

Impact Assessment Study under Holistic Rural Development Program (HRDP)

Jharkhand- P0245



Prepared For:



HDFC Bank CSR

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Table of Contents

List of Tables.....	iii
List of Images	iv
List of Figures.....	v
Executive Summary.....	1
1. Introduction.....	6
1.1 About HRDP.....	6
1.2 Objectives of Impact Assessment	6
1.3 Conceptual Framework Adopted.....	7
1.4 About the Project area.....	7
1.5 About the Implementing Partner	9
2 Research Design and Methodology.....	10
2.1 Criteria for Assessment	10
2.2 Primary and Secondary Data Sources	11
2.3 Sample Size and Distribution	11
2.4 Training of Enumerators.....	13
3 Review of Project Planning and Implementation	14
3.1 Selection of Project Area	14
3.2 Selection of Thematic Areas and Interventions.....	15
3.3 Project Implementation.....	16
3.4 Monitoring and Evaluation.....	17
4 Study Findings	19
4.1 Natural Resource Management.....	20
4.2 Skill Training and Livelihood Enhancement.....	28
4.3 Health and Sanitation	38
4.4 Promotion of Education.....	44
4.5 Holistic Rural Development Index	49
5 Analysis of Assessment Criteria	51
5.1 Relevance and Convergence	51
5.2 Sustainability	51

6	Recommendations	53
6.1	Recommendations	54
	Annexures.....	56
A.	Detailed list of activities	56
B.	Sampling Methodology	57
C.	Sustainability Thematic wise Matrix.....	59
D.	HRDI Methodology	60
E.	Overview of Impact Methodology	63

List of Tables

Table 1: Quantitative Sample Covered	Error! Bookmark not defined.
Table 2: Summary of Key Outcome Indicators.....	3
Table 3: HRDI Score.....	5
Table 4: Quantitative Sample Covered	12
Table 5: Qualitative Sample Covered	12
Table 6: Activities under Four Thematic Areas.....	15
Table 7: Activities under NRM in Jharkhand.....	20
Table 8: Percentage change in productivity of major crops	24
Table 9: Activities under skill training and livelihood enhancement in Jharkhand.....	28
Table 10: Activities under health and sanitation in Jharkhand.....	38
Table 11: Activities under education in Jharkhand.....	44
Table 12: List of activities carried out in the project.....	56
Table 13: Sustainability Index.....	59
Table 14: Indicator weights	60
Table 15: HRDI Indicators.....	62
Table 16: Impact methodology	63

List of Images

Image 1: Jharkhand state map.....	8
Image 2: Topographical map of Khunti, Jharkhand.....	8
Image 3: Training of field team held in Jharkhand	13
Image 4: HDFC Bank’s HRDP program board at Nehaldih village.....	16
Image 5: Lift irrigation system.....	21
Image 6: A solar street light by HDFC	27
Image 7: An azola pit.....	29
Image 8: FPO board supported by HDFC	32
Image 9: Lac bangles made by women enterprise.....	33
Image 10: Well repair	41
Image 11: Village children at an AWC supported by HDFC.....	45

List of Figures

Figure 1: Conceptual framework of implementation	7
Figure 2: Gender ratio in the respondents.....	12
Figure 3: Age category in the respondents	12
Figure 4: Planning and Implementation Process.....	14
Figure 5: Income distribution in the respondents	19
Figure 6: Educational qualification of the respondents	19
Figure 7: Caste distribution of the respondents	20
Figure 8: Income category of the respondents.....	20
Figure 9: Major activities supported under HRDP and currently adopted by farmers (n=389).....	21
Figure 10: Increase in agricultural income (Based on median in INR) (n=380).....	22
Figure 11: Factors contributing to increase in farm income (n=380).....	23
Figure 12: Widely adopted project interventions that increased profit from agriculture (n=357)....	23
Figure 13: Types of crops grown by crop diversification beneficiaries before and after HRDP intervention (n=389)	24
Figure 14: HRDP Interventions that led to increase in agriculture production (Crop wise)(n=389)	25
Figure 15: Satisfaction level of Farmers on Vermi Compost Intervention	26
Figure 16: Perceived benefits of solar street lights (n=404)	26
Figure 17: Operational status of solar street lights after HRDP intervention (n=321).....	26
Figure 18: An overview of project effectiveness and impact in NRM.....	28
Figure 19: Major agricultural training & supported services availed by the respondents (n=394)...	29
Figure 20: Agriculture practices before the program, learned through HDFC trainings and currently practiced by the farmers (n=394)	30
Figure 21: Perceived benefits of learning agricultural practices (n=393).....	30
Figure 22: Perceived improvements in farming due to adoption of agricultural practices (n=394) .	31
Figure 23: Support received from HDFC in formation of FIGs and FPO (n=107)	31
Figure 24: Perceived benefits of farmer’s group (n=4)	32
Figure 25: Perceived benefits of skill development training (n=10)	33
Figure 26: Livestock management services availed through HRDP (243).....	34
Figure 27: Benefits of livestock management services availed through HRDP (n=243).....	35
Figure 28: Change in median monthly income (INR) due to improved livestock rearing (n=243)	36
Figure 29: Project effectiveness, impact in skill training and livelihood enhancement.....	37
Figure 30: Interventions in health service availed by beneficiaries	38
Figure 31: Services availed at HDFC supported camps/clinics.....	39
Figure 32: Perceived benefits of HDFC bank supported health camps/clinics.....	39
Figure 33: Percentage of households who benefitted from different interventions under Sanitation	40
Figure 34: Change in ODF practice before and after the intervention	40
Figure 35: Drinking water management services availed through HRDP	41

Figure 36: Use of kitchen garden produce by households	42
Figure 37: Use of kitchen garden produce by households	43
Figure 38: Project effectiveness, impact in Health and sanitation.....	44
Figure 39: Households reporting various interventions in their child’s school (n=123).....	45
Figure 40: Households reporting different benefits of library establishment (n=60).....	46
Figure 41: Major infrastructural services available/ functional before and after project inception (n=123).....	46
Figure 42: Support from HDFC intervention for SMC strengthening (n=28).....	47
Figure 43: Perceived benefits of strengthening SMCs (n=28)	47
Figure 44: Project effectiveness, impact in Promotion of Education.....	49

Executive Summary

The HDFC Bank has supported the Network for Enterprise Enhancement and Development (NEEDS) for implementing HRDP in Khunti district of Jharkhand. The project covered 16 villages in Khunti district. NRM conducted the third-party impact assessment of this project. 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 of 10 villages covering 424 households for the quantitative analysis and 16 In Depth Interviews (IDI) and Focused Group Discussions (FGDs) for qualitative analysis. The sample was selected using step wise random sampling with PPS method.

The key details of focus area-wise effectiveness and impact are presented below.

Natural Resource Management (NRM)

Increasing agriculture productivity and farmers' income was one of the major objectives of the program as farmers had a relatively marginal size of land, with limited access to modern agricultural engineering and technology, and unassured irrigation measures. Thus, as a result of the support in seeds and farm inputs, there has been a **73% increase in the net median income of farmers. 64% of the beneficiaries accredited the increase mainly to the program's support in irrigation, 61% to organic farming, 40% to improved farming techniques and 32% accredited it to program's support in seeds and agricultural tools.** However, favourable weather (70%), and market prices (66%) also played an important role in influencing income. Respondents have reported an increase in the median productivity of the major crops grown in the area, which are paddy, urad, potato, and seasonal vegetables. The average productivity of the three crops increased from 200kg/acre to 300 kg/acre, a 50% rise from a pre project scenario. Project interventions such as adoption of SRI & mulching as farming practices, vermi compost production and irrigation measures have played a substantial role in increasing crop productivity. Further, there has been a 10% increase in the proportion of households having irrigated land.

The solar street lights installed as part of the clean energy drive of the program villages have benefited the community and **95%** of the beneficiaries reported the solar street lights being functional and being used even after the end of the project.

Skill Development & Livelihood Enhancement

In order to tackle the problem of low crop productivity and limited returns, the program trained the farmers on improved and sustainable packages of farming practices and formed farmer collectives such as Farmer Interest Groups (FIGs) and Farmer Produce Organization (FPO). Through the HDFC

intervention, 73% of households have reported that they learned about the application of organic manure, 60% of the beneficiaries learned about timely application of fertilizers and insecticides, 60% about construction of vermi compost pits and 51% about conservation agriculture practices. 93% of the total households reported that they have availed services of agricultural training by HDFC of which 80% received training on farm techniques, 67% on nature farming, 38% received training on SRI cultivation, 19% on demo plots, 12% on PoP training and 3% have taken exposure visits. The perceived benefits of these interventions have been that they improved productivity as reported by 77% of attendees. After adopting these techniques, 90% of farmers reported an increase in income. The median income increase after adopting these practices has been INR 75,000 per household per annum. 4% of the respondents benefitted from skill training and entrepreneurship development. Those reported being part of entrepreneurship development have supported in training of sanitary pad making, tailoring and setting up of Lac bangle making unit with joint ownership.

Promotion of Education

A combination of activities targeted towards improving enrollment, attendance, and learning outcomes were undertaken in the program area. The program interventions largely focused on equipping schools with infrastructure facilities. 37% of the respondents have reported that their children benefitted from the interventions in school however qualitative understanding revealed that intervention in education have impacted the students and teachers. Of this percentage, **87% were benefitted by overall building renovation, 35% were benefitted by BaLA paintings, 70% by construction or repair of separate washrooms for girls and boys, 83% by classroom furniture, 78% by drinking water interventions in school, 87% by sports equipment distribution and 70% through library set up.** 13% of all students interviewed received learning material support by HDFC and only 17% have been benefitted by smart class in their school. **25% of all teachers interviewed stated they use smart class every day and another 25% on most days** (smart class was provided in 2 schools only). While 50% of teachers said that they did have science lab in their school before the HDFC Bank project intervention but 75% teachers stated they were not in use due to absence of equipments. **87% of all teachers interviewed stated that they are using library in their school occasionally with 13% stating that they are using it every day.** Even though there have been significant interventions in infrastructure development, teacher training can be emphasized further. 78% of SMCs supported during the project are currently functional in schools.

Health & Sanitation

The challenges faced by the community in terms of accessing safe drinking water, household toilets, awareness regarding health and hygiene management and waste water management were recognized by the program. The program had a component to create health awareness among the people, and 30% of the respondents have availed some form of health services as part of the HDFC project interventions. Of this, 91.6% have attended hygiene related awareness campaigns and 70.6% have availed of health services in the form of health sessions, and 11% were provided support of health clinics. 68% of respondents surveyed stated improvement in dietary habits as the prime benefit from the health sessions, 74% quoted improvement in physical activity as one of the benefits,

24% reported reduction in tobacco/alcohol/drugs consumption due to heightened awareness, 65% stated improvement in the health status of household members and 71% reported easy access to health services to women in the community due to the various health sessions and access to clinics on need basis. Respondents perceive a decrease in the spread of communication diseases since the project started. The qualitative study shows that the benefits of the health services are largely in the form of increased health and hygiene awareness while this also needs to be translated into access to quality healthcare, which shows scope for improvement.

88% of the respondents were found using the produce from their kitchen gardens for self-consumption, and 1.2% were selling the produce as a source of income, while 10% were observed to be balancing both. The data shows that a median monthly income of Rs 750 is reported to have been generated by the households due to kitchen gardens.

Repairs of community handpumps/ponds/wells and setting up of water tanks in AWCs and Schools were done as per the need. 3% of the households have received benefits from drinking water interventions. The drinking water intervention has brought about a change in the household with 43% of households reporting low instances of water borne diseases. The drinking water interventions have greatly benefitted women, as the majority (71%) households reported that it saves times for fetching water and 57% said that it reduced physical strain and fatigue.

Table 1: Summary of Key Outcome Indicators

Income Indicators (based on median)	Before	After	% Change
Average Net Income from Agriculture (INR)	30,000	52,000	73%
Average Productivity of 3 major crops (Kg /Acre)	200	300	50%
Median monthly Income from Livestock	400	800	100%

Conclusion and Recommendations

The project interventions have been effective in bringing clear changes in the income of farmers through improved productivity, reduced input cost, and farming techniques and assistance. Farmers believe that continued adoption of sustainable farming solutions will result in notable improvements in productivity and reduction of input costs as is evident in earlier sections. The tools and machines have been handed over to the farmer groups. Skill and livelihood enhancement activities also have opened up economic opportunities not just for farmers, but for women in the community. Most enterprises established with the help of group mobilization, technical training, and monetary assistance are functioning. The problem of market linkages and more capacity-building training need to be addressed to ensure sustained benefits. The intervention could not reach its full impact in health vertical. More effort is required in promoting personal hygiene, maintaining surroundings and tobacco related awareness. Improved educational facilities have helped students. Infrastructure developments for schools and anganwadis have increased the attendance ration. Though digital classrooms have not been equally beneficial as due to a lack of teachers' knowledge and insufficient devices.

Based on the field experience, the following recommendations maybe considered.

- Flood resistant variety of Paddy and irrigation services support is needed during Monsoon.
- Support for existing government health infrastructure and more arsenic removal water management would be helpful.
- Handholding support to enterprises so they have marketing tie-up, linkages with government schemes, etc.

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HRDI Indicators

HRDP aims to achieve holistic rural development through a multitude of interventions that would lead to overall improvements across related dimensions and therefore the programme introduced significant variability in the interventions. Therefore, it was not possible to ascribe a single impact indicator that might be able to accurately, capture the overall performance of HRDP. Since the index aimed to create comparability across the various villages, similar indicators were used for the calculation of Holistic Rural Development Index (HRDI), which is a weighted index that gives an index value for each focus area and also for the entire project. The thematic-wise indicators were assigned

weights to arrive at the composite HRDI score of **0.70** indicating a **notable positive change of 63% toward the desired impact** from the baseline score of **0.43**

Table 2: A summary of HRDI Scores

Domain	NRM		Skill and Livelihood		Health and Sanitation		Education		Overall HRDI	
	Baseline	Endline	Baseline	Endline	Baseline	Endline	Baseline	Endline	Baseline	Endline
HRDI Score	0.08	0.12	0.04	0.18	0.13	0.16	0.18	0.25	0.43	0.70
% Change	50%		350%		23%		39%		63%	

1. Introduction

As per Census of India 2011, approximately 66% of India's population resides in rural areas. As it constitutes a significant portion of the population, it plays a crucial role and contributes to the overall socio-economic development of the country (contribution of 17-18% in the GDP through the agriculture sector). However, rural India encounters a multitude of challenges that impede its overall development and well-being. For example, limited infrastructure, including inadequate road networks, electricity supply, sanitation facilities, and clean drinking water are some of the major challenges of rural India that hinder progress and economic growth. Further, lack of access to medical professionals, insufficient healthcare infrastructure and restricted access to quality services, result in poor health outcomes and heightened vulnerability during emergencies. Educational discrepancies arise from a lack of educational facilities, qualified teachers, and limited access to quality education, leading to lower literacy rates and limited skill development opportunities. Literacy rate in rural India is 69% as per NSO, 2017-18. Unemployment and underemployment prevail, perpetuating poverty and economic disparities. Agriculture-related challenges, such as land fragmentation, lack of credit access, outdated farming techniques, price volatility, and restricted market access, impact agricultural productivity and income generation. Bridging the digital divide and addressing social issues like gender inequality, caste-based discrimination, and inadequate social security schemes are also crucial. Holistic strategies encompassing infrastructure development, healthcare and education reforms, skill enhancement, agricultural modernization, employment generation, and digital inclusion are pivotal for fostering inclusive and sustainable development in rural India.

1.1 About HRDP

HDFC Bank CSR works towards transforming the lives of millions of Indians through its social initiatives under the umbrella of *Parivartan* that aims to contribute towards the economic and social development of the country by sustainably empowering communities. The HDFC Bank CSR flagship Program Holistic Rural Development Program (HRDP) on Rural Development caters to the needs of the rural communities in multiple focus areas. Network for Enterprise Enhancement and Development Support (NEEDS) was the implementing partner in 1 block of Khunti district of Jharkhand. The program covered a total of 16 villages across the block. The major focus areas for the intervention were Natural Resource Management (NRM), Skill Development & Livelihood Enhancement, Promotion of Education, and Healthcare & Hygiene. However, the extent of the work in each village was undertaken based on the need and it varied from village to village.

