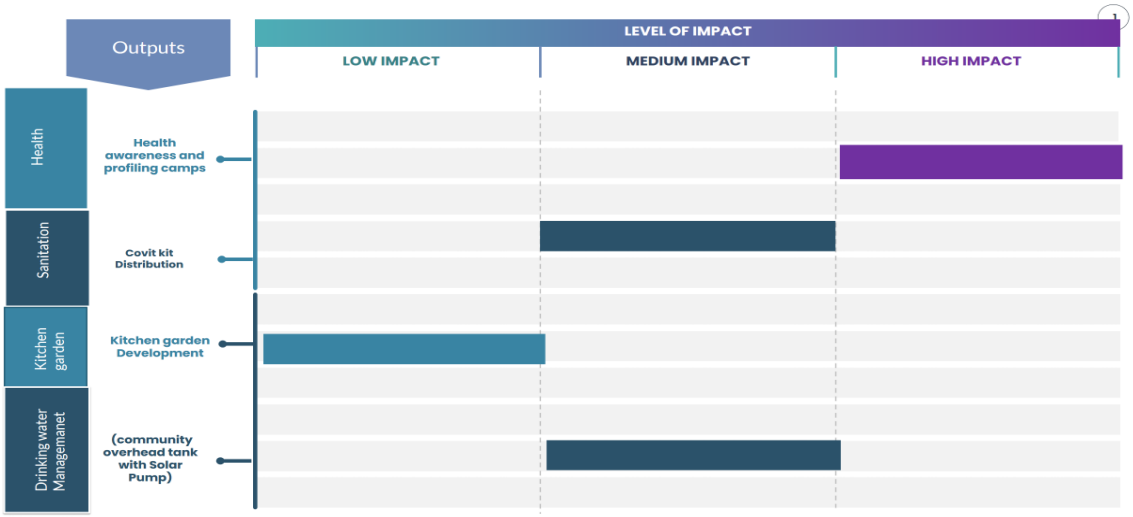
The HRDP-supported kitchen gardens have been perceived to bring a range of benefits to the community. The respondents' feedback on the critical perceived benefits of kitchen/nutrition gardens underscores their profound impact on multiple fronts. 96% of the beneficiaries highlighted the significant reduction in expenditure on food, emphasizing the economic advantage of self-sustained produce. 89% of the respondents recognizing improved nutrition reflecting the gardens' pivotal role in fostering healthier dietary habits. Simultaneously, the enrichment of soil fertility (44%) aligns with the project's overarching sustainability, ensuring the long-term viability of agricultural efforts. While a smaller proportion attributed the kitchen garden to an additional income source (10%) and horticultural development (8%), their presence denotes supplementary gains beyond immediate nutritional and financial benefits. Overall, the respondents' insights illuminate the transformative influence of kitchen/nutrition gardens, intertwining economic relief, enhanced nutrition, and ecological vitality to positively reshape the community's well-being.

4.3.5 Impact Observation

Several impactful initiatives were undertaken within the project framework, aimed at promoting health, hygiene, and COVID-19 awareness across 10 project villages. In the period of April to June 2021, a comprehensive COVID-19 awareness campaign was executed, effectively reaching out to the local communities. This effort not only disseminated crucial information about the virus but also provided health and hygiene kits to 600 vulnerable households and front-line workers, reinforcing preventative measures during a critical time, However, qualitative data collection suggests that while the distribution had occurred, substantial improvements in health outcomes were not distinctly evident in this thematic area. Collectively, these interventions sought to

improve health, and nutrition in a backward tribal area with minimal resources and awareness, aiming to uplift the community's overall well-being and quality of life

