# Infrastructure Development Project

Impact Assessment Report





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- This impact assessment is pursuant to the Companies (Corporate Social Responsibility Policy) Amendment Rules 2021, notification dated 22nd January 2021.
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- This report contains an analysis by CSRBOX considering the publications available from secondary sources and inputs gathered through interactions with the leadership team of Hindustan Zinc Limited, project beneficiaries, and various knowledge partners. While the information obtained from the public domain has not been varied for authenticity, CSRBOX has taken due care to obtain information from sources generally considered to be reliable.
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- Wherever information was not available in the public domain, suitable assumptions were made to extrapolate values for the same;
- CSRBOX must emphasize that the realization of the benefits/improvisations accruing out
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- The premise of an impact assessment is 'the objectives the project along with output and outcome indicators pre-set by the program design and implementation team. CSRBOX's impact assessment framework was designed and executed in alignment with those objectives and indicators.

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### List of Abbreviations

- APL Above Poverty Line
- ATM Automated Teller Machine
- BPL Below Poverty Line
- BRSR Business Responsibility & Sustainability Reporting
- CC Concrete Cement
- CHC Community health Centre
- CLZS Chanderiya Lead Zinc Smelter
- CSR Corporate Social Responsibility
- ESG Environmental Social and Governance
- FGD Focus Group Discussion
- FY Financial Year
- HH Household
- HO Head Office
- HZL Hindustan Zinc Limited
- IA Impact Assessment
- IC intangible costs
- IDI In-depth interview
- KII Key Informant Interviews
- KM Kayad Mines
- LED Light Emitting Diode
- LPG Liquified Petroleum Gas
- OBC Other Backward Class
- PHC Primary Health Centre
- PMP Pant nagar Metal Plant
- PRI Panchayati Raj Institution
- **RAM** Rampura Agucha Mines
- RDC Rajpura Dariba Complex
- RO Reverse Osmosis
- Rs. Indian Rupees
- SC Scheduled Castes
- SDG Sustainability Development Goals
- SEBI Securities & Exchange Board of India
- SHG Self Help Group
- SROI Social return on Investment
- ST Scheduled Tribes
- TC tangible costs
- TI Total Investment
- ZM Zawar Mines

## Chapter 1 Project Background and Overview

## Chapter 1: Project Background & Overview

This section provides an overview of the funding organization, the program cardinals and the detailed interventions in each thematic area.

#### 1.1. CSR Initiatives of HZL

Hindustan Zinc is committed to the principles of harmonious and sustainable development, protecting human life, health and environment, ensuring social well-being and adding value to the communities. Establishing a robust CSR framework allows them to promptly and flexibly address the pressing requirements of marginalized communities. HZL has successfully pinpointed crucial measures to guide comprehensive development and progress across various outreach domains.

Aligned with their CSR vision, their initiatives revolve around the dual objectives of enhancing the quality of life and fostering economic well-being within the communities where they operate. These initiatives have been progressively developed into CSR verticals<sup>1</sup> as:

CSR Vertical 1	<ul> <li>Creating Sustainable Livelihoods for Farmers and Youth</li> </ul>	
CSR Vertical 2	•Empowering women through Grassroot Institutions	
CSR Vertical 3	<ul> <li>Investing in Education of Underprivileged Children</li> </ul>	
CSR Vertical 4	<ul> <li>Ensuring access to Healthcare &amp; Water</li> </ul>	
CSR Vertical 5	•Creating Community Assets	
CSR Vertical 6	Nurturing Sports & Culture	
CSR Vertical 7	•Enhancing the Environment & Safety Proposition	

<sup>&</sup>lt;sup>1</sup> https://www.hzlindia.com/wp-content/uploads/Integrated-Annual-Report-2022-23.pdf

### 1.2. Snapshot of CSR initiatives of HZL

The 'Infrastructure Development Projects', focused specifically on different types of infrastructure constructed or renovated by HZL within the project villages.

#### 1.2.1. Creating Community Assets / Infrastructure

Several infrastructure development initiatives were implemented in rural areas surrounding the operating units, focusing on livelihood, water, sanitation, education, and health. Across 6 locations and 7 districts in Rajasthan, these efforts have benefited 411,318 individuals. Notable projects include constructing Gangrar College in Chittorgarh, installing drinking water pipelines in Dariba villages, enhancing community safety with the Kayad Circle in Ajmer, and establishing a model bus stand in Railmagra.

In the intervention areas where groundwater is scarce, potable drinking water is provided to relieve women from long treks for water. Through interventions such as installation of RO/ATMs and water tankers, clean water is made accessible across 7 districts, benefiting 229,000+ people.

#### **1.3.** Geographical Coverage of the Initiatives

The intervention geography is as depicted in the following table:



State	District	Block	Village
	Chittorgarh	Chittorgarh	Chanderiya
	Rajsamand	Railmagra	Dariba
Raiasthan	Bhilwara	Hurda	Agoocha
	Udaipur	Girwa	Zawar
			Debari
	Ajmer	Ajmer	Kayad
Uttarakhand	Udham Singh Nagar	Udham Singh Nagar	Pant Nagar

## 1.4. SDG Alignment of HZL programs



The SDGs aligning with the CSR interventions are depicted as below:

### 1.5. ESG Alignment of HZL programs

The programme's intervention also aligns with the ESG Sustainability Report of the corporate. Particularly, concerning the Business Responsibility & Sustainability Reporting Format (BRSR) shared by the Securities & Exchange Board of India (SEBI), the programme aligns with the principle mentioned below.



1.6.	CSR Policy Alignment of HZL programs

Sub- section	Activities	Alignment with HZL's programs
(i)	Eradicating hunger, poverty, and malnutrition, promoting health care, including preventive health care and sanitation, including contribution to the Swachh Bharat Kosh set up by the Central Government for the promotion of sanitation and making available safe drinking water	Complete
(ii)	Promoting education, including special education and employment enhancing vocation skills, especially among children, women, elderly, and the differently-abled and livelihood enhancement projects	Complete
(iii)	Promoting gender equality, empowering women, setting up homes and hostels for women and orphans; setting up old age homes, daycare centers, and other facilities for senior citizens, and measures for reducing inequalities faced by socially and economically backward groups	Complete
(iv)	Ensuring environmental sustainability, ecological balance, protection of flora and fauna, animal welfare, agroforestry, conservation of natural resources, and maintaining the quality of soil, air, and water	Partial
(v)	Protection of National Heritage, art and culture including restoration of buildings and sites of historical importance and works of art; setting up public libraries; promotion and development of traditional arts and handicrafts	Partial
(vii)	Training to promote rural sports, nationally recognized sports, Paralympic sports, and Olympics sports	Complete
(x)	Rural Development Projects	Complete

## Chapter 2 Design and Approach for Impact Assessment

E PARTING

स्थानः कायड, अजमेर

सरवी अचार य

Sakhi Sakhi

रातीण भा सर्व श्रेष्ठ उत् भाषके चित्

## Chapter 2: Design & Approach for Impact Assessment

In this section, we present a comprehensive overview of the approach and methodology employed in conducting the **infrastructure assessment**. It encompasses the study's objectives, the research methodology adopted, and additional pertinent details crucial to understanding the study's framework and execution. These illustrations will help readers gain insights into the systematic approach undertaken to achieve the study's objectives and the robustness of the methodology utilized.

#### 2.1. Objectives of the Study

The study aims to achieve the following objectives:



#### 2.2. Evaluation Framework & Indicators

Given the objectives of the study and the key areas of inquiry, the design of the evaluation focused on learning as the prime objective. In this section, we present our approach to developing and executing a robust, dynamic, and result-oriented evaluation framework/ design.

In order to measure the impact of the project, a pre-post-project evaluation approach was proposed for the study. This approach is dependent on the recall capacity of the respondents. Under this approach, the beneficiaries were asked about conditions prior to the project intervention and after the project intervention. The difference helped in understanding the contribution of the project to improving the intended condition of the



beneficiary. This approach helped us comment on the contribution of the project to improving living standards, though it was not able to attribute the entire change to the project. Other

external factors may also have played a role in bringing positive changes along with the project. Hence, the contribution is assessed but attribution may not be entirely assigned to the project.

The evaluation was both refelective and forward-looking. Learning about topics essential to strategic decision-making and associated activities that impacted the capacity to accomplish intended outcomes was facilitated by strategic evaluations. This was proposed given our understanding that the program had been implemented using a range of thematic approaches in order to achieve an integrated village development process. As such, the evaluation encompassed the program's processes and outcomes and offered an evidence-based appraisal of its effectiveness and accomplishments. To achieve this, the logic model for the assessment was proposed. The use of the logic model approach across a larger program offered a standardised approach to evaluation whilst allowing for flexibility for different approaches to suit different local contexts (Helitzer et al., 2010). It helped create a valuable evidence base, by establishing what works for which groups in what contexts and informing the transferability of key learning. The logic model also helped to identify the key features of the program that contributed to "intended and unintended outcomes" (McLaughlin and Jordan, 1999).

Furthermore, the IRECS Framework was used in the evaluation to assess the program's inclusiveness, relevance, appropriateness, coherence, effectiveness, impact potential, and efficiency. The evaluation was able to evaluate the client's contribution to the results while taking into account the many variables that could be influencing the final result by using the logic model and the IRECS framework's criteria.

05. Service Deliverv



beneficiaries.

The extent of convergence which determines the functioning and sustainability or permanence of the interventions and its effects

04. Convergence

#### 03. Expectations

Extent of intended or unintended positive (benefits), socio-economic, and cultural changes accrued for

#### 2.3. Methodology

CSRBOX employed a two-pronged approach to data collection and review for the program assessment, incorporating primary data collected through both quantitative and qualitative methods with secondary data sources and literature. The study approach used for data collection and review is depicted in the figure below. To gain insight into the local context, the secondary study involved a review of annual reports, monitoring reports, and other studies and research by well-known organizations that were available in the public domain.

A **mixed-methods approach** entailing qualitative and quantitative methods of data collection and analysis was used in the **infrastructure assessment study**. In-depth interviews (IDIs) with PRI representatives, the water tanker in charge, community members, government officials, and other institute-associated stakeholders were conducted as part of the qualitative components.



The consultants examined a variety of project documents in addition to primary data collection, including the project proposal, baseline and project costs, implementation timelines, communication and M&E reports, and other pertinent reports and literature. The consultants also studied project implementation-related documents, specifying details of activities carried out, processes undertaken, no. of beneficiaries reached, and details of spent & unspent budgets under different budgetary heads.

#### 2.3.1. Social Return on Investment

Social Return on Investment (SROI) helped in understanding the social impact of the projects among the beneficiaries and their families and households. While it was easy to measure the return on investment of the intervention through methods such as cost-benefit analysis etc., it would have been difficult to impute the value of outcomes for an intervention. However, some methods helped in imputing values to outcomes. SROI looks at the cost that would have been incurred if the intervention was not made.

SROI has been calculated by adding the tangible costs (TC) and intangible costs (IC) to the total investment (TI) made.

#### SROI = (TC + IC) / TI

For example, the calculation of the Benefit-Cost Ratio for the construction of toilets would have considered the savings in diarrhoea expenditure and wage savings because of the usage of toilets. However, additional benefits such as time savings, improvement in quality of life, and safety of women were the additional benefits considered while calculating SROI. Similarly, the

construction of a road leading to benefits, such as access to education, access to quality healthcare, development of industry and trade, and ease of visiting friends and family. While the Return on Investment looked at the amount invested and amount spent, SROI looked at these above-mentioned benefits.

SROI can be evaluative and forecast for the current assignments. To calculate the SROI, the following data/ information was collected for each intervention since its inception:

- Project costs, including all staffing costs, materials, and supplies for providing the direct services;
- Overhead/ administrative costs, including the costs of providing support to implement the projects, such as payroll and benefits, project oversight and management, and policy development, as well as the actual cost of implementing the project;
- Non-tangible costs, such as reduction in academic year loss due to the project, reduction in extra tuition cost, etc. To calculate the non-tangible costs, the following steps were adopted:
  - Establishing scope and identifying key stakeholders: The key stakeholders for each project were identified and their roles ascertained for estimating the SROI.
  - Mapping outcomes: Through engaging with the stakeholders a theory of change design, demonstrating the relationship between inputs, outputs and outcomes was laid out for all the projects. A list of measurable indicators was used to develop an inventory checklist for each project.
  - Evidencing outcomes and giving them value: This stage involved data accumulation to show whether outcomes have happened. The programme outcomes would then be "monetised" or assigned financial values. However, for those outcome indicators where the value was difficult to ascertain from the primary survey, secondary literature was referred. The values for outcome indicators were then multiplied by the total number of units identified in the outcome indicator. This gave the value for total return.
  - Establishing impact: Having collected evidence on outcomes and monetised them, the "deadweight" would be eliminated. Deadweight was the value of those aspects of change that had happened anyway or were a result of other factors being eliminated from consideration. For each project, the chances of the outcome being attributed to the programme were determined as high, medium, and low and accordingly a certain part of the value was reduced from the estimated total value.

Impact of coronavirus: The project operations might have been hindered due to the emergence of the pandemic. The various causes and effects of the pandemic and the subsequent lockdowns on the project were also counted.

## 2.4. Stakeholder Mapping

The table illustrates the various stakeholder categories surveyed under the study along with the mode of data collection adopted with each of the stakeholder:

Primary Stakeholders	Mode of Data Collection
Beneficiaries of infrastructures developed	Physical Survey
Secondary Stakeholders	Mode of Data Collection
Community members	FGDs
Project Sakhi representatives	FGDs
Teacher/ Headmaster	In-Depth Interview
PHC/ CHC/ Hospital Staff	In-Depth Interview
Water Tanker In-charge	In-Depth Interview
PRI Members	In-Depth Interview
Block Agricultural Officer	Key Informant Interview
State Agriculture Dept. Representative	Key Informant Interview
State Education Dept. Representative	Key Informant Interview
State Health Dept. Representative	Key Informant Interview
HZL Plant Team	Key Informant Interview

### 2.5. Sampling Approach

#### **Geographic Sampling**

The stratified random sampling technique was applied to ensure consistent representation from each location where the infrastructures were constructed. Additionally, it has been ensured that data is collected from each geographic state.

State	District	Block	Village	Sample
Rajasthan	Chittorgarh	Chittorgarh	Chittorgarh	300
	Rajsamand	Railmagra	Dariba	300
	Bhilwara	Hurda	Agoocha	245
	Udaipur	Girwa Zawar		180
			Debari	80
	Ajmer	Ajmer	Kayad	80
Uttarakhand	Udham Singh Nagar	Udham Singh Udham Singh 1 Nagar Nagar		15

#### **Quantitative Sampling**

The cumulative quantitative sample size was 1200 from all villages combined. However, the total number of samples collected was 1301, including 101 samples as buffer data captured. The sample distribution has been depicted in the table below.

State	District	Village	Sample (Target)	Sample (Actual)	Rationale	
Rajasthan Chittorgarh Chittorgarh		300	340	50% of total		
	Rajsamand	Dariba	300	315		
	Bhilwara	Agoocha	245	262	35% of total	
	Udaipur	Zawar	180	189		
		Debari	80	85	15% of total	
	Ajmer	Kayad	80	89	reduced from Udham Singh	
Uttarakhand	Udham Singh Nagar	Udham Singh Nagar	15	21	Nagar due to limited interventions)	

#### **Qualitative Sampling**

Detailed discussions were held with different stakeholders of the program. These discussions included In-Depth Interviews (IDIs) and Key Informant Interviews (KII) which helped in understanding the perspectives of the beneficiaries and other stakeholders towards the project and assessment of the impact created by HZL.

HZL Plants	Secondary stakeholder	No. of interactions	Type of interaction	
All	Community members	7	FGD	
All except PMP - Pantnagar Metal Plant, Uttarakhand	School teacher/ headmaster	6	IDI	
RDC - Rajpura Dariba Complex, Rajsamand, RAM - Rampura Agucha Mines, Bhilwara	PHC/CHC/hospital Staff	4	IDI	
RDC - Rajpura Dariba Complex, Rajsamand	RDC - Rajpura Dariba Complex, Youth Rajsamand			
CLZS - Chanderiya Lead Zinc Smelter, Chittorgarh	Water tanker in charge	1	IDI	
All	PRI members	7	IDI	
All except PMP - Pantnagar Metal Plant, Uttarakhand	Water user group	6	FGD	
RDC - Rajpura Dariba Complex, Rajsamand, KYD or KM - Kayad Mines, Ajmer	Community kitchen 2 staff		IDI	
ZM - Zawar Mines, Udaipur	Librarian	1	IDI	
All	SHG/ Women group	7	FGD	
All	Plant CSR team	7	KII	
НО	HO CSR team	1	KII	
Total	48			

#### 2.6. Limitations of the Study

Although the primary data collection was completed in the specified timeframe, there were some hindrances faced by the team as such:

- Limited infrastructural interventions in '*Udham Singh Nagar*' led to a reduction in sample size, which was compensated by surveying additional respondents from '*Agoocha*'.
- Responses from 'Sukhwara' and 'Kanthariya' villages in the Chittorgarh district were constrained due to the unavailability of respondents during the day. Many respondents were farmers, particularly cultivating opium, a labour-intensive crop, resulting in them

spending approximately 18 hours daily in field protection activities. Consequently, they were hesitant to spare time for surveys, necessitating the team to conduct surveys by visiting their agricultural fields.