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 study is to add value by showcasing successful initiatives and recommending possible ways to address existing challenges.

The study seeks to:

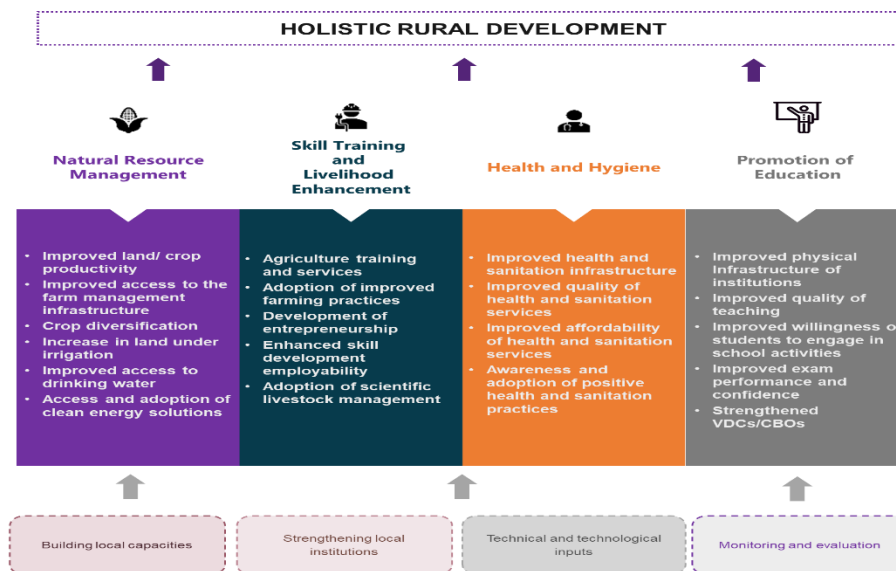
- Critically and objectively evaluate implementation and performance
- Determine reasons for certain outcomes or lack thereof
- Derive lessons learnt and good practices
- Provide evidence-based findings to inform future operational and strategic decisions while planning and funding partner organisations

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

1.3 Conceptual Framework Adopted

The conceptual framework and the areas covered under the assessment are depicted below (see **Error! Reference source not found.**). The aim is to build local capacities and strengthen local institutions, while giving technical inputs and conducting evaluation across the four thematic areas. The conceptual framework employed and the area covered under the study are depicted below.

Figure 1: Conceptual framework of implementation



1.4 About the Project area

Jharkhand is known for its rich mineral resources and diverse tribal culture. According to the Census of India 2011, the state has a total population of around 32.9 million, with the rural population

accounting for about 75% of the total. The sex ratio is 947 females to 1,000 males. The literacy rate of the state was 67.63% with Ranchi district Having the highest literacy rate of 77.13%. The state has a diverse mix of ethnic communities, with a significant tribal population. 1/3rd of the total geographical area is forest and mines of industrial importance. Paddy, maize, pulses, sunflower, groundnut and fruits are the main agriculture produce. Average annual rainfall in Jharkhand is 1400 mm and only 12% of the cultivable area is irrigated.

Image 1: Jharkhand state map



Khunti district is one of the twenty-four districts in South Chotanagpur division of the state. Paddy and pulses are the main crops grown, both in Kharif and Rabi seasons. As the major challenges that people of these villages face are water security, poor sanitation and hygiene and inadequate income from agriculture, the HRDP focused on promoting Irrigation and farm management in addition to clean energy under Natural Resource Management. Further, the program also focused on agriculture training and support, self-help group (SHG)/women development, skill training, livestock management, entrepreneurship development under Skill Training and Livelihood Enhancement; educational institutions development and education support under Promotion of Education; health and sanitation and kitchen garden, under Healthcare and Hygiene.

Image 2: Topographical map of Khunti, Jharkhand



1.5 About the Implementing Partner

Established in late 1998 as trust, NEEDS (Network for Enterprise Enhancement and Development Support) started its interventions in selected poverty-stricken pockets of Bihar and Jharkhand and brought about a significant change in the lives of women and children in terms of food security, sustainable livelihood and overall empowerment of the participating community. NEEDS mobilizes households in Jharkhand and Bihar in collectives and enhances their knowledge and skills, increasing their ability to access required resources so as to bring them out of poverty. It generates awareness, builds the capacity of the community and establishes linkages with the institutions for sustained results. The Holistic Rural Development Program (HRDP) was initiated in 16 villages of Khunti Block in Khunti district of Jharkhand with the mutual coordination and support of HDFC Bank Ltd. and NEEDS between April 2018 to March 2022. NEEDS is currently working in the following districts of Bihar and Jharkhand: i.e., Banka (Bihar), Sahibganj, Godda, Pakur, Deoghar, Jamtara, West Singhbhum along with, Khunti and Ranchi in Jharkhand. The major program interventions of NEEDS include sustainable livelihood & vocational skill development, reproductive health, child protection & education and WASH.

2 Research Design and Methodology

The impact assessment used a mixed method approach that includes both qualitative and quantitative methods to assess 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 NEEDS

2.1 Criteria for Assessment

For each thematic area, activities completed by NEEDS were identified. The impact of these activities was assessed using the following criteria:

- Relevance and Convergence
- Impact and Effectiveness
- 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 programme, the team established the values of outcome indicators of all thematic interventions. The findings were assessed against the outcome indicators finalised during the outcome harvesting stage. Through qualitative evidence and analysis of programme outcomes (in light of variables identified in consultation with HDFC Bank), the team tried to understand whether and how the programme 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 programme has worked on strengthening the community's capacity 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 and 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 members of NEEDS, 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 study was conducted by our research coordinator.

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 project area, 10 villages of Khunti block were selected for the study, based on the intensity of interventions implemented by the partner NGO through a consultative process. Sample from each village was selected by using Probability Proportionate to Size (PPS) sampling method. Care was taken to cover the maximum sample from the villages that have received a maximum number of interventions in order to get appropriate coverage of all components of the program.

The beneficiaries were selected using random sampling from the list of beneficiaries obtained from the implementing partner. 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 have been instances where a single beneficiary received multiple support for the intervention. Care was taken to include all focus areas of intervention. The sample size of 424 beneficiaries was covered, across all sample villages and thematic areas. Since there was no baseline available for this evaluation, the recall method was used in the household survey to assess the change that has happened over time. For this purpose, the respondents were asked to recall the value of critical indicators at the start of the program. For the qualitative study, 8 FGDs and 8 IDIs were conducted.

The sample covered during the field is as follows:

Table 3: Quantitative Sample Covered

District	Total Households	NRM	Skill Training and Livelihood Enhancement	Health and Sanitation	Promotion of Education	Financial Literacy and Inclusion
Khunti	424	422	415	163	409	-
Total	424					
Planned	440	88	198	88	66	-

Table 4: Qualitative Sample Covered

District	FGDs					IDIs		
	Farmers	Students	Community	FPO board members	Entrepreneur members	Teacher, Farmer, VDC	AWW, Kitchen Garden, APM-NEEDS	Sports coach, Head Gram Sabha
Khunti	2	1	2	1	2	3	3	2
Total	8					8		
Planned	8					8		

The total sample includes 84% male and 15% female respondents attributing to the gender distribution of the sample. Similarly, youth (18-45 years) represented majority of the sample (70%) distributed in different age groups. The remaining 30% of the respondents were more than 45 years of age.

Figure 2: Gender ratio in the respondents.

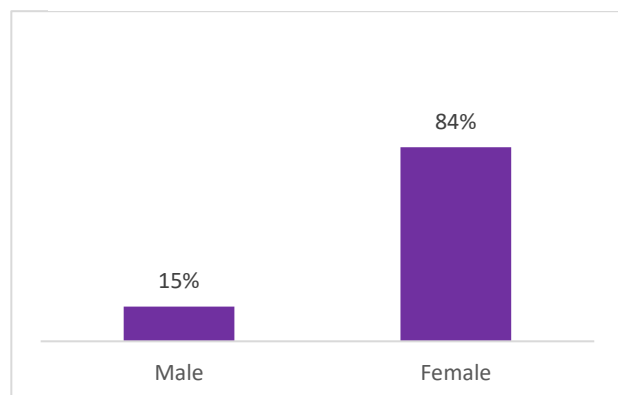
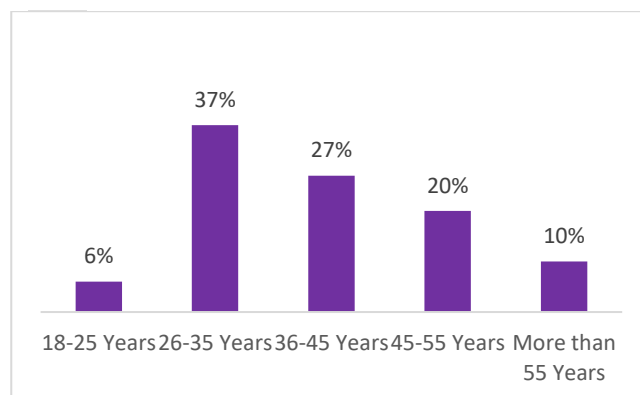


Figure 3: Age category in the respondents



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.

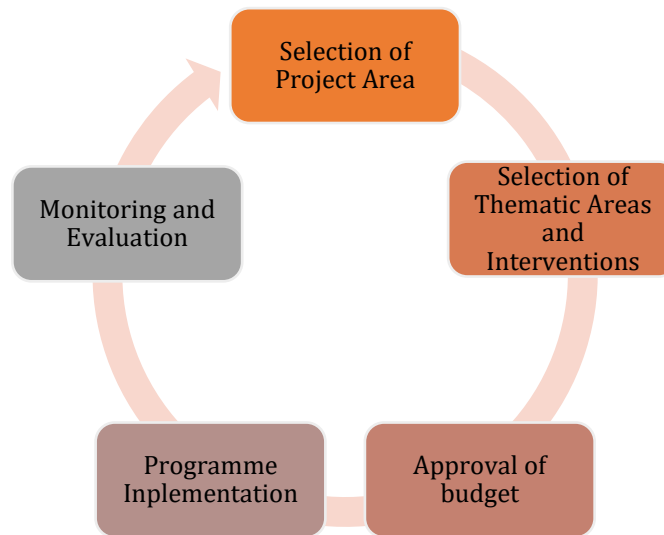
Image 3: Training of field team held in Jharkhand



3 Review of Project Planning and Implementation

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

Figure 4: Planning and Implementation Process



3.1 Selection of Project Area

The selection of project area is primarily based on the existing operational area of the implementing partner. In P0245, NEEDS was operating in khunti district of Jharkhand, which is primarily rural, has limited access to essential amenities, inadequate healthcare facilities and limited educational opportunities. Food insecurity is a major concern due to depleting natural resource base. The district struggles with high levels of poverty and malnutrition, particularly among children. A study conducted by the Central University of Jharkhand revealed that approximately 48% of children under the age of five in Khunti are underweight. The area is facing severe water scarcity due to low rainfall and consequent reduced ground water recharge, posing a huge health risk. Over grazing has led to depletion in green cover, further leading to soil erosion and biodiversity loss. Overall, these problems have led to a decline in the quality and quantity of natural resources in Khunti, resulting in reduced agricultural productivity, increased poverty and social and economic distress. Interventions with respect to community empowerment and rural development has been timely for the targeted villages.

3.2 Selection of Thematic Areas and Interventions

Considering the above challenges in the project area, NEEDS proposed HDFC Bank CSR under HRDP interventions focusing on promoting water and farm management in addition to clean energy and irrigation measures under Natural Resources Management (NRM) theme. The project also focused on agricultural training and support, skill training and livestock management under ST&LE; educational institution development and education support, SMC strengthening, sports and awareness generation under PoE; health awareness, sanitation practices, kitchen garden and drinking water under H&S.

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

Table 5: Activities under Four Thematic Areas

Activity Category	Activities	Output Indicators
NRM		
Irrigation Management	Check Dam Construction, Lift Irrigation (LI), Drip Irrigation, wells repair, soak pits, pond excavation/repair	Income from agriculture
Water management-agriculture	Handpump Repairs, Water tank installation	
Farm Management	Seeds distribution, SRI & Mulching training, Crop diversification, organic manure/vermi-compost pits preparation, Azola, Agri tool bank, FFS establishment, Horticulture promotion	
Clean Energy	Solar street lights installation	Clean energy
ST&LE		
Agriculture Training and Support	Exposure visits, Training and demos of new crops, SRI & Mulching farming technique training, FIGs/FPO formation, Horticulture promotion	Access to Agriculture Training and Services
Skill Training	Lac Bangle making, Sewing and Sanitary Pad making training	Skill and Entrepreneurship Development
Livestock management	Duckery, Poultry and Fishery support	Livestock Management
H&S		
Health	Health awareness sessions, camps & clinics	Health Infrastructure and Services
Sanitation	Menstrual hygiene awareness sessions	Sanitation Infrastructure and Services
Kitchen Garden	Seeds and manure distribution, Nutritional management Training,	
Drinking water	handpump repairs, water tank	
PoE		

Educational Institutions Development	Set-up of Library, Smart class and overall school renovation, BaLA paintings, separate toilets, water tank	Infrastructure in Educational Institutions
Education Support	Learning material, Remedial coaching centre for adolescent girls	
Awareness Generation	Celebration of Important days, seminars and rallies	
SMC Strengthening	Revival/support to SMCs	
Sports	Archery, Hockey and life skills Training & Equipment's support, Indoor gaming	

Image 4: HDFC Bank's HRDP program board at Nehaldih village



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. The program's interventions are chosen on an annual basis, and a budget is allocated each year based on a request made to HDFC Bank by NEEDS. The field team had extensive discussion with the village committees to study and map the issues and challenges faced by the communities. Activities and interventions were developed and put together based on the community's requirement.

For example, under NRM, water management activities such as check dam construction, lift irrigation, repair of water sources, installation of pipelines, drip irrigation, etc. were implemented to mitigate water related challenges in agriculture and domestic water use. Farm management

techniques for better crop production and increased income were implemented. There were trainings conducted on tillage and ploughing techniques, vermi-compost production, mulching, seed bank, etc. In order to promote clean energy, solar street lights were installed. The project has also **attempted to influence the status of women in the villages by ensuring sustained sources of income for them.** Under Skill Training and Livelihood Enhancement, **women SHG members were supported with micro-enterprises such as tailoring units, lac bangle production, and sanitary pad making to promote entrepreneurship and livelihood diversification.**

To provide agriculture training and support, exposure visits of farmers were done along with demo plots and trainings on better farm techniques. **As livestock is a major source of income for agrarian households, distribution of ducks, chicks and fishes was done along with the training.** The food insecurity was addressed under **Healthcare and Hygiene mainly through promotion of kitchen garden.** The seeds of everyday use vegetables were distributed and training was given on how to grow a kitchen garden to ensure consumption of adequate nutrients. There were **health sessions and camps conducted in the village for overall health awareness.** Through HRDP, village schools were renovated with BaLA paintings. **Arrangement for smart classes** were made in addition to the **construction of washrooms for girls and setting up of library.**

The implementing partner positioned a dedicated team of professional that was responsible for project implementation. They also inducted community level functionaries for mobilising communities and helping them in implementing project activities.

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 periodically to the HDFC Bank. In addition, the program implementation team of HDFC bank visits the project villages at regular intervals to review the project work sites, participate in the training programs, awareness camps and interact with project beneficiaries.

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

In addition, the HDFC Bank hired NRMC as an external agency to conduct impact assessment of the project after one year of the completion of the project. This is an independent assessment that evaluated using four criteria: relevance and convergence, impact and effectiveness, sustainability, and replicability. This is backed up by the creation of a Holistic Rural Development Index based on

selected outcome indicators. The impact of each activity has also been calculated and classified as high, medium, or low impact. The annexure goes into greater detail on these.

4 Study Findings

This section provides a brief analysis of the profile of the respondents covered in the impact assessment study across the ten villages of Khunti district in Jharkhand. 99% of the sample beneficiaries quoted agriculture as one of their income sources. This was followed by 90% off the beneficiaries who are earning their livelihood as daily wage labourers locally. 60% of the beneficiaries quoted livestock rearing as one of their sources of income that includes poultry. 6% of the respondents are salaried and 14% are pensioners who retired from government services such as defence services.

