Impact Assessment of "Holistic Rural Development Project (HRDP)" in Madhya Pradesh

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HDFC BANK PARIVARTAN
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Acronyms

BALA	Building as Learning Aid
CAPI	Computer-Assisted Personal Interviews
FGD	Focus Group Discussion
FPO	Farmer Producer Organisation
H&H	Health and Hygiene
HRDP	Holistic Rural Development Program
IDI	In-depth Interview
IGSSS	Indo Global Social Service Society
KVK	Krishi Vigyan Kendra
M&E	Monitoring & Evaluation
NFH-S	National Family Health Survey
NGO	Non-Governmental Organization
NRM	Natural Resource Management
NRLM	National Rural Livelihood Mission
MNREGA	Mahatma Gandhi National Rural Employment Guarantee Act
PoE	Promotion of Education
SDLE	Skill Development Livelihood Enhancement
SHG	Self Help Group
SMC	School Management Committees
VDC	Village Development Committee
WASH	Water, Sanitation, and Hygiene

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EXECUTIVE SUMMARY

A. Background of the Project

The **Holistic Rural Development Program (HRDP)** is a flagship CSR initiative by HDFC Bank Parivarthan aimed at promoting sustainable and holistic development in rural areas across the country. This programme was implemented for a period of three years (2020-2023) in 15 villages in Pandhana block of Khandwa district of Madhya Pradesh, where interventions were introduced to tackle community-specific challenges.

The interventions aimed at addressing three primary objectives:

Objective 1 - Increase income of small farmers and landless labourers through on and off farm-based livelihood models.

Objective 2 - Improve village infrastructure with specific focus on education and clean energy.

Objective 3 - Strengthen community-based institutions and leadership for sustainable development.

In order to address these objectives, the project largely focused on the following thematic areas:

Natural Resource Management (NRM): Under NRM, infrastructure for irrigation (Check-dam) were provided to ensure a steady water supply for crops. Clean energy sources (solar street lights and solar home light) were an innovative and eco-friendly intervention to improve safety and security in the communities, especially impacting women and children. While irrigation systems boosted agricultural productivity and water conservation, solar lighting enhanced energy efficiency, reduced environmental impact, and improved community infrastructure.

Skill Development & Livelihood Enhancement (SDLE): Through farm management and enterprise development, the project tried to empower individuals to improve their productivity, diversify income streams, and achieve economic independence. These interventions-built resilience, fostered innovation, and contributed to sustainable community development.

Healthcare & Hygiene (H&H): Interventions such as water management (drinking) intended to ensure access to safe and clean drinking water, leading to improved health of community members. Water storage systems also reduced the time and effort spent by communities, especially women, to fetch water for their regular needs. Health camps could provide critical basic health information and enabled the adoption of some behavioural changes for better nutrition.

Promotion of Education (PoE): The Promotion of Education initiatives enhanced school infrastructure to make learning more accessible, engaging, and enjoyable. By addressing essential needs like library, science lab, technology in classrooms, visual learning aids, and recreational facilities (swings), these interventions created a well-rounded environment that encouraged student retention, participation, and academic excellence.

These broad thematic areas were implemented by IGSSS, the implementing partner for this project. CMSR Consultants was hired by HDFC Bank Parivarthan to conduct the impact assessment of the project 1.5 years after the completion of the project.

B. Methodology

The impact assessment was conducted using mixed methods, with qualitative surveys conducted at the household, group, and community level, and qualitative tools adopted across the four thematic areas. The quantitative component included a CAPI survey of 353 beneficiaries, ensuring a 95%

confidence level and a 5% margin of error, with an additional allowance of 10-15% for non-responses. For qualitative insights, focus group discussions were held with farmers, in-depth interviews were conducted with principals and school teachers, and an observational checklist was used to assess anganwadi and school interventions, such as renovation of floor tiles in Anganwadi, renovation of library, science lab, learning aids (smart classrooms & BALA painting) and WASH facilities (construction of toilets).

The sample for this study was drawn from a list of intervention households and groups provided by the HDFC team, and proportionately distributed across key intervention components such as water management - irrigation (NRM), clean energy (NRM), farm management (SDLE), enterprise development (SDLE), water management - drinking water (H&H) and health camps (H&H). A stratified sampling approach was used, categorising beneficiaries by household, group, and community. Based on the total number of beneficiaries (2,330), proportions were calculated for each beneficiary type—households (82.5%), groups (10.5%), and communities (7.0%)—and a sample size of **353** beneficiaries was allocated accordingly. Additionally, schools and anganwadi were selected under the PoE focus area, with the criteria emphasising areas with diverse and comprehensive interventions to capture varied feedback.

The assessment was guided by a modified OECD analytical framework, covering the criteria of Relevance, Coherence, Efficiency, Effectiveness, Impact, Sustainability, and Branding. These criteria facilitated a nuanced evaluation of the HRDP, focusing on its alignment with community needs, implementation efficiency, transformative outcomes, resource integration, long-term benefits, and scalability. A rating matrix was employed to quantify success across these dimensions, enabling a structured assessment and providing actionable insights for future programme enhancements.

In order to ensure a comprehensive and effective impact assessment, the following steps were adopted over the course of the study:

Tool development

The HDFC Bank team developed initial standardized questionnaires for each focus area and activity, which were refined by the CMSR team to align with project-specific interventions. Additionally, the study team created new qualitative tools, including FGDs and IDIs, to gather insights based on OECD parameters.

Data collection

The training program spanned two days. The first one and a half days were dedicated to classroom-based learning and the remaining half-day was allocated to field visits for mock calls. This structure ensured a balanced approach to both theoretical understanding and practical experience. A total of five enumerators and one supervisor from Chhattisgarh participated in the orientation. Additionally, a mix of locally hired researchers and in-house researchers attended the qualitative data collection. The data collection process employed CAPI on tablets or mobile devices for structured surveys. Qualitative interviews were audio-recorded to facilitate accurate transcription and analysis.

Data analysis

The data analysis plan provided a structured framework for collecting, processing, and synthesizing evidence to address research questions. A scoring matrix, incorporating weighted qualitative and quantitative variables, evaluated the project's performance across key components based on OECD-DAC parameters.

C. Demographics

- The majority of respondents in the quantitative survey (65%) were male, while a smaller proportion of the respondents (35%) were female.
- The largest proportion, (34%) of respondents, belonged to the age-group of 41-60 years, followed by 31-40 years (27%), 18-30 years (20%) and 60+ years (19%).
- A larger portion of respondents (21%) had completed education up to the upper primary level. A notable percentage (18%) reported to be illiterate. 15% of respondents are literate but have not completed primary education followed by primary and secondary education at 13% each. While 11% had completed higher education, only 5% were graduate or higher.
- A majority (59%) of the respondents belonged to other backward class, followed by general category at 16%, scheduled caste at 18% and 7% identified themselves as scheduled tribe.
- An overwhelming majority (81%) of respondents were primarily engaged in agriculture while 9% of respondents relied on daily wage labour followed by service (Govt. or Private) at 6%.

D. Key Findings

The table below summarises the key findings across the four thematic areas and seven major indicators. The scores, along with data on the sub-indicators, have been shared, with illustrative evidence to justify the scores.

	Natural Resource Management (NRM)	Skill Development Livelihood Enhancement (SDLE)	Health and Hygiene (H&H)	Promotion of Education (PoE)	Overall
Relevance	In terms of relevance, NRM scored **3.1**, reflecting an average relevance. **Beneficiary Need Alignment (3.4)** and **Local Context Alignment (3.0)** indicated that the interventions such as solar street lights, solar home lights and water management - irrigation were moderately aligned with the needs of the beneficiaries. However, the **quality of the design** scored **2.0** reflecting below average quality of the solutions. For example, issues such as the breakdown of the dam in Rampur Kalan shortly after construction and the malfunctioning of numerous streetlights highlight significant gaps in the design and implementation phases.	The overall relevance scored **3.4**, highlighting moderate relevance. The score of **3.6** for **beneficiary need alignment** and **3.2** for **local context alignment** demonstrated that interventions like vermicomposting and kitchen-garden were aligned. Enterprise development intervention was moderately aligned with the needs of women. A score of **3.0** was assigned to the **quality of design,** indicating moderate alignment with beneficiary needs, local context and the quality of design.	H&H scored **3.1**, indicating moderate alignment of the interventions. **Beneficiary need alignment (3.6)** and **local context alignment (2.8)** revealed existing gaps in implementation and relevance. For instance, in Bawariya Kaji, a **Jal Minar** was constructed 500 meters away from the village, which limited accessibility for many residents. The general health camps and the animal health camps were highly appreciated by beneficiaries. A score of 2.5 was given to **quality of design** as the execution of general health camps was limited. Only one health camp was organized in 2021, highlighting the need for more frequent and detailed health initiatives.	The score of **3.4** for relevance indicated that the interventions such as smart classrooms, BALA painting, sports material and furniture were relevant. Due to misalignment of some interventions, **needs of the beneficiary (3.5)** and **local context (3.0)** couldn't receive a full score. For instance, providing toilets that were not child-friendly, made them unusable. The overall quality of design in certain education-related interventions was subpar in a few villages. For instance, the rainwater harvesting system in Bamangaon failed due to poor construction, becoming non-functional shortly after installation. Therefore, **Quality of**	Across the thematic areas, relevance scored **3.2,** demonstrating moderate relevance. While the majority of the interventions aligned with beneficiary needs and local contexts, interventions like health camps could have been more comprehensive. Additionally, the one-time support received through animal health camps helped in building basic awareness on diseases and how they can be addressed. Also, toilets and water filters were installed in areas lacking basic water supply, rendering them non-functional. Streetlights were either installed in unsuitable locations or missing in some hamlets

	Natural Resource Management (NRM)	Skill Development Livelihood Enhancement (SDLE)	Health and Hygiene (H&H)	Promotion of Education (PoE)	Overall
				design (3.5) received a moderate score.	
Coherence	The overall coherence score of **4.0** reflected strong **internal coherence (5.0)** with IGSSS's vision of supporting marginalised communities, and moderate **external coherence (3.0)**. The external coherence score indicated moderate alignment with external actors and interventions. Notably, there were no reported overlaps, duplications, or contradictions with services provided by other organisations in the target area. While some streetlights had been provided by the government or panchayat, there were still unmet needs in the villages. The project aimed to address these gaps, complementing government efforts to improve the living conditions in the area.	The coherence score of **4.5 out of 5** reflected both internal and external coherence. **Internal coherence (5)** demonstrated strong alignment with IGSSS's vision and approach, as well as HDFC's holistic rural development programme. The **external coherence** score of **4.0** indicated good alignment with interventions.	The coherence score of **4.0 out of 5** reflected strong alignment across internal and external dimensions. **Internal coherence (5)** highlights a clear alignment with IGSSS's vision and approach towards working with marginalised communities and HDFC's HRDP. The **external coherence** scored **3.0** underscored effective collaboration with government entities, such as organizing animal health camps in partnership with the Animal Health Department. However, the project's drinking water infrastructure coincided with Madhya Pradesh's 2018 *Har Ghar Nal Se Jal* scheme, making it unnecessary and abandoned. This highlights the need for better coordination to prevent such issues.	The coherence score of **5.0**, indicated a strong alignment across internal **(5)** and external coherence **(3).** With IGSSS' overarching vision of empowering marginalised communities. Notably, there was collaboration with government agencies in providing books for libraries, sports materials and constructing school toilets.	The combined weightage score for coherence was **4.1**. The project aligns with IGSSS's vision and HDFC's HRDP, covering key sectors. While collaborations existed, overlaps with *Har Ghar Nal Se Jal* left some water tanks incomplete.

	Natural Resource Management (NRM)	Skill Development Livelihood Enhancement (SDLE)	Health and Hygiene (H&H)	Promotion of Education (PoE)	Overall
Efficiency	Overall efficiency scored **3.3,** which indicated that the efficiency of the intervention was average. **Timeliness** scored **(3.8)** showcasing the timely construction of the interventions. **Quality of services** received a score of **3.0** which is average due to the problems in durability of solar street lights. **Operational efficiency** received a moderate score of **3.3**. Additionally, absence of any feedback mechanism led to the average score of **3** for **project design**. A lack of proper needs assessment and baseline data contributed to the misaligned implementation of solar streetlights and other interventions.	Efficiency scored **3.9,** reflecting a moderately good level of resource utilization, highlighting strengths in **timeliness (4.7)** and **quality of service (4.1)**. However, certain risks in the project were not considered reducing the score of **operational efficiency (3.0)**. The quality of the drip and sprinkler systems provided to beneficiaries was reported as excellent overall. However, poorly designed poultry sheds, irrelevant beekeeping initiatives, and the absence of insurance for goatry, which reflected a lack of alignment with local needs. Projects suffered from a lack of baseline data and misaligned implementation, as seen in improper beneficiary selection and seed distribution. Hence, **project design** scored **3.4.**	The overall combined score for health and hygiene is **2.9**, which indicated a moderate level of efficiency. **Timeliness** scored **2.8** while **quality of services 3.3**. It received a moderate score because only one health camp was organized in 2021, which was insufficient to cater to the community's diverse health requirements. Drinking water tanks also faced several issues. The overall **operational efficiency** scored **2.3 out of 5**, indicating a nearly average efficiency. Due to the gaps in monitoring and baseline assessment, **project design and M&E scored 3.0** indicating moderate efficiency.	The combined score of **3.5** revealed that the interventions were moderately efficient. **Timeliness** scored **4.0,** indicating that the interventions were implemented as planned. The **quality of services** received a score of **3.5**, indicating moderate intervention quality. This score was primarily due to the absence of water connectivity in the school toilets. **Operational efficiency** was rated **3.5** due to science labs in Bamangaon being less effective. Absence of a baseline study limited the ability to assess the impact, therefore **project design and M&E** was scored **3**.	Efficiency scored an overall score of **3.4,** indicating moderate efficiency. One positive consequence of the project was the provision of employment to local community members under MNREGA for the construction of a dam. There were inadequacies in activities like vermicomposting and failure to deliver soil test results were evident. Lack of risk management also undermined the projects, with theft or vandalism risks and the uprooting of streetlights limiting the efficiency.

	Natural Resource Management (NRM)	Skill Development Livelihood Enhancement (SDLE)	Health and Hygiene (H&H)	Promotion of Education (PoE)	Overall
Effectiveness	The NRM initiative achieved an average performance with a combined score of **2.6**. **Short-term results** scored **2.7**, reflecting average success. Several water resource structures created for irrigation and general use were found to be non-operational. The **reach** score of **3.5** indicated progress in achieving targets like solar lights and renovation of check dams though gaps remained—e.g., in Year 2, the plan was to renovate two stop-check dams, however, none were completed. In Year 3, three stop-check dams were planned, and all three were successfully renovated. The **influencing factors** indicator received a low score of **2.5.** **Differential results** scored **2.0**, showing lack of inclusivity. IGSSS only consulted the VDC, which by itself may not have been fully inclusive. The	Effectiveness reflected moderate success of the intervention with a score of **2.9. Interim results** of the project scored **2.4.** Most of the farm-related interventions were not continuing beyond the initial phase. **Reach** scored **4.2. Influencing factors** received a score of **2.7.** Many beneficiaries reported receiving seeds only once, which they utilized initially but did not receive further support. This limitation curtailed the sustained use of resources. The score of **2.7** for **differential results** indicated the need for more inclusive project design. The interventions observed limited **adaptation over time**, hence it was rated **1.8.** Most of the interventions such as vermicomposting and kitchen garden witnessed no adaptation.	The combined weighted score for health and hygiene received a moderate score **3.4**. **Interim results** scored **2.7,** many of the water structures were non-operational. **Reach** scored **4.5. It couldn't receive a full score** as majority of the villagers were not able to recall the health camps that had been organized in their villages, highlighting limited community engagement and a lack of perceived impact. **Influential factors** scored **2.8** and while **differential results** scored **3.3**. Lack of community consultation was reported, contrary to claims by the implementing partner. There were no instances of adaptive measures being implemented during the intervention, reflecting a lack of flexibility to address emerging challenges. Therefore, adaptation over time scored **2.0.**	Effectiveness received a combined score of **3.7** which indicated a strong level of project effectiveness. **Interim results** with a score of **3.0**, reflected moderate success of the interventions. **Reach** received a full score **(4),** indicating that the targets were achieved. However, in **Bamangaon** and **Khadki**, kitchen gardens were reported as delivered but were absent upon inspection. **Influencing factors** scored **4.0** due to a mix of enablers and disablers. Interventions such as addition of a lockable cupboard for the library has been especially beneficial, as it protects the books and materials from damage. The **differential results** indicator scored **4.0** due lack of comprehensive needs assessment. **Adaptation over time**	The combined effectiveness score of **3.1**, highlighted a moderate level of project implementation. Interventions such as vermicomposting, Poultry farming and goat distribution showed potential but faced risks. Smart classroom, drip/irrigation sprinkler were adopted widely.

	Natural Resource Management (NRM)	Skill Development Livelihood Enhancement (SDLE)	Health and Hygiene (H&H)	Promotion of Education (PoE)	Overall
	adaptation over time score of **1.0** indicated lack of mechanisms to address key issues. For both the solar streetlights/home lights and the check dams, once the activities were implemented, no modifications were made throughout the project's duration.			scored **4.0**, reflecting moderate adaptability.	

	Natural Resource Management (NRM)	Skill Development Livelihood Enhancement (SDLE)	Health and Hygiene (H&H)	Promotion of Education (PoE)	Overall
Impact	The impact indicator scored **2.4 out of 5,** reflecting a nearly average score. **Significance** scored **1.9,** reflecting a weak outcome of the intervention. **Transformational change (2.5)** scored a near-average. Women in the survey reported improved safety from the solar streetlights while water management system had no significant impact. **Unintended change**[1] scored **3.5** as the households near solar streetlights reported energy savings as outdoor lighting became unnecessary.	The overall impact score of **2.7** reflected the average outcomes of the intervention. The score of **3.3** was given to significance. The **3.7** score for **transformational change** showed moderate impact. For instance, women gained greater decision-making power due to their access to money. Likewise, for farm management, a key success of the initiative was the positive impact of drip and sprinkler irrigation on beneficiaries' farming practices. **Unintended change** scored **2.7,** due biased selection of beneficiaries based on their relationship with the volunteers which can have a negative impact on HDFC's image. For instance, few beneficiaries selected for the kitchen garden did not receive the seeds.	The overall score of **2.8** indicated moderate impact of drinking water tanks and health camps on beneficiaries. The score of **3.1** highlighted that while the health camps helped people understand their underlying health conditions and animal health camps addressed critical needs by providing deworming tablets and multivitamins, water management for drinking faced several challenges that undermined its impact. T**ransformational change** received a below average score of **2.0** because most of the Jal Minars were either non-functional or incomplete. In one village, the Jal Minar was constructed at a significant distance from the settlement, limiting accessibility and reducing the initiative's overall effectiveness. **Unintended change** received a moderate score of **3.0,** reflecting neither positive nor negative changes.	Impact received a combined score of **4.0** which indicated significant success of the intervention. The learning environment significantly enhanced due to the interventions such as BALA painting, library, science lab and smart classroom. **Transformational change** and **unintended change** scored **4.0 due to several reasons;** installation of floor tiles in Anganwadi, installation of water filter in schools etc. Additionally, teachers were able to multitask due to smart classroom.	Impact received an overall score of **3.1**, indicating moderate positive change for beneficiaries. In schools, educational-aids developed the interest of students in learning. Further, libraries and science labs enhanced school infrastructure. Women reported improved safety from streetlights and greater empowerment through SHGs and entrepreneurship.