Figure 27: Level of Impact - H&S



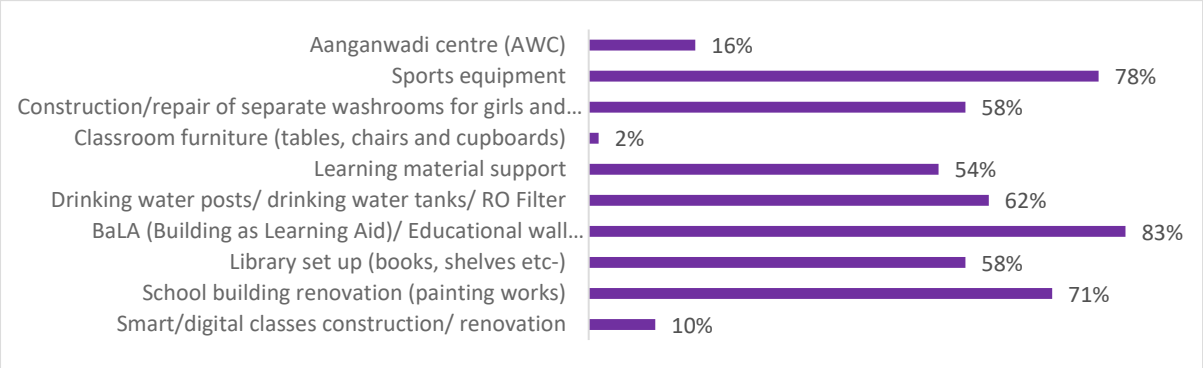
4.4 Promotion of Education

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 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. Setting up of libraries has provided students with access to a wide range of books and resources, promoting a reading culture among them. 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 and strong participation. These activities have a significant impact on the quality of

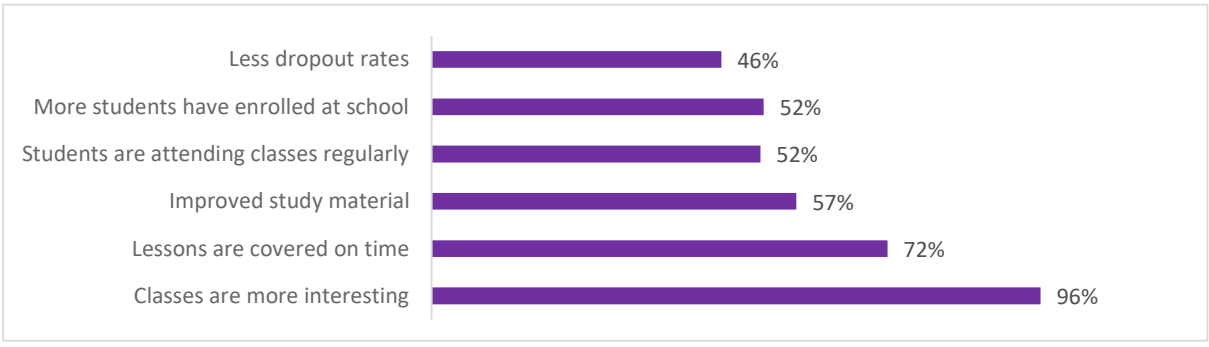
education provided to students, enhancing their learning experience, promoting their well-being, and improving their academic performance.

Figure 28: Infrastructural support provided by the Project (N=195)



The respondents' feedback highlights a comprehensive range of support provided by HDFC to uplift the educational landscape. 10% of the beneficiaries mentioned about smart/digital classes showcasing a technological stride in pedagogy. 71% quoted school building renovation, painting works as the project support. 58% quoted setting up of a library in their children's school as a project initiative. BaLA initiatives, involving educational wall paintings/messages, was mentioned by 83% of respondents, leveraging the physical space as a learning aid. Drinking water posts/tanks/RO filters (62%) addressed a fundamental need, fostering a hygienic educational setting. Learning material support (54%) contributed to holistic learning experiences, complementing classroom efforts. Notably, classroom furniture provision (2%) emerged as an area warranting more attention. The construction/repair of separate washrooms for girls and boys (58%) aligns with gender-sensitive infrastructure. Sports equipment provisioning (78%) encouraged physical well-being. Lastly, 16% of respondents acknowledged the Aanganwadi centre's positive impact, signifying holistic child development. This diverse array of support reflects HDFC's multifaceted approach to elevating educational quality, accessibility, and overall learning experiences