Figure 5: Income distribution in the respondents

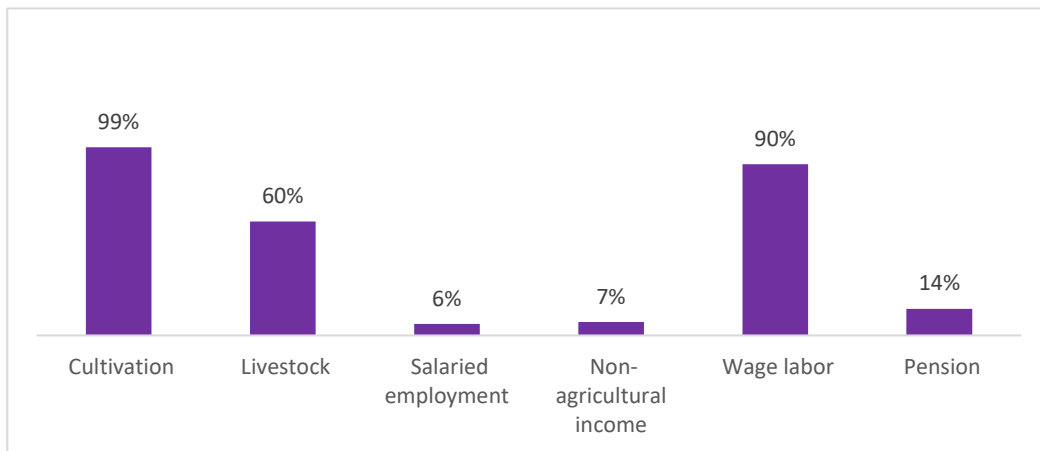


Figure 6: Educational qualification of the respondents

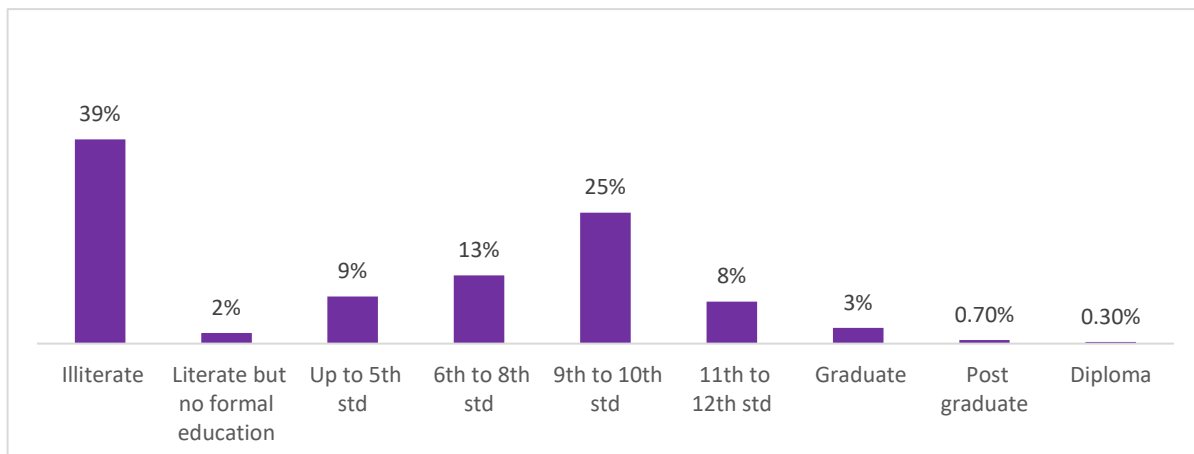


Figure 7: Caste distribution of the respondents

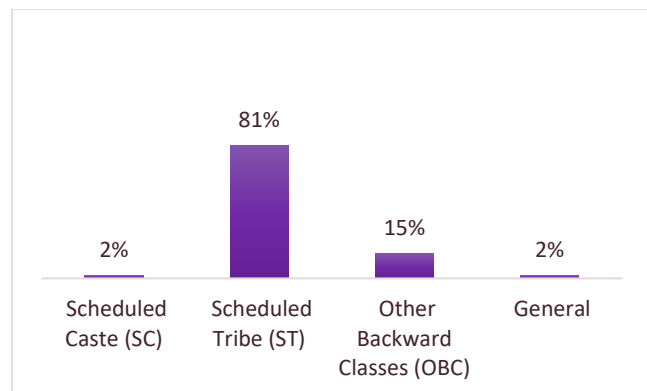
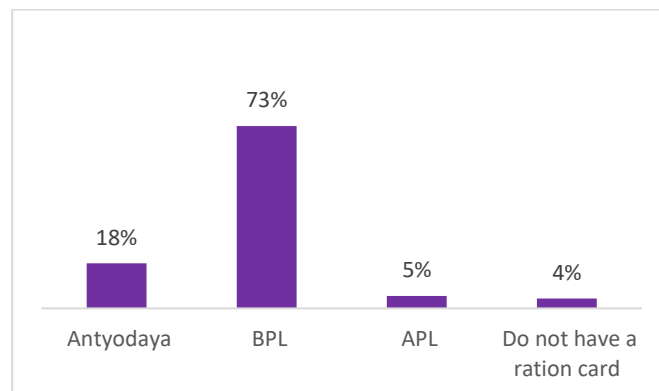


Figure 8: Income category of the respondents



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

Major interventions carried under health were awareness sessions, nutrition management training, organization of health camps & clinics.

4.1 Natural Resource Management

Natural Resources Management (NRM) is one of the most important pillars of HRDP. The interventions in this pillar were designed and implemented keeping in view the needs of the community as well as suitability to the geography during the entire project duration of 4 years i.e., April 2018 to March 2022.

Table 6: Activities under NRM in Jharkhand

Activity Category	Activities
Irrigation Management	Check Dam Construction, Lift Irrigation (LI), Drip Irrigation, wells repair, soak pits, pond excavation/repair
Water Management- Drinking	Handpump Repairs, Water tank installation
Clean Energy	Solar street lights installation
Farm Management	Seeds distribution, SRI & Mulching training, Crop diversification, organic manure/vermi-compost pits preparation, Azola, Agri tool bank, FFS establishment, Horticulture promotion

The program consisted of interventions under various activity categories such as installation of solar lights, construction of vermi-compost and azola pits, distribution of farm inputs (seeds, fertilizer etc.), training on various farm techniques (mulching), irrigation management, and drinking water

interventions. Since the focused region lacks water availability, especially in summer season, intervention in irrigation is expected to ease the irrigation-related issues for agricultural purposes. The other expected outcomes of the interventions include increase in farm income, farm productivity, awareness, adoption of improved farm practices and conservation of natural resources such as land, soil and clean energy.

Image 5: Lift irrigation system



Figure 9: Major activities supported under HRDP and currently adopted by farmers (n=389)

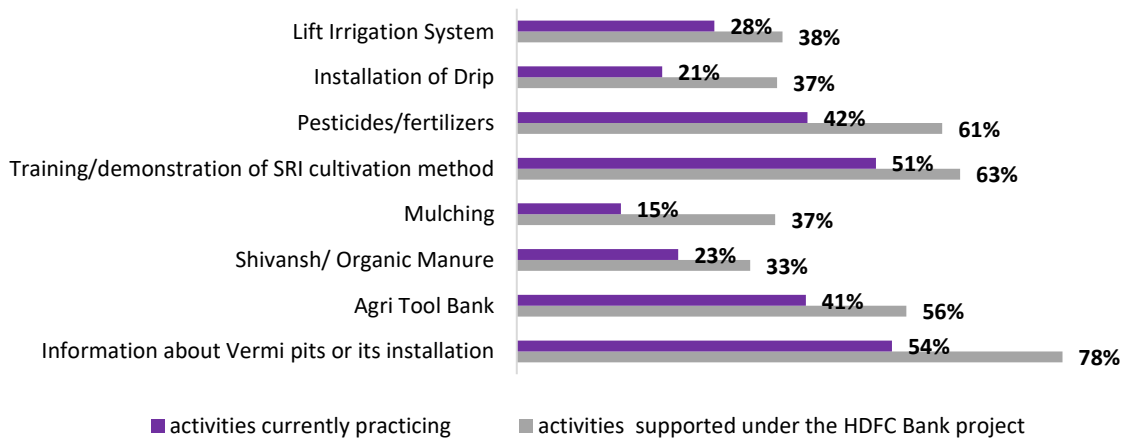


Figure 9 highlights the major interventions implemented in the study area under the HRDP project. **91% of the respondents received the project support in the form of agricultural training.** 78% of these respondents have been the beneficiaries of information provided for vermi pits installation and 54% of them are still using the vermi-compost pits. 63% of the respondents participated in training and demonstration of SRI cultivation method and 51% of them are still adopting this cultivation technique.

4.1.1 Income from Agriculture

In the survey sample, **the benefits from agricultural activities were availed by about 91% of the total households.** 98% of the households who received support in agricultural activities, reported an **increase** in income. The Figure 10 compares the **median gross income and median net income before and after the project intervention. The gross income increased by 63% and net income increased by 73%.** The median input cost has also risen by 60%, but the increase in the gross income is greater than the increase in the input cost, thus leading to a rise in the net income trends.

Figure 10: Increase in agricultural income (Based on median in INR) (n=380)

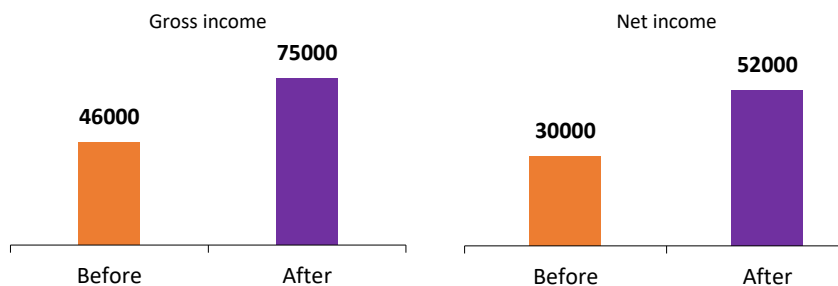
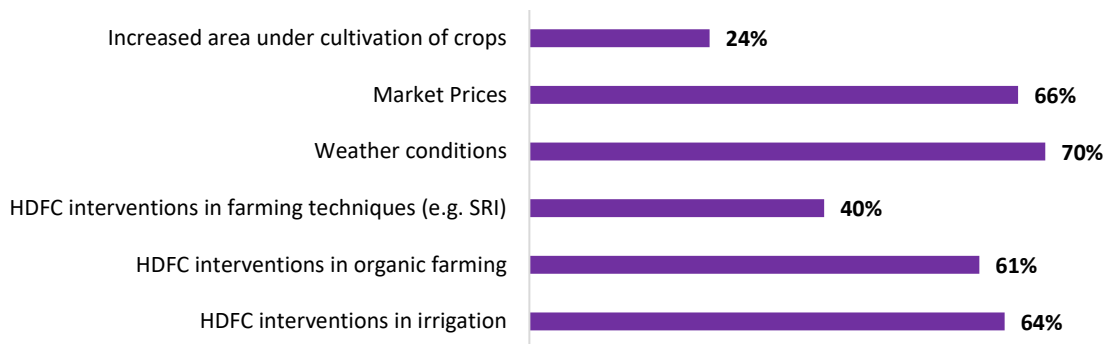


Figure 11: Factors contributing to increase in farm income (n=380)



64% of the respondents quoted irrigation support by the HRDP project as one of the factors contributing to increase in their net and gross income. Irrigation methods included activities such as **drip and lift irrigation, farm pond and check dam construction/renovation**. **61% of the respondents perceive that organic farming practices** such as installation of vermi-compost pits, azola, and distribution of organic pesticide and fertilizer, along with the training on their application and usage helped in increasing their income. 40% quoted adoption of improved farming techniques such as SRI and mulching as the key factor. Clearly, these activities are popular among farmers and widely adopted. Furthermore, favorable weather conditions (70%) and good market prices (66%) for higher-quality and higher-yield crops, resulting from HDFC's interventions, have also contributed to increased agricultural income. The timely availability of quality seeds, fertilizers, and farm tools, along with crop diversification in horticulture, has also enhanced farmers' income-generating capabilities.

Figure 12: Widely adopted project interventions that increased profit from agriculture (n=357)

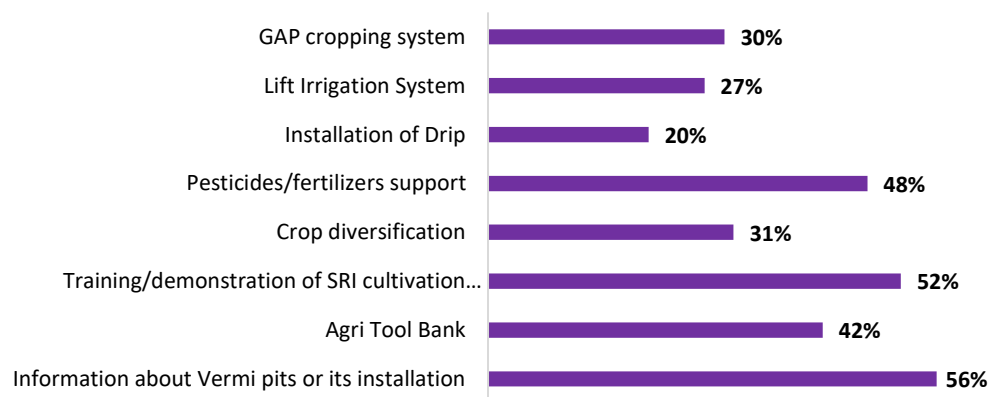


Figure 12 shows the most availed HRDP interventions that the farmers have adopted and continue to practice even after the culmination of the project. **56% of the respondents use vermi compost**

pits, **52% of them have been trained in System of Rice Intensification (SRI)** farming technique. 48% availed support in pesticides and fertilizers application, **42% used the facility of agri tool-bank for provision of agricultural tools.** These interventions played a crucial role in improving farmers' livelihoods by enhancing their income and overall productivity.

31% of the respondents quoted regularly practicing crop diversification in organic way. It has enhanced fertility of the soil thereby increasing the quantity and quality of the yield. Additionally, it has provided farmers with a variety of vegetables (*Lady finger, Bitter gourd, Parval etc.*) and fruits to be available in the market in every season throughout the year ensuring continuous cash flow in the farmer's household.

