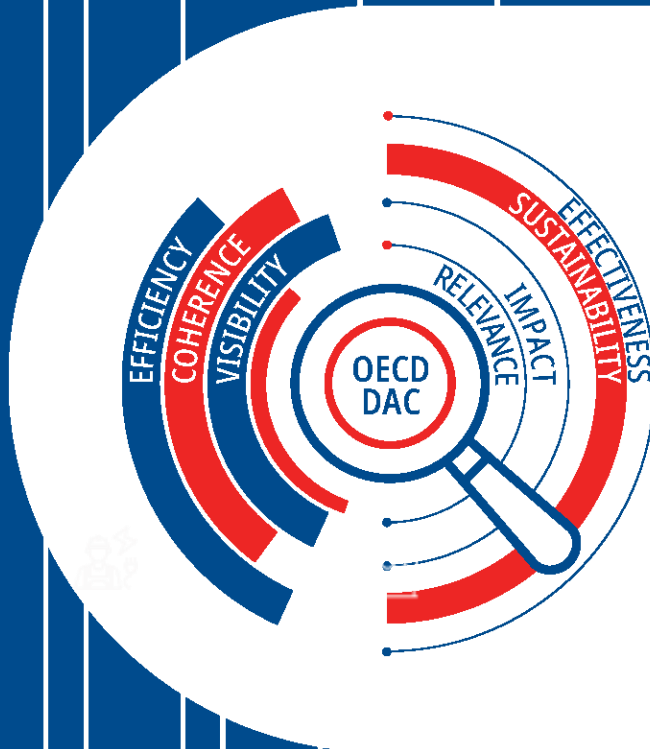


P0592

**East Region**
(Odisha)

Transforming Lives Through
"Livelihood Enhancement"

IMPACT ASSESSMENT REPORT

Towards A Better Tomorrow

FY 2025-26
(January)

Submitted By

 **CMSR** Consultants
fostering sustainable partnerships

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ACRONYMS

Abbreviation	Full Form
CSR	Corporate Social Responsibility
DMS	Development Measurement System
FDP	Focused Development Program
FGD	Focus Group Discussion
GP	Gram Panchayat
H&H	Health and Hygiene
IA	Implementing Agency
IDI	In-Depth Interview
KII	Key Informant Interview
KVK	Krishi Vigyan Kendra
MEL	Monitoring, Evaluation and Learning
NGO	Non-Governmental Organisation
O&M	Operations and Maintenance
OECD	Organisation for Economic Co-operation and Development
SHG	Self-Help Group
ToC	Theory of Change

A. SUMMARY

P0592- BAIF

OVERALL PROJECT SCORE
(Moderate)

3.3

Project Snapshot



Location
Sambalpur
district,
Odisha



Duration
January 2022 -
March 2025



Beneficiaries
4500



Methodology and Sample

Methodology: Cross-sectional mixed-method design, using HDFC Bank CSR's DMS framework
Sample: 506 Surveys and 21 Qualitative interactions were conducted with the respondents (farmers and entrepreneurs)