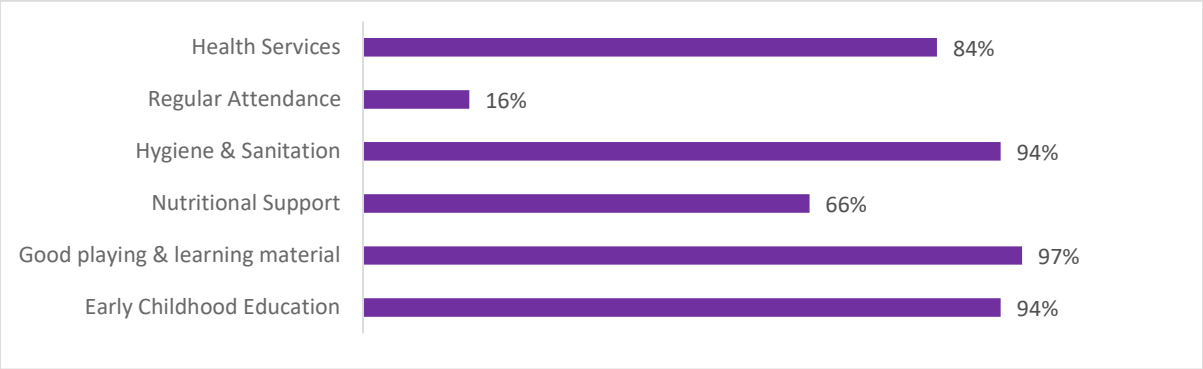
Figure 29: Perceived benefits from improvements in school activities (N=195)



The beneficiaries underscored various perceived advantages associated with thematic education. A considerable majority (96%) found this approach rendered classes more captivating, signifying increased involvement from the students. Furthermore, a significant segment (72%) expressed contentment regarding the timely coverage of lessons, implying adept time management. The identification of enhanced study materials was noted by 57%, potentially amplifying learning resources. Noteworthy was the observation that the thematic method appeared to cultivate

consistent class attendance (52%), potentially fostering a favorable learning atmosphere and academic advancement. Likewise, the favorable influence on enrollment rates (52%) pointed to an augmented interest in education. The possible curbing of dropout rates (46%) also intimated enhanced student retention. All in all, the thematic approach garnered acknowledgment for its capacity to positively impact engagement and effectiveness within the educational milieu.

Figure 30:Perceived Benefits received from Anganwadi (N=32)



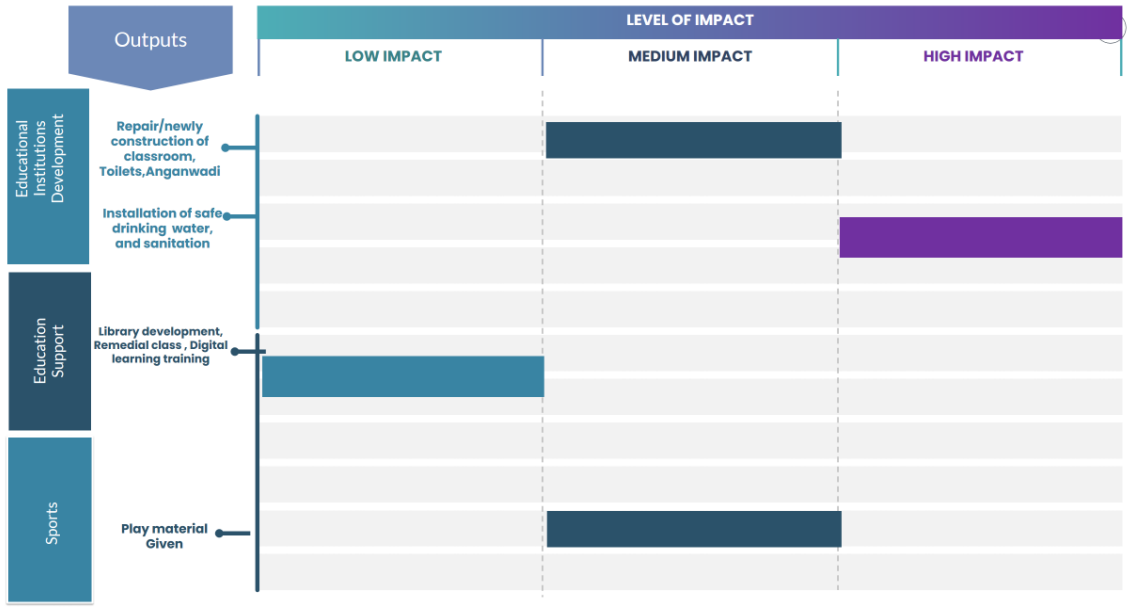
The implemented measures within the Anganwadi centres have yielded favorable outcomes. The provision of vital equipment like BP Meters, Height meters, Weighing scales, and Daris, alongside the refurbishment of two centres to incorporate facilities such as hygienic toilets, safe drinking water, furniture, mats, toys, utensils, TLM (Teaching and Learning Material), wall adornments, and basic health tools, has generated an enhanced enthusiasm among the young attendees. Moreover, the inclusion of amenities like sanitary napkins and awareness sessions has drawn the participation of adolescent girls. The efficacy of these interventions is demonstrated by the active involvement of approximately **760 children and 100 expectant women, all beneficiaries of the Anganwadi services.** Remarkably, the respondents reflect a sense of contentment, with a significant majority acknowledging positive impact on key aspects such as early childhood education (94%), quality of playing & learning materials (97%), hygiene & sanitation (94%) and provision of Health Services (84%). However, there exists potential for improving nutritional support (66%). Collectively, these endeavors have substantially revitalized the Anganwadi centres, fostering an environment conducive to comprehensive advancement and well-being among the recipients.