Crops

24% of the households also reported **increase** in land area under cultivation after the HRDP program by HDFC (

Figure 10: Increase in agricultural income (Based on median in INR) (n=380)

Figure 11). As per the responses, median productivity of the major crops grown in the area which are paddy, urad and potato (

Table 7) has increased. This can be attributed to two main interventions, vermi pit installation and SRI training. The interventions such as distribution of better yielding seeds and improvement in irrigation through check dam repairs, lift and drip irrigation increased the productivity. **As a result, the average irrigated land also increased from 3.92 acres to 4.15 acre or 6% during the period of intervention.**

Table 7: Percentage change in productivity of major crops

Crop Name	Median Production Before (in kg)	Median Production After (in kg)	% Change
Paddy	1300	2000	54%

Udad	40	50	25%
Potato	200	300	50%

Figure 13: Types of crops grown by crop diversification beneficiaries before and after HRDP intervention (n=389)

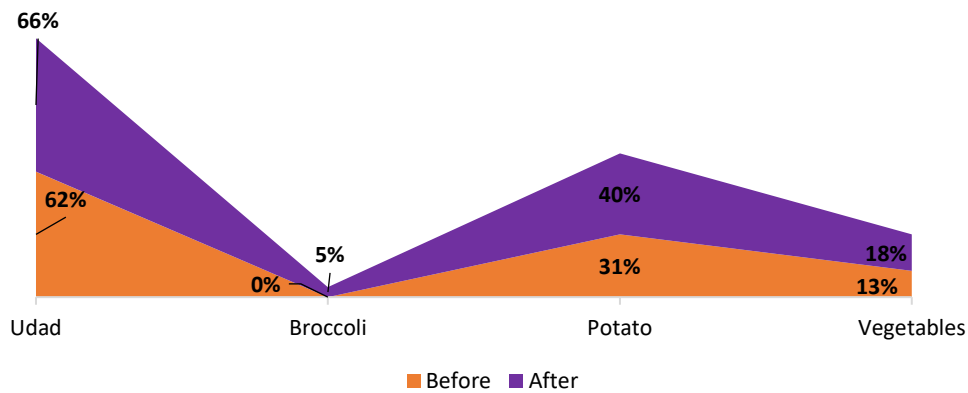
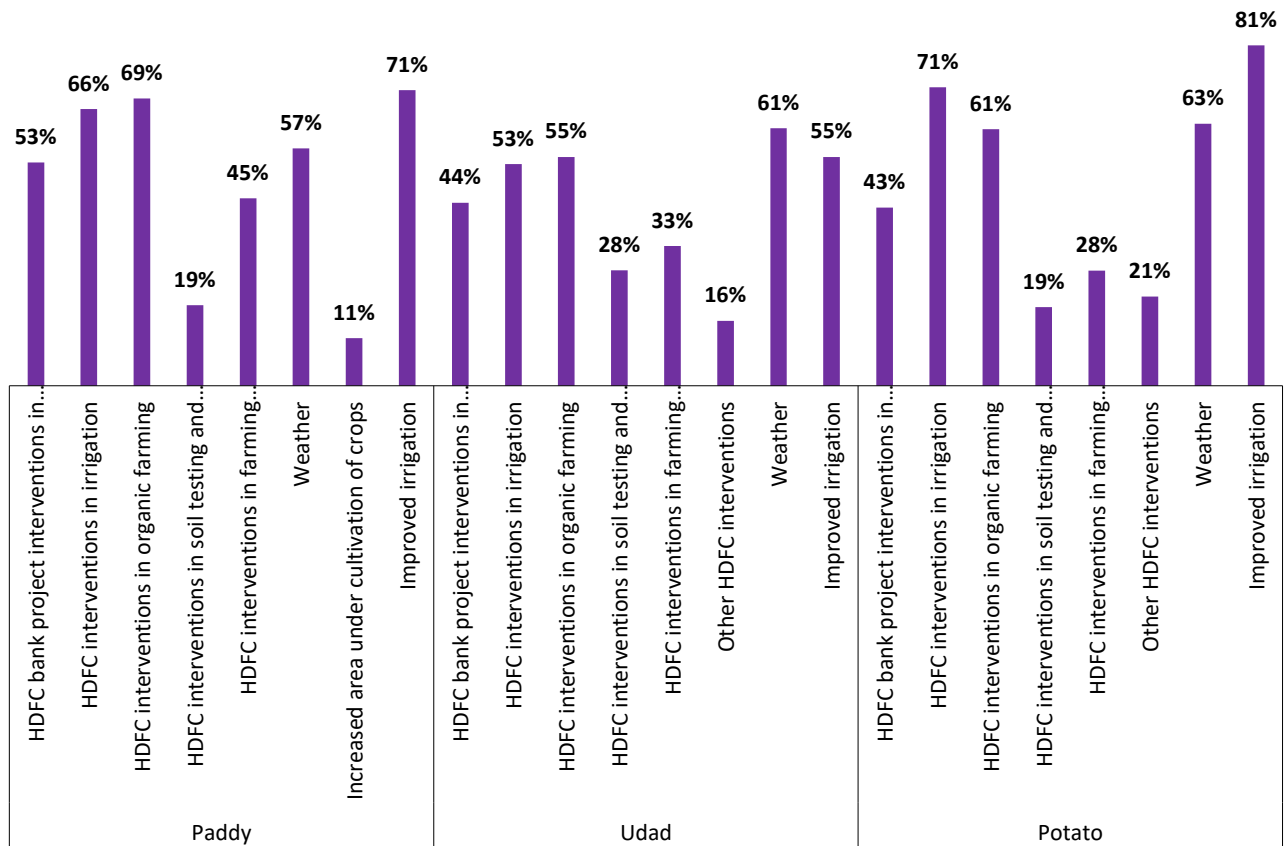


Figure 13 shows the changes in the types of crops cultivated by farmers before and after HDFC's intervention. Before the project interventions, 62% of the respondents were cultivating

urad, after the interventions it increased to 66%. Similarly, project interventions promoted cultivation of broccoli amongst the beneficiaries and 5% of the respondents reported growing it.

Figure 14: HRDP Interventions that led to increase in agriculture production (Crop wise)(n=389)

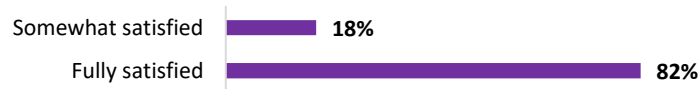


As per

Figure 14, Interventions in organic farming, Improved irrigation and in seeds and tools have led to increase in production of all the major crops which are Paddy, Udad and Potato. **66% of the respondents quoted the role of project interventions in irrigation** as the contributing factor for enhanced production of paddy in the district. Majority of the respondents also quoted favorable weather (sufficient rainfall) as one of the key factors for enhanced crop production.

Currently, 87% of households use a combination of natural and chemical fertilisers. During the project's intervention last season, **82% of respondents applied natural fertilisers, while 24% reported a decrease in their use of chemical fertilisers.** This shift can be attributed to the project's promotion of vermipits. The survey found that **98% received training, 22% received financial aid,** and 24% had vermipits set up as support. Additionally, 68% of respondents used vermipits to produce natural fertilisers. The increased use of natural fertilisers resulted in **improved production (77%), better quality (61%), and enhanced soil health (37%), among other benefits.**

Figure 15: Satisfaction level of Farmers on Vermi Compost Intervention

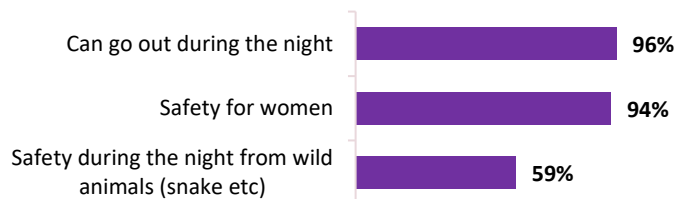


As shown in the Figure 15, 82% of the farmers are fully satisfied with the information provided on vermi compost and installation of vermi pits.

4.1.2 Use of Clean Energy Solutions

As part of the HRDP interventions, solar street lights were installed at community enclosures throughout the villages ensuring access to all the villagers. Approximately, 95% of the households were covered in this intervention and 80% of the respondents reported that solar street lights are close to their households. During the FGDs and interviews, it was corroborated that the villagers found the solar street lights highly effective for night time use and it requires minimal maintenance once installed. It has enabled a lifestyle change in the respondents. Children are able to study during the night time, women members feel safer going out.

Figure 16: Perceived benefits of solar street lights (n=404)



96% of the respondents mentioned safety for themselves in terms of enabling them to go out during the night and 94% mentioned safety for women as the most crucial benefits of solar street lights.

Figure 17: Operational status of solar street lights after HRDP intervention (n=321)

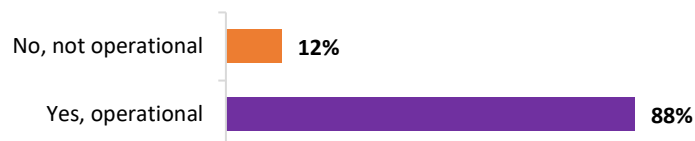


Figure 17 explains the operational status of solar street lights throughout the village. Out of the 80% households who reported that solar street lights are near their house, 88% of the respondents said these are operational and working fine and rest 12% reported that these are not operational as of now due to some technical or other reasons.

Image 6: A solar street light by HDFC



4.1.3 Impact Observations

This section provides an overview of the effectiveness of the project activities and their contributions to the defined outcomes under the thematic area of NRM. Activities such as clean energy adoption had a high impact on the beneficiaries along with agricultural training. The interventions under crop productivity and irrigation measures were seen to have a medium level impact.

Figure 18: An overview of project effectiveness and impact in NRM



4.2 Skill Training and Livelihood Enhancement

Project interventions under HRDP has done significant work on improving skills thereby enhancing livelihoods of different stakeholders in the intervention area with the expected outcomes of creating additional source(s) of income per household to make them self-capable and Independent. 93% of the respondents have received training and support in agriculture from the project interventions. Similarly, 4% of the households received support in skill and enterprise training and 57% in livestock management. A detailed list of activities under these categories is provided in the following table.

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

Activity Category	Activities
Agriculture Training and Support	Exposure visits, Training and demos of new crops, SRI & Mulching farming technique training, FIGs/FPO formation, Horticulture promotion
Skill & Enterprise Training	Lac Bangle making, Sewing and Sanitary Pad making training
Livestock Management	Duckery, Poultry and Fishery support

4.2.1 Agriculture Training and Services

93% of the total respondents have received training and support in agriculture from HDFC project interventions. Training on agricultural practices was provided to all of them, while **27% received support to form farmer’s associations/groups**.

Figure 19: Major agricultural training & supported services availed by the respondents (n=394)

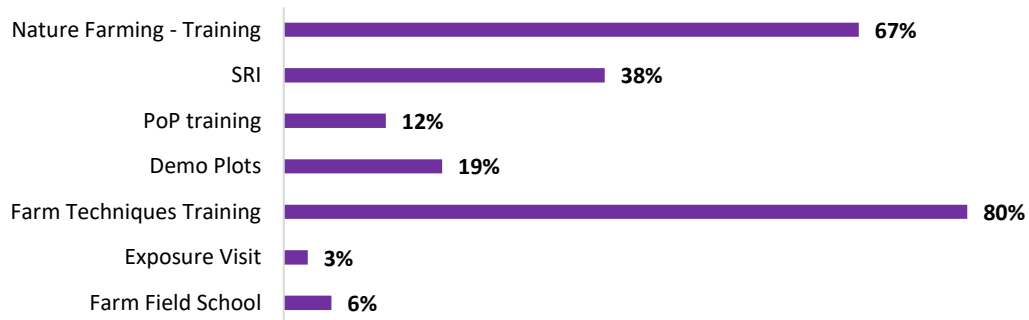


Figure 19 explains the major interventions in which farmers have received training and support in agriculture. 80% farmers reported that they have received training in farm techniques such as mulching whereas 67% of the farmers reported getting trained in nature farming. In this farming practice, no external fertilisers are added to the soil, not even organic. It minimises the cost of production, reduces water consumption and ensures better health of the crops. 6% of the respondents attended Farm Field School (FFS) and a handful of their leading farmers were provided with farm exposure visits. FFS is a group based learning system where the farmers carry out experiential activities to understand what works the best for them. 16 such Farm Field Schools (FFS) in all the intervening villages were established for training and demonstration of farmers on improved and organic farm practices like mulching, drip irrigation farming, horticulture, vermi-compost production, organic fertilizer production and its application, usage of farm tools (made available through tool banks), setting up of green nets, azola etc. Training on adoption of new crops like strawberry, Broccoli and Dragon fruit was also provided considering its growing demand in the market although it was limited to interested farmers only. The activities were carefully designed and implemented considering the need and suitability of the area.

Image 7: An azola pit



Figure 20: Agriculture practices before the program, learned through HDFC trainings and currently practiced by the farmers (n=394)

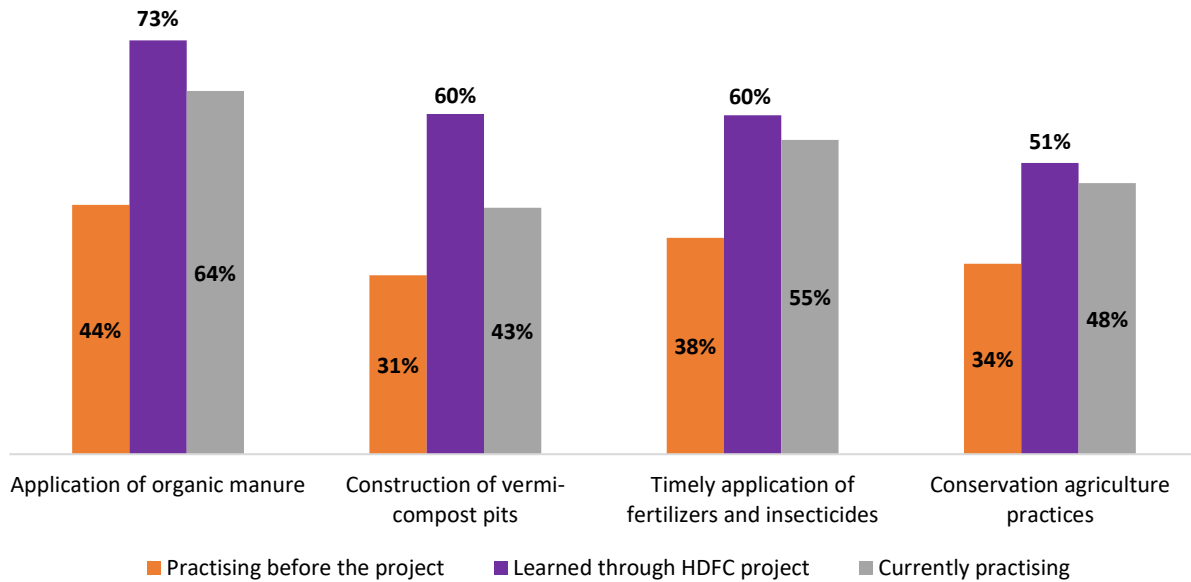
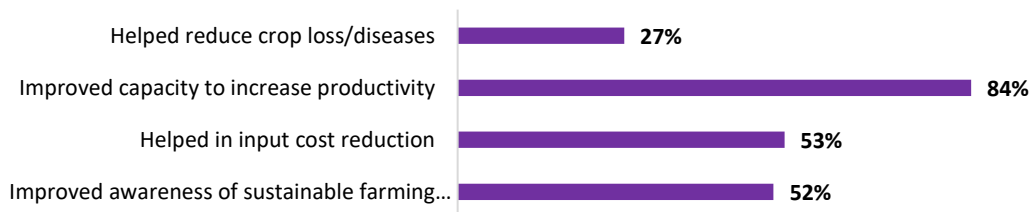


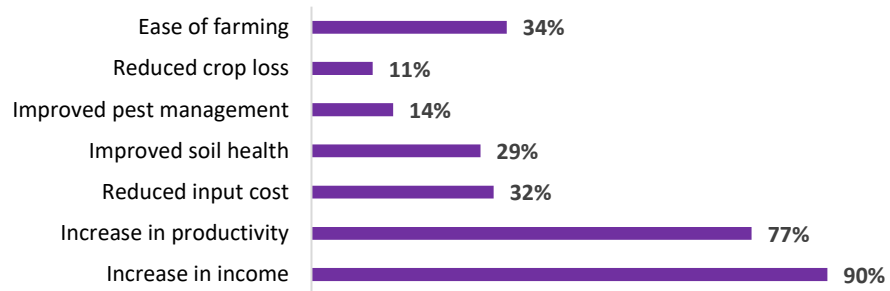
Figure 20 indicates noticeable increase in the percentage of farmers in adopting the skills acquired during training sessions facilitated by HDFC. This includes a significant rise in the application of organic manure (64%), construction and utilization of vermi-compost pits (43%), timely use of fertilizers/pesticides (55%), and adherence to good agricultural practices (48%).

Figure 21: Perceived benefits of learning agricultural practices (n=393)



84% of the respondents perceive that the project interventions in demonstrating agricultural practices has improved the productivity, 53% of beneficiaries reported that the trainings helped reduced input costs and 27% said it helped reduce crop loss/disease. (Figure 21)

Figure 22: Perceived improvements in farming due to adoption of agricultural practices (n=394)

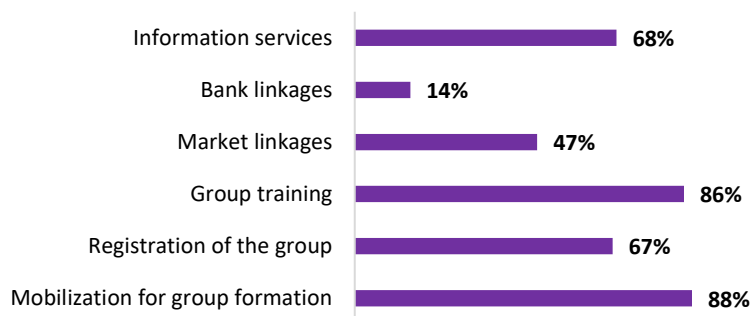


90% of farmers who have received training and support services from HDFC, reported increase in income followed by increase in productivity reported by 77% of the farmers. 34% reported ease of farming and 32% experienced reduced input costs. It is also observed that fertility of land improved upon implementing of organic farm practices in the field as reported by 29% of the farmers. 11% reported reduced crop loss and 14% reported improved pest management.