Key Interventions

SDLE



Agri -Input support
+training



Capacity Building

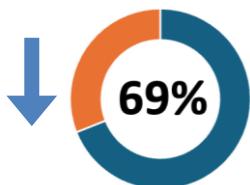


Infrastructure
Development

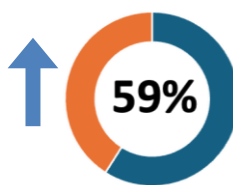


Enterprise
Development

Impact at a Glance



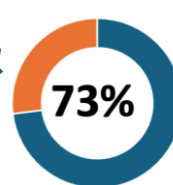
Reduction in
Input Cost



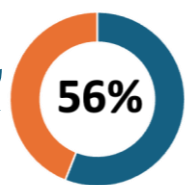
Higher Profit
& Income



More Stable
Income

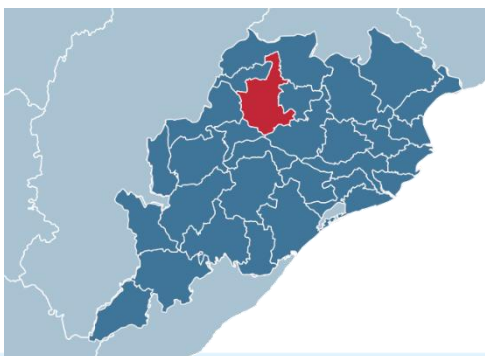


Better Food
Security



Significant Crop
Yield

Project Area



Relevance	3.4	3.4 Moderate
Coherence	4.0	4.0 Good
Efficiency	3.7	3.7 Good
Effectiveness	3.4	3.4 Moderate
Impact	2.7	2.7 Moderate
Sustainability	2.6	2.6 Moderate
Visibility	5.0	5.0 Excellent

Excellent

Good

Moderate

Poor

> = 4.6

3.6 to 4.5

2.6 to 3.5

<= 2.5

B. FINDINGS

1. Findings by OECD Criteria

 Relevance (Moderate) 3.4	<i>Majority of respondents perceived the interventions as highly relevant, with 49% rating them as a “high priority” and 38% as “essential support,” reflecting strong community demand. Only 12% considered the interventions to be of medium priority.</i> <i>In terms of sufficiency, 73% of respondents found the interventions to be fairly adequate, 15% rated them as extremely adequate, and another 8% considered them adequate.</i> • The overall intervention mix demonstrates a strong understanding of the village livelihood context, characterized by rainfed agriculture, limited irrigation access, small landholdings, recurrent droughts, and high dependence of women on bidi making, a low-return, high-drudgery livelihood activity. Agriculture-focused interventions such as lift irrigation, well renovation, farm ponds, WADI plantations, and trellis farming directly addressed core local constraints including single-season cropping, post-monsoon fallow land, water scarcity, low agricultural productivity, and climate vulnerability. • The selection of WADI (mango plantation) as a long-term horticulture intervention was appropriate given land availability, beneficiary interest, and the need for sustainable income diversification beyond seasonal agriculture. • The focus on high-value crops such as chilli and tomato enabled higher returns per unit of land compared to traditional crops, making the intervention contextually appropriate for maximizing income from small areas. • While the technical design of high-tech nurseries included appropriate infrastructure and training support, gaps in business planning, economically viable group size, and assured market linkages reduced the relevance of the intervention as a sustainable enterprise model. • Mushroom cultivation showed partial relevance to the local context, as it is technically suitable for drought-prone areas however, limited prior experience among beneficiaries and inadequate technical support constrained its relevance in practice. • The Farm Equipment Bank (FEB) is highly relevant for small and marginal farmers who cannot afford costly machinery, as it enables shared and affordable access and supports timely farm operations. However, weak management reduced its overall relevance.
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 Coherence (Good) 4.0	• The project aligns strongly with HDFC Bank’s CSR framework, particularly in their shared emphasis on sustainable livelihoods, water security, climate resilience, and integrated rural development. The focus on agri-horti-forestry, and livelihood diversification directly supports HDFC’s mandate for income enhancement. • The project demonstrates strong external coherence, with interventions showing clear synergy with other institutional initiatives and no duplication with services provided by other stakeholders. Technical capacity building was strengthened through convergence with KVK, Agriculture dept and Horticulture dept. The project also converged with SELCO Foundation to provide solar-powered water pumps.
 Efficiency (Good) 3.7	<i>96% of respondents reported that the interventions were delivered on time. In terms of quality of services, 83% rated it as “good” or “very good,” while an additional 15% considered the quality to be acceptable.</i> • BAIF demonstrated strong implementation efficiency by leveraging institutional expertise, particularly through convergence with KVKs for agricultural and technical training, while ensuring quality. • Good-quality assets (Honda motors, well renovation works, nursery infrastructure, seeds, trays, coco peat, drip systems, plant protection inputs, water storage tanks) were largely delivered within planned timelines, supporting timely utilisation. • Irrigation-focused interventions showed high efficiency, with assets such as Honda motor pumps and well renovation completed before the cropping season, allowing immediate conversion of inputs into outcomes within the same agricultural cycle. • Early implementation of irrigation assets enabled rapid expansion of irrigated area, shift to vegetable cultivation, and income generation without time lag, reflecting efficient sequencing and scheduling. • WADI plantation activities were undertaken within appropriate seasonal windows, resulting in good plant survival rates and reducing the need for replantation, thereby optimising costs and effort. • While high-tech nurseries had a strong technical design (beneficiaries contributing daily time and managing production, maintenance, and sales through rotational responsibilities), efficiency was constrained by limited focus on enterprise viability parameters such as optimal group size, and financial performance monitoring. • Efficiency gaps were observed in mushroom cultivation