School Management Committee: The School Management Committees (SMCs) are present within the schools, yet they remain ineffective, with reports indicating a lack of active engagement and minimal involvement from the partnering NGO during the qualification phase. In one instance, a school was excluded from consultations regarding the implementation of the Smart class system. Both SMCs and Village Development Committees (VDCs) display unwillingness to contribute their required share to introduce the proposed project into the school environment. This communication gap has resulted in the non-participation of the mentioned school in the Smart class programme

4.4.2 Impact Observation

The HDFC Programme's efforts to enhance educational development have been multifaceted and impactful, encompassing various initiatives in collaboration with project partners. Six schools underwent renovation and upgraded, resulting in improved infrastructure and benefiting approximately 800 students. Educational material support was extended to ten schools, benefitting around 1365 students, fostering engaging and effective learning experiences. Similarly, sports materials were supplied to ten schools, elevating extracurricular engagement for 1365 students. The construction and repair of sanitation units in 10 schools significantly improved hygiene conditions, benefiting 780 students. Although smart class were installed in three government schools, qualitative analysis revealed that the installation process wasn't effectively executed in two schools, leading to missed benefits. This comprehensive approach to educational enhancement through infrastructure upgrades, materials, and sanitation facilities underscores the project's commitment to fostering a conducive and holistic learning environment

Figure 31: Level of Impact - PoE



4.4.3 Case Study

"Anjana's Educational Odyssey: A Tale of Transformation and Return"

Anjana Vairua's educational voyage commenced in an English medium school, where she successfully completed her preschool education with unwavering dedication. Eager to expand her horizons, she ventured into the Government Upper Primary School at Chiri ki Narouli for her primary education, demonstrating a remarkable aptitude for learning. However, the trajectory of her academic journey took an unexpected turn as the school's infrastructure deteriorated, student enrollment dwindled, and incessant rainwater seeped into the classrooms, causing unprecedented disruptions. The rainy season, in particular, brought with it extended school closures, impeding the continuity of education. Adding to the challenges, the absence of separate sanitation facilities for boys and girls compounded the hardships faced by students, including young Anjana.

Recognizing the urgent need for change and an environment conducive to learning, Anjana displayed remarkable resilience and courage by transferring to Kasturba Gandhi Vidyalaya, where she continued her quest for knowledge. Meanwhile, the timely intervention of HDFC, in collaboration with Udyogini, breathed new life into her former school. This transformative initiative brought about significant improvements, including the renovation of classrooms, the construction of separate restroom facilities for boys and girls, the establishment of a well-equipped library, and the provision of sports materials. Furthermore, the installation of a safe drinking water post addressed a fundamental necessity for the school community. These comprehensive interventions not only revitalized the educational experience, making it more engaging but also sparked a resurgence of interest in education, leading to a remarkable increase in student enrollment and attendance.