4.2.2 Economic Empowerment through Collectivisation

27% of the respondents received training and support on farmers associations and group. 90% of these respondents are a member of a farmer group or association such as Farmer Interest groups (FIGs) and Farmer Produce Organization (FPO). An FIG typically contains 5-10 no. of farmers from the village. These were supported/established as a common peer learning and experience sharing platform. A Farmer Produce Organization “*SafeFood*” was also formed with the help of HDFC which is currently under development and recognition stage. HDFC provided financial support (INR 40,000/-) for the registration of FPO during initial stage.

Figure 23: Support received from HDFC in formation of FIGs and FPO (n=107)



Maximum support (88%) has been received in mobilization of farmers for group formation as reported by farmers, followed by support in group training (86%). Support in information services

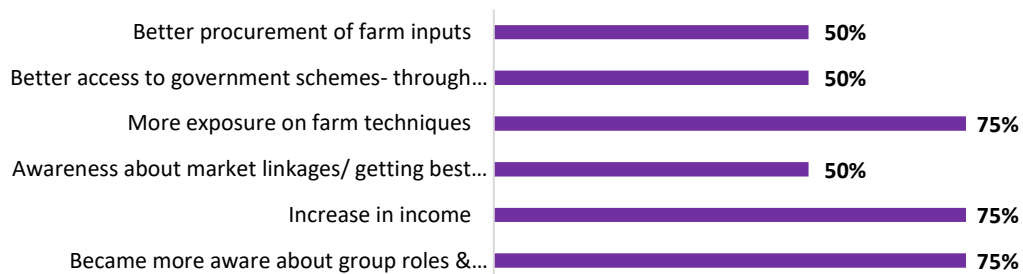
& registration of the group (68% & 67% respectively) was also received by farmers during the intervention. However, bank linkages of the group (14%) could be worked upon as reported by the farmers.

5 leading farmers, each from different village, are members as board of directors of the FPO. About 300 farmers are members in the FPO and 2000 others have shown interest. This clearly indicates that awareness regarding association and pooling resources in the same direction to achieve maximum result among farmers have significantly increased after the HDFC's work on the ground. The FGDs and interviews with the members revealed that FPO is now self sustainable. It is under the guidance of Assistant Program Manager (APM)-NEEDS.

Image 8: FPO board supported by HDFC



Figure 24: Perceived benefits of farmer's group (n=4)



The farmers who were part of a Farmer Interest Groups (FIGs) reported that more exposure on farm techniques (75%), availability of information (75%) and better procurement of farm inputs (50%) were some of the main benefits they received by being part of the group.

4.2.3 Skill and Entrepreneurship Development

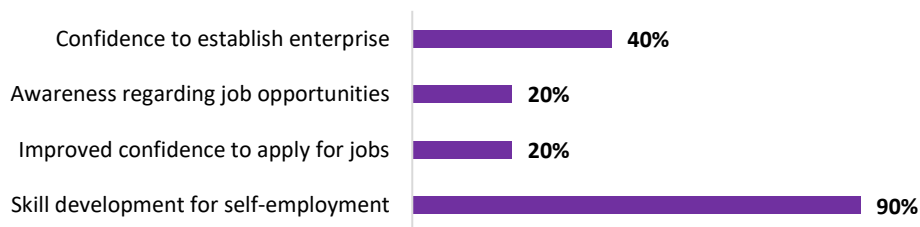
HDFC, in partnership with NEEDS, designed and implemented interventions related to skill and entrepreneurship development especially focusing women. Interventions such as Lac bangle making, Sewing and sanitary pad making were implemented with expected outcomes of developing skillsets of the beneficiaries in these skills and in larger scope, to make them independent, confident and self-

capable. The sample survey data shows that only 4% of the households availed the skill training and entrepreneurship development interventions by the project. Lac bangle making enterprise was established in Silda village and training on sanitary pad making and its usage was provided to women of Dugdugia village for household purposes. Apart from these, Inputs and training on sewing was also provided to a group of women for household purpose. Lac bangle enterprise support was based on joint ownership.

Image 9: Lac bangles made by women enterprise



Figure 25: Perceived benefits of skill development training (n=10)



Apart from increase in income, other benefits reported by the beneficiaries are skill development for self-employment (90%), and confidence to establish enterprise (40%), among others. The project has not focussed on SHG development. The qualitative study shows that the support has been provided to existing SHGs by strengthening them through entrepreneurship opportunities. They have been made aware of entrepreneurship opportunities that they could take up and support provided based on consultations with them for the above-mentioned activities.

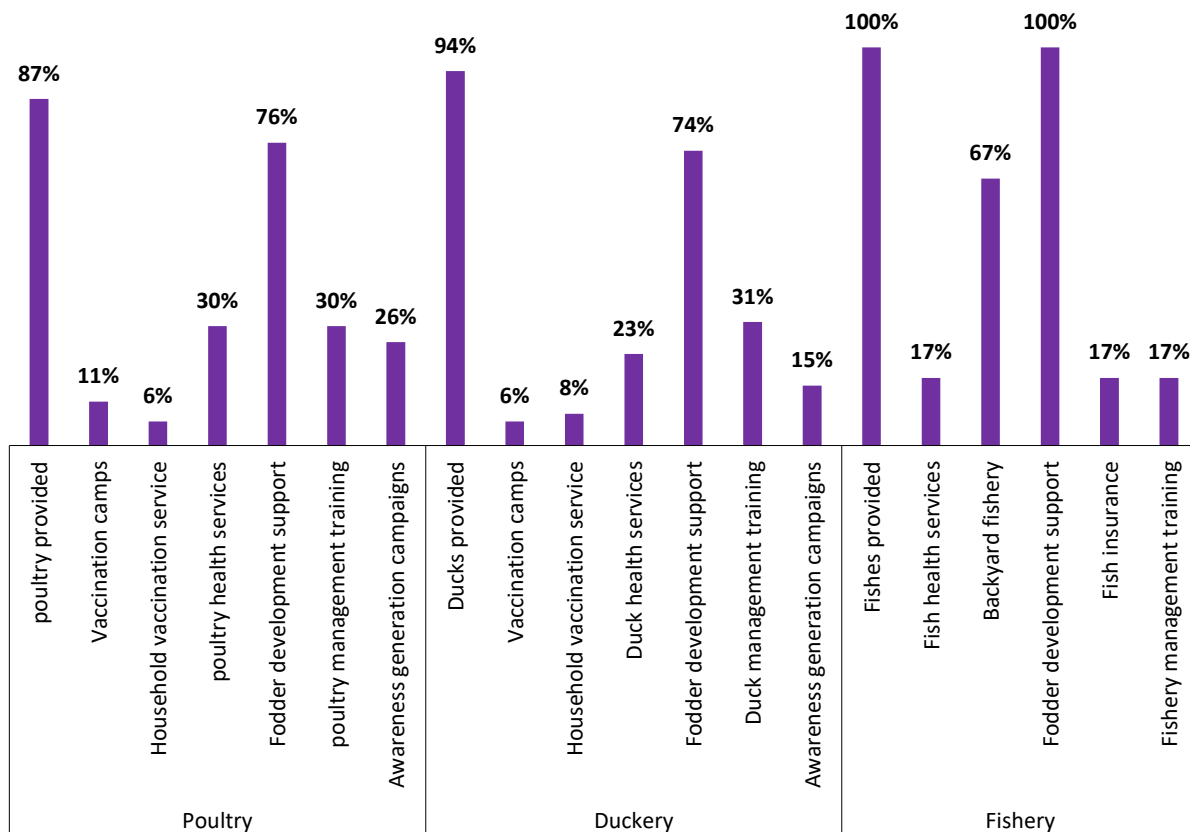
The qualitative understanding revealed that skill development training along with the inputs were given to women however improving market linkages for long terms sales and continuous revenue

generation could have been highly beneficial. The enterprise is currently not functioning due to loss of demand among the villagers and lack of access to market.

4.2.4 Livestock Management and Training

57% of the total households surveyed have benefitted from interventions in livestock management. 60% of these respondents own poultry, 44% own ducks and 4% are involved in fishery as a livelihood support. Livestock services in the form of vaccination camps, fodder development support, awareness campaigns and insurance were provided to the beneficiaries across all categories of poultry, ducks and fish owners. The objective here was providing them with an alternate source of income and self-consumption.

Figure 26: Livestock management services availed through HRDP (243)

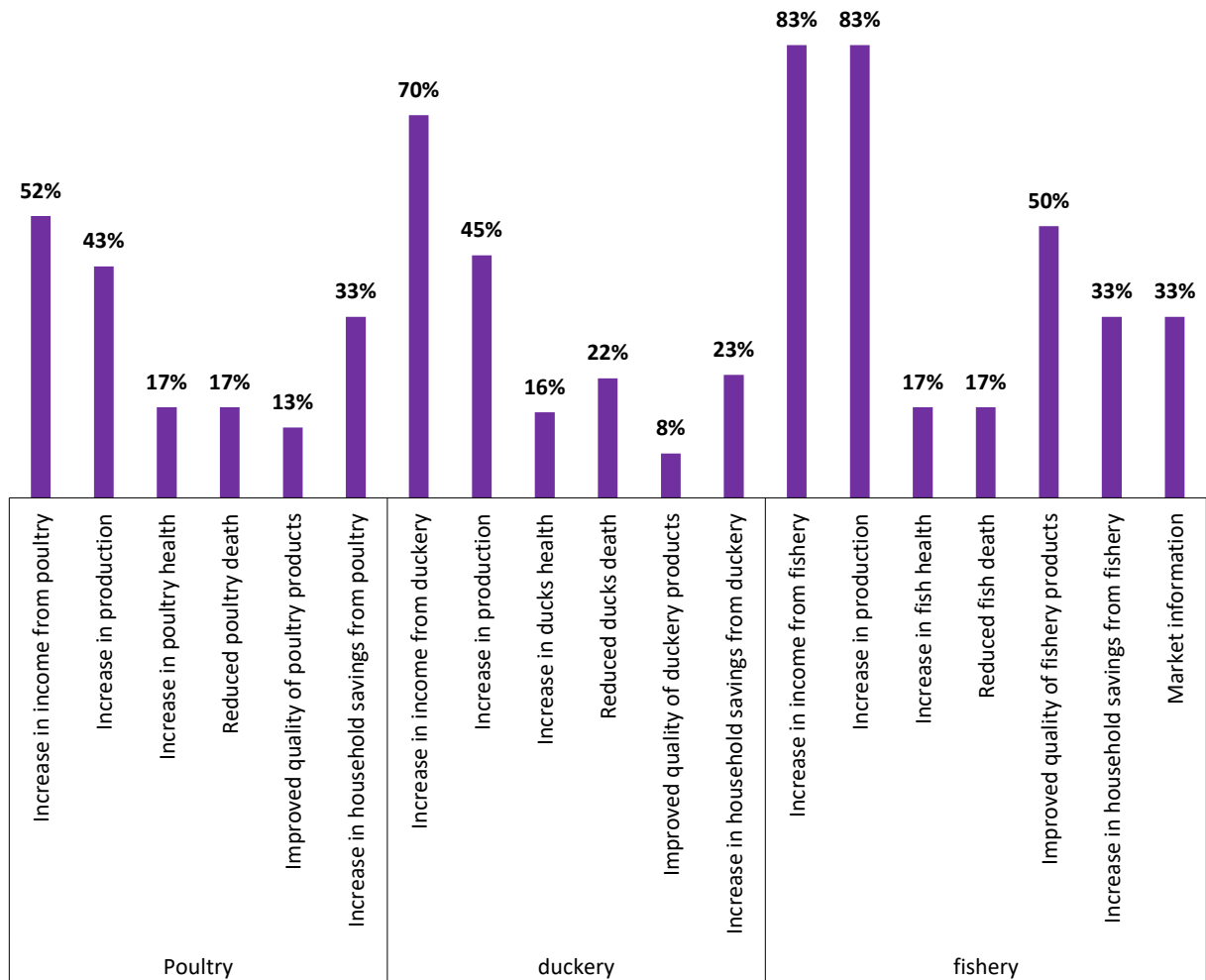


Following are the major benefits observed by the beneficiaries with the implementation of Livestock management intervention;

- Immediate cash availability by selling livestock in case of emergency,
- Low fatality rate and keeping costs by adoption of improved and scientific practices,
- Increased self-confidence of women,

- Alternate source of income,
- Improved nutrition levels due to consumption

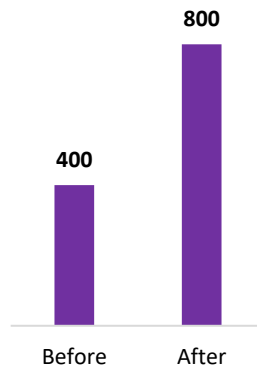
Figure 27: Benefits of livestock management services availed through HRDP (n=243)



Among the households who received livestock management support, notable increases in income have been reported. 52% of the beneficiaries who availed poultry services from the project saw an increase in their income. Similar increase in income was observed for 70% of the respondents who availed livestock services for ducks.

These improvements have contributed to a doubling of the average monthly income from 400/- to 800/-. Additionally, beneficiaries have gained confidence, independence, financial stability, and enhanced skills for business-related activities through group efforts. These interventions have also provided them with an alternate source of income, offering a safety net during emergencies.

Figure 28: Change in median monthly income (INR) due to improved livestock rearing (n=243)



4.2.5 Case Study

Empowering Rural Farmers: The Success Story of Lidwa Pahan in Argori Village



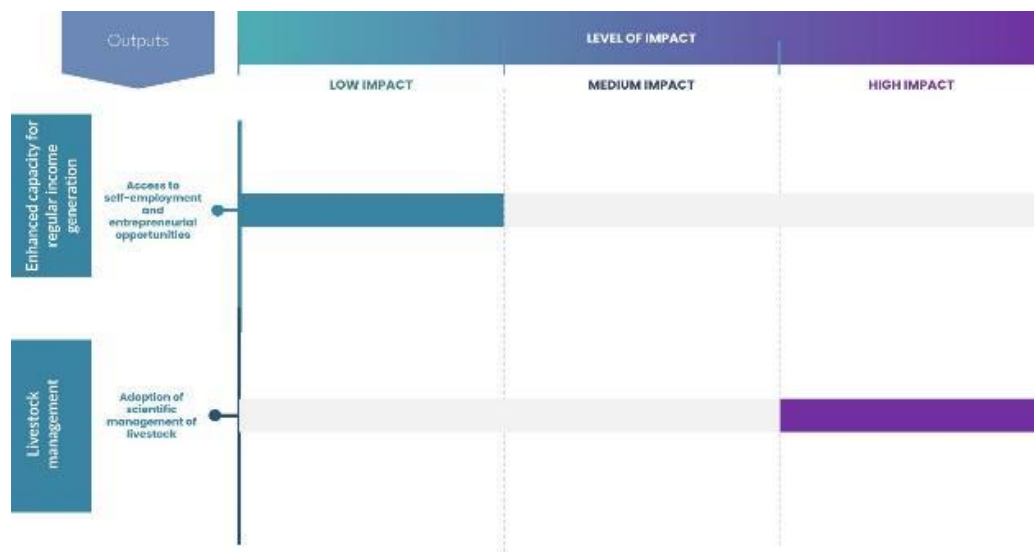
This case study highlights the remarkable journey of **Lidwa Pahan**, a former laborer in Argori village, whose life took a transformative turn following the intervention of HDFC. With a strong desire to engage in profitable agriculture, Lidwa's determination and interest caught the attention of the HDFC team through the village coordinator. Encouraged by this opportunity, he embarked on a path of agricultural entrepreneurship. Through continuous hard work and unwavering commitment, Lidwa has now emerged as a leading farmer in the village. Leveraging the support provided by HDFC, he embraced modern farming techniques, implemented

sustainable practices, and explored innovative farming methods. As a result, Lidwa is achieving significant success in terms of crop yield and profitability.