	interventions, where assets were provided on time but group formation, skill stabilisation, and readiness for production cycles were not adequately phased. Beneficiaries also reported insufficient training and technical guidance. • The FEB is functioning with very low efficiency due to serious governance and management gaps. Operations are centralised with a single member, resulting in poor participation, under-utilisation of equipment, and ineffective service delivery. The absence of proper records for equipment use, user charges, and income–expenditure has led to a lack of transparency and financial control.
 Effectiveness (Moderate)  3.4	<i>Overall, 63% of the respondents believe that the interventions were either moderately effective or highly effective while 28% remain neutral.</i> • Overall effectiveness was supported by a clearly articulated Theory of Change and results framework, availability of technically competent staff, functional M&E systems, and alignment of activities with the agricultural calendar. • Convergence with institutions such as KVK strengthened effectiveness especially for nursery management and improved agricultural practices. • Irrigation-focused interventions (water lifting devices, well renovation, solar lift systems) were largely effective in improving access to water, expanding cultivated areas, and enhancing crop intensity. As per a beneficiary from Dhadmunda, <i>“Earlier the wells used to dry up soon and the sides would break during heavy rains. Now water stays longer and we can irrigate vegetables even after the rains”.</i> • Group-based enterprise models were designed to promote women’s leadership and collective functioning. In a few cases, strong group cohesion, Self-help group (SHG) linkages, bank loan support contributed to effective operations and continuity. • Access to several interventions was closely linked to the ability to pay beneficiary contributions, leading to exclusion of poorer households and uneven coverage, with some households receiving multiple benefits while others were left out. • Unorganised marketing emerged as a major constraint across enterprise and agriculture-linked activities. Lack of structured market linkages, price assurance, and collective selling mechanisms limited income realization. • Wildlife threats persisted across multiple villages and significantly influenced cropping decisions, particularly discouraging vegetable cultivation. Limited evidence was found of adaptive redesign (e.g., fencing or crop planning adjustments) to mitigate these risks. • Interventions such as farm ponds with low water retention and

	mushroom cultivation were not effectively recalibrated. Learning from implementation challenges did not consistently translate into revised designs, clearer financial frameworks, or alternative models. • Mushroom cultivation was not very effective beyond short-term income generation. Despite early indications of low returns and inadequate training, no mid-course corrections were introduced. • The effectiveness of the FEB in achieving its intended objectives shared access to farm machinery, reduced drudgery, and lower dependency on private equipment owners is severely limited. The lack of collective management, absence of a profit-sharing mechanism, and non-disclosure of financial details undermine member trust and participation, rendering the FEB ineffective as a group-based intervention.
 Impact (Moderate) 2.7	61% of the respondents either agreed or highly agreed that they were impacted by the interventions implemented by BAIF. • Irrigation-focused interventions (solar lift irrigation, well renovation) enabled expansion of irrigated areas, increased cropping intensity, and conversion of post-monsoon fallow land into productive plots. <i>“After getting the irrigation support, our income has increased by nearly ₹10,000–15,000 in a year, and we don’t have to depend so much on labour work anymore.”</i> — Beneficiary, Beheraniguada • Access to irrigation enabled rabi-season cultivation of vegetables and pulses such as green gram and black gram. Reduced dependence on rainfall led single-season agriculture to strengthen livelihood resilience. • Well renovation resulted in higher post-monsoon water levels and reduced soil erosion around well structures. Several households accessed irrigation beyond the kharif season for the first time. • In Rambadmal, the SHG-managed nursery produced over 60,000 saplings in the first year. Surplus income was reinvested in collective activities, strengthening group cohesion. According to an SHG member from Rambadmal, <i>“We produced more than 60,000 saplings and sold them locally. After expenses, the group earned around ₹70,000”.</i> • Women developed technical skills in nursery management, sapling preparation, and crop health assessment. Increased confidence, mobility, and social recognition as skilled agricultural producers were observed. • The overall impact of the FEB on the wider group and community is minimal. Benefits concentrated with a single member/family, while other intended beneficiaries have not experienced improved access to machinery. The perception that one member is the sole beneficiary further weakened collective ownership