Inspired by the tangible positive changes observed in her old school, Anjana, alongside her parents, made the heartfelt decision to return, reuniting with her old friends and rekindling her educational journey. This heartwarming "student's school Wapsi" not only symbolized Anjana's educational renaissance but also left an indelible mark on the entire community. Anjana's inspiring story serves as a compelling testament to the profound impact of strategic intervention and community-driven change in revitalizing educational institutions, reigniting the flame of learning, and illuminating the path toward brighter futures for the region's youth.

4.5 Holistic Rural Development Index (HRDI)

There are multiple dimensions involved in achieving the goals of HRDP that includes agricultural production, generating new jobs, improved health, increased communication facilities and provision of better 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 B).

The HRDI calculation for project P0288 implemented in Karauli has been given in the following table.

Table 6: HRDI Calculation for P0288

Domain	NRM		Skill		H&S		ED		Total	
HRDI Score	Baseline	Endline	Baseline	Endline	Baseline	Endline	Baseline	Endline	Baseline	Endline
	0.09	**0.17**	**0.05**	**0.21**	**0.08**	**0.19**	**0.09**	**0.25**	**0.31**	**0.82**
% Change	89%		320%		137%		177%		164%	

A noteworthy impact seen in the "Sustainable Technologies & Livelihood Enhancement (ST&LE)" category, with an outstanding 320% increase over the baseline. Moreover, there have been significant increases over the baseline in Health & Sanitation, Promotion of Education (PoE) and Natural Resource Management (NRM) categories, reaching 137%, 177%, and 89% respectively

5 Analysis of Assessment Criteria

As outlined earlier for each thematic area, activities completed by the Udyogini 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

Karauli district, in the state of Rajasthan, exhibits a distinctive rural-urban demographic composition, with 85.0 percent of its populace residing in rural areas and 15.0 percent in urban centers. However, concerning gender ratios, the district grapples with a concerning sex ratio of 861, significantly lower than the state's 928. On the educational front, Karauli district boasts a literacy rate of 66.2 percent. The district's economic landscape is deeply rooted in agriculture, encompassing 71.6 percent of the workforce, comprising cultivators and agricultural laborers, surpassing the state's average of 62.1 percent in this category. The district's Work Participation Rate (WPR) stands at 43.1 percent, with a gender disparity of 9.2 percent points

A strategic initiative has been undertaken to bolster the economic resilience of the rural tribal community, aiming to mitigate poverty and vulnerabilities by providing comprehensive business, ecological, and social services to foster economic and social empowerment. 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.

HDFC and Udyogini undertook initiatives across ten villages in Sapotra tehsil of the district. Among these villages, seven are nestled within the Aravali forest, while the remaining three at the fringes. These villages confront stark infrastructural deficiencies encompassing fundamental necessities such as roads, electricity, and potable water sources. The community grapples with formidable barriers to accessing gainful employment opportunities and access to core amenities including quality education and healthcare services. Through this project, a concerted effort is underway to bring about positive changes by fortifying economic resilience.

5.2 Sustainability

The "Holistic Rural Development Project (HRDP)" aimed to bolster the economic resilience of a rural community by addressing poverty and vulnerabilities. It encompassed business, ecological, and social services to empower economically and socially. The initiative targeted the Sapotra block in Rajasthan's Karauli district, focusing on uplifting the lives of underprivileged families facing challenges in health, education, rights awareness, and accessing social services. In addition, challenges such as alcoholism, inadequate water infrastructure, sanitation issues and out-migration are hindrances in the region’s development. The area's remote, hilly geography further

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

compounds the difficulties. The HRDP was successfully implemented in ten villages. To ensure the solar lift irrigation water system's sustainability, water user groups were formed in four villages, managing and maintaining the system as needed. Maintenance costs were shared collectively. For the enduring success of the solar-based community drinking water system, Udyogini established Women-led Water Management Committees (WWMC) in each village. These committees, comprising ten women each, supervised water systems and updated the Village Development Committee (VDC). Some solar-based water systems are functional, while others face issues due to inactive VDCs. Concerning the Wrunda Women Farmer Producer Company Limited, Udyogini engaged over 300 farmers through a shareholder campaign, forming the WWFPC. A Board oversaw operations, with training provided for efficient business management. Collection centers were established for collective marketing, and the organization introduced its ghee brand, achieving substantial sales. Profits will be distributed based on audits. Wrunda expanded into wheat and cattle food purchases to empower women-led enterprises, with plans to use generated profits for further expansion(see Annexure E).