4.2.6 Impact Observations

Under skill training and livelihood enhancement, the project was successful in skilling farmers in improved farming practices and establishing farmer collectives such as FIGs and FPO and skilling women in lac bangle making, sewing, sanitary pad making along with scientific management of livestock.

Figure 29: Project effectiveness, impact in skill training and livelihood enhancement



4.3 Health and Sanitation

Several interventions have been conducted under health, sanitation, drinking water and Kitchen Garden. Repairing of hand-pumps and regular health awareness sessions, camps and clinics were organized for beneficiaries in which knowledge regarding nutrition management, primary healthcare, sanitation, first aid etc. was provided. As an outcome, villagers were now observed to be more concerned about nutrition and healthy eating practices. Due to kitchen garden intervention, availability of wide range of local seasonal vegetables is now ensured which was earlier not there

Table 9: Activities under health and sanitation in Jharkhand

Activity Category	Activities
Health	Health awareness sessions, camps & clinics
Sanitation	Menstrual hygiene awareness sessions
Drinking Water Management	handpump repairs, water tank
Kitchen Garden	Seeds and manure distribution, Nutritional management Training

4.3.1 Health Infrastructure and Services

30% of the respondents have received benefits of health services from HDFC. Approximately 92% of these have attended a hygiene related health awareness session and 70% have availed health services in the form of health camps/sessions, and 11% got help in availing services of a health clinic.

Figure 30: Interventions in health service availed by beneficiaries (n=119)

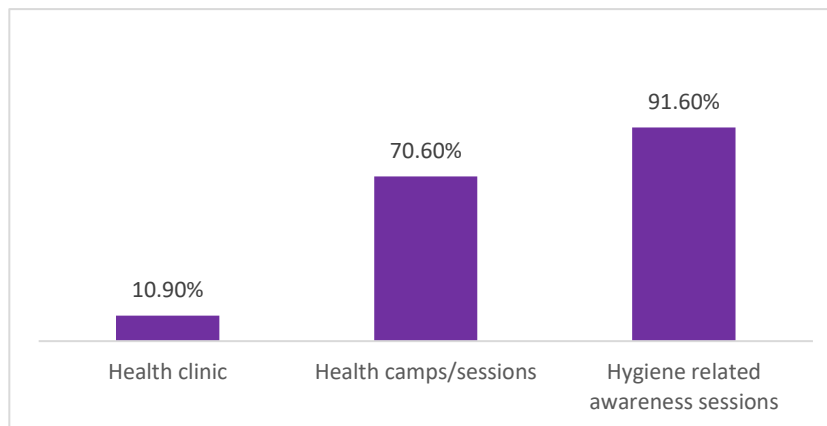
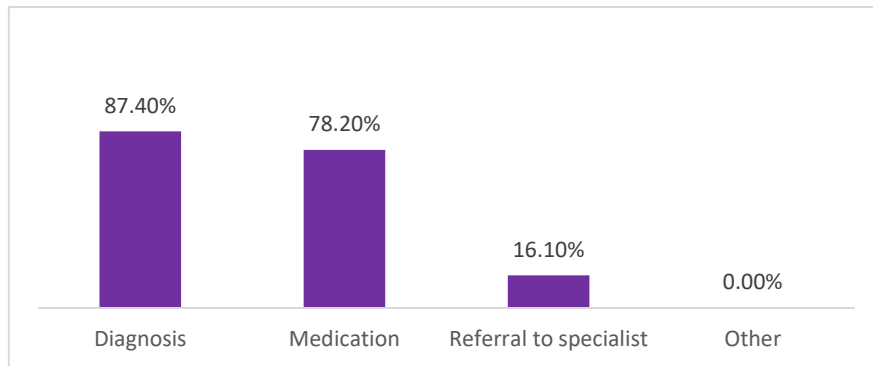
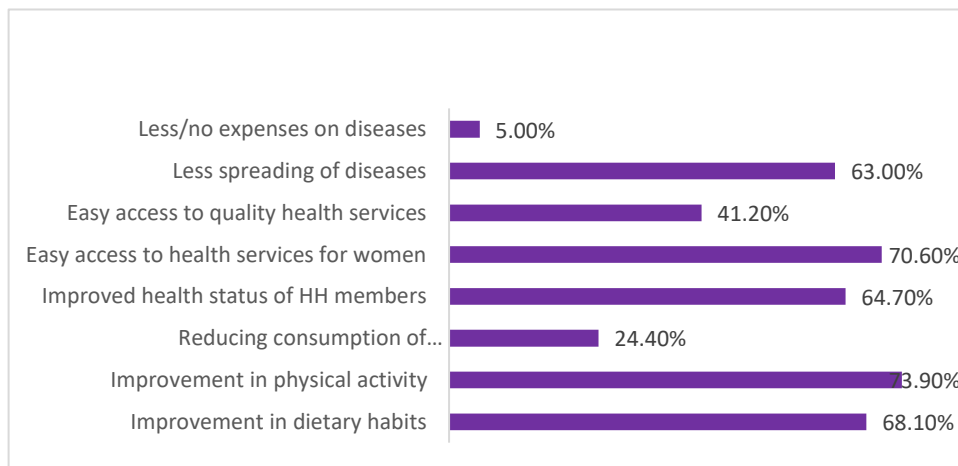


Figure 31: Services availed at HDFC supported camps/clinics (n=87)



87% of the beneficiaries who attended health camps & clinics under HRDP, received diagnosis service and 78% received medication services. 16% were also referred to specialists for better health treatment.

Figure 32: Perceived benefits of HDFC bank supported health camps/clinics (n=119)

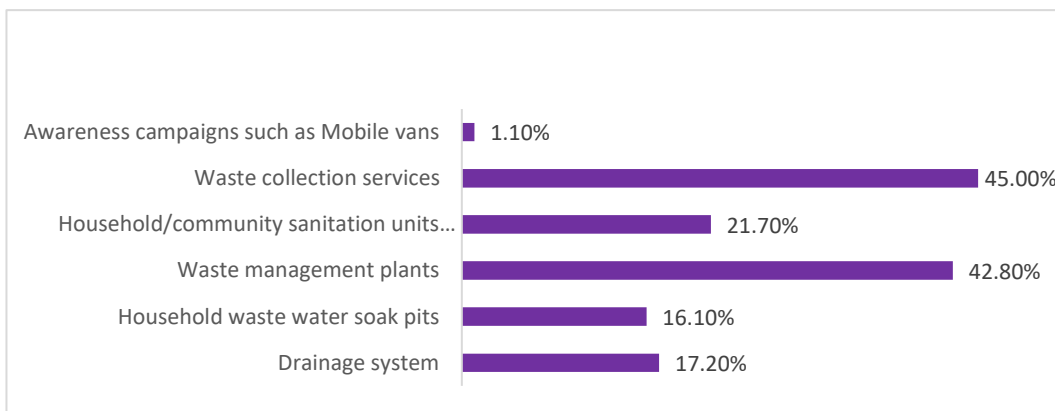


68% of respondents surveyed stated improvement in dietary habits as the prime benefit from the health interventions, 74% reported improvement in physical activity, 24% reduced consumption of alcohol/tobacco, 65% stated improvement in health status of household member and 70% reported easy access to health services for women. The perceived benefits are limited to awareness generation and not a wide access to quality healthcare, which shows scope for improvement. Menstrual hygiene awareness sessions complemented with sanitary pad making training and its use brought major positive change in the health of women.

4.3.2 Sanitation Infrastructure and Services

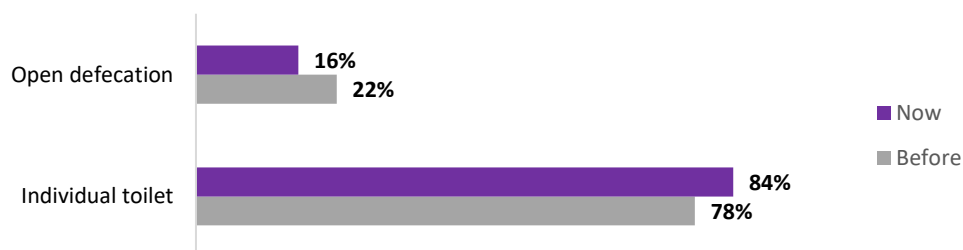
From the sample study, 45% of the respondents are reported to have availed the sanitation support services provided by the project interventions. These support services included activities such as construction of soak pits, drainage system, menstrual hygiene awareness and construction/repair of toilets/sanitation units in household with the expected outcome to control disease/infections and healthy lifestyle.

Figure 33: Percentage of households who benefitted from different interventions under Sanitation (n=180)



The two main interventions as reported by beneficiaries are drainage system (17%) and Household waste water soak pits (16%) along with other interventions. 22% of the respondents mentioned using household/community toilets/bathing enclosures developed under the project interventions. Apart from the physical infrastructure, use of sanitation/hygiene facilities require a mindset change as well and awareness campaigns would go a long way in mobilising the communities towards better hygiene practices.

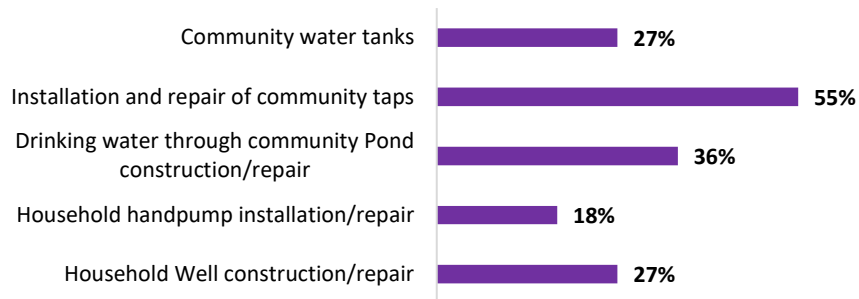
Figure 34: Change in ODF practice before and after the intervention (n=222)



4.3.3. Drinking Water

Only 3% of the total households received support from drinking water interventions by HDFC. Repairing of community hand-pumps, ponds, wells and establishment of water tanks at AWCs, Schools etc. has been done to ensure accessibility of clean and safe drinking water wherever required. Awareness regarding importance of clean drinking water was also provided during various health, sanitation and nutrition management awareness camps.

Figure 35: Drinking water management services availed through HRDP (n=11)



The intervention primarily focused on improving the water supply infrastructure, as 55% of the respondents availed the benefits of installation and repair of community taps while 36% benefitted from the repair of community ponds. Among the households that received support for drinking water, 3% in total, a **significant 64% reported a change in their water source due to the project**. Prior to the program, the majority relied on dug wells (57%) and public taps (29%) for drinking water. (Figure 35).

Image 10: Well repair

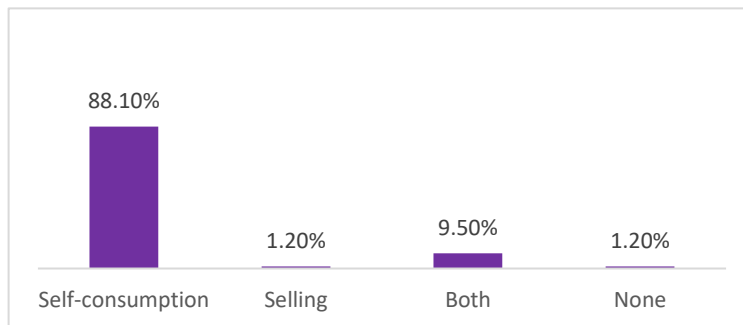


Out of the 64% who reported change in their drinking water source, the majority (71%) households reported that it saves times for fetching water for women and 57% said that it reduced physical strain and fatigue.

4.3.4. Kitchen Garden

21% of the respondents received support from the project interventions in setting up their kitchen garden. Inputs for development of kitchen garden such as seeds, organic manure etc. has been provided to the household women along with the necessary training to improve the capability of the women in this skill with the expected outcomes to decrease malnutrition levels, diversity in food and alternate source of income. Of the households that received kitchen garden benefits, **96% received seeds, and 92% availed training provided for the same.** They received support for a variety of vegetables such as beans, brinjal, tomato, lady finger, pumpkin, etc.

Figure 36: Use of kitchen garden produce by households (n=84)

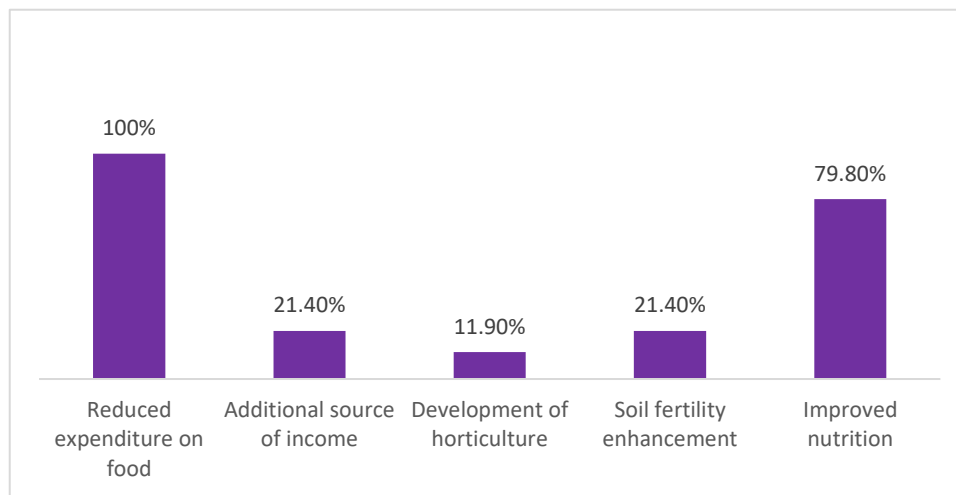


A majority of the respondents were found using the produce from their garden **for self-consumption (88.10%)**, and very few were selling the produce **(1.20%)**. **The ones involved in selling the produce reported a median monthly income of ₹750.**

All of the beneficiaries observed a decrease in the amount they spent on fruits/vegetables from the market, **80% of the beneficiaries observed an improvement in nutrition from the kitchen garden since the project started.** The data shows that a median monthly **amount of Rs 100 is reported to have been saved by the households due to development of kitchen garden.**

Major improvement in vegetables grown have been seen after the intervention of kitchen garden. Such as in Brinjal, before it was 32% which increased to 59%, Lady finger, before it was 28% which got increased to 59% and beans, before it was 22% which got increased to 57% similar trend have been observed for other seasonal vegetables also.

Figure 37: Use of kitchen garden produce by households (n=84)



4.3.5. Case Study

Anuradha Devi, story of Kitchen Garden beneficiary from Dungra village

Anuradha Devi, a housewife from Dungra village, ventured into kitchen gardening and soon became an agent of change in her community. With HDFC's assistance, she received seeds and required training to develop a kitchen garden in her backyard. She seized this opportunity with determination and dedication, growing vegetables not only for household consumption but also for sale in the village, generating a valuable source of income.

Anuradha's success in kitchen gardening has had a profound impact on the village, empowering numerous women like her. Through her newfound knowledge and income-generating activity, she has inspired other women in Dungra village to embrace kitchen gardening, enabling them to contribute to their households' food security and economic well-being. Anuradha's story exemplifies the transformative power of providing support and resources to women, enabling them to thrive as entrepreneurs and catalysts for change within their communities.