	and diminished the intervention's impact at the community level.
 Sustainability (Moderate) 2.6	<i>Overall, 65% of respondents reported to have at least some measures in place.</i> <i>The interventions continue to be actively utilized — 72% of respondents reported that the benefits are largely sustained, while 10% reported moderate use of the initiatives.</i> • Well renovation demonstrated high sustainability as it improved water storage capacity, protected wells from collapse and soil erosion, and ensured reliable access to water for domestic use. The maintenance was largely ensured by direct household ownership. • Small plot high-value farming interventions showed moderate sustainability. Where irrigation support was available, beneficiaries were able to experiment with vegetables such as tomato and chilli, improve cropping intensity, and enhance household food security. • WADI plantation exhibited strong long-term sustainability potential due to its perennial nature and alignment with local agro-ecological conditions. Although it was too early for fruiting, beneficiaries were willing to wait and recognized WADI as a long-term livelihood asset. • Trellis structures continued to be used beyond the initial support period, indicating functional design and farmer acceptance. It supported sustained vegetable cultivation for climber vegetables. • The high-tech nurseries were managed well in some villages, while in others, long-term sustainability was constrained by weak enterprise planning, including lack of clear break-even analysis, optimal group sizing, and defined profit-sharing. • Absence of assured and diversified market linkages limited consistent sales and revenue generation, particularly beyond the first production cycle in case of mushroom farming. In some cases, uneven financial contributions and delayed payments resulted in individual members bearing disproportionate financial risk, weakening group cohesion. • The sustainability of the FEB is weak and uncertain. The absence of transparent financial systems, documented contributions, and shared governance structures poses a high risk to continuity. Without collective ownership, regular participation, and clear operational rules, the FEB is unlikely to sustain itself beyond the managing member's individual involvement.

 Visibility (Excellent) 5.0	The project had strong Visibility and visibility at the community level. Villagers were aware of BAIF and HDFC as the implementing partners. All key assets provided under the project were labelled with HDFC Visibility.
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2. Key Impacts & Evidence of Change

- **Strengthening agriculture-based livelihoods:** The interventions enabled women from agriculture-dependent households to engage in a structured, income-oriented nursery enterprise, complementing farming and bidi-making activities. Women were able to acquire technical knowledge in high-tech nursery management, including sapling production, irrigation practices, and basic enterprise operations.
- **Irrigation-led livelihood transformation:** Irrigation-focused interventions particularly solar-based lift irrigation delivered immediate and measurable livelihood benefits. These interventions expanded the area under assured irrigation, enabled multi-season cropping, and improved household food security. Beneficiary households reported annual income gains of approximately ₹10,000–15,000, primarily through increased rabi cultivation and vegetable production for both consumption and sale.
- **Improved water security through well renovation:** Higher and more stable water levels in wells were observed even after the monsoon period, enabling continued use for irrigation. The intervention also reduced soil erosion and structural damage around wells that previously occurred during heavy rains. For several households, this ensured reliable access to water for vegetable cultivation beyond the kharif season for the first time, representing a clear improvement in agricultural continuity and household food security.
- **Transition from subsistence vegetable cultivation to market-oriented high-value cropping:** The small-plot high-value cropping led to a clear shift from subsistence-oriented cultivation to income-generating farming practices. Earlier, most households grew vegetables primarily for home consumption. Following the intervention, farmers began cultivating high-value crops such as chilli and tomato on small plots with a market-oriented approach. Improved crop management practices contributed to higher yields per unit of land, making even very small plots economically productive. Evidence of change is reflected in farmers' reported increase in income from vegetable cultivation and a growing preference for high-value crops over traditional low-return varieties.
- **Women's capacity, confidence, and social recognition:** Women demonstrated enhanced mobility and self-confidence, including independent travel to markets and training locations—outcomes that were not explicitly anticipated at the design stage. The establishment of a visible nursery unit within the village further strengthened women's social recognition and reinforced their identity as skilled agricultural producers.