[1] Unintended changes have been rated as the following: 1-2 for negative unintended change, 3 for no change, 4-5 for positive unintended change

	Natural Resource Management (NRM)	Skill Development Livelihood Enhancement (SDLE)	Health and Hygiene (H&H)	Promotion of Education (PoE)	Overall
Sustainability	The sustainability score of **1.3** highlighted the need for improvement to ensure the long-term viability of interventions. However, the low score of **1.0** in **project design, strategy, and sustainability** revealed significant gaps, suggesting limited likelihood of the interventions' long-term success.	The combined score for sustainability stood at **2.5,** reflecting limited sustainability, with **potential for continuity (2.5)** and **sustainability in project design and strategy (2.5)**, suggesting major room for improvement. For instance, the chips enterprise struggled due to the lack of a post-project marketing strategy.	The overall Health and Hygiene score of **1.5** demonstrated poor performance of the intervention with regard to sustainability. **Potential for continuity** and **sustainability in project design** scored **1.8** and **1.0** respectively. There was no mechanism to sustain or manage the intervention. This low score reflects the condition of the Jal Minars, most of which were found to be either incomplete or non-functional during the study team's visit. Similarly, the low sustainability score for health camps stems from the fact that only one health camp was organized in 2021, with no follow-up activities conducted.	The overall score of sustainability **(3.8)**, indicated moderate sustainability of the interventions. BALA painting in schools and the furniture and toys provided as part of the initiative were still in regular use, highlighting their long-term impact in nurturing a child-friendly environment. Therefore, **potential for continuity** scored **4.0**. The **project's design and strategy** scored **3.5**. It couldn't receive a full score because in schools, kitchen garden, toilets and water filter faced sustainability challenges.	The low score of **2.3** in sustainability was largely due to the lack of potential to continue the interventions. Reliance on VDCs and panchayats for managing interventions proved ineffective without proper operational mechanisms. For instance, the chips-making enterprise failed after the FPO holding its license stopped functioning post-project, and no mechanisms addressed streetlight failures, thefts, or vandalism. However, Smart classrooms remain operational but require additional teacher training for effective use. Similarly, BALA paintings, sports equipment, and Anganwadi furniture continue to be utilized, demonstrating durability and relevance.

	Natural Resource Management (NRM)	Skill Development Livelihood Enhancement (SDLE)	Health and Hygiene (H&H)	Promotion of Education (PoE)	Overall
Branding	The project achieved a perfect combined weightage score of **5** across water management - irrigation, clean energy, and therefore the overall NRM. This was due to the presence of boards and writing on the infrastructure implemented.	The project received a score of 2.8 due to lack of presence of HDFC boards outside the enterprise and other initiatives**.**	The overall branding score was **4.0** out of 5, indicates good visibility of the interventions. Although water tanks displayed HDFC branding, many community members couldn't recall about the health camps.	The score of **5** out of 5 for branding indicated that HDFC Bank's interventions had achieved excellent visibility through wall paintings and boards.	A score of **4.2** was given for branding due to strong visibility through banners, boards, and school wall paintings featuring *HDFC Parivartan*. Word-of-mouth also boosted awareness. However, branding for kitchen gardens and vermicompost was slightly lower, preventing a full score.

E. Recommendations

The impact assessment study of the HRDP in Khandwa district highlighted several key insights and recommendations to enhance future project implementation and sustainability.

Bala paintings have proven to be highly effective in engaging young learners, making education interactive and enjoyable. Their impact can be enhanced by periodically updating the content and involving the local community for sustainability. The introduction of smart classrooms significantly improved learning experiences, but subscription issues have hindered access to content. To resolve this, renewing subscriptions, creating a library of pre-approved resources, and training teachers in content curation will ensure consistent access to high-quality materials.

Irrigation systems like drip and sprinkler technologies have proven successful in promoting water conservation and improving crop yields, with recommendations to scale up usage for broader impact. Similarly, the chips processing unit has fostered financial independence for its members, but challenges such as packaging and marketing after external support ended remain. To address this, ongoing support for advanced packaging, marketing licenses, and training in business management is crucial for long-term sustainability.

Regarding drinking water, the government's Nal Jal Yojana has diminished the relevance of communal water structures, suggesting that future efforts should align with government initiatives, focusing on complementary aspects like water quality and conservation. In schools, interventions such as water filters and kitchen gardens were less successful due to issues like unreliable water supply and insecure boundaries, which could be addressed by conducting thorough needs assessments and involving the community in planning and maintenance.

The beekeeping initiative faced environmental challenges, suggesting the need for feasibility studies and potential enhancements like bee-friendly flora and heat-tolerant bee varieties. For goat rearing, improving health management and providing durable sheds, along with training in disease prevention, would ensure sustainability. Solar streetlights, though appreciated, suffered from quality issues and lack of maintenance; assigning responsibility to local authorities and establishing local service contracts can address these concerns.

Vermicomposting showed early success but faced challenges with earthworm survival, necessitating the establishment of local sources and alternative materials for composting. Lastly, the poultry venture had potential but struggled with infrastructure and predation issues, highlighting the need for improved infrastructure, training, and market linkages to ensure its sustainability.

Key learnings underline the necessity of comprehensive planning, community engagement, and quality assurance for successful future projects. Many interventions lacked alignment with local contexts, like water scarcity impacting kitchen gardens and unsuitable conditions for beekeeping and poultry.

To address these challenges, comprehensive needs assessment and baseline studies are essential for understanding community needs and tailoring interventions accordingly. Community engagement must be strengthened through active participation in planning, decision-making, and implementation to foster a sense of ownership. Investments in high-quality materials and rigorous design standards are critical, alongside adopting integrated, holistic solutions that address interconnected community needs. For example, water infrastructure initiatives should include water quality components, while poultry sheds should be designed to withstand environmental challenges.

Capacity building and continuous follow-up are pivotal to ensuring the sustainability of interventions. Training, such as in vermicomposting, must include practical guidance on resource maintenance. Additionally, alignment with government schemes can enhance resource optimization and impact, while robust monitoring and evaluation mechanisms should guide adaptive management and continuous improvement.

The findings also emphasize the importance of strengthening needs assessments and ensuring equitable beneficiary selection to foster trust and inclusivity. Adaptability in project design is critical, allowing mid-course corrections to address emerging challenges. Enhancing community ownership through awareness campaigns and establishing clear O&M mechanisms can ensure the long-term viability of infrastructure and livelihood projects. Livelihood initiatives, such as poultry farming and chips processing, require comprehensive training, disease management, and marketing support to achieve sustainability. Health and education interventions should address hygiene infrastructure gaps while leveraging tools like smart classrooms, ensuring functional and well-maintained facilities.

Lastly, sustainability planning must be an integral part of project design. Establishing linkages with local governments or creating mechanisms for the operation and maintenance of assets and infrastructure, in consultation with PRI members and village heads, can provide long-term resource provisioning and sustainability, thereby extending the benefits of initiatives. Most crucially, by focusing on the priorities of the community, a greater sense of ownership of infrastructure can be imbibed, enabling long-term successes.

CHAPTER I
BACKGROUND

1.1 Introduction

Madhya Pradesh is one of India's largest and most diverse states both socio-culturally and geographically. Characterised by vast agricultural lands, dense forests, and rich biodiversity, over 70% of its population resides in villages (Asian Development Bank, 2019). Agriculture remains the primary livelihood source for most of its rural inhabitants. Furthermore, the state's development indicators in areas such as education, health, and infrastructure reveal substantial scope for improvement, particularly in rural and tribal regions (Government of Madhya Pradesh, 2023).

Agricultural practices and adaptation

Agriculture remains a crucial sector for rural livelihoods in India, yet small and marginal farmers often face challenges like low productivity, limited access to quality seeds, and inadequate training in sustainable practices (Abraham & Pingali, 2020). Studies highlight that climate-smart agricultural practices—such as multi-cropping, traditional seed use, and organic farming—can enhance resilience against climate variability and improve productivity (Vishnoi & Goel, 2024). Initiatives like the formation of Farmer Interest Groups (FIGs) and seed banks have proven effective in fostering knowledge-sharing and collective action among farmers, facilitating the transition to sustainable agriculture (Dolinska & d'Aquino, 2016; Kliem, 2022). Additionally, vermicomposting has been recognised for its ability to improve soil health and reduce dependency on chemical fertilisers (Hajam et al., 2023). This suggests that interventions related to similar domains may lead to enhanced yields and sustainable practices among farmers in Madhya Pradesh.

Agri-based enterprises

Landless families in rural India often lack steady income sources, and introducing alternative livelihood opportunities such as poultry farming and livestock rearing has shown positive impacts on income security (Behera & France, 2016). Programmes that offer financial literacy and enterprise development training to youth and women groups, such as Self-Help Groups (SHGs), have been effective in increasing income and promoting entrepreneurship in rural India (Aithal, 2024). Studies on similar interventions have shown that empowering these groups not only diversifies household income, but also strengthens social capital and community resilience (Dushkova & Ivlieva, 2024). Hence, interventions that provide capacity-building sessions and support small enterprise development can contribute to rural livelihood enhancement.

School infrastructure and quality education

Improving educational infrastructure is critical for fostering a conducive learning environment and enhancing educational outcomes in rural India (Muralidharan et al., 2022). Only 36% of grade V students can read up to the class II level in rural Madhya Pradesh (ASER, 2022). Meanwhile, the provision of essential facilities such as sanitation, sports equipment, and teaching tools has shown to positively impact students' academic engagement and overall well-being (ASER Centre, 2020). Interventions that focus on capacity building for school management committees (SMCs) and teachers help ensure that these resources are utilised effectively, enhancing teaching quality and learning experiences (Barrett et al., 2019).

Renewable energy and sustainable practices

Energy poverty is a another significant challenge in rural India, where inconsistent electricity access hampers household activities and local businesses (Khandker et al., 2010). Studies indicate that solar-powered lighting solutions are viable alternatives in such contexts, reducing dependency on unreliable grid power and promoting sustainable energy use (Shakeel et al., 2023; Ukoba et al., 2024). Access to solar lights has been shown to improve study conditions for children, reduce energy expenses for households, and lower health risks associated with kerosene use (Mahajan et al., 2020; Sharma et al., 2019).

Inclusive planning

Sustainable rural development requires robust local institutions that can lead and sustain initiatives even after external interventions conclude. Village Development Committees (VDCs) and the engagement of local leaders as para-workers align with international and national good practices for community-driven development (World Bank, 2021). Capacity building through water budgeting, micro-planning, and leadership training has been shown to empower local communities, enabling them to manage resources more effectively and advocate for their own development needs (India Observatory, 2020). This approach ensures long-term sustainability by embedding skills and knowledge within the community, and reducing dependency on external resources.

Future interventions that focus on agricultural productivity, income diversification, educational infrastructure, clean energy, and community empowerment can addresses core aspects of rural poverty alleviation and sustainable development.

1.2 Project Context

HDFC launched the Holistic Rural Development Program (HRDP) with a vision to drive sustainable, community-led development across 15 villages in Khandwa district of Madhya Pradesh. This initiative, undertaken in partnership with IGSSS, aimed to promote rural empowerment through three primary objectives:

Objective 1 – Increase income of small farmers and landless labourers through on and off farm-based livelihood models.

Objective 2 – Improve village infrastructure with specific focus on education and clean energy.

Objective 3 – Strengthen community based institutions and leadership for sustainable development.

Through these objectives, HDFC's HRDP strived to create a sustainable model for rural development that could serve as a blueprint for future initiatives. These outcomes were addressed through four broad thematic areas namely, natural resource management, skill development and livelihood enhancement, health and hygiene and, the promotion of education.

While these four thematic areas are addressed across HRDP projects, specific interventions undertaken for each of the areas depend on the local needs and context. For example, interventions that would be relevant to Madhya Pradesh would defer from those undertaken in Meghalaya and Chhattisgarh due to varying socio-economic, cultural, geographical and environmental needs and contexts.

In MP, therefore, the following activities were undertaken in each of the broad thematic areas:

<table>
<tr><th>Natural Resource Management (NRM)</th><th>Skill Development and Livelihood Enhancement (SDLE)</th><th>Health and Hygiene (H&H)</th><th>Promotion of Education (PoE)</th></tr>
<tr><td>Water management (Irrigation) –
a. Drip irrigation
b. Sprinkler irrigation
c. Bori Bandhs
d. Check dams</td><td>Farm management –
a. Vermicomposting
b. Seed banks
c. Farmer Interest Groups (FIG)
d. Village Development Committees (VDC)
e. Farmer Producer Company (FPC)
f. Training in KVK
g. Jaivik Ghar
h. Soil profiling
i. Yellow sticky traps
j. Polyculture
k. Fruit plantation
l. Orchard
m. Village contingency plan
n. Plantation drives
o. Kitchen garden
p. Training on crop diversification</td><td>Water management (Drinking water) –
a. Hand pumps
b. Community wells
c. Clean water station
d. Water testing
e. Well rejuvenation
f. Solar -based community water tanks</td><td rowspan="3">a. BALA (Building as a Learning Aid) Painting
b. Furniture
c. Smart classrooms
d. Science lab
e. Library
f. Sports material
g. Teaching and Learning material
h. Rainwater harvesting
i. Drinking water
j. Toilets
k. SMC strengthening
l. Remedial classes
m. Kitchen garden
n. Handwashing unit</td></tr>
<tr><td rowspan="2">Clean energy -
a. Solar Street Lights</td><td rowspan="2">Enterprise development -
a. Power loom unit
b. Poultry farming
c. Leaf-plate machine
d. Pulse-processing unit</td><td>Health camps</td></tr>
<tr><td>Community dustbins</td></tr>
</table>

It should be noted that not all interventions were implemented in all the villages; for example, while solar street lights were installed in all the 15 villages, specific enterprises were established only in select villages.

CHAPTER **II**

IMPACT ASSESSMENT METHODOLOGY

2.1 Study Objectives

Study objectives

The impact assessment covered the HRDP project implemented by IGSSS in Madhya Pradesh, focusing on their performance over 3 years (2020-2023). The assessment, led by CMSR Consultants, sought to provide an in-depth evaluation of the effectiveness of interventions supported by HDFC Bank CSR across targeted rural communities. This study aimed to measure both short-term and long-term impacts across core thematic areas, including Natural Resource Management, Skill Development & Livelihood Enhancement, Promotion of Education, and Healthcare & Hygiene.

The primary objective was to evaluate how effectively these initiatives addressed the socio-economic and ecological needs of the communities. The specific objectives were as follows:

1. To evaluate the effectiveness of HRDP interventions in achieving their intended outcomes across all thematic areas.
2. To assess the extent of changes experienced by beneficiaries, including improved resource access, income enhancement, and skill development.
3. To analyze and compare the effectiveness of project approaches across various regions and implementation partners.
4. To conduct a theme-wise evaluation of the impacts and present an integrated perspective on the project's contribution to the overarching goals of Parivartan.
5. To identify critical insights and lessons learned to inform future project design and implementation, ensuring continuous improvement and alignment with community needs.

2.2 Methodology

Study design

The study employed a mixed-methods approach, integrating quantitative and qualitative data collection and analysis to comprehensively evaluate the project's outcomes across its thematic intervention areas. The design was grounded in the project's objective hierarchy, indicator framework, and evaluation framework.

Quantitative Data Collection: A structured individual respondent survey was conducted with 353 participants, proportionately distributed across thematic areas such as NRM, SDLE, and H&H from all intervention villages. The initially estimated sample size was 383, determined at a 95% confidence level with a 5% margin of error for a universe of 2,824, factoring in an additional 10-15% for non-responses. However, due to the peak onion harvesting season, respondent availability posed a significant challenge, leading to a slightly reduced sample size.

Qualitative Data Collection: The qualitative component of the study included the following:

- ***Focus Group Discussions (FGDs):*** Conducted among beneficiary groups engaged in specific interventions such as water management (irrigation), clean energy, farm management, and enterprise development to gain detailed insights into their experiences. Additional FGDs at schools under the Promotion of Education (PoE) focus area were undertaken. Separate

discussions were held with school teachers, students and, School Management Committees (SMC).

- ***In-Depth Interviews (IDIs):*** Conducted with school principals from selected schools under the PoE focus area. Additional interviews with the implementing NGO team (IGSSS) to explore the implementation process, challenges encountered, and other intervention-related aspects were undertaken.
- ***Observational Analysis:*** Observations were carried out in selected schools using an observation checklist. Key elements evaluated included BALA (Building as Learning Aid) paintings, smart lab setups, WASH (Water, Sanitation, and Hygiene) facilities, and dustbin installations, focusing on condition, functionality, and usage.

Evaluation Framework

Project outcome and impact-level indicators provided by HDFC served as the basis for assessing the project's impact. The evaluation adopted a modified version of the OECD evaluation criteria, contextualized to the project's objectives. The criteria included relevance, coherence, efficiency, effectiveness, impact, sustainability, and branding. Each main criterion was divided into sub-indicators, measured through quantitative and qualitative methods as outlined below:

OECD Indicator	Sub-indicators	Method
Relevance	Beneficiary need alignment	Quantitative
	Local context alignment	Qualitative
	Quality of design	Qualitative
Coherence	Internal	Qualitative
	External	Qualitative
Efficiency	Timeliness	Quantitative
	Quality of Services Provided	Quantitative
	Operational Efficiency	Qualitative
	Project design	Qualitative
Effectiveness	Interim Results (Output and short-term results)	Quantitative
	Reach (Target v/s Achievements)	Qualitative
	Influencing Factors (Enablers & Disablers)	Qualitative
	Differential Results (Need Assessment)	Qualitative
	Adaptation over time	Qualitative
Impact	Significance (Outcome)	Quantitative
	Transformational change	Qualitative
	Unintended change	Qualitative
Sustainability	Potential for Continuity	Quantitative
	Sustainability in project design and strategy	Qualitative
Branding	Visibility (visible/word of mouth)	Qualitative

Sampling Procedure

The sample was drawn from the sampling frame of listed intervention households, groups, and respondents provided by the HDFC team. Using this list, the sample was proportionately distributed across each intervention component. These included water management (irrigation) and clean energy under the NRM focus area, farm management, SHG development, and enterprise development under

the SDLE focus area, as well as water management (drinking) and health camps under the H&H focus area. A stratified sampling approach was adopted, further stratifying the sample by beneficiary type: household, group, and community.

To select beneficiaries, the total number of beneficiaries per intervention type was calculated, aggregating the numbers across households, groups, and communities. This provided a comprehensive total for each beneficiary type. For instance, in Madhya Pradesh, the beneficiary breakdown was as follows:

Households	Groups	Communities
2,330	**296**	**198**
beneficiaries	beneficiaries	beneficiaries

This resulted in a total beneficiary count of N = 896 + 62 + 78 = 1,036. Using this total, the proportion of each beneficiary type was calculated:

Households	Groups	Communities
82.5%	**10.5%**	**7.0%**

Given the estimated sample size of 383 beneficiaries, these proportions were applied to allocate the sample size across the three beneficiary types:

Households	Groups	Communities
316	**40**	**27**

Next, these proportions were applied to the required sample sizes for each type (316 for households, 40 for groups, and 27 for communities) to allocate the sample size proportionally across activity categories. For example, Farm Management under SDLE accounted for 69.8% of the household beneficiaries, therefore 69.8% of 316 (approximately 221) was allocated to this activity category. Similarly, for groups and communities, proportions were calculated based on their total beneficiaries (296 for groups and 198 for communities) and applied to their respective required sample sizes (40 for groups and 27 for communities). The resulting sample sizes were rounded to the nearest whole number, ensuring they summed to the total required sample size for each beneficiary type. By following this approach, it was ensured that the sample sizes for each beneficiary type (households, groups, and communities) were distributed proportionally across activity categories.

Once the sample size was determined for each focus area, activity category and beneficiary type, the sample was randomly distributed across the villages where the interventions were implemented.

For the selection of schools under the PoE focus area, a total of 8 schools and anganwadis were selected. Selection criteria included areas with the maximum and most diverse nature of interventions to ensure comprehensive coverage and capture feedback on the varied interventions.

The following table presents a detailed summary of the qualitative and quantitative samples achieved during the study:

Method	Respondent group	Focus area				Overall sample	Type of tool
		NRM	SDLE	H&H	PoE		
Quantitative	Individual beneficiaries (farmers and community members)	35	304	14	-	353	Structured survey
Qualitative	Community	3	5	2	-	10	FGD

	School Principals				6	6	IDI
	School teachers				5	5	FGD
	SMC				2	2	FGD
	Students				5	5	FGD
	NGO partner					1	IDI
Additionally, an observation checklist was utilized in each selected school to assess the quality of services, their current conditions, and utilization status.							