• Some interactions with secondary stakeholders (government representatives) could not be conducted due to their unavailability at their office premises due to clashing dates with festivities such as 'Shivratri'.

## Chapter 3 **Theory of Change**



## Chapter 3: Theory of change

	Input		Output		Outcome		Impact
•	Input Funds allocated towards infrastructure development projects, such as funding for construction, renovation, and maintenance. Collaboration with local institutions and government agencies for planning and implementation of infrastructure projects. Community engagement initiatives aimed at soliciting input and participation from local residents in project design and implementation. Capacity building programs for local stakeholders to ensure effective management and maintenance of community assets.	•	OutputConstructionand renovationof communityassets includingNand Ghars,schools,communitycentres, waterpipelines, roadsand bus stands,benefitingcommunitymembers in 6locations and 7districts.Installation ofdrinking waterpipelinesbenefiting(number)villages in(number)panchayats.Infrastructuredevelopmentprojects inlivelihood, water,sanitation,education, andhealth sectors,improvingquality of life and	•	OutcomeEnhancedquality of lifeand livingstandardsthroughimprovedaccess tobasic servicesandamenities.Strengthenedcommunityinfrastructure,promotingsocialcohesion andresilience.Increasedcommunityownershipandparticipationin localdevelopmentinitiatives,fostering asense of prideandbelonging.Improvedenvironmentalsustainability	•	ImpactSustainabledevelopment andlong-termprosperityofcommunitiesthroughimprovedinfrastructureand services.Enhancedcommunityresilienceandcapacity to copewithenvironmentalandsocio-economicchallenges.Strengthenedsocial capital andcohesion,promotinginclusiveandequitabledevelopment.Positiveeconomic, social,andenvironmental
	management and maintenance of community assets.		health sectors, improving quality of life and community well- being.	•	Improved environmental sustainability through climate- resilient infrastructure and resource management practices.		outcomes contributing to the overall well- being and prosperity of target communities.

## Chapter 4 Findings of Impact Assessment Study- Chittorgarh

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### Chapter 4: Findings from the Impact Assessment: Chittorgarh

The following analysis offers an overview of the intricate impacts on the community. These results highlight the efficacy of interventions envisioned to address the unique opportunities and challenges faced by the respondents in **Chittorgarh**.

### 4.1. Inclusiveness of the Programme

74% of respondents were male, compared to 26% females. Most respondents (48%) were aged 31-50.

66% of the surveyed households rely on agriculture as their primary source of income.

Representation was diverse across all castes, with OBC (51%), followed by General (20%), SC (18%), and ST (11%).

Within the IRECS framework, the "I" stands for *Inclusiveness*. This concept focuses on how effectively the programme ensures all intended beneficiaries have fair access to its benefits irrespective of factors like age, gender, socioeconomic background, and geographic location.

Team CSRBOX interacted with individual households in the villages who are the beneficiaries of various interventions of HZL. These beneficiaries are users of the various infrastructure facilities created in the programme, such as healthcare facilities, education infrastructure, solar power infrastructure, water infrastructure, and community infrastructure. The chart depicts the distribution of the sample population across the eight villages included in the study.



Figure 1: Village-wise sample distribution.

sample population across the eight villages near the Chanderiya plant, included in the study. 42% respondents were from the Suwaniya and Billiya villages, 41% respondents were from the Bhawanipura, Ajoliya ka khdead and adjoining villages Salera and Gujar Khera. Almost equal samples were collected from the above villages while sample distribution from Kanthariya and Sukhwara account for the remaining 18%..

The samples have been distributed among the villages to reach the intended beneficiaries of the area's infrastructure developments, as directed by the plant team.

The survey team interacted with individual households in the villages who are the program beneficiaries. These beneficiaries are users of the various infrastructure facilities created in the program, such as education infrastructure, water infrastructure, health infrastructure, and community infrastructure. The bar graph depicts the distribution of the



*Figure 2: Gender-wise classification of respondents.* 

Figure 3: Demographic profile of the respondents.

A significant majority, comprising 74%, were male, while 26% identified as female, indicating a higher participation of males in the assessment process. Turning to the age demographics of the respondents, there was a varied distribution across different age groups, with a majority of respondents falling within the age range of 31-50 years, collectively representing 48% of the total surveyed population. This suggests strong participation from individuals in their prime working years who might be particularly interested in seeing improvements within their community. There is also notable representation from younger and older age brackets, with individuals aged 18-30 comprising 22% of the respondents, while those aged 51 and above account for 28%.

Highlighting the multi-generational involvement in the assessment process facilitates in getting a wider range of perspectives and experiences to consider when evaluating the impact of HZL's community programmes. Understanding who participated helps us see how inclusive the whole process was, which is important for making sure the evaluation is as thorough as possible.

Analysis of ration card distribution among respondent families offers valuable insights into the economic landscape of the communities engaged with Hindustan Zinc Limited's (HZL) CSR initiatives. 89% of the population has Above Poverty Line (APL) ration cards, according to the data. This indicates a certain degree of economic stability as a significant portion of the community falls above the government-defined poverty threshold.

Type of ration card	Ownership (in %)
APL	89
BPL	10
Antyodaya	1

The presence of Below Poverty Line (BPL) cards held by 10% of respondents highlights a noteworthy portion of the population facing economic vulnerability who require targeted support to address their specific needs. This distribution suggests a majority of the community has a certain level of economic stability, yet a significant minority faces economic challenges.

Understanding these dynamics is essential for HZL and its CSR initiatives to customize interventions that take into account the varying financial conditions of community members.



Primary source of household income (n=338)

Figure 4: Primary source of income at household

The primary sources of income for the 338 households surveyed reveal a significant dependence on agriculture, with 66% of the respondents relying on cultivation on their land. This emphasises the community's agrarian roots and the significance of agricultural support and development initiatives. Daily wage labour across various sectors provides income for 15% of households, and another 6% cultivate leased land. Interestingly, 7% of households report self-employment or owning a business, suggesting a potential for entrepreneurship within the community.

However, formal employment seems limited with permanent and seasonal salaried jobs in the private sector combined account for only 1% of primary income sources. This limited access to formal employment suggests a potential domain for further assistance. Vocational training and employment generation programmes are being increasingly implemented by HZL to diversify the community's revenue streams and reduce its reliance on agriculture.

Livestock rearing, although a traditional source of income in rural areas, is reported by only 3% of households. This data suggests it may not be a significant economic activity for the majority, or there might be barriers preventing its wider adoption. Further investigations revealed widespread disease outbreak in the recent past have wiped out substantial populations of cattle in the state.

In 2022, there was an outbreak of lumpy fever in Rajasthan, resulting in a significant number of cattle losses throughout the state. HZL provided essential support to us in Chittorgarh by facilitating the provision of medicines and ambulance services for the affected cattle. This support was invaluable, given the lack of such amenities at the government veterinary hospital.

- Dr. Sumer Singh Shaktawat, Ad. Director, Animal Husbandry Department



Figure 5: Caste category of the respondents Figure 6: Primary cooking fuel at households

In terms of caste composition of respondents, Other Backward Classes (OBC) were in the majority (51%). The general category made up 20% of the population, reflecting a significant yet smaller portion of the community's composition. The presence and contribution of historically marginalised groups is observed as Scheduled Castes (SC) and Scheduled Tribes (ST) are also notable constituents, representing 18% and 11%, respectively.

The data on primary cooking fuel sources reveals a significant reliance on traditional means, with 67% using fuel wood. Liquid Petroleum Gas (LPG) use was reported in 30% of households, highlighting a potential need for expanded access to cleaner burning fuels like LPG. The limited use of kerosene (2%) and cow dung (1%) suggests these are not major sources of cooking fuel within the community.

The widespread engagement of rural communities in to HZL's programmes facilitate the transition to cleaner energy sources. Continued dependence on firewood usage can contribute to deforestation and air pollution, impacting both the environment and potentially human health.

#### 4.2. Relevance of the Programme

*Relevance* in the IRECS framework signifies the alignment between the programme's goals and objectives with the actual needs and aspirations of the target beneficiaries. It assesses whether the programme addresses the most pressing issues faced by the intended population.

Through extensive community engagement, including focus group discussions (FGDs), key informant interviews (KII), and beneficiary (households') surveys, the survey team was able to identify several key issues as they emerged, shedding light on the pressing need for infrastructure development.

The insights drawn from the data collected as a part of the survey reflect the expectations set forth by HZL's interventions in the villages surrounding their Chanderiya plant. The primary objective of the interventions was to address critical community needs and enhance overall well-being. Locals likely anticipated several beneficial improvements that would enhance their overall standard of life, such as:

## Perceived benefits from the infrastructural developments

- Access to clean/potable Water: Water pipelines and tanks are the most impactful interventions for improving access to clean water, unquestionably meeting the community's need for reliable supply and storage.
- Improved access to Community Infrastructure: Interventions have facilitated smoother commuting for both educational and health purposes, positively impacting livelihoods and economic opportunities within the community.
- Access to Education: Infrastructure development has significantly boosted education accessibility and attendance, particularly for girls. Better facilities have also improved teacher satisfaction and academic outcomes.

Water Security and Livelihood Prospects: There were a few villages in the area grappling with acute water scarcity, like Suwaniya, Ajoliya ka Kheda, and Biliya. A core expectation was centred on creating infrastructures to provide greater access to clean drinking water and promote livelihood opportunities across multiple villages.

Enhanced Connectivity and Safetv: Another set of expectations was centred on enhanced safety and transportation infrastructure. Connectivity has always been a problem in Nagri, Katharina, and other villages due to the absence of durable all-weather roads. It was imperative to address the lack of proper lighting on the streets, especially at the crossroads connecting the highway. The prevailing conditions posed а substantial risk to drivers during night-time, necessitating prompt action.

**Community Development and Education:** The construction of community centres in Sukhwara and Bhawanipura fostered expectations of increased opportunities for social gatherings, capacity-building activities, and overall community development. Education infrastructure such as the construction of classrooms, school boundary walls, toilets, playgrounds, etc., in Biliya and Suwaniya, aimed to create a more conducive learning environment for students.

Average annual household income (n=338)



Figure 7: Average annual household income

The income distribution within the surveyed population paints a concerning picture, with over half (51%) of the respondents reporting annual incomes of up to Rs. 50,000, highlighting a prevalence of low-income households. A further 35% fall within the Rs. 50,001 to Rs. 1,00,000 range, collectively indicating that 86% of the population operates on less than Rs. 1,00,000 annually.

There exists a critical need for CSR interventions focused on poverty alleviation and income generation in the community.

The reliance on single wage earners revealed by the survey results regarding the number of earners per household reveals a cause for concern. A majority, 72% of families get all of their financial support from just one person. Because of their concentrated economic vulnerability, most households do not have diversified sources of income. If the sole earner experiences job loss or illness, the entire family's finances could be significantly impacted.

In contrast, only 28% of households benefit from the economic stability provided by having 2 to 3 earners, and a negligible 1% have the advantage of more than 3 earners.

These figures underscore the urgent necessity for initiatives that can boost income, whether through enhancing agricultural productivity, providing vocational training, or fostering small businesses. HZL has two flagship programs focusing on enhancing earning potential within rural communities: 'Samadhan,' which aims agricultural at development, and 'Zinc Kaushal,' which provides vocational training. These initiatives address the need



Figure 8: Earning members per household
for targeted programs that can increase income opportunities for these communities. Several other programmes launched by HZL have enhanced access to education, health and also play a vital role in enabling individuals to contribute to their household incomes, thereby improving the economic resilience of these families.

Farmland ownership among surveyed households unveils a significant trend, with 87% of families reporting land ownership, while 13% do not own any farmland. This highlights the agrarian nature of the community and underscores the importance of prioritising agriculture



Figure 9: Farmland owners among Figure 10: Size of farmland owned by respondents respondents

development initiatives. Also, among the range of farm sizes, medium-sized holdings emerge as the most common category, falling between 1.1 and 4 bighas (holdings of roughly 0.4 to 1.6 hectares), making up over 60% (26% + 19% + 15%) of the reported farm sizes. While 13% each own between 4.1 to 5 bigha and 1 to 2 bigha, there are also smaller percentages of households owning larger plots, with 4% owning between 5.1 to 7 bigha, 16% owning more than 7 bighas.

As the primary asset for livelihoods and economic stability in rural areas, land ownership has significant socioeconomic implications.



Figure 11: Migration pattern among respondents with respect to duration of visit

The vast majority of the surveyed population (92%) did not migrate. Among households reporting migration, the duration of migration exhibits a varied pattern with the most common



Migration pattern along with number of migrant people (n=338)

Figure 12: Migration pattern among respondents with respect to number of migrants

durations being 1 month, 2 months, and 5 months each comprising 2%. Additionally, a smaller percentage of households migrated for 4 months and 6 months each comprising 1%.



Household migration patterns within the past year paint a picture of a relatively stable community. Among them, the majority, 4% (3% with 1 member migrating + 1% with 2 migrating), have experienced the most household migration within the last year. Apart from that, another 4% share of the respondents also said to have experienced migration

Figure 13: Location of migration of respondents

in their family (2% with 3 members migrating + 1% each for 4 and 5 members migrating).

This data suggests a high degree of residential stability within the community. This stability could be due to a number of factors, such as strong family ties, deep roots in the community, or limited opportunities for migration elsewhere.

The majority of households reported total earning between Rs. 11,001 to Rs. 21,000 from family member's migration, comprising 42% of respondents. This is followed by 23% earning between Rs. 21,001 to Rs. 31,000 and 12% each earning between Rs. 31,001 to Rs. 41,000 and up to Rs. 11,000. Additionally, 12% of households report earning between Rs. 41,001 to Rs. 50,000, while a single household (4%) reports earning more than Rs. 50,000 through family member migration

Income earned through migration period (n=26)



Figure 14: Income earned from migration of members

This information, along with the earlier discovery regarding migration trends, raises the possibility that some community members may use out-migration as a means to explore additional sources of livelihood in adjoining urban areas. While some migrants see a modest



Visit for health concerns prior to intervention (n=237)





Annual expenditure in private health clinic (n=237)

Figure 16: Annual expenditure in private health clinics

increase in their income, others might not see an apparent rise in their remunerations elsewhere.

When the local health facility was not adequately developed, residents had to seek alternative options to address their health concerns. A significant proportion (41%) sought healthcare at health centres in other villages, highlighting the need for improved healthcare accessibility within their communities. 32% of the respondents continued to visit the local health facility despite its shortcomings, emphasising the limited options available to them. Apart from them, 22% opted for private doctor clinics, suggesting a potential preference for qualified medical professionals in the region. Also, a smaller percentage (4%) opted for private hospitals, followed by a negligible percentage (1%) who do not seek health services. However, almost all the surveyed households are said to have been seeking healthcare in some form or the other, and the small proportion of non-seekers hints they might have limited knowledge regarding the availability of such services or resort to self-medication.

The chart represented in Figure 16 shows the financial strain placed on community members who rely on private healthcare facilities. When seeking treatment at private clinics or hospitals, households incurred varying expenses in a year. The breakdown of expenditures reveals a significant cost burden:

- **Moderate Spending:** A substantial portion (38% + 20% = 58%) of respondents who used private facilities incurred costs between Rs. 201 and Rs. 600 per year.
- Limited High Spenders & Low Spenders: Smaller percentages fell into the categories of spending less than Rs. 200 (19%) or exceeding Rs. 1,000 (7%) per year on private medical care.

For many households, especially those with variable or low incomes, even these moderate expenses can be a hardship. The fact that people are still utilising private care despite the costs suggests that they may perceive a gap in the quality or availability of services offered by public health facilities.

Prior to the intervention, households relied on various methods to fetch water, with the majority (47%) using hand pumps. Around 14% depended on community tanks, and a smaller percentage used wells (7%) and ponds (4%) for water collection, highlighting the importance of these communal water sources.





Figure 18: Distance travelled to fetch water prior to intervention

As depicted in Figure 18, a significant proportion (69% = 7% + 33% + 29%) of respondents lived within 300 meters of their water source, which was relatively close by. The remaining 31% (21% + 8% + 2%) had to travel further distances, ranging from 301 meters to over 700 meters to collect water.

This data indicates a considerable journey to access water, highlighting the time and effort previously required for water collection, potentially impacting household chores and other daily activities.

#### 4.3. Expectations from the Programme

*Expectation* in the IRECS framework focuses on the degree to which the programme's interventions have met the anticipated positive changes for the beneficiaries. It examines whether the programme has delivered on its promises and resulted in the expected social, economic, and cultural improvements for the target population.

Throughout our assessment of HZL's interventions in the villages, several impactful initiatives emerged, significantly improving the quality of life for residents. The construction of water tanks and the installation of water pipelines stood out as crucial interventions, guaranteeing households dependable access to clean water. Furthermore, the construction of classrooms and boundary walls as well as the remodelling of existing schools have significantly improved educational opportunities, especially for girls. Road repairs made transportation safer and easier for commuters and emergency services. Overall, these interventions have improved the socioeconomic development and general well-being of the communities, in addition to filling important infrastructure gaps. In the areas around the Chittorgarh plant (CLZS) of HZL, there have been several successful infrastructure projects funded through Corporate Social Responsibility (CSR) initiatives. These interventions were deemed essential for the beneficiary villages, received substantial funding for their implementation, and are expected to yield long-term benefits.