3. Key Factors Influencing Performance

High Performance Drivers	Low Performance Drivers
1. <i>Institutional engagement:</i> Active involvement of Gram Panchayat leadership and community representatives emerged as a critical factor. Where Sarpanch and Panchayat members were aware of interventions and engaged in beneficiary selection and planning, transparency and community acceptance were higher. 2. <i>Community mobilisation and group functioning:</i> Interventions relying on collective action performed well only where groups were cohesive, roles were clearly defined, and decision-making was shared. Strong SHG-linked groups demonstrated better coordination, contribution management, and continuity. 3. <i>Clear individual/small-group ownership of assets:</i> Household-level assets (e.g., water pumps, well renovation) and tightly managed small-group activities showed higher utilisation and immediate economic benefits due to clear responsibility for operation and maintenance. 4. <i>Adequate and timely technical support:</i> Interventions that received regular technical guidance, exposure visits, and troubleshooting support such as high-tech nurseries demonstrated better productivity, skill retention, and continuity. 5. <i>Cohesive group functioning and SHG linkages:</i> Groups with prior SHG experience showed stronger coordination, shared responsibility, and financial discipline, enabling sustained collective action and reinvestment of earnings. 6. <i>Contextual relevance of intervention design:</i> Interventions aligned with local agro-climatic conditions, water availability, and livelihood practices (e.g., irrigation support in rainfed areas) delivered tangible and valued outcomes.	1. <i>Inadequate post-implementation follow-up:</i> Lack of regular monitoring and handholding contributed to high sapling mortality in WADI, and inefficient use of irrigation and farm pond assets. 2. <i>beneficiary selection and equity considerations:</i> Selection processes strongly affected performance. Contribution-linked beneficiary selection excluded poorer households, weakening collective ownership. Where benefits were concentrated among a few households, overall village-level impact remained limited. 3. <i>Short-term implementation and lack of continuity:</i> Activities without assured market linkages, or price clarity (e.g., mushroom cultivation) showed low sustainability and limited income impact. Without reinvestment support or a second cycle, the activity did not generate sustained income and was discontinued. 4. <i>External risks:</i> Wildlife conflict, theft risk, and seasonal vulnerabilities were significant constraints on intervention performance. Crop damage by elephants and wild boars discouraged farmers from expanding vegetable cultivation despite access to solar lift irrigation.