2.3 Study Processes

A. **Rollout meeting and desk study:** Initial discussions were conducted with the HDFC team to conceptualize and understand key aspects of the project's design and implementation. These discussions were followed by a rapid literature review to examine the project's concept and planning. The review utilized various project-related documents, including the project proposal, annual reports, evaluation parameters, intervention snapshots, MIS data, and other relevant materials.

B. **Development and finalisation of study tools:** Leveraging the OECD parameters, the HDFC Bank team developed and shared the first draft of standardized questionnaires tailored to each focus area and activity. These questionnaires were reviewed and suitably modified by the CMSR team to align them with the specific interventions and nuances of the project. Additionally, the study team designed fresh qualitative tools, such as FGDs and IDIs, to capture qualitative insights in line with the OECD parameters. The revised questionnaires and newly developed qualitative tools incorporated feedback from the HDFC team and were subsequently translated into Hindi.

C. **Development of data collection software, testing and finalization:** The finalized bilingual questionnaire was provided to the CAPI (Computer-Assisted Personal Interviewing) developer to create the data collection software for use on tablets and mobile devices. Field testing of the CAPI questionnaire was conducted during the enumerator training sessions. Based on feedback, the questionnaires were further refined, and the application was finalized for survey deployment.

D. **Field work procedure – training, data collection & quality assurance:** A two-day training session was organized for the field teams to orient them to the study's objectives and familiarize them with the project and survey questionnaires. The training took place on December 1st and 2nd, 2024, in Khandwa district and was conducted jointly for the survey teams from Madhya Pradesh and Chhattisgarh. The first one and a half days of the training focused on theoretical aspects, followed by mock field calls on the second day and a debriefing session. A total of five enumerators and one supervisor from Madhya Pradesh participated in the orientation. Additionally, a mix of locally hired researchers and in-house researchers attended the qualitative data collection.

The data collection process employed CAPI on tablets or mobile devices for structured surveys. Qualitative interviews were audio-recorded to facilitate accurate transcription and analysis. Each team completed data collection within an estimated three-week period, including training days, off days, and local holidays, to minimize disruptions to field operations while maintaining high data quality. Prior to collecting any qualitative or quantitative data, including audio recordings, informed consent was obtained from all respondents. Coordination between investigators and supervisors occurred daily to conduct quality checks and provide continuous guidance to enumerators. Data quality compliance was ensured through Range Checks, Consistency Checks, and Validation Checks integrated into the CAPI software.

2.4 Data Analysis

The data analysis plan established a structured framework for collecting, processing, and synthesizing evidence to address the research questions effectively. A detailed scoring matrix accompanied the assessment, capturing project's performance across key components to ensure a systematic evaluation of the HRDP's impact. The matrix incorporated weighted qualitative and quantitative variables, evaluated against OECD-DAC parameters.

Quantitative data, collected using tools like Survey CTO, includes Likert-scale questions (typically ranging from 1 to 5) to assess variables such as alignment with beneficiary needs (relevance) timeliness (efficiency) and so on. The analysis employed univariate techniques, measures of central tendency (e.g., mean), and aggregated scoring constructs derived from participant responses.

For qualitative data, stakeholder-specific insights from methods such as IDIs and FGDs were aligned with evaluation questions. These insights were converted into ratings on a standardized 5-point scale, guided by rubrics designed for indicators such as alignment with the local context (relevance), coherence (internal and external), operational efficiency, and project design (efficiency) and so on.

Qualitative and quantitative scores were integrated using predefined weights, resulting in combined scores for each parameter. A composite project score was then calculated as a weighted sum of parameter scores. This ensured a comprehensive evaluation framework that balances statistical rigor with contextual insights.

CHAPTER **III**

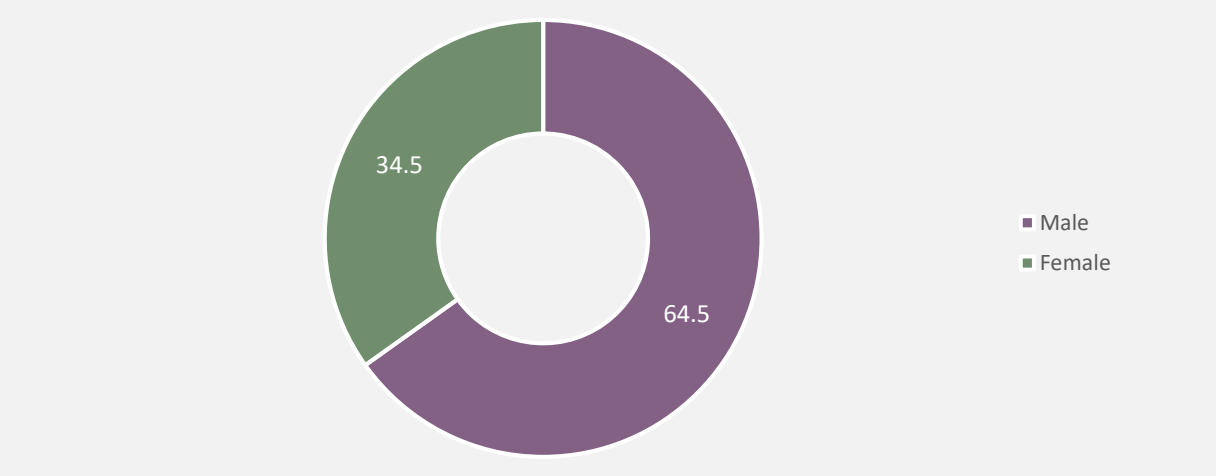
FINDINGS - DEMOGRAPHICS

Understanding the demographic profile of the community is crucial for evaluating how well the project aligns with local needs and priorities. This section presents an overview of key demographic attributes, including a breakdown by gender, age distribution, literacy levels, and occupational trends. These insights provide a comprehensive context for assessing the relevance and effectiveness of the implemented interventions.

3.1 Gender

The majority of respondents out of the total 353 respondents, 65% were male, while a smaller proportion of the respondents (35%) were female. The lower proportion of female respondents can be attributed to the fact that male respondents represented the household during surveys.

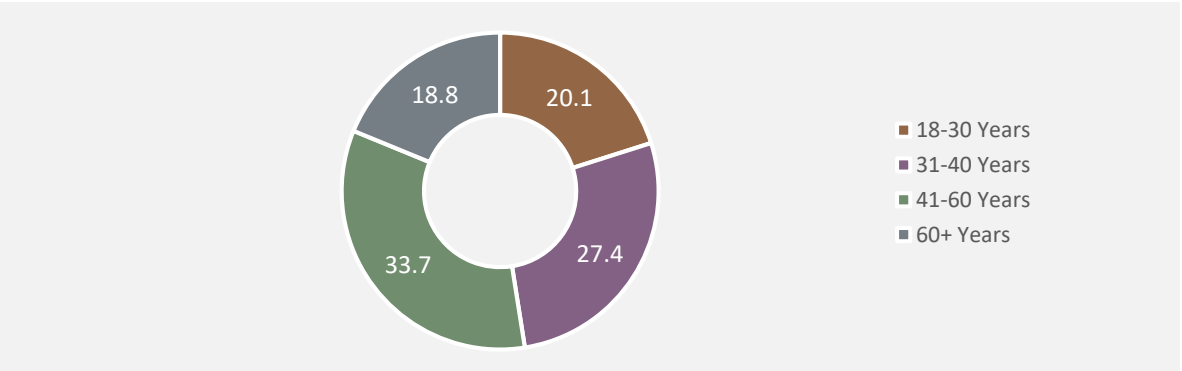
Fig 1: *Gender-wise Percentage Distribution of Respondents*



3.2 Age-group

The age distribution of the respondents revealed that around 61% of were in the 31-60 age range. The percentage of respondents above 60 years was relatively smaller at 19%, and the age range of 18-30 years stands at 20%. The age-group of 41-60 years were in peak working years, contributing significantly to economic activities and, therefore, largely impacted by the interventions undertaken under the HRDP projects.

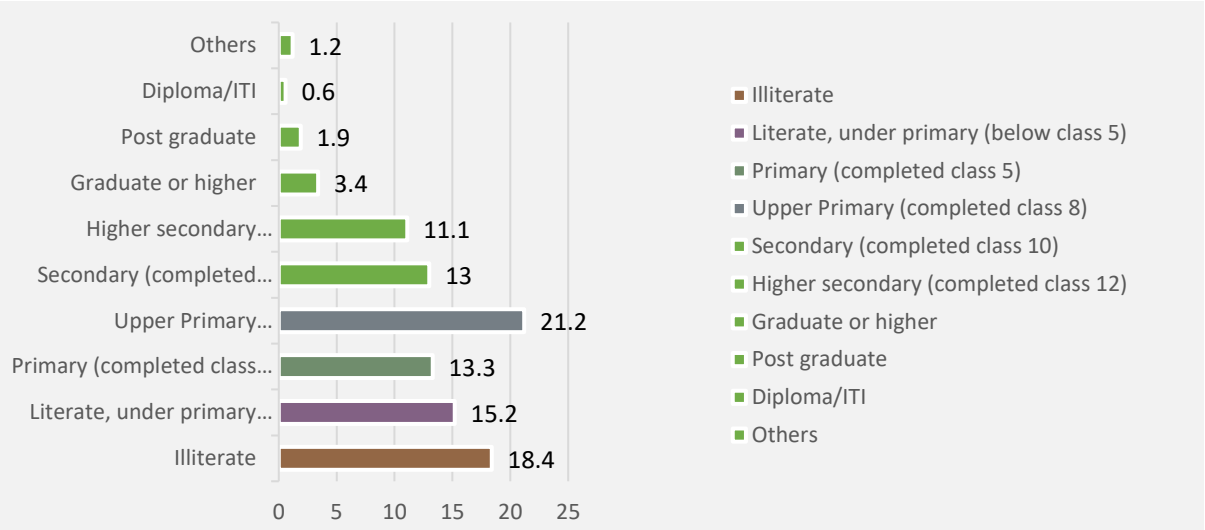
Fig 2: *Age-wise Percentage Distribution of Respondents*



3.3 Educational Status

The educational attainment data reveals significant disparities in literacy and access to advanced education. A significant population lacked basic reading and writing skills (19%). Those with minimal education, such as being literate but below primary constituted 15% and 35% has completed primary and upper primary education. Secondary and higher secondary education accounted for 13% and 11%, respectively. Only 3% had attained graduate-level education, and an even smaller 2% had completed postgraduate studies, emphasizing restricted access to higher education. Additionally, there was negligible (1%) participation in vocational training programs like ITI or diplomas. This points towards barriers such as lack of access to education infrastructure, poverty, gendered roles, etc.

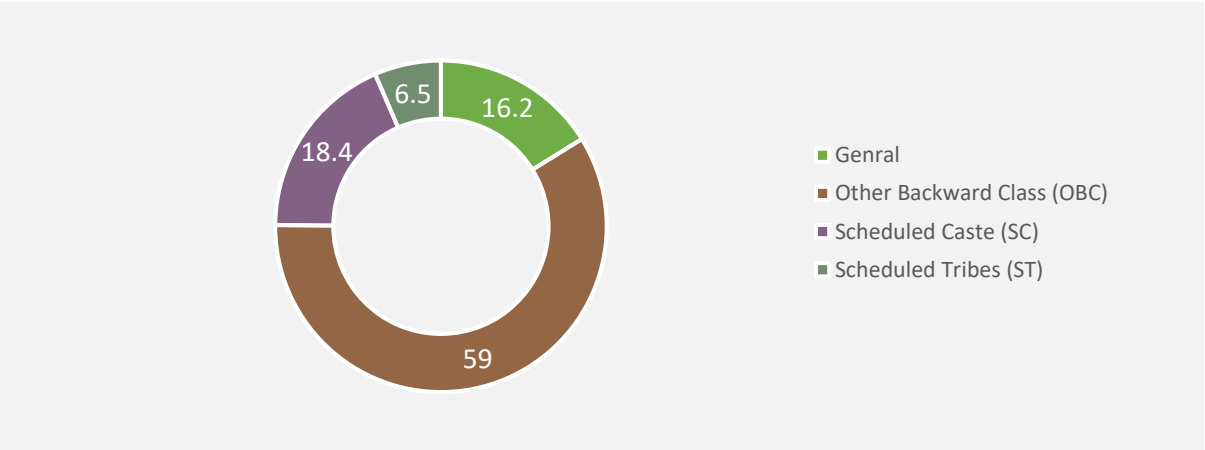
Fig 3: *Percentage Distribution of Respondents by Educational Status*



3.4 Social Category

A majority (59%) of the respondents belonged to Other Backward Class, followed by Scheduled Caste at 18%, General 16% and Scheduled Tribe at 7%. The village demographics reflect the composition of the state of Madhya Pradesh, and highlight marginalisation based on social identities. The HRDP programme targeted these vulnerable communities, with the aim of facilitating greater access to resources and income.

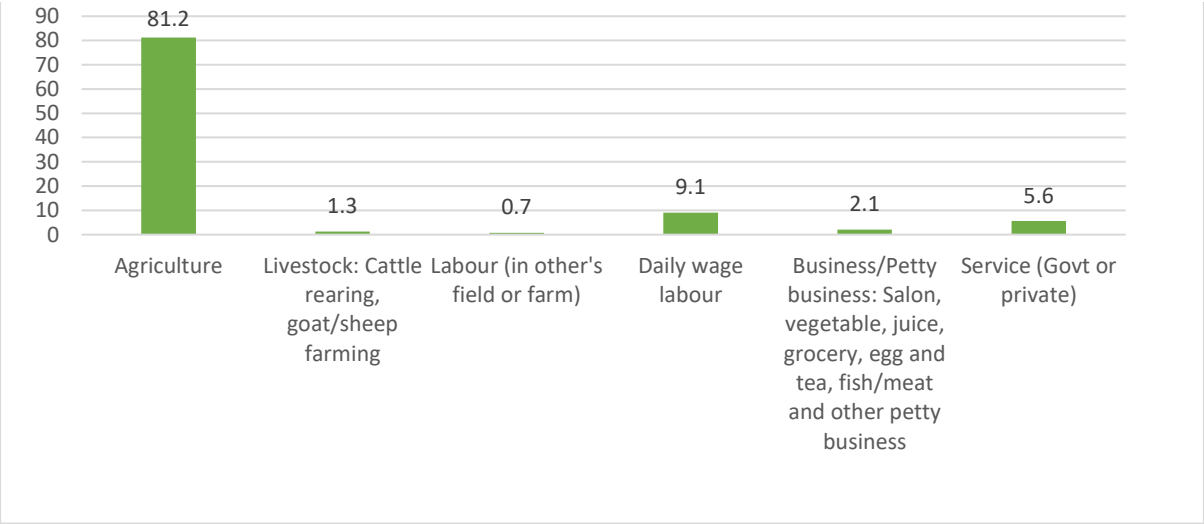
Fig 4: *Percentage Distribution of Respondents by Caste Category*



3.5 Occupational Status

The primary occupation data for Madhya Pradesh highlights the dominance of agriculture as the main livelihood source, with 81% of the population engaged in this sector. Other occupations such as livestock rearing and agricultural labour were marginal contributors (1% each). Non-agricultural sectors, such as daily wage labour (9%) and small-scale business activities (2%) were reported. Furthermore, only 6% of the population was employed in formal government or private services. This suggests that the respondents are largely dependent on agriculture-related activities for their livelihood, emphasising the need for interventions such as natural resource management, skill development, and livelihood enhancement.

Fig 5: *Percentage Distribution of Respondents by Primary Occupation*



CHAPTER **IV**

KEY RESULTS AND INSIGHTS ON 'NATURAL RESOURCE MANAGEMENT'

This chapter shares the insights and findings that emerged from the qualitative and quantitative research conducted on the interventions related to natural resource management. Based on the sampling, the focus areas within natural resource management were identified as water management (irrigation) and solar street lighting. These two primary interventions were spread across the multiple villages, with varied results.

The findings from the study have been presented under the adapted OECD indicators, i.e., relevance, coherence, efficiency, effectiveness, impact, sustainability, and branding.

4.1 Relevance

The overall relevance score of **3.1 out of 5** indicates a moderate alignment between HDFC Bank's interventions and the beneficiaries' needs. This score is derived from three primary indicators:

Beneficiary Need Alignment received the highest score of **3.4**, demonstrating that the interventions moderately addressed the specific needs of the beneficiaries. Notably, 43% of respondents categorized the support as "Essential," while 45% deemed it as "High Priority" in fulfilling their energy needs and priorities. In terms of support adequacy, **80%** of respondents, particularly those involved in clean energy projects, rated the support as "Extremely Adequate" to "Adequate" concerning quantity and fulfilment of requirements. However, **20%** felt that the support was only "Slightly Adequate," indicating room for improvement in meeting the beneficiaries' needs comprehensively.

Local Context Alignment scored **3.0**, reflecting a fair consideration of the local environment and circumstances in the intervention design. However, qualitative feedback revealed inconsistencies, such as uneven distribution of resources and inappropriate placement of infrastructure, which hindered optimal alignment with the local context.

Quality of Design was rated **2.0**, indicating suboptimal planning and execution of the interventions. Issues such as the breakdown of the dam in Rampur Kalan shortly after construction and the malfunctioning of numerous streetlights highlight significant gaps in the design and implementation phases.

Table 1: *'Relevance' Scores for the NRM Initiative*

Indicators	Water management-irrigation	Clean energy	NRM (Overall)
Beneficiary need alignment	3.0	3.9	3.4
Local context alignment	3.5	3.0	3.3
Quality of design	2.0	2.0	2.0
Combine weightage score	**3.0**	**3.2**	**3.1**

Qualitative interactions revealed a notable alignment between the activities implemented under NRM and the essential needs of the community, particularly through interventions such as check dams and solar streetlights. Irrigation systems were especially relevant to farmers' critical agricultural

requirements. However, there were inconsistencies, including the uneven distribution of resources and the misplacement of infrastructure.

Similarly, the distribution of solar streetlights was uneven, leaving certain hamlets, such as Champanagar in Bawariya Kaji, without any lights. Even in areas where streetlights were installed, their placement was often unsuitable, and many operated intermittently for only 15–20 minutes, providing inadequate lighting. The absence of a proper maintenance mechanism further reduced their utility.

Beneficiaries from villages like Baidiyaw and Dipla reported that solar home lights stopped functioning just three months after installation, raising concerns about the durability and reliability of these solutions. A similar issue was observed with streetlights in almost all villages, where nearly half were either non-functional or had been uprooted or stolen.

4.2 Coherence

The coherence score of **4** out of 5 reflects both internal and external coherence. The internal coherence, scoring a strong **5**, highlights the alignment of the project with IGSSS's vision and approach of working with marginalized communities. Also, the proposed interventions fell under the thematic areas outlined in HDFC's HRDP.

The external coherence, scoring **3**, indicates that while some streetlights had been provided by the government or panchayat, there were still unmet needs in the villages. The project aimed to address these gaps, complementing government efforts to improve the living conditions in the area.

Table 2: *'Coherence' Scores for the NRM Initiative*

Indicators	Water management-irrigation	Clean energy	NRM (Overall)
Internal	5.0	5.0	5.0
External	3.0	3.0	3.0
Combine weightage score	**4.0**	**4.0**	**4.0**

4.3 Efficiency

The combined efficiency score of **3.3** out of 5 reflects a mix of strengths and weaknesses in the implementation of NRM and clean energy (solar home lights and street lights) interventions. The efficiency score for NRM is significantly lower **(2.7 - average)** compared to clean energy interventions **(3.9 - notable)**. This disparity can be attributed to several factors. In the case of NRM, respondents highlighted quality issues in the design of water resource structures, which were often non-functional. Additionally, there were moderate delays in execution, as perceived by respondents. Conversely, clean energy interventions were generally implemented in a timely manner, with 85% of survey respondents confirming that the activities met their expectations for timeliness.