Serial No.	Infrastructure	Implementation Year (FY)	PO Value (in lakhs)
1	Stadium and open pavilion, Sanchore	FY 24	173.43
2	CC Road - Hoda	FY 24	109.93
3	Water tank and house connection, Ajoliya ka kheda	FY23-24	109.78
4	Community halls-I	FY 23-24	405.05
5	Community halls-II	FY 24	205.31
6	Open stadium, Gangrar	FY 23 - FY24	699.39
7	CC Road, Sukhwara and Narpat ki Khedi	FY 23	144.82
8	Govt. College, Gangrar	FY 23 - FY24	938
9	Hi-mast lights	FY 24	133.17

#### Improvements in Health Infrastructure

69% & 66% reported repairment in PHCs, and CHCs, while only 21% reported repairs in hospitals (State vet hospital, CHittor).

Spending "Up to Rs. 200" on **medicines** increased by **18%**, while higher categories saw a **16%** decrease. Spending "Up to Rs. 200" on **diagnostic tests** increased by **17%**, while higher categories saw a **20%** decrease.

It is evident that there has been a significant focus on improving health infrastructure in the intervention areas, as revealed by the survey findings. Various developments have been undertaken to enhance healthcare facilities for the community. In particular, significant quantities of repair work have been reported for hospitals, Primary Health Centres (PHCs), and Community Health Centres (CHCs).

Also, as learnt from the qualitative surveys, the following benefits emerged as a result of improvements made to healthcare infrastructure in the villages, such as:

- The intervention enhanced access to essential medications at affordable prices within the community due to factors like improved availability of medicines at repaired healthcare facilities.
- Secondly, residents who previously relied on self-medication or alternative treatments due to limited access to healthcare facilities are now able to consult doctors more frequently. This has led to more targeted and potentially less expensive prescriptions.

Approximately 69% of respondents noted repairment in PHCs, indicating efforts to strengthen primary healthcare services at the grassroots level. A substantial portion (66%) also reported repair works at Community Health Centres (CHCs), highlighting a commitment to address deficiencies at both primary and secondary healthcare levels. A smaller percentage (21%) of respondents mentioned repairs at hospitals.

Enhancing the community's current healthcare system was the primary objective of the health infrastructure interventions. The initiatives sought to improve accessibility and quality of care at the most critical points of entry



for residents seeking medical attention by giving priority to repairs at PHCs and CHCs.

There are encouraging indications that the community's access to and affordability of healthcare have improved when comparing the data on pre- and post-intervention healthcare expenditures.

A noticeable shift in favour of lower spending categories for medications is evident from the chart in Figure 20. Following the intervention, the proportion of respondents reporting spending

"Up to Rs. 100" and "Rs. 101- Rs. 200" rose by a total of 18%, implying that a greater proportion of the population has witnessed a decline in their out-of-pocket medical costs.

Conversely, there is a clear decline in the higher spending categories as the percentages for those spending "Rs. 401 - Rs. 500" and "More than Rs. 500" dropped by a combined 16% after the intervention.





Expenditure on medical tests prior to and post-intervention (n=237)

Figure 21: Expenditure on medical tests prior to and post-intervention

The data on pre- and post-intervention expenditure on medical tests offers insights into a possible increase in diagnostic testing within the community. Lower and mid-range spending categories show a notable increase following the intervention. The proportion of respondents reporting spending "Up to Rs. 100" and "Rs. 101 - Rs. 200" increased by 13% and 4%,



Image 1: Conducting FGD with 'Project Sakhi' representatives, Nagri

respectively. This implies that a greater number of individuals are now able to undergo standard diagnostic procedures.

The categories "Rs. 201 – Rs. 300" and "Rs. 301 – Rs. 400" show a slight increase (4% and 1% respectively), indicating some rise in spending on potentially more specialised tests. However, there is also a clear decline in the high spending categories, with "Rs. 401 – Rs. 500" and "More than Rs. 500" dropping by 11% and 9%, respectively.

These results signify that the interventions were able to improve the quality of healthcare services and increased access to medical testing, which in turn increased the beneficiaries' expenditure on medical examinations.

#### Improvements in Education Infrastructure

(94%) reported reduced absenteeism due to sanitation issues among girls, from toilet construction in school. 89% reported increased girls' attendance, 35% increased teacher satisfaction, 27% better academic results. **98%** felt safer learning environment for kids. **92%** observed improved nutrition for children attending **Anganwadis**.

HZL's interventions within the community encompassed a broad range of educational infrastructure improvements, as evidenced by the survey data. A significant focus was placed on the development of sanitation facilities, as 39% of responses mentioned toilet construction. This implies a potential recognition of the importance of clean and accessible toilets in creating a healthy learning environment for students.

The repairment of Anganwadi centres under the 'Khushi Nand Ghar' initiative of HZL emerged as the most recognised intervention in schools. This underscores the significance of HZL's





Figure 22: Improvements made in education infrastructure by HZL

commitment alongside the community's dedication to early childhood education and development.

Also, several initiatives aimed to improve the overall learning environment in schools, such as:

- Classroom construction (12%) addressed potential space constraints and overcrowding in schools.
- School ground levelling (17%) facilitated a more suitable space for outdoor activities and physical education for the children.
- Laboratory renovations (14%) improved the quality of science education by providing students with better-equipped labs for practical learning.





Image 2: (Top) - HZL foundation stone at school; (bottom) – Ground levelling work at school; State government senior secondary school, Suwaniya

By addressing sanitation, learning spaces, and additional basic facilities at the government school, HZL's initiatives contributed to creating a more conducive and well-equipped learning environment for students within the community.

The survey results overwhelmingly point towards a positive association between toilet construction and improved accessibility to education, particularly for girls. Notably, 94% of respondents mentioned a reduction in absenteeism due to sanitation-related issues among

girl students. This the critical highlights role improved of sanitation facilities in enhancing school attendance and retention rates. especially for marginalised groups.

The vast majority (70%) stated that student practices hygiene among students in schools have improved. This was due to factors like more handwashing stations next to restrooms, teachers, and parents highlighting the



Figure 23: Anticipated outcome of toilet construction on education accessibility

importance of maintaining cleanliness and hygiene, further preventing the spread of diseases and contributing to a healthier learning environment.

The data on pre and post-intervention expenditure on health issues reveals a promising trend that suggests a potential decrease in sanitation-related health expenses within the community, particularly among school children. The majority of respondents (42%) stated they had spent between Rs. 201 and Rs. 400 on health-related issues prior to the

Expenditure on health issues prior to and post-intervention in school (n=119)



Figure 24: Expenditure on health issues prior to and post-intervention in school

intervention. Nevertheless, the proportion of respondents reporting lower spending brackets increased significantly after the intervention, with 47% reporting spending between Rs. 201 and Rs. 400.

A substantial rise (18%) is observed in the proportion of respondents reporting expenditure "Up to Rs. 200" on health issues after the toilet construction intervention, denoting a **significant increase in the low expenditure category**. Also conversely, there was a substantial decrease in higher expenditure brackets post-intervention, indicating a potential reduction in health-related expenses following the implementation of toilet repair or construction at schools.

There appears to be a shift in the frequency of sanitation-related illnesses in the community, particularly those requiring extensive medical attention, as evident by the notable increase in the low-expenditure category and the decline in the high-expenditure category. This improvement is directly related to better hygiene habits and decreased pathogen exposure made possible by the installation of restrooms in schools.





Figure 25: Perceived impact derived from improvement of infrastructure in schools

In Figure 25, the impact of development of infrastructure shows significantly improved access to education, especially for girls, and improvement in the learning environment for both teachers and students. A significant majority of respondents (89%) acknowledged an increase in girls' attendance following the infrastructure development initiatives. Moreover, 63% reported a rise in overall attendance, suggesting a broader positive effect on student participation.

35% of respondents reported an increase in teacher satisfaction. This is attributable to factors like better classrooms, hygienic facilities, and the accessibility of instructional resources made possible by infrastructure development endeavours. A more positive and well-equipped learning environment for teachers likely translates to enhanced student engagement and potentially better learning outcomes. Furthermore, 27% of respondents said they had achieved better academic results, suggesting a possible link between better facilities and superior academic performance.

A substantial majority of respondents, comprising 98%, recognised the provision of a safe learning environment for young children as a key benefit resulting from the repair work of the Anganwadi centre, as depicted in Figure 26 above. Again, 92% of respondents indicated that children receive better nutritional intake through Anganwadis, reflecting upon the improved facilities for food preparation and storage, potentially leading to a more consistent and nutritious diet for children attending these centres. Restoring Anganwadis, according to nearly





#### Figure 26: Perceived impact derived from improvement of infrastructure in Anganwadi

four out of five respondents (79%), gives parents more flexibility at work by offering a dependable daycare option. This can be especially helpful for families in which both parents work. While parents are at work, a well-run Anganwadi can provide a secure and engaging environment for kids, possibly lowering child neglect and fostering early learning.

As learnt by the survey team during further interactions with the community and secondary stakeholders, repairing Anganwadis plays a crucial role in creating a foundation for healthy early childhood development by providing a safe space, ensuring access to nutritious food, and enabling parental work opportunities, these improvements can have a lasting positive impact on the well-being and prospects of young children within the community.



Image 3: Anganwadi centre (Nand Ghar) inside school premises, Suwaniya

#### Improvements in Community Infrastructure

The community awareness of infrastructure initiatives implemented by HZL in their villages revealed a notable level of familiarity with various projects. Over two-thirds of respondents



Improvements undertaken in community infrastructure by HZL (n=338)

Figure 27: Improvements in community infrastructure made by HZL

(68%) were aware of CC road construction, signifying a significant impact on the village's transportation infrastructure. Similarly, a large portion (63%) were aware of the community centre renovation, highlighting another major investment in the development of public facilities.

High awareness of solar light installation (63%) was also attained, suggesting its possible visibility and influence on day-to-day living. Many members of the community (more than one-third of respondents) also acknowledged the importance of infrastructure upgrades, such as the construction of restrooms (33%) and road repairs (47%).

The table below offers key insights into the community's transportation landscape by showing the typical forms of transportation that respondents use on a daily basis for their commutes.

Type of vehicle	Prevalence (in %)
Bike / Scooter	81
Sharing Auto	40
Bicycle	21
Bus	4
Personal Car	2

Although personal cars and buses make up a relatively small portion of all modes of transportation, a sizable portion of respondents commute by bicycle, share cars, and use bikes, scooters; these modes of transportation combined account for the majority of respondents' primary means of transportation. Bikes and Scooters collectively account for a significant portion (81%) of preferred transportation methods. This suggests a reliance on personal mobility solutions, possibly due to factors like affordability, ease of navigation, and suitability for village roads. The second most popular option (40%) was sharing autos, which suggests a preference for shared transportation. Personal vehicles (2%) and buses (4%) make up a smaller portion because fewer people own cars in the village, and also public transportation is less frequent, as reported by the community members.

Numerous participants emphasised the restricted accessibility of public transportation options, including buses and cars, suggesting a deficiency in the villages' accessible transportation network. Additionally, a number of villages reported that there were no official bus stops, which caused buses to avoid specific areas and exacerbate accessibility problems with transportation. In addition, the state of the access roads that lead to the villages was found to be a major source of concern, especially in bad weather. There were safety risks for commuters, especially those who used two wheels, due to the prevalence of kaccha roads, which are prone to becoming muddy and slippery during the rainy season. Accident reports, resulting from bad road conditions highlighted how urgently infrastructure upgrades are needed to improve road safety and accessibility for all villagers.

The execution of HZL's CC road construction and road divider projects assumes additional importance in this regard. This has helped reduce the safety risks associated with bad road conditions in addition to addressing the current transportation infrastructure challenges.

The initiatives are designed to augment mobility, improve road safety, and ultimately raise the general standard of living of the villagers in the communities they serve by means of robust and well-maintained road networks.



Image 4: Conducting FGD with community members, Billiya

The impact of road repairs and the construction of road dividers paints a positive picture of how these interventions have improved various aspects of life within the community. An overwhelming proportion of respondents (89% and 86% respectively) stated that kids can now get to school quickly, and travelling gets easier in case of medical emergencies. This suggests that better road conditions have lowered obstacles to travel for timely medical care as well as access to education. 71% of respondents mentioned that adults were able to go out for work more efficiently, emphasising the positive economic impact of improved road infrastructure on livelihoods and employment opportunities.



Figure 28: Impact from repairment of road / road divider



0% 20% 40% 60% 80% 100%

Figure 29: Perceived impact from repair of community centre

the reported 20% increase in recreational activities.

The survey results overwhelmingly point towards a positive impact of the community centre renovation on the overall well-being of the community. Significantly, 79% of respondents noted that the renovation led to increased social gatherings, indicating that the upgraded facility served as a point for community focal interaction and engagement. 64% of respondents highlighted that the renovation enhanced access to cultural activities.

This suggests that the refurbished centre offers a greater variety of interesting activities appealing to a variety of interests and encourages enjoyment and relaxation, especially when combined with



Image 5: Newly renovated Panna Dhay State University building by HZL, Gangrar

Also, 50% of respondents noted an improvement in the image of the community due to the renovation, suggesting that the upgraded facility positively influenced community perception and pride. While only a small percentage reported no discernible impact or were unsure, the vast majority of responses highlight the tremendous contribution of the refurbished community centre to promoting community cohesion, cultural vitality, and general well-being.

Increase in income potential for individuals from improved community



Figure 30: Increase in income potential for individuals from improved community infrastructure and facilities

The development and repair of community infrastructures have had a significant positive impact on the income potential of individuals due to the enhancement of community infrastructure and facilities. A majority of respondents (92%) believe that improved infrastructure has led to an increase in income potential. Approximately 24% of respondents reported an increase of up to Rs. 1000 in their income potential, while 48% noted an increase ranging from Rs. 1000 to Rs. 2000. Another 20% experienced an even higher rise, falling between Rs. 2000 to Rs. 3000.

The increased income potential can be attributed to various factors facilitated by improved infrastructure:

- Enhanced Mobility: Better roads (due to CC road construction) have eased commute times and enabled villagers to reach workplaces or markets more efficiently.
- Business Opportunities: Improved infrastructure, like community centres or market facilities, helped create new business avenues, potentially generating employment opportunities.
- **Bolstered Productivity:** Access to sanitation facilities (from toilet construction) and time saved due to better roads led to increased work hours and productivity.

#### Improvements in Water Infrastructure

73% said 'laying water pipelines', 61% for 'water tanks'; as most effective in improving access to clean water.

97% said 'yes' to decreased waterborne diseases following HZL interventions, while only 4% reported no. Interventions enhanced livelihood opportunities, like better agriculture (57%), livestock raising (29%), horticulture (17%)



Figure 31: Improvements undertaken in water infrastructure by HZL

The survey findings as depicted in Figure 31, suggest that water security is a top concern for the community as residents prioritise improvements in water access, storage, and overall water management infrastructure. Of the total 338 respondents, only 290 agreed that HZL has created water-related infrastructures in their villages. A dominant majority of the 290 respondents (over 70%) highlighted interventions directly related to water access and management. Additionally, proper drainage is seen as an important aspect of a healthy environment.

Water pipeline installation (73%), pipeline construction (68%), and household pipeline connections (20%) were the top three choices. This overwhelming focus suggests a strong desire for improved and reliable access to clean water throughout the community. The need for more water storage capacity to meet daily demands or account for seasonal variations is well reflected in the construction of water tanks (61%).

Bore well and motor supply (21%) and open wells (10%) highlight the existing dependence on groundwater sources, with potential desires for improvement or expansion. While efforts are underway to address water scarcity through initiatives such as the installation of Water ATMs and contracting drinking water supply tankers, there appears to be limited awareness of these interventions among residents. Findings from qualitative surveys suggest that only a few surveyed villages have fully functioning Water ATMs, contributing to widespread unawareness of their existence.

The most effective intervention of HZL in improving access to clean water was the installation of water pipelines (Fig. 32), with 70% of respondents acknowledging its effectiveness. Water



Figure 32: Most effective intervention of HZL in improving access to clean water

Pipeline Installation (70%) refers to the process of setting up household pipeline infrastructure, further emphasising the value placed on a functional piped water system. The construction of water tanks (59%) emerged as another critical intervention, highlighting the importance of sufficient storage capacity to meet daily water demands and thereby address seasonal variations in water availability. Traditional water sources continue to be relevant, especially in areas not yet reached by the pipeline network. While less prominent, open wells (14%) still play a role by being recognised as a somewhat effective intervention.



Image 6: Water ATM installed by HZL, Billiya

HZL interventions have reduced cases of waterborne diseases (n=338)



Figure 33: HZL interventions have reduced cases of waterborne diseases

The data indicates that building water tanks and pipelines are regarded by the community as the two most successful interventions for enhancing access to clean water. Together, these interventions provide an extensive water supply system that guarantees appropriate storage and dependable access.

Based on the data, it is evident that HZL's water interventions have helped to lower the number of waterborne illness cases in the communities that were surveyed (Fig. 29). A significant majority of respondents,

comprising 96% of the total, reported at

least some level of reduction in waterborne diseases following the implementation of HZL's interventions. While only a small percentage (4%) reported no improvement in reduced cases, meaning very limited negative impact as perceived by respondents.