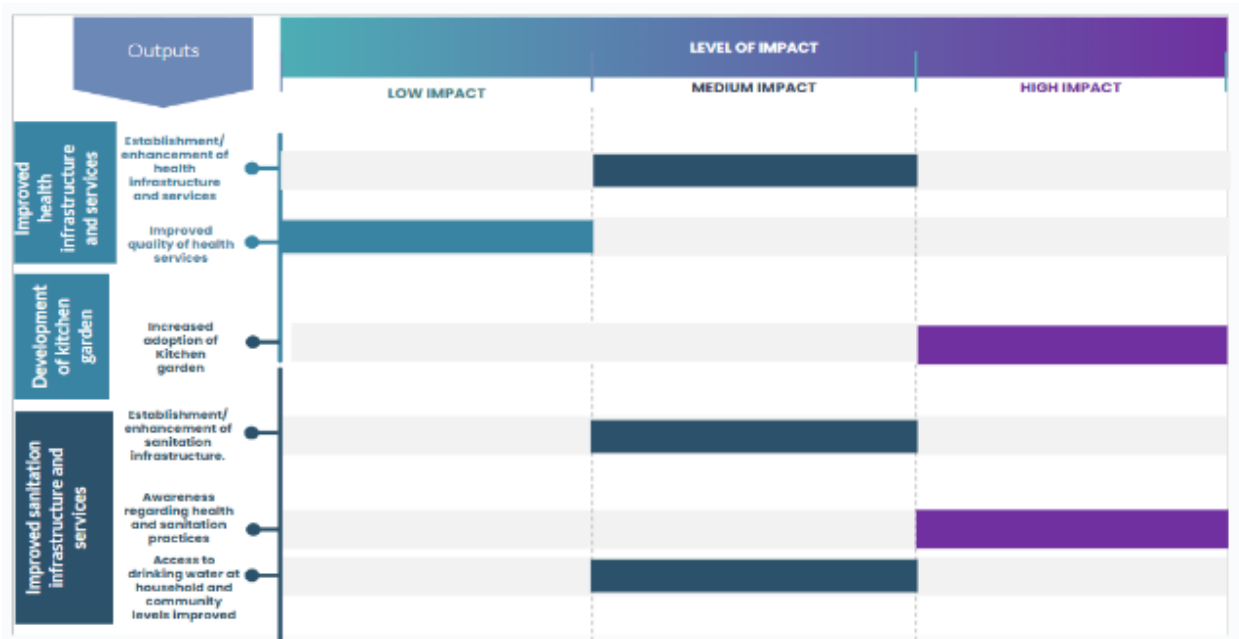
Her journey serves as an inspiring example of how small-scale interventions can create a ripple effect of empowerment, upliftment, and sustainable development in rural communities.

4.3.6. Impact observations

Under H&S, medium to high impact was observed under health infrastructure and services. Project has been successful in generating awareness about health and hygiene but the same has not been

translated into better access to health care services. Adoption of kitchen garden had a significant impact on the respondents along with provision of drinking water at household and community level.

Figure 38: Project effectiveness, impact in Health and sanitation



4.4 Promotion of Education

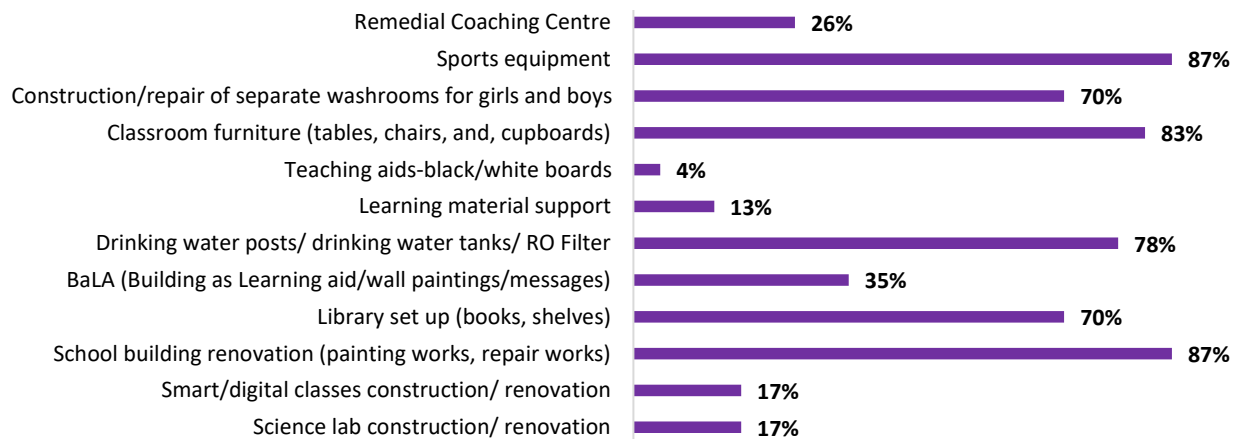
Table 10: Activities under education in Jharkhand

Activity Category	Activities
Educational Institutions Development	Set-up of Library, Smart class and overall school renovation, BaLA paintings, separate toilets, water tank
Education Support	Learning material, Remedial coaching centre for adolescent girls
Awareness Generation	Celebration of Important days, seminars and rallies
SMC Strengthening	Revival/support to SMCs
Sports	Archery, Hockey and life skills Training & Equipment's support, Indoor gaming

Image 11: Village children at an AWC supported by HDFC

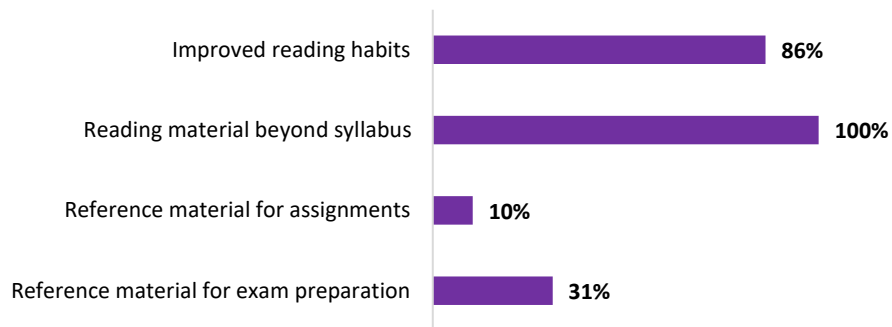


Figure 39: Households reporting various interventions in their child's school (n=123)



30% of the respondent's children/wards benefitted from the various project interventions in both primary (AWCs) as well secondary education (Schools) which included overall renovation of school building and AWCs (87%) which were otherwise in critical condition, BaLA painting in AWCs (35%) etc. Provision of separate washrooms for Boys & Girls (70%), Library (70%) was also made to increase the learning outcome. Emphasis was given on overall development of children involving equal attention to sports (87%) as well as other extra-curricular activities such as Theatre, celebration of important days such as Environment Day etc. Strengthening/Revival of SMCs was done where it was where it was required. Separate Arrangement of Remedial Coaching Centre (26%) was done for adolescent girls so that they can also study without compromising with their usual work.

Figure 40: Households reporting different benefits of library establishment (n=60)



As shown in Figure 40, approximately half of the respondents had a library set up in their respective schools as part of the interventions. 86% of the quoted improved reading habits as the major benefit of having access to a library. Availability of reading material beyond syllabus from the library was quoted as another positive impact of having a library in schools.

Figure 41: Major infrastructural services available/ functional before and after project inception (n=123)

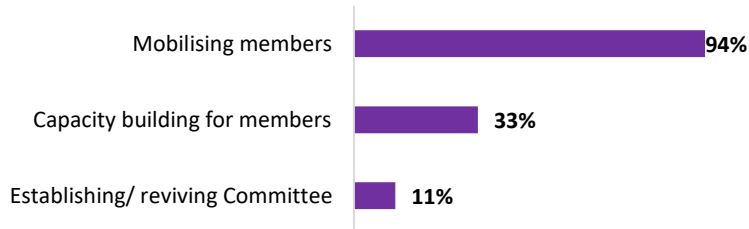


Improvement in availability of class room furniture across school buildings (83%) and establishment of library (70%) have been observed after the intervention. Along with these several other infrastructural services such as smart class, science labs, drinking water posts etc. were also made available to the teachers as well as students during the program. (Figure 41).

4.4.1 School Management Committees

22% of the respondents quoted that they had a School Management Committee (SMC) supported by HDFC interventions in their community. Around 18% of these respondents are its active members. Strengthening/revival of SMCs were carried out in order to ensure better management of school facilities. 93% of the respondents mentioned that their SMCs are currently functional.

Figure 42: Support from HDFC intervention for SMC strengthening (n=28)



Through HDFC intervention, major support has been provided in terms of mobilisation (94%), capacity building for members (33%) and reviving existing committees (11%).

Figure 43: Perceived benefits of strengthening SMCs (n=28)



The SMCs are beneficial in terms of active participation of community members in school activities (72%) and better coordination of school activities (100%).

4.4.2 Case study

Transforming Education and Empowering Students: The Journey of Government School of Jiyarappa village



This case study explores the remarkable transformation of a Government School of Jiyarappa village, once marred with inadequate facilities, low student attendance and critically low in education infrastructure. Through a targeted intervention, the school witnessed a revival that not only enhanced academic performance but also nurtured student talent and improved school's infrastructural facilities.

Jiyarappa Village, with the support of various stakeholders, introduced archery and hockey as sports activities. This initiative not only engaged students but also instilled discipline, focus, and teamwork. The students' participation in district and state-level competitions showcased their newfound skills and boosted their self-confidence.

Alongside the development of extracurricular activities, the intervention brought about significant improvements in studies and school infrastructure. Student attendance rates increased, and the provision of necessary facilities enhanced the learning environment. Jiyarappa Government School became a model for neighboring villages, inspiring them to replicate similar interventions and foster holistic education.

4.3.7. Impact observations

The project interventions has had a high impact in the overall quality of teaching and establishment of SMCs. Setting up of libraries, toilets specially for girls and other key infrastructure facilities has had medium impact in improving the quality of edification in the study area. For these changes to be

sustainable, teachers need to be trained to operate a smart class and maintain a constant availability of online pedagogy materials. Adoption of these new technologies in education requires a mindset change on the part of both parents and teachers. Going forward, the project can work on more interventions for awareness generation and subject confidence among students.

Figure 44: Project effectiveness, impact in Promotion of Education



4.5 Holistic Rural Development Index

There are multiple dimensions involved in achieving the goals of HRDP that includes agricultural production, generating new jobs, betterment of health, increased communication and provision of better living infrastructure.

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

For calculation of HRDI, the values of the impact indicators at baseline and endline were selected and assigned weights based on their relative contribution to the final expected outcome across four themes. Depending upon the variations in the interventions made in each project, the HRDI

customized to accommodate the most significant results that attributes to the goal of the HRDP program. The detailed methodology and indicators are explained in detail (see Annexure D).

The HRDI calculation for project P0245 implemented in Khunti has been given in the following table.

The thematic-wise indicators were assigned weights to arrive at the composite HRDI score of **0.70** indicating a **63% positive change towards the desired impact** from the baseline score of **0.43**. Skills and livelihood component had a **massive increase of 350%** owing to the various training and livelihood interventions of the project.

Table 11: HRDI Calculation for P0250

	Baseline	Endline	Base line	Endline	Baseline	Endline	Baseline	Endline	Baseline	Endline
HRDI Score	0.08	0.12	0.04	0.18	0.13	0.16	0.18	0.25	0.43	0.70
% Change	50%		350%		23%		39%		63%	

5 Analysis of Assessment Criteria

As outlined earlier in **Error! Reference source not found.**, for each thematic area, activities completed by NEEDS were identified and assessed using the following criteria:

- Relevance and Convergence
- Impact and Effectiveness¹
- Sustainability

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

5.1 Relevance and Convergence

The evaluation observed that there was convergence with the existing schemes of the government particularly in the areas of natural resources management. This implies that the programs were designed to work in harmony with the ongoing government schemes and initiatives. National schemes like MGNREGA and state specific initiatives were utilised in the area of clean energy, education and health awareness wherever applicable.

5.2 Sustainability

The interventions in agriculture have yielded results in terms of output increase and increase in income. **Most of the beneficiary farmers are currently practising the services and practices accessed through the project under farm management.** The **horticulture farming has been giving a sustained impact on income and many more farmers are adopting the new crops** which are **Broccoli, Strawberry and Dragon fruit** even after the completion of the project. The beneficiaries have continued utilizing the inputs provided through the project. The tools and machines that have been handed over to the farmer groups are being actively used by the farmers. The vermi compost training have largely been successful and most farmers continue to practice it. However, many farmers reported the amount of compost produced from the vermipits to be inadequate for the crops they grow. **The adoption of clean energy solutions has been taken up in large Numbers.** Respondents have narrated positively regarding adoption of solar lights. Despite this, it was observed in the field study that the maintenance requirement of any technological solution was largely overlooked in this intervention. Hence, Training community members on fixing the solar lights, when necessary, could have helped the village in the long run.

The skill development for self-employment has benefitted women in terms of undertaking joint and individual enterprises. The active enterprises in the area were of tailoring. The discontinued functioning of the enterprises indicates that major improvements are required in these interventions of the project and thus were not sustainable. The main challenges for these enterprises to continue

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

functioning were the **rising input costs and market linkages**. Addressing these challenges would enable these enterprises to function again.

Another successful initiative in terms of sustainable impact have been the kitchen garden interventions which is adopted by many beneficiaries. The support provided for **kitchen garden has resulted in the decreased malnutrition levels in the villages and alternate source of income** however, a large no. of beneficiaries has been utilizing it for consumption only.

The distribution of livestock proved to be a key initiative to ensure sustainability of this intervention. Livestock has ensured **immediate cash availability** to the beneficiaries in emergency and also improved nutritional status of the household upon consumption apart from income benefits.

The health awareness even though conducted as part of the project, would have been more beneficial if they were conducted more frequently.

With regard to education, **assets like the library, smart class, science lab, computer lab, and sports equipment provided to the school have been handed over to the schools**. The drinking water intervention and digital support have certainly benefitted the students. However, the scale could be improved in the project area and more students could have benefitted from the same.

While assessing the sustainability of this project, it is crucial to keep in mind that the **COVID-19 pandemic hit in the middle of the project implementation** period. Hence the scale of the project and continuous follow up got limited. Even with this huge challenge, the project has still managed to gain on-ground results.

6 Recommendations

The HRDP project is aimed to support the lives of poor and vulnerable communities by adopting a holistic approach toward development. This involved providing necessary inputs on issues like shaping economic independence through skilling, providing basic infrastructural development, and entrepreneurship support. The development of human capital, natural resources, and infrastructure in poor and backward villages was expected to bring about their socioeconomic transformation. In **the assessed HRD program in the Khunti district, Jharkhand**, the major focus areas for intervention were Natural Resource Management (NRM), Skill Development & Livelihood Enhancement, Healthcare & Hygiene and Promotion of Education.

The project interventions have been **effective in bringing about some changes in the income of farmers through improved production, provision of seeds and irrigation facilities, and improved agricultural practices**. However, income has also increased because of a change in market prices and **water issues** continue to be a challenge for farmers, especially in summer season. The adoption of organic farming has been successful, with awareness generation and **training for vermicompost production and other natural fertilisers**. Training and demonstration of new vegetables like Broccoli and Dragon fruit under horticulture has brought a positive change and farmers are adopting it. The project has positively influenced awareness generation on improved agricultural practices. The project also brought about changes in **facilitating access to clean energy solutions**, especially solar lights.

The project had enabled **women to take up business enterprises**, however they faced critical challenges in terms of **input costs and market linkage**, leading to their closure in the study area. The support for these enterprises needs to be more for them to earn sustained income from it. The drinking water interventions have solved the water woes of the villages to a large extent. Moreover, while **the water supply is available in the households** and people are satisfied with its quality, there are certain hamlets of the project villages that lack access (due to geographical reasons especially in summers) despite the provision of a hand-pump. The **health interventions** aimed at facilitating access to health and sanitation services have been effective in terms of improving household health status and bringing about positive lifestyle changes. Though the quantitative data shows changes, the qualitative study finds that people are unable to recall the awareness sessions.

The project has also contributed towards improving and enhancing **the infrastructural and learning environment at schools**. To facilitate the same, several project interventions were undertaken in schools including the construction and renovation of physical infrastructural facilities such as **drinking water posts**, and **separate toilets for boys and girls**, which has **increased the capacity of students to spend more time at school**, and has even led to **decreased absenteeism due to health issues according to the teachers**. Furthermore, to improve the learning environment, project support was also provided in terms of smart class (however limited to 2 schools only), and the upgradation of libraries. Most of these interventions are functioning well, however the

scale of these interventions were low and, in some cases, it was observed that water tanks were not functional due to lack in maintenance.

Nevertheless, to bridge the gaps in implementation and address the challenges, some of the recommendations are discussed in the following section.

6.1 Recommendations

NRM

1. The intervention could have been more impactful if more investment in seed banks and other inputs have been provided which plays a critical role in increasing farmers' income.
2. There is a scope for scaling up the vermicompost production, even to commercial level, as farmers have adopted this initiative and are falling short of their own compost to use in their farms.
3. Farmers have shown more interest in learning new agricultural practices, so there is a need to invest more in training of farmers in new age farming practices.
4. The repair and maintenance of installed solar home and street lights need to be done and community ownership of these ensured.