Dissatisfaction levels also varied significantly. While all respondents expressed dissatisfaction with the quality of water resource structures under NRM, only 15% were dissatisfied with clean energy interventions, with the majority expressing satisfaction. However, it is worth noting that a significant number of solar lights were found to be non-functional, uprooted, or stolen, pointing to shortcomings in project design and operational efficiency.

Qualitative discussions further underlined significant execution challenges that hindered the overall quality of services and operational efficiency. For example, a dam constructed under the MNREGA scheme quickly became ineffective due to poor construction quality. Despite this, the project did generate employment for local community members during the dam's construction, which can be seen as a positive outcome.

The clean energy interventions faced similar challenges related to risk management. Theft, vandalism, and the uprooting of solar streetlights significantly limited their effectiveness. In villages such as Bamangaon miscreants uprooted newly installed solar streetlights within days of their installation. Additionally, the prioritization of streetlight placement was not always aligned with community needs. For instance, in Khadki village, streetlights were installed in areas with less demand, while more critical locations were overlooked.

A lack of proper needs assessment and baseline data contributed to the misaligned implementation of solar streetlights and other interventions. These gaps in the planning phase highlight the importance of incorporating robust assessments to ensure interventions align with community priorities and achieve the intended impact.

Table 3: *'Efficiency' Scores for the NRM Initiative*

Indicators	Water management-irrigation	Clean energy	NRM (Overall)
Timeliness	3.0	4.6	3.8
Quality of services provided	2.0	3.9	3.0
Operational Efficiency	3.0	3.5	3.3
Project design	3.0	3.0	3.0
Combine weightage score	**2.7**	**3.9**	**3.3**

4.4 Effectiveness

The overall effectiveness of the NRM initiative scored **2.6**, reflecting that while objectives were partially met, significant gaps remain. Although moderate to notable progress was observed in achieving set targets, performance on parameters such as inter im results, adaptation over time, influencing factors, and differential results was below expectations.

Interim results (2.7) demonstrated average and mixed success. Several water resource structures created for irrigation and general use were found to be non-operational at the time of the visit. On the other hand, solar home lights and streetlights were functional only in select cases, leading to an overall average score. In the sample survey, 68% of lights were reported as either non-functional or absent. Only 12% were fully functional, 15% minimally functional, and 5% moderately functional. The reasons for non-functionality included the lack of maintenance support/mechanisms (52%), perceived lack of utility (22%), and other factors (26%), such as limited usage, malfunctioning solar plates, short system

lifespans, and frequent issues with bulbs. Instances were reported where solar lights functioned for only a few months before the plates or bulbs became defective. Some users discarded non-functional components entirely.

A similar trend was observed in utilization patterns. None of the water resource structures were in use. Regarding clean energy usage, 53% of respondents reported that it was never or rarely used, 26% stated it was used often, and 18% and 3% reported always and sometimes using clean energy, respectively.

Qualitative discussions revealed that all surveyed villages, except Tirandajpur, received 10 solar streetlights each. However, functionality varied widely as indicated in the table below:

Figure 1: Solar- street light

Table 4: *Village-Wise Current Functionality Levels of Solar Streetlights*

Village	Installed	Functional	Non-functional
Hapla	9	5	4 (1 street light is under repair)
Bamangaon	10	4	6
Dipla	5	2	3
Bawariya Kaji	10	0	10 (only 7 poles are present)
Titiya Joshi	8	4	4
Tirandajpur	5	0	5, with only 2 poles standing
Baidiyaw	7	2	5
Dhanora	7	4	3
Lachora	10	4	6
Khadki	10	0	10
Lohari	10	5	5
These numbers are based on the data collected in the field. There may be minor variations across the villages, depending on community recall, etc.			

Most streetlight poles functioned for only about a month before becoming non-operational. However, in areas where streetlights were functional, they provided valuable benefits, such as safe play spaces for children and improved mobility for community members during nighttime.

The **reach score of 3.5** indicated progress in achieving targets like solar lights and renovation of check dams though gaps remained e.g., in Year 2, the plan was to renovate two stop-check dams, however, none were completed. In Year 3, three stop-check dams were planned, and all three were successfully renovated. Likewise, in case of clean energy, the target of 225 solar home lights and 150 solar

streetlights was achieved, as per the MIS. However, there were some discrepancies. In Baidiyaw, the village was supposed to receive 10 solar home lights, but only 7 were provided. In Dhanora, a respondent was supposed to receive a solar home light, but he did not receive it.

Influencing factors is scored 2.5. Despite these issues, the community appreciated the streetlights, with women reporting feeling safer at night and noting improved nighttime activities, such as children studying during power outages. Residents near the streetlights also saved on electricity bills.

"Earlier, we used to retreat to our homes by 8 PM, but now we stay outside until 11 PM at night. During power cuts, our children can study using the solar home lights, which has been a great help. For those of us living near the streetlights, there's no need to switch on our outdoor lights, allowing us to save on electricity" **- Respondent, Lohari**

Differential results, scoring **2.0**, exposed gaps in need assessment. The implementing agency stated that they addressed the community's needs based on the needs assessment. However, they also mentioned that they only consulted the VDC, which by itself may not have been fully inclusive. Some areas that required streetlights were left without, while others that did not need them were provided with one. This highlights a clear gap in the inclusiveness of the needs assessment process. The challenges faced included a lack of ownership about the assets created and concerns about the quality of the products.

A low score of **1.0** was assigned to **adaptation over time,** as no adjustments were made to address emerging challenges. For both the solar streetlights/home lights and the check dams, once the activities were implemented, no modifications were made throughout the project's duration.

Table 5: *'Effectiveness' Scores for the NRM Initiative*

Indicators	Water management-irrigation	Clean energy	NRM (Overall)
Interim Results (Output and short-term results)	3.0	2.5	2.7
Reach (Target v/s Achievements)	3.5	3.5	3.5
Influencing Factors (Enablers & Disablers)	2.5	2.5	2.5
Differential Results (Need Assessment)	2.0	2.0	2.0
Adaptation over time	1.0	1.0	1.0
Combine weightage score	**2.6**	**2.5**	**2.6**

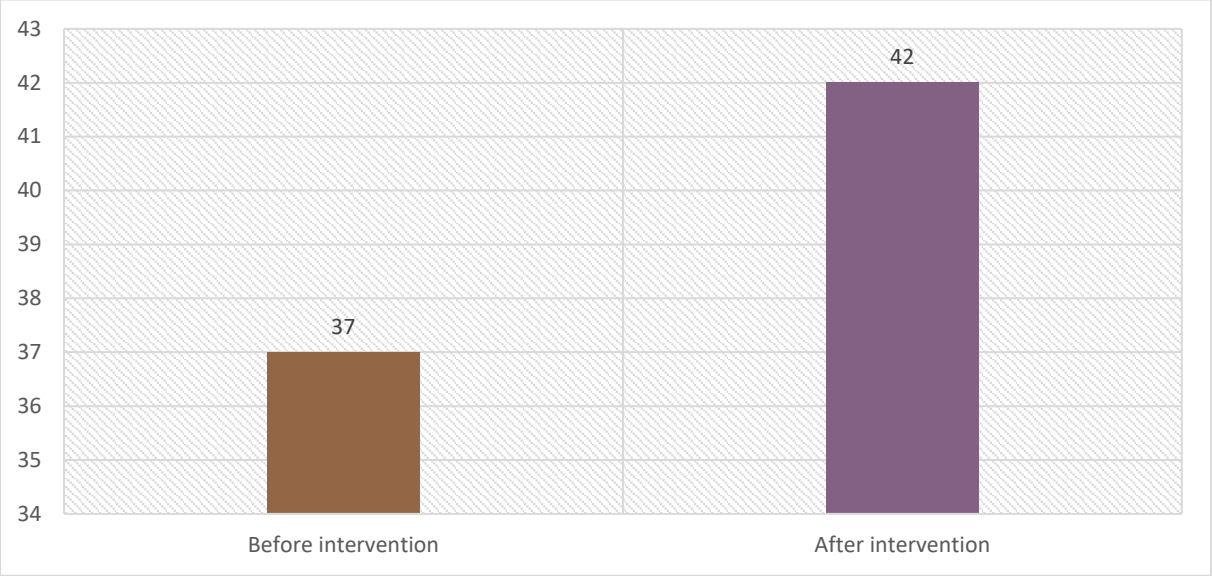
4.5 Impact

The overall impact score for NRM stands at 2.4, indicating a suboptimal outcome. Water management (irrigation) received a very low rating of 1.4, primarily due to the poor quality and non-functional state of the constructed check dam. In contrast, clean energy interventions were rated at 3.4, reflecting a moderate or limited impact.

Survey data highlights some benefits from the adoption of clean energy solutions such as solar home lights. Over half (53%) of respondents reported reduced reliance on traditional lighting sources, with an equal proportion noting improved lighting conditions for studies. Furthermore, 27% of households experienced lower energy bills, illustrating the economic advantages of renewable energy adoption.

Enhanced quality of life and time savings were reported by 33% and 13% of women, respectively. The intervention's impact is further evident in the increase in household access to clean energy sources, rising from 37% before the intervention to 42% afterward.

Fig 6: *Proportion of Households with Access to Clean Energy Sources*



Transformational change scored **4.0** for clean energy because 60% women in the survey reported improved safety from the solar streetlights while water management, scored 1.0 because no significant impact was seen as the dam became non-functional. 16% of households reported access to clean energy solutions before the intervention to nearly 51% afterward.

Unintended changes also scored **4.0** for clean energy, signifying notable positive spillover effects. Households near solar streetlights reported energy savings as outdoor lighting became unnecessary. Additionally, children benefited from extended playtime after dusk and the ability to study during power outages, thanks to the improved lighting from solar home lights.

Table 6: *'Impact' Scores for the NRM Initiative*

Indicators	Water management-irrigation	Clean energy	NRM (Overall)
Significance (Outcome)	1.0	2.7	1.9
Transformational change	1.0	4.0	2.5
Unintended change	3.0	4.0	3.5
Combine weightage score	**1.4**	**3.4**	**2.4**

4.6 Sustainability

According to the survey, 71% of respondents believed that no measures had been implemented to ensure the sustainability of NRM-related interventions. As a result, the combined weightage score for sustainability stood at 1.3, signalling inadequacy. Particularly, sustainability in project design and strategy received a lower score of 1.0, reflecting insufficient planning for long-term maintenance and ownership.

The qualitative insights unveils that the reliance on VDCs and panchayats to manage interventions proved ineffective due to the absence of proper operational mechanisms, as demonstrated by the issues with solar streetlights and irrigation water management. The sole intervention visited under water management, the check dam, fell into disrepair shortly after construction, and all survey respondents reported that no measures were taken to ensure the proper functioning of the water structures.

While IGSSS anticipated that VDCs and panchayats would assume responsibility for interventions, the reality showed a lack of established operation and maintenance mechanisms and an absence of community ownership. Furthermore, there has been no significant change in the attitudes or behaviours of community members, which has further impeded the long-term viability of the interventions. Also, only 9% of respondents reported receiving support for clean energy initiatives, such as solar lights, from other stakeholders (e.g., panchayats or government) over the past four years. This limited external support underscores the critical need for robust mechanisms and collaborative ownership to ensure the continued success and sustainability of these interventions.

Table 7: *'Sustainability' Scores for the NRM Initiative*

Indicators	Water management- irrigation	Clean energy	NRM (Overall)
Potential for Continuity	1.5	1.4	1.5
Sustainability in project design and strategy	1.0	1.0	1.0
Combine weightage score	**1.3**	**1.3**	**1.3**

4.7 Branding

The project has achieved a perfect combined weightage score of **5** for **branding** across water management -irrigation, clean energy, and therefore the overall NRM. A notable contributor to this branding success is the visibility of HDFC's name prominently displayed on placards attached to streetlights, ensuring the brand's association is clear to the public. This visibility highlights the project's effectiveness in building a strong and credible brand.

Table 8: *'Branding' Scores for the NRM Initiative*

Indicators	Weightage score		
	Water management- irrigation	Clean energy	NRM (Overall)
Visibility/word of mouth	5	5	5
Combine weightage score	**5**	**5**	**5**

4.8 Composite Score (NRM)

The composite score of **3.2** places the NRM intervention in the "Moderate" category, indicating reasonable performance across key parameters. The project demonstrates adequate alignment with beneficiary needs and local context, with strengths in areas like coherence and branding. However,

there are significant areas for improvement, particularly in sustainability and effectiveness, which limit its ability to achieve long-term and transformational outcomes.

Table 9: *Overall 'Composite Score' for the NRM Initiative*

OECD parameters	Combined weighted score	Weighed score for Final Project Score
Relevance	3.2	0.5
Coherence	4.1	0.4
Efficiency	3.4	0.5
Effectiveness	3.1	0.6
Impact	3.1	0.8
Sustainability	2.3	0.2
Branding	4.2	0.2
Total Project Score		**3.2**

*****Composite score calculation for NRM** = 15% * Relevance weighted score + 10% * Coherence weighted score + 15% * Efficiency weighted score + 20% * Effectiveness weighted score + 25% * Impact weighted score + 10% Sustainability weighted score + 5% * Branding weighted score **i.e., (15* 3.2) +(10% * 4.1) + (15% * 3.4) + (20% * 3.1) + (25% * 3.1) + (10% * 2.3) + (5% * 4.2) = 3.2***

CHAPTER V
KEY RESULTS AND INSIGHTS ON 'SKILL DEVELOPMENT AND LIVELIHOOD ENHANCEMENT (SDLE)'

5.1 Relevance

The relevance score of 3.4 out of 5 reflects a moderate alignment of the interventions with identified needs. Among the dimensions evaluated, beneficiary need alignment scored the highest at 3.6, indicating a notable alignment. This was followed by local context alignment at 3.2 and quality of design at 3.0, both categorized as moderate.

The beneficiary need alignment score was calculated as the average of responses to two key questions: the importance of the support provided by HDFC Bank and its adequacy. The data reveals that a significant proportion of respondents (39%) found the support to be 'highly important,' with 29% considering it 'fairly important,' and 28% noting it as important. In terms of adequacy, 47% of respondents rated the support as 'optimal,' 25% viewed it as 'just sufficient,' and 20% considered it 'extremely sufficient.'

In farm management, beneficiary need alignment was particularly strong, scoring 3.9, as most beneficiaries are farmers and the interventions such as drip and sprinkler irrigation, kitchen gardening, provision of yellow sticky traps, establishment of seed banks, and jaivik ghars were well-aligned with their needs. Beneficiaries highlighted that drip and sprinkler irrigation were especially beneficial in water-scarce areas, enabling them to conserve water and reduce input costs. Additionally, vermicomposting and the use of organic fertilizers were praised for enhancing soil fertility. Local context alignment received a lower score of 3.0 (Moderate) as some interventions were less relevant due to misalignment with actual needs or fragmented implementation. There were challenges, such as distributing kitchen garden seeds in areas without adequate water or space, resulting in wasted resources. Similarly, some beneficiaries selected for vermicomposting lacked cattle, preventing them from continuing the activity. Although soil samples were collected for testing, beneficiaries did not receive the soil testing reports, further limiting the relevance of this intervention. Likewise, the beekeeping entrepreneurship was poorly aligned with the local context. High temperatures led to the death of the bees, and the local flora was unsuitable for sustaining beekeeping activities. Furthermore, the community was not consulted before introducing beekeeping.

SHG development scored 3.5, reflecting 'notable' relevance. Many SHGs, though existing, were previously defunct or operational only in name. The strengthening efforts by HDFC/IGSSS revitalized these groups, enabling them to hold regular meetings and led to the development of entrepreneurship.

The quality of design for entrepreneurship scored 3.0 due to poor quality machines and poultry sheds. The packaging machines provided to SHGs for chips production were of poor quality, which compromised the shelf life of their products. Similarly, the design of poultry sheds was inadequate, as they allowed stray animals to prey on chicks and lacked proper lighting necessary for breeding or incubation.

Table 10: *'Relevance' Scores for the SDLE Initiative*

Indicators	Farm management	SHG Development	Enterprise	SDLE (Overall)
Beneficiary need alignment	3.9	3.3	3.6	3.6
Local context alignment	2.5	4.0	3.0	3.2
Quality of design	3.5	3.0	2.5	3.0
Combine weightage score	**3.4**	**3.5**	**3.2**	**3.4**

5.2 Coherence

The coherence score of **4.5** out of 5 reflects both internal and external coherence. Internal coherence demonstrates strong alignment with IGSSS's vision and approach, as well as HDFC's holistic rural development programme.

The external coherence score of 4.0 indicates strong alignment with external actors and interventions. External coherence highlights effective collaboration with government initiatives. HDFC partnered with government departments such as the Horticulture Department, NABARD, and Krishi Vigyan Kendra to provide training and farm inputs. HDFC through its partner NGO organized training sessions on crop diversification and crop-specific packages of practices, working closely with KVK Khandwa to integrate new techniques into traditional farming practices. KVK facilitated soil testing for farmers. Orientation sessions on natural farming was conducted by the Horticulture Department, encouraging farmers to utilize government schemes. Similarly, all the SHGs that were strengthened and transitioned into entrepreneurial ventures were originally NRLM-promoted SHGs. SHG members received training on bank linkages and government schemes, and several were facilitated with loans to support their initiatives.

Table 11: *'Coherence' Scores for the SDLE Initiative*

Indicators	Farm Management	SHG Development	Entrepreneurship	SDLE (Overall)
Internal	5.0	5.0	5.0	5.0
External	4.0	4.0	4.0	4.0
Combine weightage score	**4.5**	**4.5**	**4.5**	**4.5**

5.3 Efficiency

The combined efficiency score of 3.9 out of 5 indicates a 'notable' level of efficiency. Among the components, the score for timeliness was the highest at 4.7 (outstanding), while operational efficiency scored the lowest at 3 (moderate). Survey responses revealed that 93% of respondents felt the interventions were conducted in a timely manner, with only 4% indicating slight delays.

Regarding the quality of services provided, a majority (64%) rated the interventions as 'very good,' while 30% rated them as 'good,' resulting in a strong score of 4.1 for service quality. However, during the qualitative interactions, beneficiaries mentioned being dissatisfied with the poultry sheds as they were of substandard quality, allowing stray animals to enter and prey on the chicks. According to SHG

members from Anand Ajeevika Samuh**,** ***"We will be interested in restarting the poultry initiative if we are provided with a sturdy tin shed with proper lighting and training on poultry rearing, disease management, and vaccinations"***.

On the positive side, the interventions were guided by clear objectives and targets, with the revival of SHGs showcasing a highly efficient and valid approach. Not only was SHG strengthening efficient, but also the farm management activities and few enterprises introduced were useful to the community.

During FGD with farmers from Lohari, they highlighted the seed bank established by HDFC/IGSSS as a valuable resource, providing high-quality seeds at affordable rates and significantly enhancing cost-efficiency.

The quality of the drip and sprinkler systems provided to beneficiaries was reported as excellent overall. Most beneficiaries expressed satisfaction with the intervention and continued to use the systems effectively. However, one exception was noted: a beneficiary from Teerndajpur reported that the drip irrigation system he received was in a broken condition and could not be utilized. Despite this isolated issue, the project demonstrated high efficiency, as the majority of recipients found the equipment functional and beneficial for their agricultural needs. ***"The efficiency of my farming has improved after I started using the sprinklers for irrigation as it requires minimal effort—all I need to do is switch on the motor, and the system distributes water evenly across the field".***

The training imparted in producing organic fertilizers was much appreciated as it eliminated the need for purchasing chemical fertilizers, further reducing input costs while simultaneously improving soil fertility. However, significant challenges in execution impacted the quality of services and overall operational efficiency. While soil testing was conducted, the failure to deliver soil test results undermined its usefulness.