This suggests that the interventions have been largely effective in raising the standard of water sources or implementing sanitation measures, which has led to a noticeable drop in the number of waterborne illnesses. The findings also denote the importance of such interventions in enhancing public health and well-being within the community.

HZL's intervention has been especially crucial given that the area faced severe water shortages just six years ago. Thanks to infrastructural developments and the 'Samadhan' farmer program, farmers in the region now have better access to irrigation water. This has led to increased agricultural productivity and enabled some farmers to diversify their crops, growing exotic varieties like broccoli, parsley, celery, and red cabbage.

- Mr. Dinesh Kumar Jaga, Joint Director, Dept. of Agriculture, Rajasthan

Among respondents, the HZL interventions with the greatest positive impact on agricultural productivity were renovations in Borewell, Check dam, Ponds, etc. This indicates the significant contributions made to water conservation and management in agricultural areas.

A sizeable portion (31%) stated that the intervention







was "not applicable", primarily because all the interviewed respondents were not farmers themselves as some were their family members and others were unsure of the precise impact of interventions. A vast majority of respondents (57%) reported better agricultural opportunities, suggesting the success of interventions in addressing the critical need for irrigation facilities, enabling villagers to expand or improve their agricultural practices. A significant portion of the participants (29%) mentioned enhanced opportunities for raising livestock which suggests that the improved access to water helped animal husbandry, potentially enabling locals to raise more livestock and take better care of their existing livestock.



Scope for additional livelihood opportunities post-intervention (n=92)

Figure 35: Scope for additional livelihood opportunities post HZL intervention

A smaller percentage (11%) mentioned improved horticultural opportunities, indicating that the interventions have also made it easier to cultivate fruits and vegetables, possibly allowing some villagers to diversify their agricultural pursuits. Only a small percentage (3%) reported no change in livelihood opportunities.

The data on additional income generated through new economic activities paints a promising picture, with a significant portion of households experiencing financial gains. 90% of respondents, reported earning up to Rs 20,000 annually through these activities. Specifically,





#### Figure 36: Increment in annual income earned through the additional economic activity

50% of households reported earning between Rs 1000 to Rs 10,000, while 16% reported earning between Rs 10,001 to Rs 20,000. Even smaller percentages reported higher income brackets, with 6% earning between Rs 20,001 to Rs 30,000, and 3% earning between Rs 30,001 to Rs 40,000.

This suggests that HZL's interventions or the improved infrastructure within the village have likely created income-generating opportunities for many households, enabling them to generate supplementary income and potentially improve their economic well-being.

#### Improvements in Solar Infrastructure

As reported by community members several initiatives to improve access to clean energy sources were put in place by the HZL team. While the installation of solar LED lights significantly helped in illuminating the darkest corners of the villages, they are also an option for street lighting, which further aids commuters on the streets.



The findings on the installation of solar lights (Fig. 37) were recognised by 97% respondents. of indicating widespread its presence and utilisation within the community.

71% of respondents acknowledged the installation of LED lights, further highlighting HZL's efforts to enhance lighting infrastructure using sustainable solar technology.

Figure 37: Improvements undertaken in solar infrastructure by HZL

Hard rock cutting (1%) and solar pump installation (5%) were mentioned by fewer respondents as components of the solar-based developments in their village, indicating that these programmes have been as widely carried out in the villages.

HZL has made significant strides in bringing solar technology to the village, primarily through the installation of solar lights. This intervention has helped increase safety and security while also improving visibility at night. Additionally, the data points to a shift in favour of LED lighting solutions that are energy efficient.

Reduction in elecricity bill amount from installation of solar lights (n=298)



Figure 38: Reduction in electricity bill from installation of solar lights

A majority of respondents (90%) believe that the electricity bill for community electricity consumption paid by the panchayat has been reduced with the installation of solar lights.

Also, there is a limited negative impact as only a small percentage (10%) of respondents did not perceive a reduction in the electricity bill. This can be attributed to factors like the solar lighting system not yet being fully functional or a limited initial impact depending on the scale of the installation.

The survey results reflect a positive perception of the impact of solar lights on reducing community electricity expenses.

#### 4.4. Convergence

*Convergence* in the IRECS framework refers to aligning efforts, resources, and policies across sectors and stakeholders toward common development goals. It emphasises the integration and coordination of efforts from various actors, including government agencies, non-governmental organisations, community members, and other relevant stakeholders, to address complex development challenges comprehensively.

SI. No	Name of Partner	Type of Partnership	Responsibilities
1.	Government Senior Secondary School, Suwaniya	Project-based partnership	Handover granted to school authorities for operation and maintenance of infrastructure works done at the school
2.	Neer Amrit Enterprise	Project-based Partnership	Operation and maintenance of water ATM and supply of water through water tankers in Biliya, Ajoliya ka kheda, Bhawanipura, Nagri
3.	Panchayati Raj Institutions	Project-based Partnership	<ul> <li>Provide NOC for identified intervention site</li> <li>Maintenance of infrastructures developed by HZL</li> </ul>

#### 4.5. Service Delivery

Service delivery in the IRECS framework refers to providing essential amenities and infrastructure to communities efficiently and effectively to meet their needs. Effective service delivery involves the efficient and timely delivery of these services, ensuring accessibility, affordability, and quality, thereby contributing to the overall well-being and development of the community.

The survey results indicate varying perceptions regarding the impact of LED light installation on community safety, where the lowest rating is '1' and the highest being '5'. The installation improved safety, according to a substantial majority of respondents (78%) who rated it a "4" (significant improvement) and a "5" (major improvement), respectively. This implies that residents now feel safer, especially at night, thanks to improved lighting facilities. 19% of respondents perceived a moderate improvement, rating the intervention as a 3. As learnt from



Rating on installation of LED lights improved safety (n=298)

Figure 39: Rating on installation of Solar LED lights improved safety

administering the qualitative schedules, many respondents who rated the intervention as a "4" likely did so because they acknowledged the positive impact on safety while also recognizing the need for more extensive lighting and improved maintenance practices.

The data also highlights some limitations, such as the 21% of respondents reported "no improvement" and 7% rated it a "1" or "2" (minimal or slight improvement). The qualitative findings shed light on these concerns:

- **Maintenance Issues:** Some residents expressed concern about inoperable lights brought on due to sporadic maintenance by the PRI representatives.
- **Inadequate Coverage**: According to some respondents, the village still had some areas that weren't well-lit. To further improve safety, the network of LED lights could be expanded to include these areas of darkness.

All things considered, it looks like the community's sense of safety has been improved by the installation of Solar LED lights. To increase the effectiveness of the intervention, maintenance issues should be addressed, and unlit areas should be covered.

The responsibility for the maintenance of infrastructure developments is primarily distributed among different stakeholders (Fig. 40). A majority of respondents (62%) identified the PRI as the entity responsible for maintaining the infrastructure developments. This aligns with the PRI's role in village governance and development, which often includes overseeing infrastructure maintenance.

A sizable percentage of respondents (38%) think HZL is in charge of maintenance. This implies that HZL could help considerably with the upkeep of the infrastructure it assisted in building, perhaps by giving the PRI financial or technical support.



There were varied opinions regarding who should be responsible for the long-term sustainability of the projects initiated by HZL (Fig. 41). 54% believe that the responsibility should lie with the Panchayati Raj Institutions (PRI), indicating a preference for local governance bodies to oversee the sustainability efforts. Almost as many (44%) also thought that HZL should contribute to the long-term sustainability of the interventions.

The preference for a shared responsibility model stems from the complex nature of infrastructure maintenance. Respondents who favoured HZL's responsibility for long-term sustainability expressed doubts about the PRI representatives' ability to maintain the quality of the structures and highlighted issues regarding transparency. This sentiment suggests that their preference for HZL's involvement is driven by their trust in the company's work and its commitment to quality rather than confidence in their own PRI members.



Image 7: Conducting FGD with community members, Suwaniya

# 4.6. Social Return on Investment \*

### 1. SROI for Infrastructure development in Chittorgarh FY 2019-20

## 1.1. SROI of boundary wall in Nand ghar

Financial Proxies					
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)		
School admin	Boundary fencing cost	Savings on cost of fencing for school authorities	Secondary Research		
Community Members	Increased income potential	Increased income potential from improved infrastructures	Primary Survey		

Social Return on Investment					
Year	2020-21	2021-22	2022-23	2023-24	2024-25
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.50%
Discounted Rate Considered	5.36%				
Total input cost	₹ 312000				
Total Net Impact	₹ 473713.11				
NPV	₹ 4,49,613.81				
SROI	₹ 1.44				

### 1.2. SROI of Open gym Govt. PS, Dhanetkhurd, Segawa

Financial Proxies						
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)			
School admin	Healthcare cost	Savings in treatment of non-communicable diseases from keeping fit	Secondary Research			

Social Return on Investment					
Year	2020-21	2021-22	2022-23	2023-24	2024-25
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.50%
Discounted Rate Considered	5.36%				
Total input cost	₹ 522000				
Total Net Impact	₹ 1411602				
NPV	₹ 13,39,789.29				
SROI	₹ 2.57				

# 1.3. SROI of Pipeline work in Segwa, Salera, Bhawanipura, Medhikedha

Financial Proxies						
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)			
Community Members	Increased income potential	Additional income from extra economic activity	Primary Survey			
Community Members	Water fetch cost	Cost savings from not buying water jar	Secondary Research			

Social Return on Investment					
Year	2020-21	2021-22	2022-23	2023-24	2024-25
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.50%
Discounted Rate Considered	5.36%				
Total input cost	₹ 4337000				
Total Net Impact	₹ 13313070				
NPV	₹ 1,26,35,791.57				
SROI	₹ 2.91				

## 1.4. SROI of OHT & Pipeline, Pavtiya

Financial Proxies						
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)			
Community Members	Increased income potential	Additional income from extra economic activity	Primary Survey			
Community Members	Water fetch cost	Cost savings from not buying water jar	Secondary Research			

Social Return on Investment					
Year	2020-21	2021-22	2022-23	2023-24	2024-25
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.50%
Discounted Rate Considered	5.36%				
Total input cost	₹ 5506000				
Total Net Impact	₹ 8452684.8				
NPV	₹ 80,22,669.70				
SROI	₹ 1.46				

# 1.5. SROI of Pipeline work, Suwaniya

Financial Proxies					
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)		
Community Members	Water fetch cost	Cost savings from not buying water jar	Secondary Research		

Social Return on Investment					
Year	2020-21	2021-22	2022-23	2023-24	2024-25
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.50%
Discounted Rate Considered	5.36%				
Total input cost	₹ 477000				
Total Net Impact	₹ 3880800				
NPV	₹ 36,83,371.30				
SROI	₹7.72	₹ 7.72			

### 1.6. SROI of OHT & Pipeline work, Billiya, Tumbdiya, Pavtiya

Financial Proxies					
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)		
Community Members	Increased income potential	Additional income from extra economic activity	Primary Survey		
Community Members	Water fetch cost	Cost savings from not buying water jar	Secondary Research		

Social Return on Investment					
Year	2020-21	2021-22	2022-23	2023-24	2024-25
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.50%
Discounted Rate Considered	5.36%				
Total input cost	₹ 15796000				
Total Net Impact	₹ 30395703.6				
NPV	₹ 2,88,49,376.99				
SROI	₹ 1.83	₹ 1.83			

# 1.7. SROI of CC Road, Billiya, Bhawanipura

Financial Proxies					
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)		
Community Members	Travel cost	Annual savings on travel costs	Primary Survey		
Community Members	Increased income potential	Inc. in income potential from improved infrastructures	Primary Survey		

Social Return on Investment					
Year	2020-21	2021-22	2022-23	2023-24	2024-25
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.50%
Discounted Rate Considered	5.36%				
Total input cost	₹ 7939000				
Total Net Impact	₹ 9294480				
NPV	₹ 88,21,640.09				
SROI	₹ 1.11	₹ 1.11			

### 1.8. SROI of Community Centre at Dagla ka kheda, Dhordia, Suwaniya, Aakya

Financial Proxies					
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)		
Community members	Increased income potential for PRI	Additional income from organizing marriages and events at community hall	Secondary Research		

Social Return on Investment					
Year	2020-21	2021-22	2022-23	2023-24	2024-25
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.50%
Discounted Rate Considered	5.36%				
Total input cost	₹ 9968000				
Total Net Impact	₹ 28080000				
NPV	₹ 2,66,51,480.64				
SROI	₹ 2.67				

# 1.9. SROI of Toilet near cremation shed at Nagri, putholi, Bilia Ajolio ka kheda

Financial Proxies						
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)			
Community Members	Savings on construction cost	Cost of construction of toilet saved by PRI	Secondary Research			

Social Return on Investment					
Year	2020-21	2021-22	2022-23	2023-24	2024-25
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.50%
Discounted Rate Considered	5.36%				
Total input cost	₹ 1532000				
Total Net Impact	₹ 16206060				
NPV	₹ 1,53,81,605.92				
SROI	₹ 10.04				

# 1.10. SROI of CC Road at Gangaji ka Kheda, Shivpura

Financial Proxies					
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)		
Community Members	Travel cost	Annual savings on travel costs	Primary Survey		
Community Members	Increased income potential	Inc. in income potential from improved infrastructures	Primary Survey		

Social Return on Investment					
Year	2020-21	2021-22	2022-23	2023-24	2024-25
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.50%
Discounted Rate Considered	5.36%				
Total input cost	₹ 4455000				
Total Net Impact	₹ 5004720				
NPV	₹ 47,50,113.90				
SROI	₹ 1.07				

### 1.11. SROI of Putholi bus stand toilet unit

Financial Proxies					
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)		
Community Members	Savings on construction cost	Cost of construction of toilet saved by PRI	Secondary Research		

Social Return on Investment					
Year	2020-21	2021-22	2022-23	2023-24	2024-25
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.50%
Discounted Rate Considered	5.36%				
Total input cost	₹ 535000				
Total Net Impact	₹ 5641350				
NPV	₹ 53,54,356.49				
SROI	₹ 10.01				

### 1.12. <u>SROI of Girls toilet at Putholi, Pandoli, Mata ka kheda, Sukhwada, Semalpura,</u> Banina, Dagla ka kheda, Dhanet kalan girls, Dhanet kalan ss

Financial Proxies					
Stakeholder	Indicator	Financial proxy	Source		
Community Members	Savings on construction cost	Cost of construction of toilet saved by PRI	Secondary Research		

Social Return on Investment					
Year	2020-21	2021-22	2022-23	2023-24	2024-25
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.50%
Discounted Rate Considered	5.36%				
Total input cost	₹ 2749000				
Total Net Impact	₹ 4970700				
NPV	₹ 47,17,824.60				
SROI	₹ 1.72				

# 1.13. SROI of Boundary wall at vet clinic at Chittorgarh

Financial Proxies					
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)		
Community Members	Boundary fencing cost	Savings on cost of fencing for clinic authority	Secondary Research		

Social Return on Investment					
Year	2020-21	2021-22	2022-23	2023-24	2024-25
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.50%
Discounted Rate Considered	5.36%				
Total input cost	₹ 140000				
Total Net Impact	₹ 201572.352				
NPV	₹ 1,91,317.72				
SROI	₹ 1.37				

## 1.14. SROI of Community Centre at Suwaniya, Aakya

Financial Proxies					
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)		
Community members	Increased income potential for PRI	Additional income from organizing marriages and events at community hall	Secondary Research		

Social Return on Investment					
Year	2020-21	2021-22	2022-23	2023-24	2024-25
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.50%
Discounted Rate Considered	5.36%				
Total input cost	₹ 4957000				
Total Net Impact	₹ 13410000				
NPV	₹ 1,27,27,790.43				
SROI	₹ 2.57				

# 1.15. SROI of Cremation area development at Ajoliya Ka Kheda

Financial Proxies					
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)		
Community Members	Boundary fencing cost	Savings on cost of fencing for PRI	Secondary Research		

Social Return on Investment					
Year	2020-21	2021-22	2022-23	2023-24	2024-25
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.50%
Discounted Rate Considered	5.36%				
Total input cost	₹ 2006000				
Total Net Impact	₹ 2614141.44				
NPV	₹ 24,81,151.71				
SROI	₹ 1.24				

## 1.16. SROI of Gravel Road at Kanthariya

Financial Proxies					
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)		
Community Members	Travel cost	Annual savings on travel costs	Primary Survey		
Community Members	Increased income potential	Inc. in income potential from improved infrastructures	Primary Survey		

Social Return on Investment						
Year	2020-21	2021-22	2022-23	2023-24	2024-25	
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.50%	
Discounted Rate Considered	5.36%					
Total input cost	₹ 755000					
Total Net Impact	₹ 4906214.4					
NPV	₹ 46,56,619.59					
SROI	₹ 6.17					

# 1.17. SROI of CC Road with drainage infra at Ajoliya ka Kheda

Financial Proxies					
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)		
Community Members	Travel cost	Annual savings on travel costs	Primary Survey		
Community Members	Increased income potential	Inc. in income potential from improved infrastructures	Primary Survey		

Social Return on Investment					
Year	2020-21	2021-22	2022-23	2023-24	2024-25
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.50%
Discounted Rate Considered	5.36%				
Total input cost	₹ 7577000				
Total Net Impact	₹ 17511091.18				
NPV	₹ 1,66,20,246.00				
SROI	₹ 2.19				