4. Learnings

What worked	What can be improved
✓ Water lifting devices: The irrigation-focused interventions worked well because they addressed the primary production constraint which is assured water availability at the farm level. Operating the water lifting devices also required limited technical skill. The introduction of solar lift irrigation enabled the expansion of green gram and black gram cultivation and utilise land even after the monsoon instead of leaving it fallow.	✗ Beneficiary selection: Beneficiary selection processes showed scope for improvement, as reliance on contribution-paying capacity at times led to the exclusion of poorer households, while in some cases agriculture-related assets were extended to non-resident or landless beneficiaries, indicating the need for stronger eligibility screening and equity-focused criteria.
✓ Well renovation: Due to the well renovation, the water levels remained higher even after the monsoon, allowing continued use for irrigation and reducing soil erosion around well structures that earlier caused damage during heavy rains. In several households, this ensured water availability for vegetables for the first time beyond the kharif season.	✗ Solar micro portable irrigation: System effectiveness could be enhanced by deploying higher-capacity motors, as ½ HP systems were inadequate for irrigation needs. Upgrading low-capacity solar micro/portable irrigation systems to meet realistic field requirements and considering fixed installations where feasible would improve reliability, coverage, and overall productivity.
✓ WADI development (mango plantation): It has strong long-term sustainability potential due to its perennial nature and alignment with local agro-ecological conditions.	✗ Mushroom cultivation: Mushroom cultivation could be strengthened by improving market linkages and access to buyers to enhance income opportunities, while ensuring comprehensive training coverage would equip all participants with the necessary skills for successful and sustained mushroom production.
✓ High tech nurseries: The intervention strengthened women's participation in farm-based enterprises. It led to enhanced confidence, improved technical skills, and greater involvement in decision-making, supported by hands-on exposure to nursery management practices. Beneficiary-led asset ownership and maintenance contributed to strong ownership, accountability, and demonstrated potential for long-term sustainability.	✗ Farm ponds: Pond-based irrigation could be strengthened by increasing water storage capacity and improving water table recharge, as existing ponds deplete rapidly after the monsoon. Enhancements in pond design, lining, and supplementary water-harvesting measures would help ensure year-round availability for crops.

5. Recommendations

High Priority	Medium Priority	Low Priority
Fair and transparent beneficiary selection: Introduce a simple land ownership verification process (such as checking patta documents) to ensure that agricultural assets reach the right beneficiaries, with priority given to poorer households. Maintain clear and transparent records of beneficiary contributions and support received to prevent repeated benefits to the same households and ensure fair access for all. <i>(Responsibility: IA + Project team)</i>	Strengthening irrigation system capacity: Upgrade low-capacity solar micro/portable irrigation systems with appropriately sized motors based on actual command area and crop water requirements. <i>(Responsibility: IA + Project team)</i>	Enhancing nursery infrastructure: Provide greenhouse or shade-net structures to protect nursery saplings from high temperatures and reduce mortality, especially during peak summer months. <i>(Responsibility: IA + Project team)</i>
Adaptive technical support and flexible intervention design: Provide continuous technical guidance and handholding for enterprises such as mushroom cultivation. If the activity remains unviable, infeasible, or shows low beneficiary interest despite support, the intervention should be timely redesigned or replaced with more suitable livelihood options based on local capacity and market potential. <i>(Responsibility: IA Project team)</i>	Risk mitigation for external factors: Develop strategies to reduce the impact of wildlife disruptions on crops and interventions, such as crop protection measures, fencing, or crop planning adapted to seasonal and environmental risks. <i>(Responsibility: IA + Project team)</i>	Strengthen high-tech nursery design and monitoring: While high-tech nursery interventions demonstrated strong technical design, parameters such as optimal group size, break-even analysis, and assured market linkages were not clearly defined. Monitoring should track both technical operations and financial performance, rather than focusing solely on infrastructure delivery.

C. STORY OF CHANGE

Improved Farm Income through Water Lifting Device

Laxminarayan Mirdha, a 52-year-old male from the ST community in Beheraniguda (Dhatikiapara), is a small farmer who was primarily dependent on rain-fed agriculture. Prior to the intervention, cultivation was limited to a single season, resulting in low and uncertain yields and limiting cultivation to the monsoon season, with high costs for diesel and manual water lifting. To supplement household income, the family relied on mahua collection and bidi-making, earning approximately ₹12,000–15,000 annually. Limited irrigation also restricted vegetable cultivation and adversely affected household food security and nutrition.

Under the BAIF-supported intervention, Laxminarayan received a **water lifting device (Honda Motor)** along with orientation on its proper use and maintenance. Following the intervention, Laxminarayan is now able to irrigate **2–3 acres of land**, allowing him to grow vegetables alongside traditional crops. Improved irrigation has led to better crop quality, higher yields, and timely agricultural operations. He reported an **annual income increase of ₹10,000–15,000**, primarily from enhanced agricultural production. The household now meets a substantial portion of its food requirements from its own fields, reducing reliance on market purchases.