Operational efficiency for entrepreneurship was scored at **2.5** as the implementation approach was not valid in case of several enterprises including irrelevant beekeeping initiatives. Farmers reported discontinuing vermicomposting due to the lack of essential resources like cow dung, which could have been avoided if the selection criteria of prioritizing farmers with livestock had been consistently applied. The training provided on vermicomposting was insufficient, as beneficiaries lacked crucial information on sourcing and maintaining earthworms. Specifically, they were unaware of reliable sources for obtaining earthworms and how to create and sustain optimal conditions to keep them alive, thus avoiding the need for repeated procurement. There were mismatches in beneficiary selection for vermicomposting and kitchen gardening which affected the efficiency of the interventions. The kitchen garden seeds were distributed without ensuring that beneficiaries had adequate space outside their homes, leading to seed wastage.

The project design received a score of 3.0 due to the absence of a robust feedback mechanism, such as conducting a midline or having a regular monitoring mechanism. This lacuna hindered real-time adjustments to the intervention design, particularly in addressing operational challenges like the the absence of insurance for goatry. The projects suffered from a lack of baseline data and misaligned implementation, as seen in improper beneficiary selection and seed distribution.

Table 12: *'Efficiency' Scores for the SDLE Initiative*

Indicators	Farm Management	SHG Development	Entrepreneurship	SDLE (Overall)
Timeliness	4.9	4.1	5.0	4.7
Quality of Services Provided	4.2	3.5	4.5	4.1
Operational Efficiency	2.5	4.0	2.5	3.0
Project design	3.0	4.1	3.0	3.4
Combine weightage score	**3.8**	**3.9**	**4.0**	**3.9**

5.4 Effectiveness

The combined weightage score for SDLE effectiveness is 2.9 (average), with the highest score (4.2) achieved in reaching targets and the lowest (1.8) in adaptation over time. The score for 'interim results,' based on survey responses about the current condition of the interventions, is 2.4 (suboptimal). Nearly half of the respondents (49%) indicated that the support provided is 'not functioning/working,' while 11% reported that the support was either functioning but rarely used or functioning at an average level. Only 40% of respondents found the provided supports to be fully functional and used frequently or occasionally. In the case of entrepreneurship development, 75% of the supports were reported as not functioning according to the data.

Farm management stood out with a score of 2.4, reflecting suboptimal performance, as most of the farm-related interventions were not continuing beyond the initial phase. Beneficiaries provided key insights into the reasons behind the lack of sustainability, as highlighted in the quantitative survey:

1. **Limited Provision and Usage of Seeds:** Many beneficiaries reported receiving seeds only once, which they utilized initially but did not receive further support. This limitation curtailed the sustained use of resources. For example, phrases like **"Ek hi bar beej mila tha"** *(received seeds only once)* were frequently mentioned in the survey.
2. **Issues with Seed Germination and Crop Failure:** Several responses indicated that the seeds provided did not germinate or yield successful crops, causing disappointment and disengagement. Comments such as **"Seeds uge hi nahi"** *(seeds did not germinate)* exemplify this issue.
3. **Challenges with Vermicomposting:** Beneficiaries mentioned receiving resources like worms for vermicomposting but faced problems such as the worms dying due to environmental conditions or resource scarcity. Statements like **"kechuva mar gaye" (worms died)** and **"garmi me pani ka sadhan na hone ki vajah se marr gye"** *(worms died due to lack of water)* highlight these challenges.
4. **Resource Scarcity and Infrastructure Issues:** Lack of consistent water supply and poor-quality infrastructure were frequently cited reasons for non-functionality. Examples include **"Pani ki vjh se bnd kr diya hai"** *(stopped due to water issues)* and **"pype hlke vale the vo jaldi toot gye"** *(pipes were of low quality and broke easily).*
5. **One-Time Benefit and Lack of Continuity:** A frequent statement was that beneficiaries gained temporary benefits from initial support but were unable to sustain the activities due to lack of

continued assistance or resources. Phrases such as **"jab beej mila tha tabhi lagaya tha"** *(when seeds were given, we planted them)* reflect the absence of long-term engagement.

Table 13: *'Effectiveness' Scores for the SDLE Initiative*

Indicators	Farm Management	SHG Development	Entrepreneurship	SDLE (Overall)
Interim Results (Output and short-term results)	3.2	2.5	1.5	2.4
Reach (Target v/s Achievements)	2.5	5.0	5.0	4.2
Influencing Factors (Enablers & Disablers)	3.0	3.5	1.5	2.7
Differential Results (Need Assessment)	1.5	4.0	2.5	2.7
Adaptation over time	1.0	1.0	3.5	1.8
Combine weightage score	**2.4**	**3.5**	**2.8**	2.9

The qualitative insights complemented the survey findings and highlighted a mix of structural, resource-related, and engagement challenges that undermined the effectiveness of the initiatives. While most farm-related interventions showed effectiveness during the initial phase, discussions with beneficiaries revealed that these interventions had a positive impact only in the first season. However, they were unable to sustain these benefits due to various challenges beyond that initial period.

Vermicomposting notably improved crop yields and soil fertility. Unfortunately, most beneficiaries discontinued the practice due to reasons such as the death of the worms, insufficient water, scarcity of cow dung, lack of knowledge about worm procurement etc. In spite of these challenges, they expressed a strong interest in resuming it, indicating its perceived value and the need for enhanced support to ensure sustainability. According to a farmer from Hapla, ***"I have witnessed a huge difference when using vermicompost in my field. It gives better yield when I used them."*** The yellow sticky traps provided were greatly appreciated and proved helpful in controlling insects and pests. However, beneficiaries either did not make any attempts to procure them independently or were unaware of where to obtain them. The effectiveness of soil testing was minimized due to the failure to provide the reports, which prevented farmers from taking the necessary corrective measures.

Only a handful of beneficiaries continued with kitchen gardening, while many others discontinued the practice due to several challenges. These included a lack of space for a garden, which prevented them from sowing the seeds, resulting in spoilage; inadequate water for irrigation; and unavailability of seeds. Some attempted to sow the seeds in their main fields but struggled to care for them on a daily basis. Focus group discussions with participants also revealed that some beneficiaries selected for the kitchen garden program never received the seeds at all. The needs assessment for the kitchen garden program was conducted based on the presence of pregnant or lactating women in the household, rather than considering whether there was actual space available for the garden.

The primary success under SDLE has been drip/sprinkler irrigation systems as it improved water conservation and crop health. ***"Using sprinkler irrigation for crops like chana, vegetables, and onions has significantly improved my yields. This technology has not only made my farming more efficient***

but also helped me manage resources better and achieve higher productivity." – Farmer, Bamangaon

Qualitative interactions indicated that participants were happy with the establishment of seed bank in Lohari as they received high-quality seeds at affordable rates from the seed bank. ***"The seeds we previously purchased from the market often failed to germinate. However, the seeds provided by the seed bank were healthy and of good quality, resulting in improved yields,"*** shared a beneficiary.

The enterprises initially provided supplementary income to many SHG members, and the revival of the SHGs enabled greater decision-making among community women. However, most of the enterprises have been discontinued, resulting in the near average score of 2.8 for entrepreneurship. This is echoed in the responses to the survey wherein 75% of the respondents stated that the enterprises are not functioning.

Poultry farming and goat distribution had potential, but faced high mortality rates. In the village of Bamangaon, the SHG Ananda Ajeevika Samuh was involved in the poultry enterprise and successfully ran the poultry farm for two years. During that period, the group earned income through the sale of eggs and chicken. However, the initiative was discontinued due to infrastructure challenges, such as the poor quality of the poultry sheds, which were destroyed by heavy rains, and stray animals that preyed on the chicks. Health issues in poultry impacted project implementation. In Panjaria, the SHG who were into the poultry enterprise were able to initially grow the flock from 100 to 300, but all the poultry eventually perished. The poultry activity proved to be highly effective in its initial stages, with beneficiaries expressing satisfaction and enthusiasm. Each of the 10 SHG members received 10 chicks, which generated substantial income, enabling them to reinvest in additional chicks and expand their activity. However, the unforeseen death of nearly 300 chicks resulted in considerable financial losses, ultimately leading to the discontinuation of the initiative despite its promising start.

In the goat farming initiative in Lohari, an SHG was provided with 10 goats (1 per member). Out of the 10 goats, 5 were still alive, and the beneficiaries are using the droppings as manure or selling the goats. However, 5 members whose goats died were unable to receive any insurance claims for their losses. Women who were into goatery mentioned that earlier they were solely dependent on labour work for their livelihood. But after receiving goats through HDFC/IGSSS, they now have an alternate source of income. According to an SHG member, ***"Since I started earning, I no longer depend on my husband. If my child asks for something, I go to the market myself and buy it. My decision-making power has greatly improved with my financial independence."***

Figure 2: Goatery support provided by HDFC Bank in Khadki village

The environment was unsuitable for beekeeping due to unfavourable weather conditions and a lack of sufficient flora and vegetation in the area, leading to the failure of the enterprise. Additionally, the community was not consulted before implementing beekeeping, and once the bees died, they showed no interest in continuing the activity. As per a beneficiary from Hapla, ***"I underwent beekeeping training in Khandwa and received bee boxes with colonies. I also attended a demonstration organized in my village. Despite all these efforts, within just 15 days, the bees vacated the boxes, and I had to discontinue the activity."***

The reach score of 4.0 indicated progress in achieving targets like SHG formation. In the second year of the project, HDFC/IGSSS planned to strengthen 30 SHGs and successfully achieved this target. In

Year 3, the strengthening of 28 SHGs was planned and accomplished, as reflected in the MIS reports. Although these SHGs had been in existence for over 8 years, they were largely defunct. However, through targeted interventions, they were revived and strengthened with training in financial and functional literacy, which eventually led them toward entrepreneurship. Despite this success, gaps remained such as the discrepancy in the number of beneficiaries receiving drip and sprinkler irrigation systems. While 14 beneficiaries were listed to receive them, only 10 actually received the systems. In Dipla, a respondent was expected to receive a yellow sticky trap but did not, and in Dhanora, two respondents were to receive onion seeds but did not. Additionally, none of the surveyed beneficiaries reported involvement in plantation activities. The influencing factors score of 2.7 highlights positive enablers, such as effective agricultural interventions, alongside barriers like poor product quality, low awareness, and external challenges.

Empowering SHG Women Through Chips Processing at Ladanpur

Sanoo SHG from Village Ladanpur is a group of 10 women members who started with a monthly savings contribution of Rs. 100 each. In 2022, the group received support from the IGSSS in the form of a chips processing unit and training in chips processing at Krishi Vigyan Kendra. The training also covered selection of suitable potatoes/arbi/banana for chips production, ideal temperature for frying etc.

The chips processing unit included a peeling and washing unit for cleaning and peeling raw materials, a cutting machine for slicing into uniform pieces and a drying machine for drying the slices before frying. It also included a gas-fired frying unit. However, due to frequent burning of chips, the group took a loan to purchase a firewood-based fryer. This upgrade improved production consistency.

The masala for the chips is prepared in-house, ensuring high-quality flavour. The members stated confidently that the quality of the chips they produced were much superior than those available in the market. The SHG initially sourced potatoes from the market and occasionally from Indore. Realizing that the required quality was not consistently available, they started growing potatoes locally, leveraging their farming skills and resources. It was mentioned that 5-6 kg of chips could be produced per batch and on nearly one quintal per day. The profits earned from sale of the chips were mostly reinvested in purchasing raw materials like oil, raw materials for the masala and potatoes.

According to an SHG member, ***"starting the chips-making enterprise has changed our lives in so many ways. We now have our own income, which gives us financial independence. It feels empowering to contribute to our families and our husbands have started taking us seriously. Our confidence has grown, and people in the community respect us more because of what we have achieved".***

Challenges:

- ***Packaging:*** The group's small packaging machine is of poor quality, allowing air to seep into the packets and shortening the chips' shelf life. The group require a more advanced packaging machine to address this issue.
- ***Marketing and Licensing:*** Marketing was previously facilitated by the FPO Onamassi under IGSSS's support. With IGSSS's project ending in June 2023, the SHG has not been able to do the marketing on a large scale except for selling locally. They want to pursue a marketing license and GST registration to independently resume operations for which they may need help.

Sanoo SHG demonstrated the transformative potential of skill development and enterprise support for rural women. While the group has successfully overcome production challenges, they now require assistance in packaging, marketing, and licensing to sustain and scale their business. Supporting their growth could serve as a model for empowering other SHGs in the region.

5.5 Impact

The combined weightage score for impact is 3.3 (moderate), with the highest weightage attributed to transformational change (3.7), followed by project outcomes (3.3) and unintended change (2.7). Notably, the significance (outcome) score for SHG development stood at 4.6 (outstanding) and farm management stood at 3.7 (notable) and entrepreneurship at 1.5 (Underperforming).

In terms of SHG development, the strengthening and revival of defunct SHGs led to regular monthly meetings, access to loans, and the initiation of entrepreneurship activities, all of which contributed to the overall empowerment of women. During focus group discussions, it was clear that women were vocal about their aspirations and had a strong sense of what they wanted to achieve in the future.

Overall entrepreneurship score of 2.4 indicates 'suboptimal' impact of the intervention, as most entrepreneurship activities had only a short-term impact due to various challenges. However, prior to the project, most women were engaged in labour work, and through activities like goat farming and chips processing, they now have alternative sources of income. Additionally, women had gained greater decision-making power due to their access to money, which they use for their own needs and to support their children's education, reducing their dependency on their husbands. According to an SHG member involved in chips processing, ***"Starting the chips-making enterprise has changed our lives in so many ways. We now have our own income, which gives us financial independence. It feels empowering to contribute to our families, and our husbands have started taking us seriously. Our confidence has grown, and people in the community respect us more".***

Likewise, for farm management, a key success of the initiative was the positive impact of drip and sprinkler irrigation on beneficiaries' farming practices. Focus groups highlighted several benefits of these efficient irrigation systems, including water conservation, reduced input costs, lower labor requirements, even water distribution, prevention of waterlogging, and reduced risk of plant rot.

Table 14: *'Impact' Scores for the SDLE Initiative*

Indicators	Farm Management	SHG Development	Entrepreneurship	SDLE (Overall)
Significance (Outcome)	3.7	4.6	1.5	3.3
Transformational change	3.5	4.0	3.5	3.7
Unintended change	2.0	3.0	3.0	2.7
Combine weightage score	**3.3**	**4.1**	**2.4**	**3.3**

Anil Khande, a farmer from Bamangaon, shared how support from HDFC/IGSS for adopting sprinkler irrigation revolutionized his farming practices. This modern technology enabled him to overcome the challenges of water scarcity in his village while significantly improving efficiency, resource management, and productivity.

Given the limited water availability in Bamangaon, the sprinkler system proved to be a game-changer for Anil. It allowed him to conserve water by minimizing wastage, which significantly reduced his input costs. The uniform irrigation also prevented waterlogging and reduced the risk of plant rotting, resulting in healthier and more resilient crops.

"One of the things I liked the most about the sprinkler system is its simplicity and efficiency. All I need to do is switch on the motor, and it evenly distributes water across my fields. This has reduced my labour costs. It was particularly effective for chana, vegetables, and onions, and I have got better yields after I started using sprinkler irrigation".

Anil emphasized that adopting sprinkler irrigation not only enhanced his farming efficiency but also promoted better resource management, reduced labour costs, and contributed to higher productivity. His success story highlights the potential of modern irrigation technologies for small-scale farmers in water-scarce regions.

While interventions such as vermicomposting, yellow sticky traps, kitchen gardening, and the provision of vegetable and onion seeds had short-term impacts, their continuity was limited due to various challenges. The qualitative interactions revealed that few beneficiaries selected for the kitchen garden did not receive the seeds. Likewise, those who requested onion seeds did not receive them; instead, they were given different seeds.

In spite of these challenges, a woman beneficiary from Hapla, Malti Goyal, has been successfully growing vegetables in her kitchen garden for the past three years. Trained by HDFC/IGSSS on sustainable practices, such as using kitchen wastewater for irrigation, Malti received vegetable seeds such as bottle gourd, ladies' finger, spinach, fenugreek, lemon and guidance on the nutritional benefits of organically grown produce. Today, Malti cultivates a variety of vegetables, including brinjal, ladies' finger, spinach, fenugreek, coriander, and bottle gourd, in her kitchen garden. She highlighted several advantages of kitchen gardening, such as access to fresh, nutritious vegetables, an improved diet, and significant savings on vegetable purchases.

Malti's success has inspired other women in her community to adopt kitchen gardening. She has actively distributed seeds to her neighbours and guided women without access to land on growing vegetables in gunny bags and polythene. Her efforts have not only transformed her own household's food security and health but also empowered other women in her community to start gardening nurturing a ripple effect of positive change. ***"Every day, I get fresh vegetables. Now my children fall ill less often, maybe only once in six months. Seeing my garden, my neighbours, who don't have much space, have also found ways to grow creepers, which don't require much space."***

Similarly, a farmer from Hapla who underwent training in vermicomposting as part of a program, has been practicing vermicomposting for the past four years, which has made a significant difference to his farming. According to him, ***"by using vermicompost, I have been able to save on the cost of chemical fertilizers. The soil fertility has improved, and the texture of the soil has become much softer, which has resulted in healthier crops like onion, gram, wheat, soybean, and maize. The vermicompost I produce is enough to cover nearly 3 acres of land. One important lesson I learned was the need to layer cow dung first before adding the earthworms. This helps prevent them from dying. While heavy rains have sometimes washed away the earthworms, I am still very satisfied with the results. I plan to scale up the practice in the future because of the positive impact it has had on my farm".***

5.6 Sustainability

The overall sustainability score is 2.5 demonstrated an average performance of the intervention with regard to sustainability. This score is influenced by respondents' uncertainty about their ability to sustain interventions independently after HDFC Bank's support ended. Nearly half (49%) of respondents expressed doubt about their capacity to continue, while 7% cited the absence of any established mechanism to ensure the sustainability of the interventions. Although 30% of beneficiaries have taken independent initiatives to sustain the interventions, the significant level of uncertainty and lack of mechanisms highlight potential risks to long-term continuity.

The sustainability score for project design and strategy was **2.5**, reflecting the absence of mechanisms for long-term sustainability. For instance, the chips enterprise struggled due to the lack of a post-project marketing strategy. After IGSSS withdrew, the FPO responsible for selling the product ceased operations, leaving the SHG unable to market beyond the local community. Without access to marketing support, the SHG has been unable to scale sales beyond the local market, hindering the enterprise's potential for sustained growth and profitability.

Table 15: *'Sustainability' Scores for the SDLE Initiative*

Indicators	Farm Management	SHG Development	Entrepreneurship	SDLE (Overall)
Potential for Continuity	2.1	2.4	3.0	2.5
Sustainability in project design and strategy	2.5	2.5	2.5	2.5
Combine weightage score	**2.3**	**2.4**	**2.8**	**2.5**

The qualitative insights reveal that, among various farm management practices, only drip and sprinkler irrigation systems demonstrated clear potential for continuity and scalability. Given their effectiveness in conserving water, enhancing efficiency, and boosting agricultural productivity, there is significant potential to scale the adoption of drip and sprinkler irrigation systems.

While the community expressed strong interest in continuing initiatives like vermicomposting, yellow sticky traps and kitchen gardening, challenges such as a lack of resources and knowledge have hindered their progress and scalability. For instance, most beneficiaries discontinued vermicomposting due to issues such as water shortages leading to the death of earthworms, insufficient dung, uncertainty about procuring new earthworms, and heavy rains washing away the worms. However, they indicated a willingness to resume vermicomposting if these challenges were addressed.

Similarly, yellow sticky traps, which were used only once when provided by HDFC/IGSSS, were recognized as beneficial by the beneficiaries. A farmer from Khadki shared, ***"I used the yellow sticky traps for my onion crop, and got a good yield. The pests would stick to the traps, protecting the crops. However, I only used them for one season because I didn't know where to get more. If I can get the yellow sticky traps again, I will definitely use them."***

Soil testing also lacked sustainability, as the collected soil samples did not yield accessible reports for beneficiaries. Without the information from these reports, farmers could not make informed decisions about soil health or implement corrective measures, undermining the intervention's long-term viability.