## 1.18. SROI of CC Road at Shivpura

Financial Proxies					
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)		
Community Members	Travel cost	Annual savings on travel costs	Primary Survey		
Community Members	Increased income potential	Inc. in income potential from improved infrastructures	Primary Survey		

Social Return on Investment						
Year	2020-21	2021-22	2022-23	2023-24	2024-25	
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.50%	
Discounted Rate Considered	5.36%					
Total input cost	₹ 3764000					
Total Net Impact	₹ 4604688					
NPV	₹ 43,70,432.80					
SROI	₹1.16					
## 1.19. SROI of CC Road, Billiya, Bhawanipura

Financial Proxies						
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)			
Community Members	Travel cost	Annual savings on travel costs	Primary Survey			
Community Members	Increased income potential	Inc. in income potential from improved infrastructures	Primary Survey			

Social Return on Investment					
Year	2020-21 2021-22 2022-23 2023-24 2024-25				
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.50%
Discounted Rate Considered	5.36%				
Total input cost	₹ 7939000	)			
Total Net Impact	₹ 9294480				
NPV	₹ 88,21,640.09				
SROI	₹ 1.11				

## 1.20. SROI of Syntex water tank & OHT at Billiya, Ajoliya ka Kheda

Financial Proxies							
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)				
Community Members	Increased income potential	Additional income from extra economic activity	Primary Survey				
Community Members	Water fetch cost	Cost savings from not buying water jar	Secondary Research				

Social Return on Investment					
Year	2020-21	2021-22	2022-23	2023-24	2024-25
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.50%
Discounted Rate Considered	5.36%				
Total input cost	₹ 5531000				
Total Net Impact	₹ 6541920				
NPV	₹ 62,09,111.62				
SROI	₹ 1.12				

# 1.21. SROI of OHT at Munga ka Kheda

Financial Proxies							
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)				
Community Members	Water fetch cost	Cost savings from not buying water jar	Secondary Research				

Social Return on Investment					
Year	2020-21	2021-22	2022-23	2023-24	2024-25
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.50%
Discounted Rate Considered	5.36%				
Total input cost	₹ 2773000	)			
Total Net Impact	₹ 9374400				
NPV	₹ 88,97,494.31				
SROI	₹ 3.21				

## 1.22. SROI of Water Supply activities in all CSR areas

Financial Proxies							
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)				
Community Members	Water fetch cost	Cost savings from not buying water jar	Secondary Research				

Social Return on Investment					
Year	2020-21	2021-22	2022-23	2023-24	2024-25
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.50%
Discounted Rate Considered	5.36%				
Total input cost	₹ 1056000	)			
Total Net Impact	₹ 16480800				
NPV	₹ 1,56,42,369.02				
SROI	₹ 14.81				

# 1.23. SROI of Syntex water tank & OHT at Shivpura

Financial Proxies						
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)			
Community Members	Water fetch cost	Cost savings from not buying water jar	Secondary Research			

Social Return on Investment						
Year	2020-21	2021-22	2022-23	2023-24	2024-25	
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.50%	
Discounted Rate Considered	5.36%					
Total input cost	₹ 3589000					
Total Net Impact	₹ 6007680					
NPV	₹ 57,02,050.11					
SROI	₹ 1.59					

# 1.24. SROI of Lift Irrigation at Anwalheda

Financial Proxies						
Stakeholder	Indicator	Financial proxy	Source			
			(primary/secondary)			
Community Members	Increased income potential	Additional income from extra economic activity	Primary Survey			

Social Return on Investment						
Year	2020-21	2021-22	2022-23	2023-24	2024-25	
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.50%	
Discounted Rate Considered	5.36%					
Total input cost	₹ 5893000	)				
Total Net Impact	₹ 9183506.4					
NPV	₹ 87,16,312.07					
SROI	₹ 1.48					

# 1.25. SROI of open well & pipeline at Suwaniya, Nagri

Financial Proxies							
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)				
Community Members	Increased income potential	Additional income from extra economic activity	Primary Survey				

Social Return on Investment						
Year	2020-21 2021-22 2022-23 2023-24 2024-25					
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.50%	
Discounted Rate Considered	5.36%					
Total input cost	₹ 1018400	00				
Total Net Impact	₹ 12700166.4					
NPV	₹ 1,20,54,068.34					
SROI	₹ 1.18					

# 1.26. SROI of Lift Irrigation at Billiya

Financial Proxies						
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)			
Community Members	Increased income potential	Additional income from extra economic activity	Primary Survey			

Social Return on Investment						
Year	2020-21 2021-22 2022-23 2023-24 2024-25					
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.50%	
Discounted Rate Considered	5.36%	5.36%				
Total input cost	₹ 105000					
Total Net Impact	₹ 1438062.75					
NPV	₹ 13,64,903.90					
SROI	₹ 13.00					

## 1.27. <u>SROI of other water related activities at "Putholi, Biliya, Satpura, Kanthariya,</u> <u>Anwalheda, Salera, Ajoliya ka kheda, Lalas, Bhawanipura and Devari"</u>

Financial Proxies							
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)				
Community Members	Increased income potential	Additional income from extra economic activity	Primary Survey				

Social Return on Investment						
Year	2020-21	2021-22	2022-23	2023-24	2024-25	
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.50%	
Discounted Rate Considered	5.36%					
Total input cost	₹ 5900000	)				
Total Net Impact	₹ 13865688					
NPV	₹ 1,31,60,296.13					
SROI	₹ 2.23					

## 1.28. SROI of CC Road at Suwaniya, Ajoliya ka Kheda, Hazoorpura

Financial Proxies						
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)			
Community Members	Travel cost	Annual savings on travel costs	Primary Survey			
Community Members	Increased income potential	Inc. in income potential from improved infrastructures	Primary Survey			

Social Return on Investment						
Year	2020-21	2021-22	2022-23	2023-24	2024-25	
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.50%	
Discounted Rate Considered	5.36%					
Total input cost	₹ 16197000					
Total Net Impact	₹ 33031152					
NPV	₹ 3,13,50,751.71					
SROI	₹ 1.94					

# 1.29. SROI of Pond deepening at Eklingpura, Chogawadi

Financial Proxies						
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)			
Community Members	Increased income potential	Additional income from extra economic activity	Primary Survey			

Social Return on Investment						
Year	2020-21	2021-22	2022-23	2023-24	2024-25	
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.50%	
Discounted Rate Considered	5.36%					
Total input cost	₹ 1380000	)				
Total Net Impact	₹ 5249871					
NPV	₹ 49,82,79	₹ 49,82,793.28				
SROI	₹ 3.61					

# 1.30. SROI of Temple Renovation at Billiya

Financial Proxies							
Stakeholder	Indicator	Financial pro	ху	Source			
				(primary/secondary)			
Community	Increased	Increased	income	Primary Survey			
Members	income potential	potential	from				
		accelerated	economic				
		activity in tem	ple area				

Social Return on Investment						
Year	2020-21	2021-22	2022-23	2023-24	2024-25	
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.50%	
Discounted Rate Considered	5.36%					
Total input cost	₹ 100000					
Total Net Impact	₹ 924488.73					
NPV	₹ 8,77,457.03					
SROI	₹ 8.77					

# 1.31. SROI of School ground levelling at Suwaniya

Financial Proxies							
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)				
Community Members	Healthcare cost	Savings in treatment of non-communicable diseases from keeping fit	Secondary Research				

Social Return on Investment					
Year	2020-21	2021-22	2022-23	2023-24	2024-25
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.50%
Discounted Rate Considered	5.36%				
Total input cost	₹ 353000				
Total Net Impact	₹ 969477.6				
NPV	₹ 9,20,157.18				
SROI	₹ 2.61				

## 1.32. SROI of Vet Clinic renovation at Putholi

Financial Proxies						
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)			
Community Members	Healthcare cost	Additional income from extra economic activity	Primary Survey			

Social Return on Investment					
Year	2020-21	2021-22	2022-23	2023-24	2024-25
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.50%
Discounted Rate Considered	5.36%				
Total input cost	₹ 531000				
Total Net Impact	₹ 2123087.22				
NPV	₹ 20,15,078.99				
SROI	₹ 3.79				

# 1.33. SROI of Community Hall at Munga ka Kheda

Financial Proxies						
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)			
Community members	Increased income potential for PRI	Additional income from organizing marriages and events at community hall	Secondary Research			

Social Return on Investment					
Year	2020-21	2021-22	2022-23	2023-24	2024-25
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.50%
Discounted Rate Considered	5.36%				
Total input cost	₹ 2290000	)			
Total Net Impact	₹ 14430000				
NPV	₹ 1,36,95,899.77				
SROI	₹ 5.98				

# 1.34. SROI of Vet Training Hall at Chittorgarh

Financial Proxies						
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)			
Community Members	Healthcare cost	Savings in healthcare cost from improved health facility	Primary Survey			
Community Members	Healthcare cost	Cost savings from not buying water jar	Secondary Research			

Social Return on Investment					
Year	2020-21	2021-22	2022-23	2023-24	2024-25
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.50%
Discounted Rate Considered	5.36%				
Total input cost	₹ 4248000	)			
Total Net Impact	₹ 13287600				
NPV	₹ 1,26,11,617.31				
SROI	₹ 2.97				

# 1.35. SROI of School Renovation at Lalas

Financial Proxies						
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)			
Community Members	Savings in Education Cost	Savings in fees from not shifting to private school with additional classrooms	Secondary Research			
School Authority	Structural durability and avoidance cost	Cost of construction of toilet saved by school authorities	Secondary Research			

Social Return on Investment						
Year	2020-21	2021-22	2022-23	2023-24	2024-25	
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.50%	
Discounted Rate Considered	5.36%					
Total input cost	₹ 1736000	)				
Total Net Impact	₹ 11150400					
NPV	₹ 1,05,83,143.51					
SROI	₹ 6.10					

## 1.36. SROI of Classroom construction at Panchdevla

Financial Proxies						
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)			
Community Members	Savings in Education Cost	Savings in fees from not shifting to private school with additional classrooms	Secondary Research			

Social Return on Investment					
Year	2020-21	2021-22	2022-23	2023-24	2024-25
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.50%
Discounted Rate Considered	5.36%				
Total input cost	₹ 2006000	)			
Total Net Impact	₹ 2419200				
NPV	₹ 22,96,127.56				
SROI	₹ 1.14				

# 1.37. SROI of Indira Gandhi Stadium at Chittorgarh

Financial Proxies							
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)				
Municipal Corporation	Structural durability and avoidance cost	Savings in treatment of non-communicable diseases from keeping fit	Secondary Research				

Social Return on Investment					
Year	2020-21	2021-22	2022-23	2023-24	2024-25
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.50%
Discounted Rate Considered	5.36%				
Total input cost	₹ 678000				
Total Net Impact	₹ 1864380				
NPV	₹ 17,69,533.03				
SROI	₹ 2.61				

## 1.38. SROI of CC Road at Hoda, Sukhwada

Financial Proxies						
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)			
Community Members	Travel cost	Annual savings on travel costs	Primary Survey			
Community Members	Increased income potential	Inc. in income potential from improved infrastructures	Primary Survey			

Social Return on Investment					
Year	2020-21	2021-22	2022-23	2023-24	2024-25
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.50%
Discounted Rate Considered	5.36%				
Total input cost	₹ 1940000	00			
Total Net Impact	₹ 23054812				
NPV	₹ 2,18,81,940.02				
SROI	₹ 1.13				

# 1.39. SROI of Community centre at Chogawadi

Financial Proxies							
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)				
Community Members	Structural durability and avoidance cost	Income from organizing marriages and events at community hall	Secondary Research				

Social Return on Investment					
Year	2020-21	2021-22	2022-23	2023-24	2024-25
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.50%
Discounted Rate Considered	5.36%				
Total input cost	₹ 3709000	)			
Total Net Impact	₹ 5220000				
NPV	₹ 49,54,441.91				
SROI	₹ 1.34				

# 1.40. SROI of Government College at Gangrar

Financial Proxies						
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)			
Community Members	Travel cost	Annual savings on travel costs to college in another village	Primary Survey			
Community Members	Increased income potential	Inc. in income potential from improved infrastructures	Primary Survey			

Social Return on Investment					
Year	2020-21	2021-22	2022-23	2023-24	2024-25
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.50%
Discounted Rate Considered	5.36%				
Total input cost	₹ 6990000	)0			
Total Net Impact	₹ 78645600				
NPV	₹ 7,46,44,646.92				
SROI	₹ 1.07				

# 1.41. SROI of Open Gym and LED Volleyball lights at Nagri

Financial Proxies						
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)			
PRI	Structural durability and avoidance cost	Savings in treatment of non-communicable diseases from keeping fit	Secondary Research			

Social Return on Investment					
Year	2020-21	2021-22	2022-23	2023-24	2024-25
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.50%
Discounted Rate Considered	5.36%				
Total input cost	₹ 590000				
Total Net Impact	₹ 3249348				
NPV	₹ 30,84,043.28				
SROI	₹ 5.23				

## 1.42. SROI of Gravel road and CC Road at Chiksi and Kashmor

Financial Proxies						
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)			
Community Members	Travel cost	Annual savings on travel costs	Primary Survey			
Community Members	Increased income potential	Inc. in income potential from improved infrastructures	Primary Survey			

Social Return on Investment					
Year	2020-21	2021-22	2022-23	2023-24	2024-25
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.50%
Discounted Rate Considered	5.36%				
Total input cost	₹ 8846000	)			
Total Net Impact	₹ 10733668				
NPV	₹ 1,01,87,612.00				
SROI	₹ 1.15				

# 1.43. SROI of Community centre at Sukhwara, Bodiyana

Financial Proxies						
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)			
Community Members	Structural durability and avoidance cost	Income from organizing marriages and events at community hall	Secondary Research			

Social Return on Investment						
Year	2020-21	2021-22	2022-23	2023-24	2024-25	
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.50%	
Discounted Rate Considered	5.36%					
Total input cost	₹ 3304000					
Total Net Impact	₹ 14460000					
NPV	₹ 1,37,24,373.58					
SROI	₹ 4.15					

## 1.44. SROI of CC Road at Billiya, Narpat ki Khedi and Sukhwara

Financial Proxies					
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)		
Community Members	Travel cost	Annual savings on travel costs	Primary Survey		
Community Members	Increased income potential	Inc. in income potential from improved infrastructures	Primary Survey		

Social Return on Investment						
Year	2020-21	2021-22	2022-23	2023-24	2024-25	
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.50%	
Discounted Rate Considered	5.36%					
Total input cost	₹ 21964000					
Total Net Impact	₹ 52051736					
NPV	₹ 4,94,03,697.80					
SROI	₹ 2.25					

# 1.45. SROI of Open well, Pipeline, Storage tank at Nagri, Suwaniya, Ajoliya ka Kheda

Financial Proxies						
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)			
Community Members	Increased income potential	Additional income from extra economic activity	Primary Survey			
Community Members	Water fetch cost	Cost savings from not buying water jar	Secondary Research			

Social Return on Investment						
Year	2020-21	2021-22	2022-23	2023-24	2024-25	
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.50%	
Discounted Rate Considered	5.36%					
Total input cost	₹ 20225000					
Total Net Impact	₹ 24212160					
NPV	₹ 2,29,80,410.02					
SROI	₹ 1.14					

\* (SROI for certain activities is not calculated due to partial information about the activities)

# Chapter 5 Findings of Impact Assessment Study- Zawar





# Chapter 5: Findings from the Impact Assessment: Zawar

The following analysis offers an overview of the intricate impacts on the community. These results highlight the efficacy of interventions envisioned to address the unique opportunities and challenges faced by the respondents in Zawar.

## 5.1. Inclusiveness of the Programme

The survey had higher number of women beneficiaries at 68%. The survey included respondents of various ages, with a strong showing from younger age groups (almost 60%)

There was diverse social representation, with a majority from (ST) (86%), followed by (SC) (10%) and (OBC) (3%)

Within the IRECS framework, the "I" stands for *Inclusiveness*. This concept focuses on how effectively the programme ensures all intended beneficiaries have fair access to its benefits irrespective of factors like age, gender, socioeconomic background, and geographic location.



Figure 42: Village wise segregation

The survey team engaged with individual households in the villages comprising the programme beneficiaries. These beneficiaries utilise various infrastructure facilities established through the programme, including education, solar power, and community infrastructure. The pie chart illustrates the distribution of the sample population across the four villages near the Zawar mines encompassed in the study. Thirty-three per cent (33%) of the respondents reside in Zawar village, thirtyone per cent (31%) are from Tidi village, twenty-five per cent (25%) reside in Chanawda, and eleven per cent (11%) are from Singhatwada. Samples were

collected almost equally from the four villages, except for Singhatwada, where the only implemented infrastructure development pertains to education infrastructure at the Government Upper Primary School, Thalapfala. The primary beneficiaries of this infrastructure development were students up to the 6th grade; hence, the survey team exclusively selected senior students capable of responding to the survey.

Among the respondents, 38% were male, while the majority, constituting 62%, were female. Notably, the distribution indicates a higher number of women beneficiaries, which shows a higher inclusivity of the CSR projects by Hindustan Zinc Ltd. This number is also indicative of the fact that women beneficiaries were the only ones available in the household during the survey timing since the male beneficiaries were not present due to their work timings. The willingness of women to actively participate in the survey reflects their engagement and interest in contributing to the assessment of community impacts. highlighting their commitment to the betterment of their communities and the impact HZL had on the communities.