Across the project villages, beneficiaries reported similar benefits from the Honda Motor water lifting devices. Some beneficiaries also generated additional income by renting out the pump at **₹150 per hour**, earning approximately **₹10,000–12,000 annually**. This case demonstrates how **asset-based irrigation support**, such as the Honda Motor water lifting device, can deliver immediate and tangible benefits improving farm income, enhancing resilience to climate variability, and strengthening household food security for small and marginal farmers

D. ANNEXURES

1. Methodology

Study design and Framework: A cross-sectional, mixed-methods design was adopted to generate robust, triangulated evidence on project relevance, effectiveness, impact, convergence, and sustainability using HDFC Bank CSR's DMS tool and an OECD-DAC-aligned analytical framework contextualised for Parivartan. The design integrates quantitative surveys with qualitative FGDs, IDIs/KIIs, and case studies to quantify outcomes and capture nuanced mechanisms of change across clean energy, climate action, water/lighting access, and school energy systems.

Sampling and Coverage: The sample size for the project was determined using a composite weighting approach based on project budget, duration, and outreach, with predefined minimum and maximum thresholds and normalization within a 0.75–1.25 range. Duration weights reflected outcome maturity, budget weights captured investment scale, and outreach weights were normalized by each project's share of total outreach. A multiplicative average of these three weights produced the final project-wise sample. At the village level, beneficiaries were selected randomly and proportionately across key activities.

Project Code:	Beneficiaries	Quantitative Surveys	Qualitative (IDIs/FGDs)
P0592	4500	506	21

Respondents and tools: Quantitative data were collected using the standardized DMS Tool of HDFC Bank CSR, tailored to each project's beneficiary group: individual and group farmers for agriculture and NRM, SHGs for enterprise and SHG development and community members for H&H. Qualitative tools, including FGD and IDI/KII guides, were aligned to the DMS and OECD criteria, with the intervention user groups, community stakeholders, implementing partners and project managers as respondents.

Data analysis, and Reporting: Quantitative analysis employed descriptive statistics and score analysis as per the OECD-DAC dimension from the DMS; qualitative data were transcribed, coded and synthesised to produce composite scores per OECD-DAC dimension. Both quantitative and qualitative scores were averaged (with different weightages to the indicators) to give a comprehensive project level score. Findings are presented as an integrated outcomes narrative with project-specific sub-analyses, supported by triangulated evidence from surveys, FGDs/IDIs, KIIs, and case studies.

2. Project level & Thematic Level Scorings

Indicator	Parameter	Score
Relevance	Beneficiaries need alignment	3.4
	Local context alignment	3.5
	Quality of design	3
	Total	3.4
Coherence	Internal Coherence	4
	External coherence	4
	Total	4
Efficiency	Timeliness-	4.4
	Quality	3.7
	Operational efficiency	3
	Project design	3.5
	Total	3.7
Effectiveness	Interim Result (Outputs & Short-term results)-	3.8
	Reach (target vs Achievement)	4
	Influencing factors (Enablers & Disablers)	3.5
	Differential results	3
	Adaptation over time-	2.5
	Total	3.4
Impact	Significance- (outcome)	3.6
	Transformational change-	2
	Unintended change-	3
	Total	2.7
Sustainability	Potential for continuity	2.7
	Sustainability in project design & strategy-	2.5
	Total	2.6
Visibility	Visibility	5
	Total	5
Overall	Total	3.3

Excellent	Good	Moderate	Poor
> = 4.6	3.6 to 4.5	2.6 to 3.5	<= 2.5

Figure 1: BAIF, Wadi Establishment



Figure 2: Water lifting machine



Figure 3: Solar irrigation



PROJECT CODE AND THEIR IMPLEMENTATION PARTNERS

PROJECT CODES	IMPLEMENTATION PARTNER	STATE
• P0592	BAIF	Odisha



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