The sustainability of SHGs presents mixed outcomes. While some SHGs have been revived and strengthened, they primarily engage in basic activities like lending and borrowing. In many cases, meetings and other activities were irregular without external support.

Entrepreneurship activities showed moderate potential for continuity, with a sustainability score of 3.0. Goat-rearing by SHGs continues on a small scale, while other enterprises, such as poultry, show promise with minimal support. For example, the Ananda Ajeevika Samuh in Bamangaon expressed interest in sustaining poultry rearing if provided with the Kadaknath breed, quality sheds, proper lighting, and training on feeding practices, disease management, and vaccinations. These measures could significantly improve the viability and impact of poultry enterprises.

Similarly, the chips enterprise could continue if equipped with an advanced packaging machine to improve product quality and shelf life and supported in obtaining a marketing license and GST registration to expand sales beyond the local market. Conversely, the beekeeping enterprise is not sustainable due to unsuitable climatic conditions, insufficient flora and vegetation, and the community's lack of interest in beekeeping.

In Lohari, the SHG, established in 2019 and supported by HDFC/IGSSS for goat rearing, shows both promise and challenges in terms of sustainability. Each of the 10 members initially received a goat along with training on disease management, vaccinations, and medicines. However, sustainability is hindered by issues such as delayed vaccinations, which led to the loss of goats for five members, and a lack of access to insurance claims for those whose goats died.

For the remaining members, goat rearing has proven to be a reliable support system, providing both milk for consumption and an emergency income source through the sale of goats to cover household expenses or educational needs. The group's practice of selling male kids while rearing female goats for milk has ensured a steady output. Furthermore, goat droppings are effectively utilized as manure, enhancing agricultural productivity.

Despite these benefits, the enterprise requires further interventions to ensure its long-term viability. Members have highlighted the need for additional training in disease management and a more robust insurance process to mitigate losses. Addressing these challenges can significantly enhance the sustainability and scalability of the goat-rearing enterprise.

5.7 Branding

The overall branding score was 2.8 out of 5, indicating average visibility of the interventions. While the water tanks displayed prominent branding for HDFC Bank, the health camps conducted by HDFC Bank and IGSSS lacked community recall. None of the community members in the surveyed villages remembered about the health camps.

Table 16: *'Branding' Scores for the SDLE Initiative*

Indicators	Farm Management	SHG Development	Entrepreneurship	SDLE (Overall)
Visibility/word of mouth	3.0	3.0	2.5	2.8
Combine weightage score	**3.0**	**3.0**	**2.5**	**2.8**

5.8 Composite Score

The composite score of 3.3 categorizes the SDLE intervention as "Moderate," reflecting satisfactory overall performance across key parameters. Key highlights include a strong coherence score (4), reflecting effective alignment with other interventions, policies, and strategies. Efficiency (4) and relevance (3.2) also fall in the proficient range, indicating acceptable resource utilisation and responsiveness to stakeholder needs. However, the effectiveness (2.9) and impact (3.3) scores reveal limitations in achieving consistent results and deeper, long-lasting changes. The Sustainability score of 2.5 suggests concerns about the project's long-term viability, requiring stronger measures to ensure lasting outcomes. Similarly, the Branding score of 2.8 indicates moderate visibility of HDFC Bank.

Table 17: *Overall 'Composite Score' for the SDLE Initiative*

OECD parameters	Combined weighted score	Weighed score for Final Project Score
Relevance	3.2	0.4
Coherence	4.5	0.6
Efficiency	4.0	0.6
Effectiveness	2.9	0.6
Impact	3.3	0.7
Sustainability	2.5	0.2
Branding	2.8	0.2
Total Project Score		**3.3**

****Composite Score (SDLE) =** 15% * Relevance weighted score + 10% * Coherence weighted score + 15% * Efficiency weighted score + 20% * Effectiveness weighted score + 25% * Impact weighted score + 10% Sustainability weighted score + 5% * Branding weighted score **i*.e., (15* 3.7) +(10% * 4.0) +(15% * 3.8) +(20% * 3.2) +(25% * 3.1) +(10% * 2.0) + (5% * 3.5) = 3.3***

CHAPTER VI

KEY RESULTS AND INSIGHTS ON "HEALTH AND HYGIENE"

The health and hygiene interventions aimed at improving the overall health of the community through multiple interventions such as health camps, drinking water facilities, and solid waste management.

This chapter delves into the indicator specific findings, with scoring based on the quantitative surveys and the qualitative insights.

6.1 Relevance

The combined weightage score for health and hygiene interventions is 3.1, reflecting moderate alignment with the interventions. Beneficiary needs alignment scored the highest at 3.6, indicating that initiatives like drinking water arrangements, animal supplements, and health camps were aligned well with beneficiary needs. According to the frequency data, 86% of respondents stated that the support provided under H&H was important, with 43% rating it as highly important, 29% as fairly important, and 14% as important.

However, the local context alignment scored lower at 2.8 (average), and the quality of design received a score of 2.5 (Suboptimal), revealing several gaps in implementation and relevance. For instance, in Bawariya Kaji, a **Jal Minar** was constructed 500 meters away from the village, which limited accessibility for many residents. In Rampur Kalan, a well renovation effort only involved covering the well with a metal mesh, without addressing the critical need for cleaning, rendering the intervention ineffective. In Rampur Kalan, the construction of another **Jal Minar** remained incomplete due to the lack of plastering and water connection. This overlap with the government's **Nal Jal Yojana**, aimed at providing drinking water to households, further contributed to the redundancy and underutilization of the intervention.

Figure 3 Half constructed Jal Minar (Water tank) in Rampur Kalan

Similarly, in Khadki, a solar panel was installed on a community water tank to replace direct electricity use but was not connected to the pump, necessitating continued reliance on electricity. IGSSS's attempts to retrieve the unused panels were resisted by villagers, who repurposed them as a makeshift mandir to power lights, highlighting a disconnect between the intervention's design and local needs.

In terms of health camps, the animal health camps were highly appreciated by beneficiaries, particularly for the distribution of multivitamins to enhance cattle milk production, as well as deworming medicines, de-ticking soap, and liver tonics. However, the execution of general health camps was limited despite their relevance as an intervention. Only one health camp was organized in 2021, highlighting the need for more frequent and detailed health initiatives. Additionally, the community health camps primarily focused on basic services such as blood pressure and sugar testing, with prescriptions provided. These camps fell short of addressing more comprehensive health needs. These gaps highlight that while the interventions held significant potential, their overall relevance and impact were constrained by inadequate planning and execution.

Table 18: 'Relevance' Scores for the Health and Hygiene Initiative

Indicators	Weightage score		
	Water Management – Drinking	Health Camps	H&H (Overall)
Beneficiary need alignment	3.4	3.9	3.6
Local context alignment	2.5	3.0	2.8
Quality of design	2.0	3.0	2.5
Combine weightage score	**2.9**	**3.4**	**3.1**

6.2 Coherence

The combined weightage coherence score of **4** out of 5 reflects strong alignment across internal and external dimensions. Internal coherence scored 5 because of a clear alignment with IGSSS's vision and approach towards working with marginalised communities and HDFC's HRDP. External coherence received an average score of 3. The project effectively collaborated with government entities, such as organizing animal health camps in partnership with the Animal Health Department. However, challenges emerged, particularly due to redundancy with government initiatives. For instance, the introduction of drinking water infrastructure coincided with the rollout of the Har Ghar Nal Se Jal scheme in Madhya Pradesh in 2018, which provided individual household taps. As a result, the infrastructure introduced by the project became redundant and was left abandoned, reflecting the need for better coordination to avoid overlaps with existing government programs.

Table 19: 'Coherence' Scores for the Health and Hygiene Initiative

Indicators	Weightage score		
	Water Management – Drinking	Health Camps	H&H (Overall)
Internal	5.0	5.0	5.0
External	2.0	4.0	3.0
Combine weightage score	**3.5**	**4.5**	**4.0**

6.3 Efficiency

The combined weightage score of **2.9** out of 5 reflects that the efficiency of the interventions is 'average' and constrained. Operational efficiency received the lowest score **(2.3)**, while the quality of services was rated highest (3.3). Specifically, the drinking water infrastructure scored **2.5** for quality of services and 2.0 for operational efficiency, highlighting suboptimal performance.

The project's efficiency was compromised by incomplete implementation and the failure to provide all necessary components. For instance, in Rampur Kalan, the well renovation involved merely covering the well with an iron sheet without cleaning the well itself, rendering the intervention ineffective. This lack of a holistic approach undermined the intended impact cleaning the well should have been prioritized over merely covering it. The resources allocated could have been better utilized for comprehensive solutions, such as thoroughly cleaning the well to ensure safe and sustainable water

access. Similarly, the construction of the community water tank (Jal Minar) remained incomplete in Rampur Kalan, as the plastering and water connection were not completed. This reflects inefficiencies in project execution, leaving the infrastructure unable to serve its intended purpose and meet the community's needs.

For health camps, operational efficiency was rated **2.5**, indicating suboptimal performance. Only one health camp was organized in 2021, which was insufficient to cater to the community's diverse health requirements. Additionally, the camps were limited to basic services such as BP and sugar testing, falling short of addressing broader healthcare needs.

Table 20: *'Efficiency' Scores for the Health and Hygiene Initiative*

Indicators	Weightage score		
	Water Management – Drinking	**Health Camps**	**H&H (Overall)**
Timeliness	3.0	2.5	2.8
Quality of Services Provided	2.5	4.0	3.3
Operational Efficiency	2.0	2.5	2.3
Project design	3.0	3.0	3.0
Combine weightage score	**2.7**	**3.1**	**2.9**

6.4 Effectiveness

The overall effectiveness of the health and hygiene interventions was rated at 3.4 (moderate). Within this, water management initiatives scored 3.0 (average), while health camps scored 3.9 (notable). The survey data revealed that 43% of water structures were either non-functional or partially functional, which significantly limited the interventions' effectiveness. Similarly, 43% of respondents expressed dissatisfaction with the current availability of drinking water from these sources. In contrast, none of the respondents were dissatisfied with the health camps. However, 29% were only somewhat satisfied, while the remainder reported being either fully satisfied or satisfied.

In terms of **'Reach (Targets vs. Achievements)', t**he drinking water initiative achieved a **perfect score of 5**, signifying that the target for providing drinking water was successfully met, as per MIS reports. Health camps also met their quantitative targets, but qualitative findings revealed gaps. Majority of the villagers were not able to recall the health camps that had been organized in their villages, highlighting **limited community engagement** and a lack of perceived impact. This suggests a disconnect between the program's reported achievements and its effectiveness in addressing community health needs.

With regards **to 'Differential Results', s**everal participants reported the absence of a **comprehensive community consultation** or proper need assessment, contrary to claims by the implementing partner. Additionally, there were no instances of **adaptive measures** being implemented during the intervention, reflecting a lack of flexibility to address emerging challenges.

Table 21: *'Effectiveness' Scores for the Health and Hygiene Initiative*

Indicators	Weightage score		
	Water Management – Drinking	Health Camps	H&H (Overall)
Interim Results (Output and short-term results)	3.9	3.5	3.7
Reach (Target v/s Achievements)	5.0	4.0	4.5
Influencing Factors (Enablers & Disablers)	1.5	4.0	2.8
Differential Results (Need Assessment)	2.0	4.5	3.3
Adaptation over time	1.0	3.0	2.0
Combine weightage score	**3.0**	**3.9**	**3.4**

6.5 Impact

The overall combined weightage score of **2.8** indicates that the interventions have had an 'average' or limited impact. Among the initiatives, health camps scored slightly better, with a weightage score of 3.4 (moderate), compared to a score of 2.1 (suboptimal) for water management for drinking. Despite being a one-time activity, the health camps yielded tangible benefits, with respondents unanimously agreeing (100%) that the camps provided useful medical services. Additionally, 71% of respondents agreed that subsidized rates helped them save money, 100% acknowledged reduced travel time to hospitals, and 86% felt their health concerns were effectively addressed. These camps also helped people understand their underlying health conditions. Furthermore, animal health camps addressed critical needs by providing deworming tablets and multivitamins to boost milk production, as well as identifying and managing diseases, which positively impacted livestock health and productivity.

In contrast, the water management for drinking initiative faced several challenges that undermined its impact. Most of the Jal Minars were either non-functional or incomplete. In one village, the Jal Minar was constructed at a significant distance from the settlement, limiting accessibility and reducing the initiative's overall impact. These shortcomings significantly detracted from the intended outcomes of the water management interventions.

Table 22: *'Impact' Scores for the Health and Hygiene Initiative*

Indicators	Weightage score		
	Water Management – Drinking	Health Camps	H&H (Overall)
Significance (Outcome)	2.5	3.8	3.1
Transformational change	1.0	3.0	2.0
Unintended change[2]	3.0	3.0	3.0
Combine weightage score	**2.1**	**3.4**	**2.8**

[2] Unintended changes have been scored as the following: 1-2 are negative unintended changes, 3 is no unintended change, 4-5 are positive unintended changes.

6.6 Sustainability

The overall sustainability score is inadequate (1.0) for water management and underperforming (1.9) for health camps. Water management for drinking purposes received a score of **1.0** for both potential for continuity and sustainability in project design and strategy. This low score reflects the condition of the Jal Minars, most of which were found to be either incomplete or non-functional during the study team's visit. No repairs or renovations have been undertaken, and there is currently no mechanism in place to ensure their revival, operation, or sustainability. The primary reason for their lack of utilization and maintenance is the community's reliance on the government's Jal Nal Scheme, which provides direct access to household water connections, making the Jal Minars redundant.

Similarly, the low sustainability score for health camps stems from the fact that only one health camp was organized in 2021, with no follow-up activities conducted. Despite this, there is significant scope for improvement. Regularly organized annual health camps could effectively address ongoing health needs and have a more substantial impact on the community's well-being.

Table 23: *'Sustainability' Scores for the Health and Hygiene Initiative*

Indicators	Weightage score		
	Water Management – Drinking	**Health Camps**	**H&H (Overall)**
Potential for Continuity	1.0	2.5	1.8
Sustainability in project design and strategy	1.0	1.0	1.0
Combine weightage score	**1.0**	**1.9**	**1.5**

6.7 Branding

The overall branding score was **4** out of 5, indicates good visibility of the interventions. While the water tanks displayed prominent branding for HDFC Bank, the health camp conducted by HDFC Bank and IGSSS lacked community recall.

Table 24: *'Branding' Scores for the Health and Hygiene Initiative*

Indicators	Weightage score		
	Water Management – Drinking	**Health Camps**	**H&H (Overall)**
Visibility/word of mouth	5.0	3.0	4.0
Combine weightage score	**5.0**	**3.0**	**4.0**

6.8 Composite Score (H&H)

The Health and Hygiene project achieved a final weighted score of **2.8**, with strong contributions from Coherence **(4)**, Effectiveness **(3.4)** and Relevance **(3.1)**, indicating an adequate alignment and resource utilization. Branding **(4)** stood out with excellent visibility, while **Sustainability** (1.5) was a key weakness, raising concerns about long-term viability.

Table 25: *'Composite' scores for the Health and Hygiene Initiative*

OECD parameters	Combined weighted score	Weighed score for Final Project Score
Relevance	3.1	0.4
Coherence	4.0	0.4
Efficiency	2.9	0.4
Effectiveness	3.4	0.6
Impact	2.8	0.7
Sustainability	1.5	0.1
Branding	4.0	0.2
Total Project Score		**2.8**

Composite score calculation for Health and Hygiene = 15% * Relevance weighted score + 10% * Coherence weighted score + 15% * Efficiency weighted score + 20% * Effectiveness weighted score + 25% * Impact weighted score + 10% Sustainability weighted score + 5% * Branding weighted score **i*.e., (15%* 3.1) +(10%* 4.0) +(15%* 2.9) +(20%*3.4) +(25%* 2.8) +(10%* 1.5) +(5%* 4.0) = 2.8***

CHAPTER **VII**

KEY RESULTS AND INSIGHTS ON "PROMOTION OF EDUCATION"

Interventions in the project schools focused on the creation of smart classrooms, provision of WASH facilities and play materials such as swings, inclusion of furniture, library, and development of BALA paintings. These interventions were largely successful, with the exception of the WASH facilities. Specific insights from each of the indicators have been shared in this chapter.

7.1 Relevance

The combined weightage score of relevance, at **3.4**, indicates moderate alignment with beneficiary needs and context. The weightage score for beneficiaries' need alignment and quality of design is slightly higher **(3.5)**, while local context alignment scored lower at **3**. Key interventions such as the introduction of smart classrooms, BALA paintings, provision of sports materials, and development of library and laboratory facilities were particularly relevant and well-received.

On the positive aspects, the introduction of smart classes proved highly relevant, significantly improving the learning experience for students and enhancing teaching effectiveness. Smart technology made lessons more interactive, enabling students to engage visually and grasp concepts more effectively. Similarly, BALA paintings created a visually stimulating environment that encouraged self-driven learning. The provision of furniture and almirahs addressed practical concerns in Hapla, where previously, books and materials were damaged by rats due to inadequate storage. This improvement was particularly appreciated by both teachers and students.

Discussions with teachers from all the schools visited highlighted the effective utilization of the provided sports equipment. Students regularly participated in both outdoor and indoor games during recess and afternoon sessions. This was especially valuable for students from underprivileged backgrounds, offering access to sports activities they might not have had otherwise. The availability of these materials also encouraged consistent school attendance, as students looked forward to engaging in physical activities. Overall, the interventions created a more dynamic and engaging school environment, enhancing academic and extracurricular opportunities.

However, some interventions were less aligned with beneficiaries' needs and the local context, as outlined below:

- In Bamangaon, the provision of furniture to the school was misaligned with the needs as the school already had the required furniture. Therefore, furniture remained unused in a storeroom. While the school requires a boundary wall to prevent misuse of the premises by outsiders, it was not addressed.
- In Bawariya Kaji, although toilets were provided to the primary school, they are not child-friendly, with broken seats and no water supply, rendering them largely unusable. Similarly, in Panjariya, the absence of separate toilet facilities for boys and girls reduced their effectiveness, particularly in promoting hygiene and inclusivity for older students.
- The laboratory materials in the school in Bamangaon were only partially relevant, as essential chemicals for conducting experiments were missing, making it impossible to demonstrate experiments effectively. Also, the lab's dilapidated condition rendered it unusable, leaving the materials unused highlighting a misalignment between resource allocation and infrastructural readiness. The kitchen garden intervention was ineffective in most schools due to the lack of

a compound wall, leaving the gardens unprotected from miscreants and stray animals, thereby preventing the realization of intended benefits.

A few interventions also failed to account for local realities. In Bamangaon, toilets became non-functional due to a lack of water supply. The rainwater harvesting system, intended to address water scarcity, was poorly executed, with the pipe breaking shortly after installation, rendering it ineffective.

Figure 4: Non-functional water harvesting system in School

In Bawariya Kaji, water filters were provided, but the connected tube wells only function during the monsoon, forcing students to bring their own water bottles. In Khadki, the water filter provided was connected to a tube well that lacks a consistent water supply, making the intervention largely redundant for most of the year.

The overall quality of design in the certain education-related interventions was subpar in a few villages. In Bamangaon, while a smart classroom was functional, the lack of internet connectivity hindered its full potential. Teachers relied on their own data, which is not a sustainable solution. Similarly, the rainwater harvesting system in Bamangaon failed due to poor construction, becoming non-functional shortly after installation.

Figure 5: On-going Smart class in school

In Bawariya Kaji, a faulty slope in the construction of toilets led to waterlogging or clogging, rendering the facilities unusable. This reflects inadequate planning and execution in the design phase.

Table 26: *'Relevance' scores for Promotion of Education*

Indicators	Weightage score
Beneficiary need alignment	3.5
Local context alignment	3.0
Quality of design	3.5
Combine weightage score	**3.4**

7.2 Coherence

The internal coherence of the project received an exceptional weightage score of 5.0. The education component of the project demonstrated strong alignment with IGSSS' overarching vision of empowering marginalized communities. The proposed interventions were in sync with the organization's approach, which emphasizes inclusive development through education, especially for vulnerable groups such as children in underprivileged communities. Moreover, the thematic focus of the project was well-integrated with the objectives of HDFC's Holistic Rural Development Programme (HRDP), which prioritizes education as a fundamental pillar for sustainable development.