Gender of respondent (n=189)



Figure 43: Gender of respondents

The survey conducted as part of the evaluation revealed a diverse representation of social backgrounds among the participants, providing valuable insights into how different social groups within the community perceived and experienced the initiatives of HZL. A significant majority of 86% of the participants belonged to the Scheduled Tribes (ST), indicating a substantial presence of this marginalised group within the community. Scheduled Castes (SC) constituted 10% of the participants, highlighting another significant demographic. The Other Backward Classes (OBC) category represented a smaller proportion, accounting for just 3% of the participants. The remaining

1% identified as belonging to the General category. This distribution underscores the inclusive nature of HZL's initiatives, which predominantly cater to marginalised sections of society, particularly Scheduled Tribes, thereby addressing crucial social equity concerns.

The survey garnered responses from a diverse age range, offering a well-rounded perspective on the community's views of CSR initiatives. The majority of respondents were in the age group of less than 18 years, reflecting the primary focus on major infrastructure developments in the Zawar area, particularly in education. To gain a deeper understanding of the benefits of these infrastructure developments, students from the schools were surveyed. The distribution of other age groups was relatively balanced,



enabling an examination of the benefits of additional infrastructure development activities and projects in the region.



Figure 46: Primary source of income of respondents

The survey conducted provided insights into the occupational makeup of the community, emphasising the significance of agriculture as a predominant occupation. Farmers cultivating their land constituted the largest proportion of respondents, accounting for 32%. This finding underscores the paramount importance of agriculture in the area's economy and livelihoods. Additionally, the survey revealed a diverse range of occupations among the community members. Daily wage labourers comprised 30% of the respondents, reflecting the prevalence of this form of employment. Salaried government/private jobs represented 17% of respondents, indicating a substantial segment engaged in formal employment sectors. Seasonal work accounted for 14% of respondents, while self-employed individuals constituted 3%. Skilled trades and livestock rearing each represented 3% and 1% of respondents, respectively.

The comprehensive analysis of the impact assessment data further illuminates HZL's approach towards community engagement. It demonstrates a commitment to ensuring balanced participation across genders, diverse age groups, social categories, and primary occupations of the respondents. This holistic approach underscores HZL's dedication to inclusivity and the equitable distribution of benefits within the community.

#### 5.2. Relevance of the Programme

One half of the households, comprising **51%**, reported an average **annual income less than Rs. 1,00,000** 

One half of the households **(51%)** own farmland, less than 1 Bigha. Just 5% do not own a farmland.

Migration in the villages is rare and **80% has never migrated**.

*Relevance* in the IRECS framework signifies the alignment between the programme's goals and objectives with the actual needs and aspirations of the target beneficiaries. It assesses whether the programme addresses the most pressing issues faced by the intended population.

In the villages of Zawar, Tidi, Singhatwada, and Chanawda, the major occupation is Agriculture and daily wage labour. Pointing to the need for infrastructure development in these areas for better mobility and availing primary services and resources.

Several notable observations emerged from the qualitative surveys, highlighting the prevalent challenges and limitations faced by the community, along with their expressed need for improved infrastructure facilities within the village. Respondents articulated concerns regarding various aspects, emphasising the necessity for enhancements to meet the evolving demands of the community, such as:

- Potholes and uneven surfaces remain common sights, posing challenges to transportation and mobility, especially during monsoon seasons.
- Need for retention walls to avoid flooding from the river.
- Need for CC roads to connect the household to the main roads.
- Need for CC Roads to connect households to rivers for easy access to water for agricultural and domestic needs.
- Streetlights enhance safety, but inconsistent coverage creates security concerns, particularly for vulnerable groups like women, children and elder population.
- Unavailability of government funds to develop the infrastructure of government schools.



Figure 47: Average annual income

The data analysis unveils the distribution of respondents based on the average annual income of their households, shedding light on the economic diversity within the community. A substantial portion of households, constituting 51%, reported an average annual income of less than Rs. 1,00,000. This highlights the prevalence of lower to middle-income brackets among community members, indicating economic challenges faced by a significant segment of the population. Furthermore, 11% of households reported an income of less than Rs. 25,000 annually, indicating a subset of the community experiencing particularly acute financial constraints.

In light of these findings, the infrastructure developments implemented by HZL emerge as a significant relief to these lower-income households. These initiatives not only address immediate infrastructural needs but also contribute to improving the overall quality of life for economically vulnerable segments of the community.

Primary cooking fuel (n=189)



The data for primary fuel sources used for cooking by households reveals that the majority of households, comprising 81% of households still utilise fuel wood for cooking, highlighting the continued prevalence traditional of cooking methods. Additionally, respondents comprising, 18%, rely on Liquefied Petroleum Gas (LPG) for cooking, indicating a transition towards cleaner and more efficient fuel sources. These findings underscore the lack of

accessibility of LPG for cooking practices due to access and affordability.

The analysis of farmland ownership data emphasises the agricultural foundation of the respondent villages, reaffirming the pivotal role of agriculture as a source of livelihood within the community. An overwhelming majority of families, comprising 95%, reported owning farmland. This statistic underscores the intrinsic link between land ownership and agricultural activity, emphasising the centrality of agriculture as the primary source of income for a significant portion of households. The presence of a notable minority, constituting 5% of respondents who do not own land, suggests a more diverse range of livelihoods and income streams among households. This diversity highlights the multifaceted nature of economic activities within the community beyond traditional agricultural pursuits. Despite the prevalence of farmland ownership, only 32% of respondents identified farming as their primary source of income. This finding underscores the economic realities faced by small and marginalised farmers, who often engage in supplementary or alternative occupations to sustain their households. While agriculture remains the cornerstone of the community's economic landscape, the presence of alternative livelihood strategies underscores the complexity of rural economies and the adaptive strategies employed by households to meet their socioeconomic needs.



The analysis of land ownership patterns reveals that the majority of respondents own plots of land that are less than 1 bigha in size, indicating a prevalence of small-scale farm holdings within the community. This finding underscores the prevalence of small farm landholding among community members, suggesting a predominantly subsistence-oriented agricultural system. Small landholdings are often characteristic of rural areas, where agricultural activities are primarily geared towards meeting the household's own consumption needs rather than large-scale commercial production. The prevalence of small farm holdings highlights the challenges faced by farmers in maximizing agricultural productivity and achieving economic sustainability. Limited land resources can constrain agricultural output and income generation, necessitating innovative approaches to farming practices and livelihood diversification strategies.



Migration for employment (n=189)



Migration is not a prevalent practice in the villages of Zawar, Singhatwada, Chanawda, and Tidi, with a significant majority of families (80%) reporting no migration. However, for those who migrate, the duration and reasons vary, shedding light on the socio-economic dynamics within the community. A notable proportion of migrants (12%) reported migrating for just one month. This short duration of migration is often attributed to the necessity of returning to their families due to the unavailability of suitable employment opportunities. Lack of skills and the availability of desired jobs in the region may contribute to this trend. Smaller percentages of migrants reported migrating for shorter durations, including 2 months (6%), 3 months (6%), and 4 months (5%). This pattern suggests that migration may be linked to seasonal factors, particularly during periods when agriculture cannot be practised effectively. A minority of respondents (2%) reported themselves or their family members staying out of the villages for longer periods due to finding better opportunities elsewhere. This finding highlights the influence of external economic opportunities on migration decisions, indicating that migration is not solely driven by seasonal factors but also by the pursuit of improved livelihood prospects.



#### Earnings through migration (n=37)

Figure 52: Earnings from migration

The data analysis unveils that the income earned through migration is predominantly modest, with nearly half of the migrating population (46%) reporting a meagre income of up to Rs. 11,000. This indicates that a significant portion of migrants are engaged in unskilled labour in the migrating cities, contributing to their lower income levels. These lower income levels compel migrant workers to return to their villages after a relatively short period, typically one month. On the contrary, a minority of migrants (11%) reported earning more than Rs. 50,000, signifying a substantially higher income bracket. For this subset of migrants, migration serves as the primary source of income for their families, prompting them to stay for longer periods in the migrated cities. This disparity in income levels among migrant workers underscores the economic stratification within the migrating population and its implications for migration durations due to financial constraints and limited earning potential, those with higher incomes are likely to extend their stay in pursuit of sustained economic opportunities. Understanding these income dynamics is crucial for planning interventions aimed at addressing the economic vulnerabilities of migrant workers and promoting their socio-economic well-being.

Inadequate infrastructure, inconsistent access to basic amenities like street lighting, and a significant presence of lower-income households paint a picture of a community facing resource limitations. Furthermore, the reliance on traditional cooking fuels alongside land ownership and migration patterns underscores the village's complex socio-economic reality. These findings underscore the need for targeted interventions. Focusing on infrastructure development, livelihood diversification, and mitigating socio-economic disparities will be crucial for improving the overall well-being of the community.

## 5.3. Expectations from the Programme

*Expectation* in the IRECS framework focuses on the degree to which the programme's interventions have met the anticipated positive changes for the beneficiaries. It examines whether the programme has delivered on its promises and resulted in the expected social, economic, and cultural improvements for the target population.

The villages of Zawar, Tidi, Singhatwada, and Chanawda in Udaipur have benefited from a range of interventions developed by HZL over a prolonged period, demonstrating a sustained commitment to addressing the diverse needs of the community. Through extensive community engagement initiatives, crucial needs were identified, leading to the implementation of

targeted programs aimed at enhancing safety, mobility, education, and economic empowerment within the villages. The process of community engagement facilitated the identification of specific requirements and challenges faced by residents, serving as the foundation for the design and implementation of infrastructure developments tailored to meet the community's needs. Infrastructure projects such as cremation sheds, school infrastructure improvements, installation of solar lights, and construction of cement concrete (CC) roads were meticulously planned and executed to address these identified needs.

The construction of cremation sheds reflects HZL's responsiveness to the cultural and social requirements of the community, providing essential facilities for dignified funeral rites. Similarly, improvements in school infrastructure contribute to enhancing educational opportunities and outcomes for local children, fostering human capital development within the villages.



Image 8: Cremation centre by HZL

The installation of solar lights not only enhances safety and security within the community but also facilitates increased productivity and economic activity, particularly during evening hours. Additionally, the construction of CC roads enhances mobility and connectivity, improving access to essential services and facilitating economic exchanges within and beyond the villages.

These interventions underscore the collaborative effort between HZL and the community towards holistic development and the enhancement of overall well-being within the villages. By aligning infrastructure developments with the specific needs and aspirations of the beneficiaries, these initiatives exemplify a participatory approach to community development, fostering sustainable socio-economic progress and empowerment at the grassroots level.

I reside near the cremation ground in Zawar, HZL team has been very proactive during construction and maintenance of the Cremation grounds since there has been instances during the monsoons that the cremation ground has been damaged by the river nearby. The cremation ground is constantly used by the community nearby in case of the death of their close ones and this is the place where they pay their last respect.

- Naresh Meena, a resident of Zawar village

### Improvements in Community Infrastructures



Community infra work (n=189)

Figure 53: Community awareness of infrastructure work by HZL

A significant proportion of respondents demonstrated awareness of various infrastructure works undertaken by HZL, reflecting the visibility and impact of these interventions within the community. Approximately 42% of respondents were aware of the of CC road construction, indicating widespread recognition of this infrastructure development initiative. Similarly, around 41% of respondents acknowledged the installation of solar lights, underscoring the community's awareness of this particular intervention and its significance in enhancing safety and accessibility within the villages. 37% of respondents mentioned the construction of the cremation centre as having a significant impact, particularly in fostering a sense of community in the village. This recognition highlights the tangible benefits and positive outcomes associated with this infrastructure development initiative, particularly in times of crisis.

Importantly, it is noteworthy that respondents continued to recognise and appreciate the work done by HZL even during the impact evaluation period of 2019-2023, despite the fact that some of the initiatives were completed prior to this period. This enduring recognition underscores the lasting impact of HZL's interventions on the community and emphasises the importance of sustained engagement and support in fostering positive socio-economic development outcomes.



Figure 24: Benefits of infrastructure developed by HZL

The infrastructure development initiatives, such as CC road construction, exhibit a high level of location specificity, with benefits primarily enjoyed by certain neighbourhoods or specific areas within the community. As a result, the overall community-wide impact of these initiatives may be limited compared to the widespread awareness among community members about their existence. While there is notable awareness among community members regarding CC road construction, the actual beneficiaries of these roads may be confined to specific neighbourhoods where the infrastructure is located. The high awareness levels can be attributed to effective branding efforts and the presence of inauguration plaques installed in front of the CC roads, enhancing visibility and recognition within the community. The installation of solar lights provides significant benefits, particularly in locations where the lights are installed. Respondents highlighted the positive impact of solar lights in addressing mobility issues and improving safety, particularly in areas that were previously dark and inaccessible at night. However, it is essential to recognise that the benefits of infrastructure developments, such as the cremation centre may be limited to specific villages or neighbourhoods where the facility is located. While this infrastructure initiative may profoundly influence harmony and cultural practices within the village of Zawar, its benefits may not extend to the broader community. Despite the high awareness levels among community members regarding infrastructure developments, it's essential to recognise the location specificity of these initiatives and the resulting variation in community-wide benefits. Efforts to ensure the equitable distribution of infrastructure developments and maximise their impact across the entire community can contribute to fostering inclusive and sustainable development outcomes.



Image 9: CC Road in Zawar village with inauguration plaque

#### **Road improvement**



Figure 55: Benefits from road work

The construction of CC Roads has significantly enhanced the ease of travel for community members, benefiting various aspects of daily life. Community members, including both children and adults, have experienced improved mobility, particularly in accessing essential services such as schools and workplaces. For children, the ease of travel to school has been notably enhanced, with CC Roads providing smoother and safer pathways for commuting. This improvement has not only facilitated regular

attendance but also contributed to a better learning environment, ultimately enhancing educational outcomes within the community.

Similarly, adults have reported experiencing increased ease of mobility for work-related purposes, enabling them to commute more efficiently to their workplaces. The construction of CC Roads has reduced travel times and minimized the physical strain associated with traversing uneven or unpaved surfaces, thereby enhancing productivity and economic participation among community members. Moreover, community members have highlighted the significant benefits of improved travel accessibility during health emergencies. The ability of vehicles to reach closer to homes due to the presence of CC Roads has facilitated timely access to medical assistance and healthcare facilities, thereby potentially mitigating the severity of health crises and improving health outcomes within the community.

Additionally, the adverse impact of kutcha roads, particularly during the monsoon season, has been significantly mitigated by the construction of CC Roads. Previously, the unpaved and uneven surfaces of kutcha roads posed considerable difficulties in walking, exacerbating challenges during inclement weather conditions. The provision of CC Roads has alleviated these challenges, ensuring safer and more accessible travel even in adverse weather conditions.



Image 10: CC Road constructed in Tidi village leading to retention wall

The CC Road constructed in Tidi village, particularly the one leading to the river, has had a transformative impact on the community, significantly improving mobility and safety for residents, especially during the monsoon season. Prior to the construction of the CC Road and retention walls by the HZL team, the river in Tidi village was prone to flooding during the monsoon season, posing significant risks to residents and hindering mobility along its banks. However, the implementation of these infrastructure projects has alleviated these challenges, enhancing the safety and accessibility of the area. Residents living in streets adjacent to the river emphasise the immense benefits brought about by these projects. The CC Road provides a reliable pathway to navigate the village, facilitating smoother and safer travel for residents. Moreover, the construction of retention walls along the riverbanks has effectively mitigated the risk of flooding, reducing the vulnerability of surrounding areas and enhancing overall community resilience to natural disasters. The positive impact of these infrastructure projects extends beyond improved mobility and safety. They also contribute to fostering a sense of security and well-being among residents, enhancing their quality of life and enabling them to better withstand environmental challenges.

Overall, the CC Road and retention walls constructed in Tidi village by the HZL team stand as exemplary initiatives that not only address immediate infrastructure needs but also promote community resilience and enhance socio-economic development in the region.

I reside near the newly constructed CC road. The new CC road has brought a significant change in our lives. Since we can easily go to our homes without the fear of falling. Even the river nearby has become accessible for us due to the retention wall and road following all the way to the river

- Kanahiyalal, a resident of Tidi village in Zawar.



Image 11: CC Road constructed in Zawar

The construction of the CC Road in Zawar village, situated on hilly terrain, has markedly improved mobility, particularly during the challenging monsoon season. Before the construction of the CC Road, residents of Zawar village encountered significant mobility issues, especially during the monsoon season. The hilly terrain exacerbated the difficulties of navigating unpaved or poorly maintained roads, leading to inconvenience and potential safety hazards for community members.



Image 12: CC Road along with boundary walls

Image 13: The road without boundary walls

The construction of the CC Road along with boundary walls in Zawar village has not only improved mobility but has also significantly enhanced safety, particularly on the hilly terrain where accidents were previously common due to the absence of protective barriers. In the past, the lack of boundary walls along the hilly terrain posed a serious safety risk for residents, especially children and adults navigating the area. Accidents were frequent occurrences, highlighting the urgent need for infrastructure improvements to mitigate these hazards. The intervention by constructing the CC Road along with boundary walls has been transformative for the village. Residents now have a safer pathway to travel, free from the fear of accidents or falls from the steep terrain. The presence of boundary walls provides a protective barrier, preventing potential accidents and ensuring the safety of pedestrians.