6 Recommendations

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

6.1 Natural Resource Management

- Replicate the pond restructuring model in other regions facing similar challenges, especially those characterized by water scarcity and monocrop farming. Expand the project to reach more communities and households.
- Provide comprehensive training and capacity-building programs to educate farmers on modern agricultural practices, crop diversification, and efficient water management techniques.
- Strengthen market linkages and support farmers in marketing their diversified agricultural products, including vegetables. This will ensure that increased yields translate into higher incomes for the farmers.
- Promote financial inclusion by facilitating access to credit and insurance services for farmers. This can help them manage risks and invest in their agricultural activities.
- Focus on the empowerment of women in agriculture by providing them with equal access to resources, training, and decision-making roles. Engage women in vegetable farming and other income-generating activities.

6.2 Skill Training and Livelihood Enhancement

- Offer a diverse range of skill training programs that align with the local job market's demands. Consider sectors such as agriculture, animal husbandry, handicrafts, and small-scale entrepreneurship to provide participants with various options.
- Introduce digital literacy training to familiarize participants with basic computer skills and online tools, which can enhance their employability and access to online markets.
- Collaborate with government agencies and local authorities to ensure that participants can access government schemes and subsidies that can further enhance their livelihoods.
- Support the formation of community-based organizations or self-help groups to foster collective learning, resource-sharing, and mutual support among participants.
- Offer post-training support and follow-up to address challenges and provide guidance as participants transition into their chosen livelihoods.

6.3 Health and Sanitation

- More community-based health awareness campaigns to educate residents about essential health practices, nutrition, hygiene, disease prevention, and the importance of regular health check-ups,
- Organize periodic mobile health clinics to provide basic healthcare services, health check-ups, vaccinations, and health consultations to remote and underserved areas within the district.
- Collaborate with local authorities to improve access to clean and safe drinking water sources. Ensure the availability of potable water within households and communities.
- Integrate health and hygiene education into school curricula. Conduct regular health check-ups for students and provide basic healthcare services in schools.

6.4 Promotion of Education

- Launch community-based literacy programs, including adult literacy classes, to empower adults with basic reading, writing, and numeracy skills, enabling them to actively engage in their children's education.
- Provide ongoing training and professional development opportunities for teachers to enhance their teaching skills and keep them updated with modern smart class methods.
- Foster active involvement of parents and the community in children's education through parent-teacher associations by strengthening SMC, community meetings, and awareness campaigns. Engaged parents are more likely to support their children's learning.
- Integrate technology into the education system by providing schools with computers, tablets, and internet access. This can facilitate e-learning and access to digital educational resources.

The study focuses on assessing the impact of the Holistic Rural Development Programme (HRDP) by HDFC Bank, executed through Udyogini in Rajastan's Karauli district. It focuses on the program's process, milestones, impact, and challenges. Natural resource management (NRM), skill training and livelihood enhancement (ST&LE), health and sanitation (H&S), and education promotion (PoE) are the primary intervention areas. The assessment framework incorporates DAC criteria such as relevance, effectiveness, and sustainability. With a sample size of 422 beneficiaries, a comprehensive approach involving stakeholders and qualitative and quantitative data collection was used. The findings show that there are positive effects on income, water management, and energy. Skill development increased output and income, particularly for female entrepreneurs. Health services were well-received, sanitation awareness increased, and educational interventions improved student engagement and attendance.