Skill Training and Livelihood Enhancement

1. Handholding support to enterprises so they have marketing tie-up, business plan development, linkages with government schemes, etc. is crucial.
2. More income-earning opportunities and business-related training for women and youth
3. More advanced training on production practices and the use of machines/tools for beneficiaries to keep pace with the demands of the market.
4. Investment in raw material as per the changing need of the market.

Health and Sanitation

1. The sensitization programmes on health issues and menstrual hygiene should be conducted in periodic manner and not at one time.
2. Investment in piped water supply to geographically tough villages is needed as the problem of safe and accessible drinking water exists there especially in summer season.
3. Investment in rain water harvesting structures needed as it can help solve water availability problem in summers.

Promotion of Education

1. The scaling up of learning and digital support to schools is crucial.
2. More Investment needed to ensure availability of science labs and its proper functioning in the schools
3. The qualitative study has revealed that significant financial investment/support is needed in School of Jiyarappa village, which established himself as a model school by sustainably introducing and carrying out archery as a sports activity among other interventions. But as

archery equipment is quite expensive, school management is now facing difficulties to carry out the coaching of the students despite increase in will power of the coach, students and their parents.

Annexures

A. Detailed list of activities

Table 12: List of activities carried out in the project

1	Promotion of education	Educational Institutions Development	Infrastructure - Infrastructure renovation	Promotion of joyful learning and renovation of toilet and drinking water facilities in 12 Anganwadi centers	Anganwadi centers
2	Promotion of education	Educational Institutions Development	Infrastructure - Infrastructure renovation	Renovation of 11 government schools Building and sanitation structures	School
3	Promotion of education	Promotion of sports	Infrastructure and training for Archery and Hockey	Training and Infrastructure support for Hockey and Archery sports in 2 Schools	School
4	Health and sanitation	Sanitation	Menstrual hygiene awareness	Menstrual hygiene education of young women for awareness creation	Community
5	Health and sanitation	Health	Health Camps	Diagnosis, sensitization training and medication services were provided in targeted 16 villages	Community
6	NRM	Farm Management	Crop Diversification	Promotion, demonstration and input support for Intercropping Model, adoption of Broccoli, strawberry and dragon fruit	Farmers
7	NRM	Farm Management	Farm Inputs	Distribution of high quality and variety seeds of vegetables, paddy, fertilizers etc. Training on preparation of organic fertilizers.	Farmers
8	NRM	Farm Management	Farm technique - Mulching, SRI	Promotion and training of Paddy cultivation through SRI method, vegetables cultivation through mulching, Farm field school (FFS)	Farmers
9	NRM	Farm Management	Capacity building	Formation of farm interest groups (FIGs) and FPO.	Farmers
10	NRM	Water Management - Agriculture	Rain water conservation	Construction of seepage wells, check dams and excavation/repair of community ponds, wells	Farmers, Community
11	NRM	Water Management - Agriculture	Irrigation method - Drip & Lift irrigation	Installation of Drip system and distribution of lift irrigation system for improved irrigation	Farmers
12	NRM	Farm Management	Agri tools bank	Setting up of Agri tools Bank	Farmers
13	NRM	Clean Energy	Street Solar Lights installation	Promotion of renewable energy for small-scale entrepreneurs (Market places and common space)	Community

14	Skill development & livelihood enhancement	Skill Training	Skill Training	Training cum entrepreneurship development support to women in lac bangle making, sewing and sanitary pad making	Women
15	Skill development & livelihood enhancement	Livestock management	Fishery	Promotion & distribution of inputs for Fishery	Community
16	Skill development & livelihood enhancement	Livestock management	Duckery	Promotion & distribution of inputs for Duckery	Community
17	Skill development & livelihood enhancement	Livestock management	Poultry	Promotion & distribution of inputs for Poultry	Community
18	Drinking water management	Infrastructure	Handpumps and Water tanks	Repair of handpumps in households and establishment of water tanks at Schools	Community

B. Sampling Methodology

The quantitative household survey was administered for four thematic areas in each village of Khunti district.

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 424.

Quantitative Sampling Methodology

10 programme villages with the highest number of beneficiaries were selected for the study. The stages of sampling are explained as follows:

Stage 1 - Selection of villages

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

Stage 2 – Selection of beneficiaries:

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. 5 villages with the lowest sample size were merged with other villages to make a total of 10 villages to be covered under the survey.

Stage 3- Sampling for activities:

The total sample of 424 was then distributed amongst various themes depending on the significance of activities done.

Qualitative sample size calculation

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

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

C. Sustainability Thematic wise Matrix

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

Table 13: Sustainability Index

Support provided	Structures established	Technical Know-how	Usage	Maintenance
<i>NRM</i>				
<i>Farm Management - Irrigation</i>	✓	✓	✓	✓
<i>Farm Management - Inputs</i>	✓	✓	✓	✓
<i>Farm Management - Training</i>	✓	✓	✓	✓
<i>Farm Management - Capacity building</i>	X	✓	✓	✓
<i>Clean energy</i>	✓	✓	✓	✓
<i>Drinking water management</i>	✓	✓	✓	X
Skill Training and Livelihood Enhancement				
<i>Enterprise creation</i>	✓	✓	✓	X
<i>Livestock management</i>	X	✓	✓	✓
<i>Kitchen garden</i>	X	✓	✓	✓
Health and Sanitation				
<i>Health</i>	X	✓	✓	✓
<i>Sanitation</i>	✓	✓	✓	✓
Promotion of Education & Sports				
<i>Education</i>	✓	✓	✓	✓
<i>Sports</i>	✓	✓	✓	✓

D. HRDI Methodology

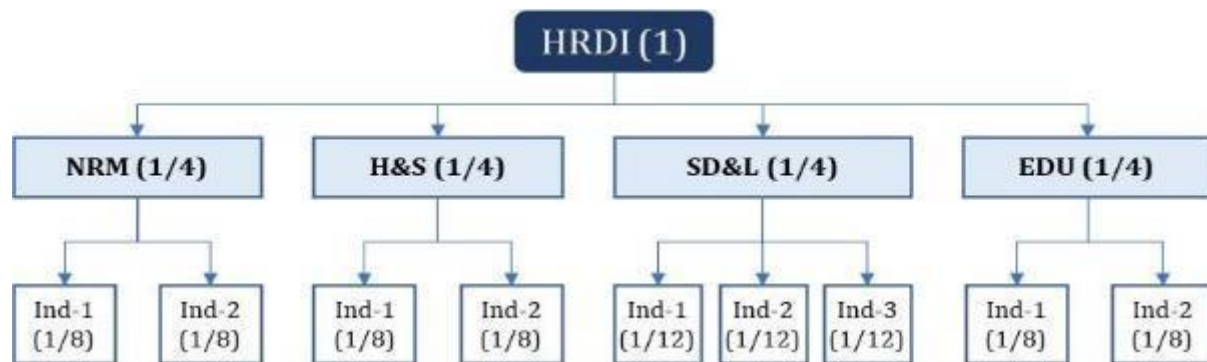
The outcome indicators included in the HRDI were obtained from different domains and are consequently measured on different scales. Therefore, to ensure the comparability of these indicators, all the indicators were converted into discrete variables such that the indicators could be measured between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

Indicator Weights

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

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

Domain and indicator weights²



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

Table 14: Indicator weights

Indicator	Weight
Project X	

² NRM: Natural Resource Management | H&S: Health and Sanitation | SD&L: Skill Development and Livelihoods | EDU: Education

Natural Resource Management	Average net income from farming	$(1/4) \times (1/3) = 0.083$
	Percentage of farmers reporting access to irrigation	$(1/4) \times (1/3) = 0.083$
	Area under irrigation (Ha)	$(1/4) \times (1/3) = 0.083$
Health and Sanitation	Average number of months with access to adequate drinking water	$(1/4) \times (1/3) = 0.083$
	Percentage of households with access to improved toilet facility	$(1/4) \times (1/3) = 0.083$
	Percentage of households utilizing soak pits	$(1/4) \times (1/3) = 0.083$
Livelihoods and Skill development	Average monthly income of household from Livestock (INR)	$(1/4) \times (1/3) = 0.083$
	Average monthly income from enterprises (INR)	$(1/4) \times (1/3) = 0.083$
	Average monthly income of SHG women from enterprise (INR)	$(1/4) \times (1/3) = 0.083$
Education	Percentage of students reporting increased access to functional school physical infrastructure (drinking water posts, separate washrooms, etc.)	$(1/4) \times (1/2) = 0.125$
	Percentage of students reporting increased access to functional learning infrastructure (library, science labs, learning aids, etc.)	$(1/4) \times (1/2) = 0.125$

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

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

Method to calculate HRDI

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

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

percentile i.e., the median value of the income was taken. This median or 50th percentile was taken as the cut-off (baseline cut-off to be precise).

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

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

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

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

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

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

Table 15: HRDI Calculation of Khunti

Domain	Indicators	Baseline score	Baseline HRDI	End line score	Endline HRDI	% Change
NRM	Proportion of farmers with net income above median	0.16	0.08	0.24	0.12	50
	Proportion of farmers reporting increased productivity of three main crops above median (before and after)	0.09		0.14		
	Percentage of farmers reporting access to irrigation	0.07		0.10		
ST&LE	Percentage of households who are getting skill training & reporting increase in income from job/enterprise/self-employment	0.17	0.13	0.50	0.18	38.5
	Percentage of SHG members reporting income above median from rural enterprises	0.0		0.0		
	Percentage of HH reporting income above median from livestock	0.01		0.22		
H&S	Percentage of households reporting increase availability of drinking water facility	0.04	0.04	0.03	0.16	300

Domain	Indicators	Baseline score	Baseline HRDI	End line score	Endline HRDI	% Change
	Percentage of households with access to improved toilet facility	0.26		0.28		
	Percentage of households reporting increase in use of fruits/vegetables from the nutrition garden	0.20		0.32		
PoE	Percentage of respondents reporting increased access to functional school physical infrastructure (drinking water posts, separate washrooms, furniture etc.)	0.48	0.18	0.50	0.25	38.9
	Percentage of respondents reporting increased access to functional learning infrastructure (library, science labs, smart class, etc.)	0.25		0.50		
Total			0.43		0.70	62.8

E. Overview of Impact Methodology

Overview of Impact in the effectiveness section was calculated based on the averages of quantitative output indicators as demonstrated below.

Table 16: Impact methodology

Outputs	Output Indicators		Output Avg	Impact Level
NA. Increased income from agriculture				
N.A1 Land/ crop productivity	NA1. (a) Proportion of farmers reporting an increase in production of crops that were supported under HRDP	52%	57%	Medium
	NA1. (b) Proportion of farmers reporting increased income from crops that were supported under HRDP.	98%		
	N.A1.i(c) Average increase in income from crops that were supported under HRDP (% change)	73%		
	N.A1.I (d) Average increase in productivity from crops that were supported under HRDP (% change)	43%		
	N.A1.i(e) Average decrease in input cost (% change)	17%		
N.A2. Access to the farm	N.A2(a) Proportion of beneficiaries satisfied with the quality of available services (in farm management)	98%	90%	High

management infrastructure	N.A2.(b) The proportion of farmers reporting an increase in the use of natural fertilizers?	82%		
NA.3 Increased adoption of crop diversification	NA3. (a) Proportion of farmers diversifying their crops with project support.	38%	38%	Low
	NA3. (b) Proportion of farmers who report income increase due to crop diversification (base = farmers who adopted crop diversification)	38%		
NA.4 Land under irrigation	NA4. (a) Percentage Increase in Land area under irrigation	10%	43%	Medium
	NA4. (b). The proportion of farmers who received support for irrigation	75%		
NC. Increased use of clean energy solutions				
NC1.Adoption of clean energy infrastructure	NC1 (a) Proportion of HHS using clean energy infrastructure (Base=all)	95%	97.5%	High
	NC1. (b)Proportion of households reporting benefits from using clean energy infrastructure (Base=clean energy beneficiaries)	100%		
SA. Improved access to agricultural training and services				
S.A.1 Access to Agriculture training and services	SA.i(a) Proportion of farmers who reported project training services are useful	99%	100%	High
	SA.i(b) Proportion of farmers who demonstrate awareness regarding sustainable farming practices	100%		
S.A.2.Adoption of improved farming practices	SA.ii(a) Proportion of farmers currently practicing GAP & Multi-tier cropping practices	46%	46%	Medium
SC. Enhanced capacity for regular income generation				
SC.2 Access to self-employment and entrepreneurial opportunities	SC.2(a) Proportion of beneficiaries reporting business skills development	33%	33%	Low
SD. Improved capacity to generate income through livestock management				
SD.1 Adoption of scientific management of livestock	SD.I (a) Proportion of beneficiaries who received support in livestock management services	57%	72%	High
	SD.i(b) Proportion of beneficiaries reporting an increase in income from livestock management	60%		
	SD.i(c) Proportionate increase in average income from livestock	100%		
H.A. Improved health infrastructure and services				
H.A.1 Establishment/	H.A.i(a) Proportion of beneficiaries who gained access to health services	70%	62%	Medium

enhancement of health infrastructure and services	H.A.i(b) Proportion of beneficiaries who consulted medical references from camps	54%		
H.A.2. Improved quality of health services	H.A.ii(c) Increase in no. of beneficiaries reporting improved quality of available services	27%	27%	Low
H.B. Improved sanitation infrastructure and services				
HB.1 Establishment/enhancement of sanitation infrastructure.	H.B.i(a) Proportion of beneficiaries who gained access to sanitation services	90%	69%	Medium
	H.B.i(b) Increase in no of HHs with access to sanitation infrastructure/soak pits	47%		
H.C. Development of Kitchen gardens				
HC.1 Increased adoption of kitchen gardens	HC.i(a) Proportion of HHs reporting income gains from kitchen gardens	41%	76%	High
	HC. i (b) No of HHs received seeds/training in the kitchen garden	98%		
	HC.i(c) No of HHs with improved vegetable/fruit consumption due to kitchen gardens	93%		
	HC.i(d) Proportion of HHs reporting improved nutrition	72%		
H.D Improved awareness and health-seeking behaviour				
H.D.1 Awareness regarding health and sanitation practices	H.D.i (a) Improved dietary practices/reduced tobacco consumption/improved physical exercise	76%	76%	High
H.E. Improved availability and management of water				
H.E.1. Access to drinking water at household and community levels improved	H.E1. (b)The proportion of households reporting decrease in instances of water borne diseases in the family	43%	43%	Medium
Outcome E.A. Improved capacity of educational institutions to provide services				
EA.1 Access to improved physical infrastructure	EA.i(a) Proportion of students/schools who report gaining access to functioning smart classrooms/ Bala/science labs/libraries/learning aid/furniture/sports equipment	61%	48.5%	Medium
	EA.i(b) Proportion of schools who gained access to clean and functioning sanitation units/drinking water posts at education institutions	36%		
EA.2 Improvements in quality of teaching	EA.ii(a) Proportion of teachers utilizing library	88%	94%	High
	EA.ii(b) Proportion of students who prefer smart class for learning	100%		

EA.3. Improved willingness to engage in school activities	EA.iii(a) Teachers reporting improvements in attendance due to improved infrastructure	78%	51%	Medium
	EA.iii(b) Proportion of teachers reporting an increase in enrolment post infrastructure development	48%		
	EA.iii(c) Proportion of institutions reporting a decrease in dropout rates	26%		
Outcome E.B. Improved learning outcomes				
EB.1 Improved exam performance and subject confidence among students	EB.i(a) Proportion of students who gained access to coaching classes	16%	52%	Medium
	EB.i(b) Proportion of households reporting access to reference material for exam preparation	64%		
	EB.i(c) Proportion of teachers reporting improvements in learning outcomes due to smart class at institutions (concept retention, syllabus coverage, and interesting)	75%		
Outcome E.C. Improved Awareness				
EC.1 Improved Awareness among students, parents, and teachers	EC.i(a) Awareness activities conducted	35%	35%	Low
Outcome E.D. Strengthening SMCs				
ED.1 Establishment and strengthening of SMCs	ED.i(a) Proportion of teachers reporting SMCs that are functioning regularly	78%	78%	High
	ED.i(b) Proportion of beneficiaries (teachers) who actively engage in SMCs	56%		
	ED.i(c) Perceived benefits of SMC	100%		

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