The CC Road constructed by HZL has really helped us while travelling since our village is in a higher terrain. It was a problem during the rainy season to travel. The kutcha road did not have the boundary and we stay near a cliff. My own child has fell off the road and got 6 stitches from the fall. Now after the construction of CC road and the road boundary we feel our children are safe from what could be a next potentially fatal fall.

- Sheela Meena, a resident of Zawar village

The success of the HZL project in enhancing safety and mobility in Zawar village has inspired residents living further up the area to advocate for similar initiatives in their neighbourhoods. Specifically, they are urging for the construction of roadside boundary walls to ensure the safety of their families and children. The desire for such infrastructure improvements is driven by the recognition of the positive impact witnessed in Zawar village. Residents have seen firsthand how the presence of boundary walls along the CC Road significantly reduced accidents and enhanced safety for pedestrians, particularly in areas with challenging terrain.

#### **Education Infrastructure improvement**

Despite a high overall awareness level among respondents regarding infrastructure development in schools across the four villages, the survey team encountered a notable lack of awareness among parents regarding the specific infrastructure elements of improvements in their ward's school. This finding suggests a broader issue of low awareness among the community regarding education-related matters. The discrepancy between the overall awareness level and the



specific awareness among parents highlights the need for targeted communication and outreach efforts to bridge this gap. While respondents may be generally aware of the existence of infrastructure development projects in schools, they may lack detailed information about the specific enhancements and improvements implemented in their children's schools.



Among respondents, 66% were aware of toilet construction in schools, 51% were informed about boundary walls in schools, 37% were knowledgeable about classroom construction, and 29% were aware of Anganwadi repair initiatives. These varying awareness levels underscore the importance of targeted benefits of the educational infrastructure development by HZL.



Image 14: Government senior secondary school, Zawar with HZL branding

The significant infrastructure developments in the Government senior school in Zawar encompass various initiatives aimed at enhancing the educational environment and facilities. These include the construction of toilets for both boys and girls, renovation of the roof, refurbishment of water tanks, plastering and painting of classroom walls, and the renovation of the Anganwadi located within the school premises. These comprehensive improvements not only address essential infrastructure needs but also contribute to creating a conducive learning environment for students and promoting overall well-being within the school community.



Image 15: Government upper primary school, Talapfala

The infrastructure development undertaken at the Government Upper Primary School in Talapfala, Singhatwada, encompasses several essential improvements aimed at enhancing the school's facilities and functionality. These include the installation of a water tubewell to ensure access to clean and reliable water sources, flooring work to improve the school's infrastructure, construction of toilets for both boys and girls to promote sanitation and hygiene, plastering and maintenance of the building to ensure structural integrity and aesthetics, and repair of taps and doors to enhance functionality and safety within the school premises.



Image 16: Government upper primary school, Talapfala with new flooring by HZL



Image 17: Government upper primary school, Talapfala students using the water provided by HZL

The school had a problem with sourcing water. The HZL intervention of fixing tubewell and motor solved the water crisis in our school. Now students are drinking good water, and the students are healthier in comparison to the past, the parents are also happy with this new development. I cannot stress enough how the school did not have 100 plus students ever in its history but now we have crossed 126 students after the HZL interventions

- The Principal, Government upper primary school, Thalapfala, Singhatwada



Image 18: Government Senior School, Tidi

The infrastructure work completed at the Government Senior School in Tidi comprises several essential improvements aimed at enhancing the school's infrastructure and facilities. These include roofing work to ensure structural integrity and protection from the elements, installation of wire mesh on windows to enhance security and ventilation, repair of drainage systems to address water management issues, and renovation of classrooms through plastering and painting to create a conducive learning environment. These initiatives collectively contribute to improving the overall quality and functionality of the school, providing students with a safer and more comfortable educational experience.

The roof of the classrooms used to leak earlier. The HZL intervention has fixed the roof of the school and stopped the leaking. The HZL team also did other maintenance works and painting. The students like these interventions since no students want to sit in a leaking and unpleasant classroom.

- Vice principal, Government Senior School, Tidi



Image 19: The new boundary wall constructed by HZL in Government Primary School, Chanawda

The infrastructure development carried out at the Government Primary School in Chanawda encompasses several significant improvements aimed at enhancing the school's infrastructure and amenities. These include the construction of concrete roofing for the school building to ensure durability and protection from the elements, the erection of boundary walls to enhance security and delineate the school premises, flooring work to create safe and conducive learning environments, installation of toilets for both male and female students to promote sanitation and hygiene, and renovation of classrooms through plastering, painting, and expansion to accommodate the growing student population.

The school was built in 1987 and the school was in critical condition before the HZL intervention. We were even scared to make the students sit in the class because the classrooms were roofed with tiles, and it was dangerous. HZL have made concrete roofs in classrooms and put tin sheet roofing in some classes. This was a very great initiative since the government funds were limited and we could not provide this facility to our students.

- Principal, Government primary school, Chanawda



Image 20: New toilets constructed by HZL in Government primary school, Chanawda



Image 21: New flooring done by HZL in Government primary school, Chanawda


Benefits of infrastructure

Figure 58: Benefits of infrastructure development in schools

These findings underscore the substantial benefits of infrastructure interventions in schools throughout the Zawar region. Despite the transformative impact of these initiatives, it's evident that the region faces challenges such as low awareness regarding education and insufficient facilities in schools, which have contributed to reluctance among students to continue their education. Additionally, social stigma girls' education further surrounding exacerbates issues. То these these comprehensively address challenges and promote educational advancement beyond infrastructure

development, HZL's education vertical support includes the following programmes:



These initiatives aim to tackle systemic barriers to education, empower students, and foster a supportive environment conducive to learning and academic success in the Zawar region.

Benefits of toilet construction(n=139)





The construction of toilets in schools has had a profound impact on reducing absenteeism, particularly among girls, as highlighted by 54% of the respondents. The availability of proper toilet facilities has addressed а significant barrier to education, ensuring that girls no longer need to miss school due to lack of access sanitation facilities. Additionally, to improved hygiene practices have been observed among boys, who previously resorted to open defecation due to the unavailability of washrooms in school. These combined benefits have led to higher retention rates of students in

schools, with 17% of respondents attributing the construction of toilets to lower dropout rates. By addressing fundamental issues of sanitation and hygiene, the provision of toilet facilities in schools has not only improved educational outcomes but also contributed to fostering a supportive and inclusive learning environment for all students.



Figure 60: Benefits from classroom construction

The addition of more classrooms has significantly facilitated structured education delivery in the schools. Qualitative interactions with principals revealed that, previously, students from different classes were compelled to sit together due to the student-to-classroom excess ratio. resulting in overcrowding and a rotation class system, thereby wasting time and reducing individual attention from teachers. construction However. the of new classrooms has alleviated overcrowding issues, with 88% of respondents citing this as a major benefit. Teachers have also confirmed an enhanced ability to focus on individual students following the construction of new classrooms by HZL. This underscores the critical role of

infrastructure development in improving the quality of education delivery and fostering an environment conducive to effective teaching and learning.

The renovation of the Anganwadi in Zawar village, particularly the Nand Ghar, has brought about a positive shift in parental perceptions and the utilisation of childcare facilities. Approximately 75% of parents now feel that their children are in safe hands at the Nand Ghar, allowing them to work freely after dropping their children off. Moreover, 60% of parents express confidence that their children are receiving necessary nutritional support Anganwadi. through these Additionally, Anganwadi workers have noted an increase in the frequency of children attending the Anganwadi following the renovation. These findings underscore the importance of investina in childcare infrastructure and services, not only for ensuring child safety and



Benefits from repairing of anganwadi

(n=40)

Figure 61: Benefits of repairing Anganwadi

well-being but also for supporting parental employment and enhancing access to essential nutrition and early childhood development programmes.

The children like the new and renovated Nand Ghar. The painting and artwork done on the walls are more pleasant and likable unlike the gloomy and unrenovated Anganwadi before

- Teacher, from Government senior secondary school



Image 22: Nand Ghar in Zawar

#### Solar Infrastructure improvement



Figure 62: Awareness regarding solar based intervention

The respondents demonstrate a fifty per regarding solar cent awareness interventions in the area. This decline in awareness can be attributed to the intervention's location-specific nature. Specifically, solar-powered lights were strategically installed in the most deprived areas of all four villages to meet the need for illumination. Interestingly, 50% of respondents who lack awareness of these interventions reside outside the vicinity of the solar-illuminated areas. This

underscores the localised impact of infrastructure initiatives and highlights the need for

The Solar lights have been a great addition to the village ensuring safety at night. It has been strategically planned in areas where illumination is necessary. The only concern is regarding the maintenance of these lights since some lights are not working and PRI is not taking action regarding it.

- Paro Devi, resident of Tidi village

targeted communication efforts to ensure equitable awareness and access to community development projects across all areas of the villages.







Image 23: Solar LED Lights installed by HZL

The installation of solar LED lights has improved safety within the community, as attested by the majority of residents, with 52% of respondents acknowledging these solar LED interventions. Qualitative interactions further explained residents' concerns regarding safety, particularly concerning their children's well-being, given the previously dark and hazardous conditions of the roads, characterised by curves and uneven terrain, leading to instances of accidents. Additionally, women expressed apprehension about their safety due to inadequate illumination in the area. These firsthand accounts underscore the transformative impact of solar LED lights in enhancing safety and fostering a secure environment for all community members, particularly children, and women, thus highlighting the significance of infrastructure interventions in promoting community well-being and quality of life.

#### 5.4. Convergence

*Convergence* in the IRECS framework refers to aligning efforts, resources, and policies across sectors and stakeholders toward common development goals. It emphasises the integration and coordination of efforts from various sectors, including government agencies, non-governmental organisations, community members, and other relevant stakeholders, to address complex development challenges comprehensively.

SI. No	Name of Partner	Type of Partnership	Responsibilities
1.	School Authorities	Project-based partnership	Handover of infrastructure after the completion
2.	Panchayat Raj Institutions	Project-based partnership	Site identification, provision of land, handover of infrastructure and maintenance of infrastructure handed over

The various infrastructure development projects were solely funded by HZL, who partnered with local village councils (Gram Panchayats) to build infrastructure. This involved careful planning with elected representatives (PRI) and need assessments within the community. Once the panchayats allocated land, HZL managed construction and ensured a smooth handover for operations and maintenance of the structures to the respective Gram Panchayats. The community members are an essential part of these Gram Panchayats and play a crucial role in the decisions taken by them.

### 5.5. Service Delivery

Service delivery in the IRECS framework refers to providing essential amenities and infrastructure to communities efficiently and effectively to meet their needs. Effective service delivery involves the efficient and timely delivery of these services, ensuring accessibility, affordability, and quality, thereby contributing to the overall well-being and development of the community.



The installation of solar LED lights has demonstrably enhanced safety within the community, as perceived by a majority of residents. The findings revealed that almost 50% of respondents rated the improvement in safety as a "4 or 5" on a scale of 1 to 5, signifying a substantial positive impact. There are almost similar numbers of average or poor ratings due to the fact that the solar lights stopped working after a couple of years or even, in some cases, after a few months, according to the qualitative interaction with beneficiaries and PRI representatives. This leads to the



#### conclusion that the infrastructure handed over to the PRI is not being adequately maintained.

The community sees a shared responsibility for the project's long-term success. While the majority (66%) believe HZL is currently responsible for the maintenance of the infrastructure, a significant portion (30%) views PRI and government as having an ongoing role. This indicates a varying perception among the community members regarding the roles of both HZL and the PRI in ensuring the sustainability of the project. Almost the same number of respondents feel that the current responsibility of maintenance is with HZL, and HZL should be responsible for the maintenance in the future as well.

It is worth noting that while some community members favour PRI involvement, some expressed concerns about transparency, lack of funds, and maintenance of quality. They advocated for HZL to retain long-term ownership and maintenance rights to ensure sustainability and uphold quality standards. The community holds the belief that since HZL has developed this infrastructure and operates specifically in these areas, it is HZL's responsibility to contribute back to the community. While these concerns may reflect a lack of confidence in the PRI's capacity to effectively maintain infrastructure, it is essential to recognise the principle of local ownership and empowerment inherent in decentralised governance structures like the PRI. This sentiment is due to the lack of awareness among the villagers as who should be the authority responsible for the maintenance of the infrastructure. To address these concerns and ensure effective infrastructure management under PRI leadership, it is essential for HZL to engage in proactive communication with the PRI, transferring the responsibility of maintenance to them. Community members should also be made aware that the upkeep of the infrastructure falls under the remit of the PRI, not HZL, as this is not a sustainable model for HZL's infrastructure development. Placing the onus of maintenance on HZL could result in reduced infrastructure development in the area.

# Social return on investment \*

## 1. SROI for Infrastructure development in Zawar FY 2019-20

## 1.1 SROI of toilet construction in Singhatwada

Financial Proxies					
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)		
Community Members	Healthcare cost	Average savings in sanitation and hygiene related diseases	Primary and secondary		
Community Members	Wages foregone	Average savings due to wages forgone	Primary and secondary		

Social Return on Investment						
Year	2020-21 2021-22 2022-23 2023-24 2024-25					
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.10%	
Discounted Rate Considered	5.28%					
Total input cost	₹ 783000					
Total Net Impact	₹ 1782762.197					
NPV	₹ 16,93,353.15					
SROI	₹ 2.28					

## 1.2 SROI of painting and repairing of Zawar Stadium, Bhaladia

Financial Proxies				
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)	
Community Members	Fitness cost	Savings in non-communicable diseases like diabetes, cholesterol, coronary heart diseases or obesity	Secondary	

Social Return on Investment						
Year	2020-21 2021-22 2022-23 2023-24 2024-25					
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.10%	
Discounted Rate Considered	5.28%					
Total input cost	₹ 2360000	)				
Total Net Impact	₹ 10653600					
NPV	₹ 1,01,19,300.91					
SROI	₹ 4.29					

# 1.3 SROI of Deraphala retaining wall, Zawar

Financial Proxies					
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)		
Community members	Land degradation expense	Cost of soil erosion in lost nutrients	Secondary and primary		
Community members	Loss of agriculture production	Cost of soil erosion due to lost production	Secondary and primary		
Community members	Infrastructural expenses	Average saving in infrastructural expenses	Secondary		

Social Return on Investment						
Year	2020-21	2021-22	2022-23	2023-24	2024-25	
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.10%	
Discounted Rate Considered	5.28%					
Total input cost	₹ 2065000					
Total Net Impact	₹ 10653600					
NPV	₹ 10306182.1					
SROI	₹ 4.74					

# 1.4 SROI of panghat and whole set up

Financial Proxies			
Stakeholder	Indicator	Financial proxy	Source
			(primary/secondary)
Community	Water procurement	Average savings in	Primary and
members	expenses	water	secondary
Community	Additional income	Additional income	Primary
members	activity	from extra economic	
		activity	

Social Return on Investment						
Year	2020-21	2021-22	2022-23	2023-24	2024-25	
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.10%	
Discounted Rate Considered	5.28%					
Total input cost	₹ 6782000					
Total Net Impact	₹ 17041326.48					
NPV	₹ 1,61,86,6	70.29				
SROI	₹ 2.39					

## 2. SROI for Infrastructure development in Zawar FY 2020-21

Financial Pro	Financial Proxies					
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)			
Students	Savings in healthcare	Savings in healthcare due to better sanitation	Secondary and primary			
School Authority	Structural durability	Structural durability due to roof repair, waterproofing and painting	Secondary and primary			
School Authority	Avoidance cost	Avoidance cost due to HZL intervention	Primary			

#### 2.1 SROI of renovation of Swami Vivekanand School, Nevatalai

Social Return on Investment					
Year	2021-22 2022-23 2023-24 2024-25				
India Inflation rate (Source IMF)	6.70%	5.50%	4.60%	4.10%	
Discounted Rate Considered	5.23%				
Total input cost	₹ 64,00,000				
Total Net Impact	₹ 27556383.33				
NPV	₹ 2,61,88,057.33				
SROI	₹ 4.09				

## 3. SROI for Infrastructure development in Zawar FY 2021-22

3.1 SROI of retaining wall constructed near Zawar Mata temple, Zawar

Financial Proxies						
Stakeholder	Indicator	Financial proxy	Source			
			(primary/secondary)			
Community	Land degradation	Cost of soil erosion in lost	Secondary and			
members	expense	nutrients	primary			
Community	Loss of agriculture	Cost of soil erosion due to	Secondary and			
members	production	lost production	primary			
Community	Infrastructural	Average saving in	Secondary			
members	expenses	infrastructural expenses				

Social Return on Investment			
Year	2023-24	2024-25	
India Inflation rate (Source IMF)	4.60%	4.10%	
Discounted Rate Considered	4.35%		
Total input cost	₹ 2767000		
Total Net Impact	₹ 15855664.76		
NPV	₹ 1,51,94,695.51		

₹ 5.49

## 3.2 SROI of repair & renovation of Primary School, Limbadara

Financial Proxies			
Stakeholder	Indicator	Financial proxy	Source
			(primary/secondary)
School Authority	Structural durability	Structural durability	Secondary and
		due to roof repair,	primary
		waterproofing and	
		painting	
School Authority	Avoidance cost	Avoidance cost due	Primary
		to HZL intervention	