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 ten 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 – Udyogini. 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

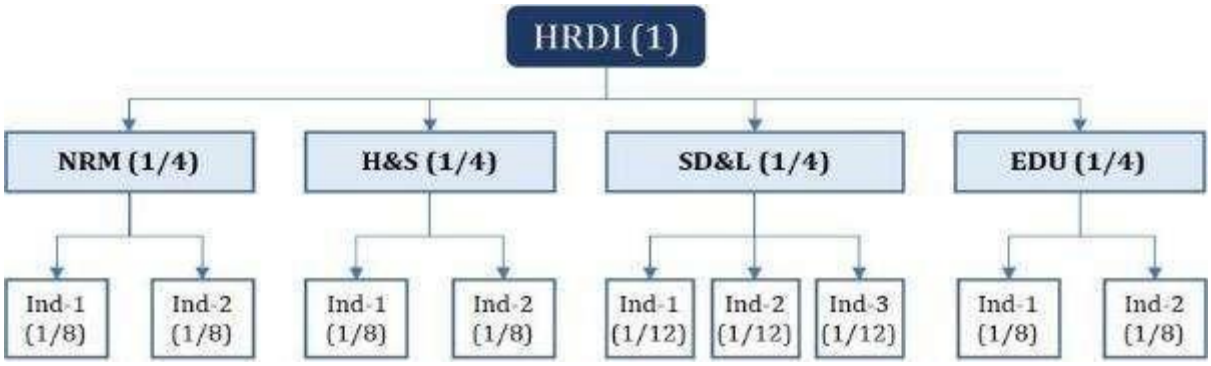
The outcome indicators included in the HRDI were obtained from different domains and are consequently measured on different scales. Therefore, to ensure the comparability of these indicators, all the indicators were converted into discrete variables such that the indicators could be measured between 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 32: 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) = 0.125
	Percentage of HH reporting income above median from livestock	(1/4) x (1/2) = 0.125
H&S	Percentage of households reporting increase in use of fruits/vegetables from the nutrition garden	(1/4) x (1/3) = 0.083
	Percentage of households reporting increase availability of drinking water facility	(1/4) x (1/3) = 0.083
	Percentage of households with access to improved toilet facility	(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.

The calculation for Karauli has been detailed below (see **Error! Reference source not found.**9).

Table 8: HRDI Calculation for Karauli

Domain	Indicators	Baseline	HRDI	End line	HRDI	% Change
NRM	Proportion of farmers with net income above median	0.16	0.09	0.27	0.17	89%
	Proportion of farmers reporting increased productivity of three main crops above median (before and after)	0.08		0.21		

Domain	Indicators	Baseline	HRDI	End line	HRDI	% Change
	Percentage of farmers reporting access to irrigation	0.11		0.18		
ST&LE	Percentage of households who are getting skill training & reporting increase in income from job/enterprise/self-employment	0	0.05	0.50	0.21	320%
	Percentage of HH reporting income above median from livestock	0.18		0.34		
H&S	Percentage of households reporting increase availability of drinking water facility	0.05	0.08	0.29	0.19	137%
	Percentage of households with access to improved toilet facility	0.08		0.12		
	Percentage of households reporting increase in use of fruits/vegetables from the nutrition garden	0.18		0.33		
PoE	Percentage of respondents reporting increased access to functional school physical infrastructure (drinking water posts, separate washrooms, furniture etc.)	0.26	0.09	0.50	0.25	177%
	Percentage of respondents reporting increased access to functional learning infrastructure (library, science labs, smart class, etc.)	0.09		0.48		
Total			**0.30**		**0.81**	**164%**

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)	44%	25%	Low
	Change in Proportion of households who have irrigated land	7%		
	Change in Average Irrigated land in Acre	24%		
Access to the farm management infrastructure	Proportion of beneficiaries satisfied with the quality of available services (in farm management)	86%	88%	High
	Proportion of farmers who use both, chemical and natural fertilizers	91%		
	The proportion of farmers reporting a decrease in the use of chemical fertilizers	87%		
Increased adoption of crop diversification	Proportion of farmers diversifying their crops to kapas (cotton) with project support.	69%	82%	High
	Proportion of farmers who report income increase due to crop diversification (base = farmers who adopted crop diversification)	95%		
Land under irrigation	Increased area under irrigation	20%	17.72%	Low
	NA (4). (b). The proportion of farmers who received support for irrigation	15%		
Increased use of clean energy solutions				
.Adoption of clean energy infrastructure	Proportion of HHs using clean energy infrastructure (Base=all)	79%	79%	High
	Proportion of households fully satisfied from using clean energy infrastructure (Base=clean energy beneficiaries)			
Improved access to agricultural training and services				
Access to Agriculture training and services	Proportion of farmers who reported project training services are useful	86%	65%	Medium
	Proportion of farmers who demonstrate awareness regarding sustainable farming practices	43%		
Adoption of improved farming practices	Proportion of farmers who continue to practise conservation agricultural practices	57%	86%	High