Externally, the project scored 3.0, indicating moderate collaboration with external entities. Notably, there was cooperation with government agencies in providing books for libraries, sports materials and constructing school toilets. Additionally, Power Grid Corporation of India Ltd. undertook initiatives to enhance school infrastructure in Bamangaon, including facilitating access to drinking water, constructing three toilets, and installing a Syntex tank for water storage.

Table 27: *'Coherence' scores for Promotion of Education*

Indicators	Weightage score
Internal	5.0
External	3.0
Overall	4.0

7.3 Efficiency

The combined efficiency score of 3.5 out of 5 highlights a notable level of project implementation efficiency. Among the key parameters, **timeliness** achieved the highest score of 4, while **operational efficiency** and **project design** were rated as moderate, each scoring 3.

On a positive note, discussions with principals and teachers revealed that all activities were carried out in a timely manner. The delivery and implementation of **BaLA paintings**, **smart TVs**, and **sports materials** were synchronized with the academic calendar, ensuring there were no delays.

The introduction of BaLA paintings and sports materials were highly appreciated by both students and teachers. It was mentioned that the BaLA paintings transformed classrooms into interactive learning environments, significantly boosting student interest and making the learning process more engaging and effective. Similarly, the provision of smart TVs has proven to be an effective educational tool, enhancing student engagement, understanding, and overall learning outcomes.

"The introduction of smart TVs in our classrooms has increased the understanding and concept of the students Previously, we relied solely on textbooks, which limited our ability to explain certain concepts effectively. This approach has made the teaching process more enjoyable" **– FGD Teachers Panjharia**

The principal of a school in Lohari shared, ***"Students are easily able to grasp what they see in smart classrooms. Just as they recall scenes from movies, they learn and retain information by observing what is presented in these classes. The teachers have also become motivated after the introduction of the smart TV".***

Remedial classes also garnered positive feedback, particularly in Hapla. Teachers highlighted that these sessions benefited both students and educators. The teacher conducting these classes introduced innovative teaching techniques, prompting other school teachers to adopt similar methods and shift their approach to instruction.

The project design demonstrated well-defined outcomes and targets, which aligned with HDFC's objectives. This clarity ensured efforts were focused on achieving measurable results. However, efficiency was dependent on the seamless execution of all project components. Any lapses in implementation directly affected the project's success. For example, the **kitchen gardens intervention** was not realized in most schools. In the few schools where it was initiated, gardens were often destroyed due to water scarcity or damage caused by stray animals.

"The kitchen garden could not be set up as we were unable to arrange for anyone to look after the garden, so it was not established." – Principal, Panjharia

In Bamangaon also, the project aimed to enhance the nutritional support for education through the establishment of kitchen gardens. While initial efforts, such as ground preparation, were successfully completed, the subsequent steps—such as providing seeds—were not executed. This interruption highlights inefficiency in the supply chain or resource allocation, undermining the overall project efficiency.

While the **science laboratories** in Hapla and Lohari were highly appreciated, the laboratory in Bamangaon was less effective. Although test tubes and other equipment were provided, the lack of chemicals prevented teachers from conducting practical experiments. Another significant issue was the dilapidated condition of the lab, which made it unusable, particularly during the rainy season when water would enter the room, further limiting its potential.

Figure 6: Science lab building not in use due to ceiling leakage

In Hapla, the introduction of smart classrooms has not yet reached its full potential due to a lack of teacher training. Many teachers lack the necessary skills to effectively integrate this technology into their teaching and pedagogy.

Table 28: *'Efficiency' scores for Promotion of Education*

Indicators	Weightage score
Timeliness	4.0
Quality of Services Provided	3.5
Operational Efficiency	3.0
Project design	3.0
Combine weightage score	**3.5**

7.4 Effectiveness

The combined weightage score of **3.7** is notable, highlighting the overall effectiveness of the interventions. The scores highlight key areas of strength, particularly in *reach*, *influencing factors*, and *differential results*, which each received a high score of **4**. *Interim results* and *adaptation over time*, each scoring 3, indicate moderate effectiveness, suggesting room for improvement in monitoring short-term outcomes and adapting strategies to evolving conditions. Together, these scores paint a balanced picture of achievement **(3.7)**.

The interventions have shown varying degrees of success across different villages. The interventions, such as smart classrooms and BALA paintings, have proven to be highly effective tools for teachers, enhancing both teaching methods and student engagement. Interestingly, in Panjharia, the smart TV has been effectively used not only for teaching students but also by teachers during meetings and discussions, where they connect it to their mobile phones.

Teachers also mentioned that they record the classes conducted and share them with students who are absent. According to a teacher from Lohari, ***"if I am engaged in other tasks, I can still teach the class digitally at the same time. It has been a great help, allowing me to multitask. Earlier, if there was an urgent task, I had to choose between leaving the class or the work, but now I can manage both simultaneously."***

Teachers have creatively adapted to challenges, such as in the case of smart classrooms with expired subscriptions. When subscriptions for digital resources expired, teachers demonstrated resourcefulness by integrating free YouTube videos into their lessons. This shift was initiated by the teachers themselves to continue enhancing their teaching with digital resources. Though this adaptability ensured the continuity of digital learning, though it highlights the need for sustained support.

Almost all the teachers who were part of the study specifically mentioned that the students' response to BALA paintings was very positive. ***"There are two rooms where BALA paintings have been done, and we no longer need to teach the students about numbers and letters in those rooms. The students are naturally interested and are learning on their own. They have developed the art of storytelling by observing and interpreting the pictures.*** – Teacher, Hapla

The sports materials provided are being actively used in all the schools visited by the study team, contributing to the overall development of students. In Hapla, the addition of a lockable cupboard for the library has been especially beneficial, as it protects the books and materials from damage, which was previously a problem due to rats destroying them. The, remedial classes have had a positive impact, increased student interest and improving their academic performance, as reflected in their marks.

The school staff were happy with the books provided for the library. Although there were books earlier also, the teachers mentioned that the addition of more books, has sparked greater interest in studying among the students and they enjoy spending time in the library. ***"We take students to the library in turns, one class at a time. In the classrooms also, we have kept some books for the students to read, in addition to the library"*** – Teacher, Panjharia

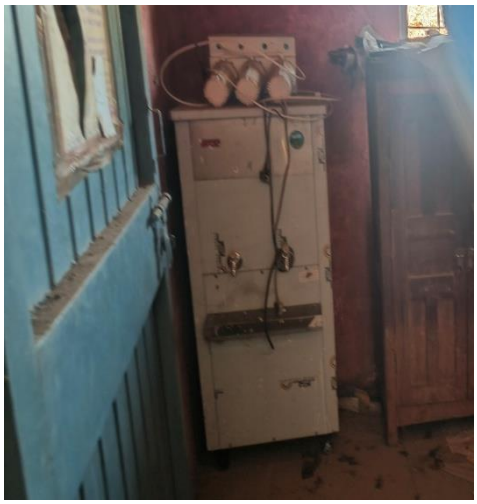


Figure 7 Unsued water filter in Panjahria School

Despite these positive outcomes, operational challenges have constrained the impact of certain interventions. Toilets remain underutilized due to cleanliness issues and water scarcity, underscoring gaps in maintenance. Some interventions, effective initially, have become non-functional due to inadequate infrastructure support. For example, in Hapla, the water filter was used earlier, but it is no longer functional due to the lack of water. In Panjharia, the school was provided with a water filter, but the connection was not successful, rendering it unusable. Similarly, in Bamangaon, the science laboratory was initially utilized, but its dilapidated condition and water leakage during the rains have reduced its use. The kitchen gardens in Hapla and Lohari were initially promising interventions. The kitchen garden in Hapla was located at the back of the school, but due to the lack of a main gate, it was destroyed and is no longer functional. In Lohari, the kitchen garden was initiated by the teachers but was eventually destroyed due to water scarcity. A major issue highlighted by the staff was the absence of a compound wall, which made it easy for

miscreants and stray animals to enter the garden and destroy it. In Khadki, Panjharia and Bamangaon, although the intervention of a kitchen garden was planned, it was not implemented.

Also, the disparity between planned and achieved interventions is notable in some villages. For instance, in **Bamangaon** and **Khadki**, kitchen gardens were reported as delivered but were either absent or non-functional upon inspection. This indicates gaps in monitoring and implementation follow-up.

Table 29: *'Effectiveness' scores for Promotion of Education*

Indicators	Weightage score
Interim Results (Output and short-term results)	3.0
Reach (Target v/s Achievements)	4.0
Influencing Factors (Enablers & Disablers)	4.0
Differential Results (Need Assessment)	4.0
Adaptation over time	3.0
Combine weightage score	**3.7**

7.5 Impact

The combined weightage score of **4.0** signifies a strong impact of the education-related interventions on the target population. Education initiatives in villages such as Hapla, Lohari, Khadki, and Panjariya have achieved transformative outcomes, including enhanced student engagement, improved teacher efficiency, and upgraded infrastructure.

A key success of the initiative was the positive impact of the BALA paintings, smart classrooms, science labs and sports materials on both students and teachers.

In an interview with the school principal of Bamangaon, he shared that some students from other private schools have joined his school, likely due to the smart classes. He also mentioned that students from the surrounding 3-4 villages are coming to his school, drawn by the improved learning facilities. During the focus groups, teachers mentioned that the students are motivated by the novelty of the smart class and they are more eager to attend classes regularly and to learn something new each day.

"We now teach the children in a digital mode, and compared to earlier times, this approach has increased their interest in the classes, helping students to learn new things more effectively".

Teachers from Bamangaon were pleased to report that both attendance and enrolment have increased following the interventions.

The smart classrooms have enabled teachers to multitask effectively, as they can play educational content on the screen while simultaneously managing other tasks without leaving the classroom. This has streamlined their workflow and ensured continuous engagement with students. The smart classrooms have also empowered students to take an active role in their learning; they can bring their own pen drives to copy lessons and review them at home, strengthening classroom teachings.

According to a teacher from Panjharia, ***"Sometimes, we had to rely on mobile phones for teaching, but it wasn't very convenient for either the students or us, as long classes couldn't be effectively conducted through mobile. However, this situation has improved with the introduction of smart classes".***

The BALA paintings have been particularly impactful in Anganwadi centers. Teachers observed that younger children are drawn to the vibrant visuals, which simultaneously captivate their attention and aid in learning.

"The vibrant and colourful images captivate their attention, and the regular exposure helps them learn new concepts effortlessly.

At Bawaria Kaji, teachers observed that children actively interact with the paintings, answering questions based on what they see. The repetitive engagement with these visuals has helped to strengthen their learning and even encouraged creativity, as students have developed storytelling skills by observing and interpreting the pictures. Teachers also observed that students find it easier to learn multiplication tables and the names of months from the visual representations on the walls compared to traditional textbooks.

The impact of the science laboratories in Hapla and Lohari has been profound, encouraging curiosity and hands-on learning among students. The introduction of scientific instruments has provided a practical dimension to their education, allowing them to explore and understand concepts more effectively. Teachers reported that this exposure has not only increased students' interest in science but has also improved their confidence in using laboratory equipment. The labs have been able to bridge the gap between theoretical knowledge and practical application, and inspiring students to engage more deeply with their studies.

"The science lab has enhanced students' understanding by introducing them to instruments like microscopes, barometers, thermometers, and lenses. Practical demonstrations allow teachers to explain concepts in a better way. Students, who were previously unfamiliar with such tools, have now developed both knowledge and confidence in using these instruments" **– FGD Hapla**

The Principal of Hapla stated that earlier children were taught with the use of pictures only. Now, through the use of various materials in the lab, the children are taught more precisely. They now understand the things by seeing the models.

Similarly, the access to sports material in Hapla has proven transformative. It has attracted children who previously refrained from attending school, making sports a medium for encouraging school attendance and fostering teamwork, discipline, and physical well-being.

The installation of a water filter in Khadki addressed a critical need, especially during summer. Students who previously fetched water from hand pumps or overhead tanks now have access to clean, filtered, and cold water on campus, improving their comfort and hydration during school hours.

In Ladanpur, the Anganwadi worker highlighted the profound impact of installing floor tiles. ***"the biggest impact has been the installation of floor tiles. Previously, the broken and wet floor during the rainy season discouraged children from attending, leading to low attendance. With the new tiles, the floor remains dry and comfortable, even during heavy rains. This improvement has directly contributed to a noticeable increase in children's attendance",*** as stated by the Anganwadi worker.

While the impact of toilets was less pronounced compared to other interventions due to water supply issues and renovation quality, there were noteworthy benefits in some cases, particularly in Lohari and Panjariya. Notably, in Lohari, the presence of toilets has led to an increase in female student enrolment as stated by the teachers during the FGD, addressing a significant barrier to girls' education and promoting gender inclusivity.

Table 30: *'Impact' scores for Promotion of Education*

Indicators	Weightage score
Significance (Outcome)	4.0
Transformational change	4.0
Unintended change[3]	4.0
Combine weightage score	**4.0**

7.6 Sustainability

The sustainability of the interventions is closely tied to their design effectiveness, capacity-building initiatives for stakeholders, and the availability of necessary resources. For example, smart classes, which introduced modern educational tools, have proven to be a sustainable intervention. These facilities have remained in use long after the initial project timeline, illustrating their potential for continued impact. Similarly, the BALA (Building as Learning Aid) paintings continue to be effective, contributing to the creation of engaging learning environments. In Anganwadis, the furniture provided has shown remarkable durability, still serving its purpose even after the project's completion.

The introduction of the smart TV has led to significant and unexpected impacts. Initially envisioned as a teaching aid for students, it has also become a versatile tool for teachers, enabling them to use it during meetings and discussions by connecting their mobile phones for presentations and collaborative work. Moreover, an unplanned yet highly beneficial outcome has been teachers recording lessons conducted on the smart TV and sharing them with students who were absent, ensuring learning continuity beyond the classroom.

Similarly, the BALA paintings have demonstrated enduring effectiveness, remaining prominently visible and continuing to add value to the learning environment. In the Anganwadi centers, the furniture and toys provided as part of the initiative are still in regular use, highlighting their long-term impact in nurturing a child-friendly environment.

On the other hand, some interventions, such as the provision of water filters and kitchen gardens, faced sustainability challenges. Most of the water filters are no longer operational due to issues with water availability in many schools. Similarly, while the kitchen garden initiative was successfully introduced in several schools, its continuity was hindered by limited water supply, maintenance difficulties, and the absence of compound walls, leading to its eventual discontinuation in most cases. In Hapla, there was also a challenge in integrating smart classrooms into teaching practices due to a lack of teacher skills in utilizing this technology effectively.

Based on these observations, the education-related interventions have earned a combined sustainability score of **3.8** (notable), with continuity potential rated at **4.0** (strong). However, sustainability in project design and strategy scored slightly lower, at **3.6**, due to the absence of structured training programs for teachers on effectively using smart classrooms which limited the project's ability to sustain its outcomes independently over time. Additionally, the lack of active involvement from SMCs further weakened the sustainability framework.

[3] Unintended changes have been scored as the following: 1-2 are negative unintended changes, 3 is no unintended change, 4-5 are positive unintended changes.

Table 31: 'Sustainability' scores for Promotion of Education

Indicators	Weightage score
Potential for Continuity	4.0
Sustainability in project design and strategy	3.5
Combine weightage score	**3.8**

7.7 Branding

The score of **5 out of 5** for branding indicates that HDFC Bank's interventions have achieved exceptional visibility in the schools through effective use of visual branding tools, such as boards and wall paintings.

Table 32: 'Branding' scores for Promotion of Education

Indicators	Weightage score
Visibility/word of mouth	5.0
Combine weightage score	**5.0**

7.8 Composite Score

The composite score of **3.8** categorizes the "PoE" intervention as "Notable", highlighting its alignment with beneficiary needs, adequate coherence, and efficient implementation. The project demonstrates strong performance in impact **(4)** and effectiveness **(3.7)**, showing good achievement of its goals. It also excels in branding **(5)** and coherence **(4)**, with clear structure and a professional presentation. Efficiency **(3.5)** and relevance **(3.4)** are solid, though there is room for improvement in resource management and alignment with core objectives. Sustainability **(3.8)** shows a need for enhancement to ensure long-term viability.

Table 33: 'Composite' scores for Promotion of Education

	Combined weighted score	Weighted score for Final Project Score
Relevance	3.4	0.5
Coherence	4.0	0.4
Efficiency	3.5	0.5
Effectiveness	3.7	0.7
Impact	4.0	1.0
Sustainability	3.8	0.3
Branding	5.0	0.1
Total Project Score		

Composite score calculation for PoE = 15% * Relevance weighted score + 10% * Coherence weighted score + 15% * Efficiency weighted score + 20% * Effectiveness weighted score + 25% * Impact weighted score + 10% Sustainability weighted score + 5% * Branding weighted score **i*.e., (15% * 3.4) +(10% * 4.0) +(15% * 3.5) +(20% * 3.9) +(25% * 4) +(10% * 3.8) +(5% * 5) = 3.5***

CHAPTER **VIII**

OVERALL PROJECT PERFORMANCE

8.1 Relevance

The relevance score of **3.2** out of 5 indicates a moderate alignment of interventions, with beneficiary need alignment scoring the highest at **3.6**, followed by local context alignment at 3.0 and quality of design at **2.7**. High alignment with community needs was observed in interventions like check dams, solar streetlights, irrigation systems, SHG entrepreneurship activities, and school-based initiatives, which effectively addressed specific requirements. The activities conducted under the promotion of education were especially relevant, given the range of support provided and the needs of the schools. The irrigation system support has been one of the most relevant and successful interventions, addressing a critical need of farmers and enabling sustainable change and overall well-being. Additionally, the one-time support received through animal health camps helped in building basic awareness on diseases and how they can be addressed.

However, several interventions fell short due to misalignment with actual needs or fragmented implementation. For instance, toilets and water filters were installed in areas lacking basic water supply, rendering them non-functional. Beekeeping initiatives failed due to inadequate consideration of local climate and flora, while in some cases streetlights were either installed in unsuitable locations or missing in some hamlets. Kitchen garden seeds were distributed in areas without sufficient water or space, leading to wasted resources.

Local context alignment faced similar challenges. Issues included an unrepaired broken dam, inaccessible water management systems like Jal Minar, uneven streetlight distribution, and poorly planned beekeeping enterprises. The overall design of several interventions was also suboptimal, such as toilets with improper slopes, rainwater harvesting systems with bad quality pipes, and a few streetlights that ceased functioning or provided insufficient lighting. Packaging machines provided to SHGs for chips processing were of poor quality, reducing the shelf life of products, while poultry sheds were inadequately designed, allowing stray animals to prey on chicks and lacking proper lighting for breeding or incubation.

Table 34: *'Relevance' scores for the project*

Indicators	Weightage score
Beneficiary need alignment	3.6
Local context alignment	3.0
Quality of design	2.7
Combine weightage score	**3.2**

8.2 Coherence

The coherence score of **4.1** out of 5 is based on internal coherence and external coherence. Internal coherence reflects strong alignment with IGSSS's vision and approach, as well as HDFC's HRDP, with interventions in water management, health, hygiene, education, and skill development. External coherence shows collaboration with government initiatives like horticulture training and NRLM-supported SHGs, but also reveals challenges such as redundancy with the "Har Ghar Nal Se Jal"

program. The introduction of drinking water infrastructure overlapped with the government's *Har Ghar Nal Se Jal* scheme, which provided individual household taps. As a result, community water tanks (*Jal Minars*) were left incomplete in some villages. Additionally, partnership with local government for the implementation of infrastructure in schools would have enabled more effective implementation, such as provision of water in schools were toilets and drinking water facilities were given. The combined weighted score balances the high internal alignment and moderate external alignment.