	Proportion of beneficiaries reporting an increase in productivity due to better farm management	100%		
	Proportion of farmers reporting increased income	100%		
Enhanced capacity for regular income generation				
Enhanced employable skill development	Percentage of women who accessed skill development training			
	Percentage of women who report improved income through skill development			
	Proportionate increase in average income from enterprise			
	Percentage of women who report increased savings through skill development			
Improved capacity to generate income through livestock management				
Adoption of scientific management of livestock	Proportion of beneficiaries who received support in livestock management services	26%	51%	Medium
	Proportion of beneficiaries reporting an increase in income from livestock management (goats)	32%		
	Proportion of beneficiaries reporting improved livestock health	96%		
	Proportionate increase in average income from livestock	49%		
Improved health infrastructure and services				
Establishment/ enhancement of health infrastructure and services	Proportion of beneficiaries who gained access to health services	97%	89%	High
	Proportion of beneficiaries reporting lifestyle changes due to improved access			
	Proportion of beneficiaries who availed free medications at camps	98%		
	Proportion of beneficiaries who consulted medical references from camps	72%		
Improved sanitation infrastructure and services				
Establishment/ enhancement of sanitation infrastructure.	Proportion of beneficiaries who gained access to sanitation services	98%	56%	Medium
	Proportion of HHs with access to Household/community sanitation units (toilets/bathing enclosures)	1%		
	Proportion of beneficiaries reporting safety of women due to improved access	68%		
H.D Improved awareness and health-seeking behaviour				
Awareness regarding health	Improved awareness regarding cleanliness and sanitation practices			

and sanitation practices	(Using toilets instead of open defecation)			
	Improved awareness regarding waste management			
Adoption of positive health and sanitation practices	Increase in no. of HHs adopting proper solid waste management practices			
	Increase in no of HHs adopting proper liquid waste management practices			
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	60%	60%	Medium
	The proportion of households reporting improved well-being due to the availability of clean drinking water.			
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	0	50%	High
	Proportion of schools who gained access to clean and functioning sanitation units/drinking water posts at education institutions	100%		
Improvements in quality of teaching	Proportion of teachers regularly utilizing smart classrooms/libraries/science lab (Regularly= Everyday+ Most days)	83%	89%	High
	Proportion of students who regularly use smart classrooms/science labs/ libraries for lessons ((Regularly= Everyday+ Most days)	95%		
Improved willingness to engage in school activities	Teachers reporting improvements in attendance due to improved infrastructure	100%	82%	High
	Proportion of teachers reporting an increase in enrolment post infrastructure development	76%		
	Proportion of institutions reporting a decrease in dropout rates	71%		

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 bajra above baseline median-is shown below.

Table 10: Z - Test conducted for P0288

Indicator	Proportion of farmers with average productivity of bajra above baseline median

p1 (proportion of first sample-endline)	82
n1 (sample size of p1)	228
p2 (proportion of second sample-baseline)	49
n2 (sample size of p2)	228
p	0.288546256
Calculation	0.0425288
z statistic	7.759447776
	Statistically significant as it is less than our alpha value (0.05)
p-value for the z statistic	0.00001

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	✓		✓	
ST&LE				
Agriculture Training and Support	✓		✓	
Entrepreneurship Development	✓	✓	✓	✓
Livestock Management	✓	✓	✓	
H&S				
Health		✓	✓	
Sanitation	✓	✓		
PoE				
Educational Institutions Development	✓		✓	