***Table 35:** 'Coherence' scores for the project*

Indicators	Weightage score
Internal	5.0
External	3.3
Combine weightage score	**4.1**

8.3 Efficiency

The combined efficiency score of **3.4** out of 5 reflects a mix of strengths and weaknesses in project implementation. On the positive side, many projects had clear objectives and targets, and the revival of Self-Help Groups (SHGs) demonstrated an effective and valid approach. Most of the survey respondents believed that the activities were implemented in a timely manner. One positive consequence of the project was the provision of employment to local community members under MNREGA for the construction of a dam.

However, significant challenges in execution hindered the quality of services, and overall operational efficiency. The mismatches between project intent and outcomes became evident, such as the dam built through MNREGA that quickly broke and a well that was covered with an iron sheet without cleaning the water. Lack of risk management also undermined the projects, with theft or vandalism risks and the uprooting of streetlights limiting the efficiency.

Operational challenges extended to beneficiary training, where inadequacies in activities like vermicomposting and failure to deliver soil test results were evident. Farmers reported discontinuing vermicomposting due to lack of access to essential resources like cow dung, and the selection criteria, which prioritized farmers with livestock, were not consistently applied. Additionally, a few solutions lacked a holistic approach—for instance, the well should have been cleaned before being covered, as the resources used for covering it could have been better allocated. Poorly designed poultry sheds, irrelevant beekeeping initiatives, and the absence of insurance for goatry further reflected a lack of focus on local needs. Projects suffered from a lack of baseline data and misaligned implementation, as seen in improper beneficiary selection and incomplete seed distribution.

***Table 36:** 'Efficiency' scores for the project*

Indicators	Weightage score
Timeliness	3.8
Quality of Services Provided	3.4
Operational Efficiency	2.9
Project design	3.1
Combine weightage score	**3.4**

8.4 Effectiveness

The project's overall effectiveness scored **3.1**, reflecting varied outcomes. Interim results **(3.0)** highlighted mixed success. Vermicomposting (where practiced) boosted crop yield and soil fertility, while drip/sprinkler irrigation improved water conservation and crop health. While functional, the enterprises provided supplementary income to many SHG members, and the revival of the SHGs enabled greater decision-making among community women. In cases where the streetlights were functional, they provided safe spaces for children to play and community members to travel freely. A short-term advantage of the project was the access to good quality organic seeds within the community, reducing the overall input cost of farmers. The animal health camps provided livestock owners with deworming tablets and supplements that would have impacted the immediate health of the animals. Poultry farming and goat distribution showed potential but faced risks, such as goat losses (five out of ten in one surveyed case) and death of poultry due to diseases.

The reach score of **4.0** indicated progress in achieving targets like solar lights and SHG formation, though gaps remained—e.g., only 10 of 14 planned drip and sprinkler beneficiaries were reached in one of the surveyed villages, and no surveyed beneficiaries confirmed plantation activities. The influencing factors score of 3.0 highlighted enablers like effective agricultural interventions and barriers such as poor product quality, low awareness, and external challenges. New government schemes also reduced the relevance of some water interventions. Differential results, scoring **3.0**, exposed gaps in need assessment. Smart classrooms aligned with user needs, but kitchen gardens and beekeeping failed due to lack of space, water, or community consultation. Adaptation over time, the lowest score **(2.0)**, revealed limited adjustments to challenges or feedback. In most cases, once the activities were implemented, no changes were made over the course of the project. Kitchen gardens and water filters fell into disuse, while teachers successfully adapted smart classrooms by using free online resources after subscriptions lapsed.

Table 37: *'Effectiveness' scores for the project*

Indicators	Weightage score
Interim Results (Output and short-term results)	3.0
Reach (Target v/s Achievements)	4.0
Influencing Factors (Enablers & Disablers)	3.0
Differential Results (Need Assessment)	3.0
Adaptation over time	2.0
Combine weightage score	**3.1**

8.5 Impact

The overall impact score was **3.1**, with the highest weightage given to unintended change **(3.3)**, followed by project outcomes **(3.1)** and transformational change (3.0). Transformational change scored **3.0** due to mixed results: while women reported improved safety from streetlights and greater empowerment through SHGs and entrepreneurship, no significant impact was seen in water management as the dam became non-functional. Students benefited from engaging with science lab equipment, enhancing their learning experience. Unintended change scored **3.3**, reflecting positive spillover effects like energy savings for households near streetlights, teachers leveraging smart

classrooms for multitasking, and children accessing educational content at home through personal devices.

Table 38: *'Impact' scores for the project*

Indicators	Weightage score
Significance (Outcome)	3.1
Transformational change	3.0
Unintended change[4]	3.3
Combine weightage score	**3.1**

8.6 Sustainability

The combined sustainability score was **2.3**, with potential for continuity slightly higher at **2.4**. While the community shows strong interest in continuing initiatives like vermicomposting and introducing Kadaknath poultry, challenges such as lack of resources and knowledge hinder progress. For example, residents are unsure where to procure earthworms for vermicomposting or replacements for single-use yellow sticky traps. Poultry efforts with the Kadaknath breed could thrive if adequate infrastructure and resources are provided. Project design and strategy scored lower at **2.0**, reflecting inadequate planning for long-term maintenance and ownership. Reliance on VDCs and panchayats for managing interventions proved ineffective without proper operational mechanisms. For instance, the chips-making enterprise failed after the FPO holding its license stopped functioning post-project, and no mechanisms addressed streetlight failures, thefts, or vandalism. However, some interventions showed promise. Smart classrooms remain operational but require additional teacher training for effective use. Similarly, BALA paintings, sports equipment, and Anganwadi furniture continue to be utilized, demonstrating durability and relevance.

Table 39: *'Sustainability' scores for the project*

Indicators	Weightage score
Potential for Continuity	2.4
Sustainability in project design and strategy	2.0
Combine weightage score	**2.3**

8.7 Branding

A score of **4.2** was assigned for branding due to the strong visibility achieved through the placement of banners and boards at prominent locations within the villages. This ensured that the project's presence and objectives were widely recognized by the community. In schools, wall paintings featuring the name HDFC Parivartan further highlighted the organization's contributions. Community members also became aware of these interventions through word-of-mouth communication. The reason that

[4] Unintended changes have been scored as the following: 1-2 are negative unintended changes, 3 is no unintended change, 4-5 are positive unintended changes.

this is shy of a full score is that the branding for kitchen gardens and vermicomposting was slightly lower than the other interventions.

8.8 Composite Score

The composite score for the project, derived using adapted OECD criteria, is **3.4**, indicating a **moderate overall performance**. This score reflects the project's partial alignment with beneficiary needs and its contextual relevance. While some objectives have been achieved, the project demonstrates **limited impact and weak sustainability mechanisms**, highlighting areas for improvement.

OECD parameters	Combined weighted score	Weighed score for Final Project Score
Relevance	3.5	0.5
Coherence	4.0	0.4
Efficiency	3.6	0.5
Effectiveness	3.5	0.7
Impact	3.5	0.9
Sustainability	2.4	0.2
Branding	4.1	0.2
Total Project Score		**3.4**

Composite score calculation = 15% * Relevance weighted score + 10% * Coherence weighted score + 15% * Efficiency weighted score + 20% * Effectiveness weighted score + 25% * Impact weighted score + 10% Sustainability weighted score + 5% * Branding weighted score **i*.e., (15% * 3.5)+(10% * 4.0)+(15% * 3.6)+(20% * 3.5)+(25% * 3.5)+(10% * 2.4)+(5% * 4.1) = 0.5 + 0.4 + 0.5 + 0.7 + 0.9 + 0.2 + 0.2 = 3.4***

CHAPTER IX
LEARNINGS AND RECOMMENDATIONS

The impact assessment study of the Holistic Rural Development Programme (HRDP) in Khandwa district, Madhya Pradesh, highlighted several key learnings and recommendations to improve future implementation and sustainability of similar projects.

- Conducting a thorough needs assessment is essential before implementing school interventions such as water filters, toilet repairs, kitchen gardens, and rainwater harvesting systems. In many cases, interventions failed to deliver intended outcomes due to foundational issues. For example, water filters remained unused due to inadequate water supply or faulty connections, and toilet renovations became ineffective due to the lack of water. Similarly, kitchen gardens and rainwater harvesting systems failed to sustain because the absence of boundary walls left them vulnerable to damage by miscreants. Addressing these underlying challenges—such as ensuring a reliable water supply, functional plumbing, and secure boundary walls—is critical to the success of such initiatives. Equally important is involving the community and establishing maintenance mechanisms to ensure long-term sustainability.
- Although the partner NGO claimed that a needs assessment was conducted in each village, interactions with community members and other stakeholders revealed the absence of a structured consultation process. This lack of engagement resulted in limited community ownership, particularly regarding the maintenance and sustainability of the interventions. To ensure success and long-term impact, it is vital to involve local stakeholders, especially women, from the project's planning stage. Understanding their needs, preferences, and challenges through meaningful engagement fosters a sense of ownership and accountability. When community members are actively involved in decision-making, they are more likely to take responsibility for the project's ongoing maintenance, thereby contributing to its long-term sustainability.
- The provision of drip and sprinkler irrigation has significantly benefited beneficiaries by promoting water conservation, reducing labour costs, improving crop health, and enhancing yields. The sprinkler and drip systems allowed farmers to save water and lower input costs while requiring minimal labour to operate. This even distribution prevented waterlogging, reduced the risk of plant rotting, and improved crop health. Farmers reported significantly better yields for crops like chana, vegetables, and onions, highlighting how the technology improved farming efficiency and resource management. Scaling up this intervention to include more farmers can further optimize agricultural productivity and water use.
- The vermicomposting initiative introduced as part of the intervention was highly successful during the first season. Farmers reported increased yields, cost savings from eliminating chemical fertilizers, improved soil fertility, softer soil texture, and healthier crops after using the vermicompost. However, only a few beneficiaries continued the activity after the earthworms died, as they were unaware of where to procure replacement earthworms. Greater emphasis should be placed on the selection of beneficiaries because a significant limitation was that most beneficiaries selected for this activity did not own livestock, leaving them without access to the cow dung essential for vermicomposting. To enhance the sustainability of this initiative, it is recommended to establish local sources for beneficiaries to easily procure earthworms, ensuring continued access to vital resources. Additionally, exploring alternative organic materials, such as poultry manure or agricultural waste, can help those without livestock still engage in vermicomposting. Implementing follow-up support

systems to address challenges and provide ongoing guidance will help beneficiaries overcome obstacles and ensure the long-term success of the initiative.

- The poultry venture showed potential for sustainable income during its two years of operation, but challenges like poor infrastructure, predation by stray animals, and inadequate lighting led to its discontinuation. To revive it, providing a durable tin shed with proper lighting and secure enclosures is crucial. Training in poultry rearing, disease management, and vaccinations, along with financial assistance, market linkages, and support for rearing high-demand Kadaknath breeds, can enhance its viability. Regular monitoring, community involvement, and contingency plans will further ensure the venture's long-term success.
- The effectiveness of the seed distribution program is undermined by significant gaps in implementation, as several beneficiaries whose name was in the list did not receive seeds or were provided a different variety of seeds instead of the onion seeds, they requested. The lack of alignment with local preferences diminishes the program's impact, leaving its goals unmet. To address these issues, the program must prioritize needs-based distribution, establish robust monitoring systems for accountability, and implement a feedback mechanism to address discrepancies promptly. Training volunteers to understand the importance of transparent and needs-driven distribution is also essential to improve outcomes.
- The selection criteria for beneficiaries for kitchen gardening should go beyond the presence of pregnant or lactating women in the household. It is crucial to assess the availability of adequate space for a garden, access to water for irrigation, and the feasibility of daily maintenance. Incorporating these factors into the needs assessment will ensure that resources are allocated to households that are more likely to sustain kitchen gardening practices. Engage beneficiaries during the planning phase to identify their specific needs and preferences.
- The initiative to introduce bee keeping was unsuccessful due to unfavourable weather conditions and insufficient flora and vegetation in the surrounding areas, rendering beekeeping unsuitable. Additionally, none of the beneficiaries expressed interest in continuing beekeeping, citing the region's excessive heat and harsh climate as detrimental to the survival of the bees. To address the challenges with the unsuccessful beekeeping initiative, it is essential to conduct feasibility studies to assess environmental conditions and identify livelihood options tailored to the region. If beekeeping remains a goal, efforts should focus on enhancing flora and vegetation by planting native, bee-friendly species while exploring heat-tolerant bee varieties. Engaging the community in decision-making ensures will go a long way in ensuring that their interests and willingness are considered, while planning income generating activities.
- Although SHGs recognized goat rearing as an income-generating enterprise, they lacked sufficient knowledge about managing goat health and addressing diseases effectively. To enhance the sustainability and benefits of goat rearing, it is recommended to provide durable goat sheds to protect the animals from harsh weather conditions like sun and rain, ensuring their health and productivity. Timely vaccinations and disease prevention programs should be implemented in coordination with local veterinary services to minimize illness and associated costs. Training programs on basic goat healthcare, disease prevention, and nutrition management should be organized to empower beneficiaries with the skills needed to address minor health issues independently, ensuring the overall well-being of the goats.
- The government’s launch of the **Nal Jal Yojana (Jal Jeevan Mission)** aimed at providing clean and safe drinking water to every rural household through tap connections by 2024 reduced

the relevance of the project's efforts to construct communal water structures, as the need for collective water systems diminished. To address this, future interventions should be coordinated with government programs to avoid duplication of efforts. The project could shift focus to complementing the government scheme by addressing related issues such as water conservation, sanitation, or improving water quality in underserved areas. Adapting the approach to target areas not covered by the government scheme will help ensure continued relevance and impact.

- Bala paintings in schools and especially Anganwadi have proven to be an effective and engaging intervention for young learners. These colourful, educational paintings have captivated children's interest, making learning enjoyable and interactive. Students frequently refer to the paintings to clarify concepts, identify words, or answer questions, demonstrating their enthusiasm and involvement. They have shown significant progress in learning numbers, months, letters, and storytelling skills by observing and interacting with these visuals. The paintings not only reinforce textbook content but also promote repeated activities, encouraging self-learning and curiosity.
- The provision of smart classrooms was very effective and appreciated by the teachers as well as the students. However, in some schools, the subscription for specific classes had expired, causing difficulties in accessing the intended content. Consequently, teachers resorted to using random videos from YouTube during their lessons. To address the issue, it will be helpful to renew subscriptions by establishing a monitoring system to avoid interruptions. Providing a library of pre-approved educational resources can serve as a reliable fallback. Regular feedback and review from teachers will ensure the resources remain effective and aligned with their needs. Additionally, training teachers in content curation will help them identify and use high-quality, curriculum-aligned materials from YouTube.
- It was observed that the introduction of smart classrooms in Hapla has not yet reached its full potential due to a lack of teacher training. Many teachers lack the necessary skills to effectively integrate this technology into their teaching and pedagogy. Targeted training programs will be helpful to equip teachers with the knowledge and confidence to utilize smart classrooms effectively, ensuring these resources are fully leveraged to enhance the learning experience.
- Most beneficiaries expressed satisfaction with the solar streetlights provided; however, they highlighted concerns regarding their quality, as many stopped functioning within a few months. A lack of ownership was evident, with neither the VDC nor the Panchayat taking responsibility for repairs. Additionally, villagers were unaware of whom to contact for maintenance or repair work and had no information about the vendor responsible for installation. Providing technical training, building awareness, and empowering Panchayat and VDCs to take ownership of interventions can improve project sustainability and ensure long-term benefits. Also, on-boarding a local vendor to ensure regular monitoring and follow-ups for maintenance will enable long-term usage. Further, a maintenance fund or cost-sharing model could be introduced, where community members contribute a small amount to sustain repairs, fostering a sense of ownership and responsibility.

References

Abraham, M., & Pingali, P. (2020). Transforming smallholder agriculture to achieve the SDGs. *The Role of Smallholder Farms in Food and Nutrition Security*, 173–209.

Aithal, P. S. (2024). Financial Literacy for Economic Empowerment: Microfinance Initiatives in Indian SHGs. *Poornaprajna International Journal of Teaching & Research Case Studies (PIJTRCS)*, *1*(1), 80–91.

ASER. (2022). *Annual Status of Education Report 2022 Madhya Pradesh*. https://img.asercentre.org/docs/ASER%202022%20report%20pdfs/State%20pages/6%20pagers_English/madhyapradesh_13.pdf

Asian Development Bank. (2019). *India: Madhya Pradesh Energy Efficiency Improvement Investment Program*.

Barrett, P., Treves, A., Shmis, T., & Ambasz, D. (2019). *The impact of school infrastructure on learning: A synthesis of the evidence*. https://books.google.com/books?hl=en&lr=&id=Tf6jDwAAQBAJ&oi=fnd&pg=PP1&dq=The+provision+of+essential+facilities+such+as+nfrastructure+has+shown+to+positively+impact+students%E2%80%99+academic+engagement+and+overall+well-being+India&ots=WzVN5-sPyY&sig=MNHgBcjUgBTwhzxz7XQzfc4a7tw

Behera, U. K., & France, J. (2016). Integrated farming systems and the livelihood security of small and marginal farmers in India and other developing countries. *Advances in Agronomy*, *138*, 235–282.

Dolinska, A., & d'Aquino, P. (2016). Farmers as agents in innovation systems. Empowering farmers for innovation through communities of practice. *Agricultural Systems*, *142*, 122–130.

Dushkova, D., & Ivlieva, O. (2024). Empowering Communities to Act for a Change: A Review of the Community Empowerment Programs towards Sustainability and Resilience. *Sustainability*, *16*(19), 8700.

Government of Madhya Pradesh. (2023). *SDG Progress Report 2023: Madhya Pradesh*. https://mpplanningcommission.gov.in/publications/SDG2023/SDG%20Progress%20Report%202023.pdf

Hajam, Y. A., Kumar, R., & Kumar, A. (2023). Environmental waste management strategies and vermi transformation for sustainable development. *Environmental Challenges*, 100747.

India Observatory. (2020). *Crop Water Budgeting (CWB)*. https://www.indiaobservatory.org.in/tool/cwb

Khandker, S. R., Barnes, D. F., & Samad, H. A. (2010). *Energy poverty in rural and urban India: Are the energy poor also income poor?* The World Bank. https://doi.org/10.1596/1813-9450-5463

Kliem, L. (2022). Strengthening agroecological resilience through commons-based seed governance in the Philippines. *Environment, Development and Sustainability*, *26*(2), 5367–5399. https://doi.org/10.1007/s10668-022-02844-z

Mahajan, A., Harish, S. P., & Urpelainen, J. (2020). The behavioral impact of basic energy access: A randomized controlled trial with solar lanterns in rural India. *Energy for Sustainable Development*, *57*, 214–225. https://doi.org/10.1016/j.esd.2020.04.005

Muralidharan, K., Shanmugan, K., & Klochkov, Y. (2022). The new education policy 2020, digitalization and quality of Life in India: Some reflections. *Education Sciences*, *12*(2), 75.

Shakeel, S. R., Yousaf, H., Irfan, M., & Rajala, A. (2023). Solar PV adoption at household level: Insights based on a systematic literature review. *Energy Strategy Reviews*, *50*, 101178. https://doi.org/10.1016/j.esr.2023.101178

Sharma, R., Choudhary, D., Kumar, P., Venkateswaran, J., & Solanki, C. S. (2019). Do solar study lamps help children study at night? Evidence from rural India. *Energy for Sustainable Development*, *50*, 109–116. https://doi.org/10.1016/j.esd.2019.03.005

Ukoba, K., Yoro, K. O., Eterigho-Ikelegbe, O., Ibegbulam, C., & Jen, T.-C. (2024). Adaptation of solar energy in the Global South: Prospects, challenges and opportunities. *Heliyon*, *10*(7), e28009. https://doi.org/10.1016/j.heliyon.2024.e28009

Vishnoi, S., & Goel, R. K. (2024). Climate smart agriculture for sustainable productivity and healthy landscapes. *Environmental Science & Policy*, *151*, 103600.

World Bank. (2021). *Community-Driven Development* [Text/HTML]. World Bank. https://www.worldbank.org/en/topic/communitydrivendevelopment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