Social Return on Investment			
Year	FY 2023-2024	FY 2024-2025	
India Inflation rate (Source IMF)	4.60%	4.10%	
Discounted Rate Considered	4.35 %		
Total input cost	₹ 21,70,000		
Total Net Impact	₹ 18970000		
NPV	₹ 1,81,79,204.60		
SROI	₹ 8.38		

# 3.3 SROI of repair & renovation of Government School, Amarpur

Financial Proxies				
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)	
School Authority	Structural durability	Structural durability due to roof repair, waterproofing and painting	Secondary and primary	
School Authority	Avoidance cost	Avoidance cost due to HZL intervention	Primary	

Social Return on Investment				
Year	FY 2023-2024	FY 2024-2025		
India Inflation rate (Source IMF)	4.60%	4.10%		
Discounted Rate Considered	4.35 %			
Total input cost	₹ 12,60,000			
Total Net Impact	₹ 9660000			

NPV	₹ 92,57,307.14
SROI	₹ 7.35

## 3.4 SROI of repair & renovation of Govt. Primary School, Talab Fala

Financial Proxies				
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)	
Students	Savings in healthcare	Savings in healthcare due to better sanitation	Secondary and primary	
School Authority	Avoidance cost	Avoidance cost due to HZL intervention	Primary	

Social Return on Investment				
Year	FY 2023-2024	FY 2024-2025		
India Inflation rate (Source IMF)	4.60%	4.10%		
Discounted Rate Considered	4.35 %			
Total input cost	₹ 12,03,000			
Total Net Impact	₹ 2967155.232			
NPV	₹ 28,43,464.53			
SROI	₹ 2.36			

## 4. SROI for Infrastructure development in Zawar FY 2022-23

4.1 SROI of RCC construction at Zawar Pump House, Zawar

Financial Proxies			
Stakeholder	Indicator	Financial proxy	Source
			(primary/secondary)
Community	Road accident	Savings from accident-	Secondary and
members	cost	free transportation	primary
Community	Wages foregone	Wages foregone due to	Secondary and
members		accidents	primary
Panchayat	Avoidance cost	Avoidance cost due to HZL intervention	Primary

Social Return on Investment	
Year	2024-25

India Inflation rate (Source IMF)	4.10%
Discounted Rate Considered	4.10%
Total input cost	₹ 3067000
Total Net Impact	₹ 14395615
NPV	₹ 1,38,28,640.73
SROI	₹ 4.51

## 4.2 SROI of RCC construction at Dawaditalai and Deraphala, Zawar

Financial Proxies				
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)	
Community members	Road accident cost	Savings from accident-free transportation	Secondary and primary	
Community members	Wages foregone	Wages foregone due to accidents	Secondary and primary	
Panchayat	Avoidance cost	Avoidance cost due to HZL intervention	Primary	

Social Return on Investment		
Year	2024-25	
India Inflation rate (Source IMF)	4.10%	
Discounted Rate Considered	4.10%	
Total input cost	₹ 2700000	
Total Net Impact	₹ 11598615	
NPV	₹ 1,11,41,801.15	
SROI	₹ 4.13	

# 4.3 SROI of repair and renovation at Zawar School, Zawar

Financial Proxies			
Stakeholder	Indicator	Financial proxy	Source
			(primary/secondary)
Students	Savings in	Savings in	Secondary and
	healthcare	healthcare due to	primary
		better sanitation	
School Authority	Structural durability	Structural durability	Secondary and
	and avoidance cost	due to roof repair,	primary
		waterproofing and	
		painting (Avoidance	
		cost)	
School Authority	Avoidance cost	Avoidance cost due	Primary
		to HZL intervention	

Social Return on Investment		
Year	2024-25	
India Inflation rate (Source IMF)	4.10%	
Discounted Rate Considered	4.10%	
Total input cost	₹ 23,59,000	
Total Net Impact	₹ 22554998.82	
NPV	₹ 2,16,66,665.53	
SROI	₹ 9.18	

# 4.4 SROI of repair and renovation at Tidi Boys school, Tidi

Financial Proxies			
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)
School Authority	Structural durability and avoidance cost	Structural durability due to roof repair, waterproofing and painting (Avoidance cost)	Secondary and primary
School Authority	Avoidance cost	Avoidance cost due to HZL intervention	Primary

Social Return on Investment		
Year	2024-25	
India Inflation rate (Source IMF)	4.10%	
Discounted Rate Considered	4.10%	
Total input cost	₹ 41,71,000	
Total Net Impact	₹ 34411000	
NPV	₹ 3,30,55,715.66	
SROI	₹ 7.93	

## 4.5 SROI of repair and renovation at Nala school, Nala

Financial Proxies			
Stakeholder	Indicator	Financial proxy	Source
			(primary/secondary)
School Authority	Structural durability and avoidance cost	Structural durability due to roof repair, waterproofing and painting (Avoidance	Secondary and primary
School Authority	Avoidance cost	Avoidance cost due to HZL intervention	Primary

Social Return on Investment		
Year	2024-25	
India Inflation rate (Source IMF)	4.10%	
Discounted Rate Considered	4.10%	
Total input cost	₹ 29,70,000	
Total Net Impact	₹ 19770000	
NPV	₹ 1,89,91,354.47	
SROI	₹ 6.39	

\* (SROI for certain activities is not calculated due to partial information about the activities)

# Chapter 6 Findings of Impact Assessment Study- Debari

# Chapter 6: Findings from the Impact Assessment: Debari

The following analysis offers an overview of the intricate impacts on the community. These results highlight the efficacy of interventions envisioned to address the unique opportunities and challenges faced by the respondents in **Debari**.

6.1. Inclusiveness of the Programme

The survey had higher number of women beneficiaries at 71% The survey included respondents of various ages, notable emphasis on middleaged individuals There was diverse social representation, with a majority from General(47%), the OBC(44%) then the ST (7%)

Within the IRECS framework, the "I" stands for *Inclusiveness*. This concept focuses on how effectively the program ensures all intended beneficiaries have fair access to its benefits irrespective of factors like age, gender, socioeconomic background, and geographic location.



Figure 67: Village wise segregation

Among the respondents, 29% were male, while the majority, constituting 71%, were female. Notably the distribution indicates a higher women beneficiary which shows a higher inclusivity of the CSR projects by Hindustan Zinc Ltd. This number is also indicative of the fact that women beneficiaries were only ones available in the household during the survey timing since the male beneficiaries were not present due to their work The survey team interacted with individual households in the villages who are the program beneficiaries. These beneficiaries are users of the various infrastructure facilities created in the program, such as education infrastructure, water infrastructure, health infrastructure, and community infrastructure. The pie chart depicts the distribution of the sample population across the four villages near the Debari smelter, included in the study. 52% respondents were from the Bichadi village, and 48% respondents were from the Debari village. Almost equal samples were collected from both the villages.





Figure 68: Gender of respondents

timings. The willingness of women to actively participate in the survey reflects their engagement and interest in contributing to the assessment of community impacts, highlighting their commitment to the betterment of their communities and the impact HZL had on the communities.



The survey conducted as part of the evaluation revealed а diverse representation of social backgrounds among the participants, providing valuable insights into how different social groups within the community perceived and experienced the initiatives of HZL.A significant majority of 47% of the participants belonged to the general category, constituted 44% of the OBC participants, highlighting another

significant demographic. The ST and SC category represented a smaller proportion, accounting for just 7%, and 2% respectively of the participants.

The age distribution of respondents in the survey is as follows: 22% of respondents fall within the 18-30 age range, indicating a significant portion of younger participants. The next largest group comprises individuals aged 31-40, constituting 31% of the sample. Following this, 15% of respondents are aged 41-50, while 19% fall within the 51-60 age bracket. A smaller portion of the sample, 7%, is aged between 61-70, reflecting a decline in participation among older

demographics. Only 2% of respondents are aged 71 and above, indicating a minority representation of the elderly population. Additionally, 4% of participants are less than 18 years old. Overall, the distribution suggests a relatively diverse sample, albeit with a notable emphasis on middleaged individuals, while participation decreases among younger and older age groups.







Figure 71: Primary source of income of respondents

The survey conducted provided insights into the occupational makeup of the community, emphasizing the significance of agriculture as a predominant occupation. Farmers cultivating their own land constituted the largest proportion of respondents, accounting for 33%. This finding underscores the paramount importance of agriculture in the area's economy and livelihoods. Additionally, the survey revealed a diverse range of occupations among the community members. Daily wage labourers comprised 23% of the respondents, reflecting the prevalence of this form of employment. Salaried government, private jobs represented 16% of respondents, indicating a substantial segment engaged in formal employment sectors. Self-employed individuals constituted 9%. Livestock rearing, seasonal salaried employees each represented 4% and 1% of respondents, respectively.

The comprehensive analysis of the impact assessment data further illuminates HZL's approach towards community engagement. It demonstrates a commitment to ensuring balanced participation across genders, diverse age groups, social categories, and primary occupations of the respondents. This holistic approach underscores HZL's dedication to inclusivity and the equitable distribution of benefits within the community.

#### 6.2. Relevance of the Programme

The majority of households, comprising **45%**, reported an average **annual income less than Rs. 1,00,000** 

Most households own farmland, less than 12 Bigha. Just 24% do not own a farmland.

Migration in the villages is rare and **98% not migrating** 

*Relevance* in the IRECS framework signifies the alignment between the program's goals and objectives with the actual needs and aspirations of the target beneficiaries. It assesses whether the program addresses the most pressing issues faced by the intended population.

In the villages of Bichadi and Debari the major occupation is Agriculture and daily wage labour. Pointing to the need for infrastructure development in these areas for better mobility and availing primary services and resources.

Several notable observations emerged from the qualitative surveys, highlighting the prevalent challenges and limitations faced by the community, along with their expressed need for improved infrastructure facilities within the village. Respondents articulated concerns regarding various aspects, emphasizing the necessity for enhancements to meet the evolving demands of the community







The data analysis unveils the distribution of respondents based on the average annual income of their households, shedding light on the economic diversity within the community. A substantial portion of households, constituting 45%, reported an average annual income less than Rs. 1,00,000. This highlights the prevalence of lower to middle-income brackets among community members, indicating economic challenges faced by a significant segment of the population. Furthermore, 4% of households reported an income less than Rs. 25,000 annually, indicating a subset of the community experiencing particularly acute financial constraints.

In light of these findings, the infrastructure developments implemented by HZL emerge as a significant relief to these lower-income households. These initiatives not only address immediate infrastructural needs but also contribute to improving the overall quality of life for economically vulnerable segments of the community.



Figure 73: Cooking fuel used primarily

The data for primary fuel sources used for cooking by households reveals that the majority of households, comprising 59% of households still utilize fuel wood for cooking, highlighting the continued prevalence of traditional cooking methods. Additionally. respondents comprising of 41%, rely on Liquefied Petroleum Gas (LPG) for cooking, indicating a transition towards cleaner and more efficient fuel sources. These findings underscore the lack of accessibility of LPG for cooking

practises due to access and affordability. The finding can also be associated with the fact that Debari is comparatively a semi-urban area and people for several years have started to switch to LPG for cooking in the households.



Figure 74: Farmland ownership

The analysis of farmland ownership data emphasizes the agricultural foundation of the respondent villages, reaffirming the pivotal role of agriculture as a source of livelihood within community. the An overwhelming majority families. of comprising 76%, reported owning farmland. This statistic underscores the intrinsic link between land ownership and agricultural activity, emphasizing the centrality of agriculture as the primary source of income

for a significant portion of households. The presence of a notable 24% of respondents, who do not own land, suggests a more diverse range of livelihoods and income streams among households. This diversity highlights the multifaceted nature of economic activities within the community, beyond traditional agricultural pursuits. Despite the prevalence of farmland ownership, only 32% of respondents identified farming as their primary source of income. This finding underscores the economic realities faced by small and marginalized farmers, who often engage in supplementary or alternative occupations to sustain their households. While agriculture remains the cornerstone of the community's economic landscape, the presence of alternative livelihood strategies underscores the complexity of rural economies and the adaptive strategies employed by households to meet their socio-economic needs.

The analysis of land ownership patterns reveals that the majority of respondents own plots of

land that are upto 2 Bigha in size, indicating a prevalence of small-scale farm holdings within the community. This finding underscores the prevalence of small farm landholding community among members, suggesting predominantly а subsistence-oriented agricultural system. Small landholdings are often characteristic of rural areas, where agricultural activities are primarily towards geared meeting the household's own consumption needs rather than large-scale commercial production. The prevalence of small



farm holdings highlights the challenges faced by farmers in maximizing agricultural productivity and achieving economic sustainability. Limited land resources can constrain agricultural output and income generation, necessitating innovative approaches to farming practices and livelihood diversification strategies.





Migration is not a prevalent practice in the villages of Bichadi and Debari with a significant majority of families (80%) reporting no migration. However, for those who do migrate, the duration and reasons vary, shedding light on the socio-economic dynamics within the community. A notable proportion of migrants that is only 2% reported migrating for just one month (1%), and for more than 6 months (1%). This finding highlights the influence of external economic opportunities on migration decisions, indicating that migration is not solely driven by seasonal factors but also by the pursuit of improved livelihood prospects.



Health concerns prior to intervention (n=42)

Figure 77: Pre intervention health concerns

Prior to the intervention, health concerns were primarily addressed through various means, as reported by respondents. A significant portion (33%) relied on private hospitals, indicating a preference for specialized healthcare services. Another 33% opted for the same centre regardless of the condition, possibly due to convenience or limited alternatives. Meanwhile, 26% accessed health centres in other villages, suggesting challenges in accessing local healthcare facilities. Additionally, 5% reported utilizing other unspecified resources, while a minority (2%) relied on private doctor clinics. Field insights underscore the diverse healthcare landscape, with accessibility and availability of services being key concerns.

Inadequate infrastructure, inconsistent access to basic amenities like healthcare, and a significant presence of lower-income households paint a picture of a community facing resource limitations. Furthermore, the reliance on traditional cooking fuels alongside land ownership and migration patterns underscores the village's complex socio-economic reality. These findings underscore the need for targeted interventions. Focusing on infrastructure development, livelihood diversification, and mitigating socio-economic disparities will be crucial for improving the overall well-being of the community.

#### 6.3. Expectations from the Programme

*Expectation* in the IRECS framework focuses on the degree to which the programme's interventions have met the anticipated positive changes for the beneficiaries. It examines whether the programme has delivered on its promises and resulted in the expected social, economic, and cultural improvements for the target population.

In the semi-rural area of Debari, Hindustan Zinc Limited (HZL) has undertaken a series of initiatives aimed at uplifting the community and enhancing its overall well-being. One such endeavour involves the construction of vital infrastructure, including a community centre, school halls and classrooms, and facilities specifically catering to the needs of women. These structures serve as focal points for social interaction, education, and health promotion, addressing fundamental needs and fostering a sense of community cohesion. By providing spaces for gatherings, meetings, and educational activities, HZL's efforts contribute to strengthening social bonds and facilitating collective engagement among residents.

Furthermore, HZL's commitment to gender equality and economic empowerment is exemplified through the establishment of a women's resource centre. This centre not only serves as a hub for various initiatives aimed at enhancing the well-being of women but also houses a stitching unit. The stitching unit offers women in Debari an opportunity to generate additional income by engaging in sewing and tailoring activities. This not only provides financial independence but also empowers women to contribute to the household economy and pursue their entrepreneurial aspirations.



Image 24: Sakhi stitching unit

Moreover, HZL's focus on community development extends to addressing basic sanitation needs. The provision of bathrooms specifically designed for women not only promotes hygiene and health but also ensures privacy and dignity. Additionally, the construction of a cremation centre reflects HZL's respect for local customs and traditions, providing a dignified space for conducting final rites irrespective of caste or social status.

In the section below, we will be able to go through the impact of the interventions statistically, building a change for good in the community.

## Improvements in Community Infrastructures



Community infrastructure developed (n=85)

#### Figure 78: Community infrastructure work by HZL

The analysis of community infrastructure development conducted by HZL reveals significant findings. The highest priority areas for development include community bathroom facilities at 40%, followed closely by the construction of a cremation centre at 32%. Women's resource centre innovation also emerges as a crucial aspect, with 26% indicating a need for its development. Furthermore, renovating community centres appears to be a top priority for 75% of respondents, showcasing a strong emphasis on enhancing communal spaces. Other notable areas include the construction of a bus stand at 14% and ground levelling initiatives at various percentages, emphasizing a diverse range of infrastructure needs within the community.

The establishment of a cremation centre has emerged as a transformative solution addressing deep-seated societal tensions within the village. Previously, the absence of a dedicated space for cremation rituals resulted in recurring conflicts among different caste groups. Upper caste individuals harboured reservations about lower caste members conducting cremations in their customary locations, leading to discord and hostility. However, with the advent of the cremation centre, a tangible solution has been provided. This facility not only offers a centralized location for performing last rites but also delineates sections accommodating diverse caste groups, thereby fostering inclusivity and respect for cultural practices. By providing each caste with a designated space to bid farewell to their loved ones, the cremation centre mitigates the potential for inter-caste conflicts and promotes harmony within the community. Consequently, the construction of the cremation centre stands as a testament to the proactive measures taken to address social disparities and foster unity, thereby benefiting the entire community by promoting peace and understanding among its members.

Crucially, it's worth highlighting that the respondents maintained their recognition and gratitude for HZL's efforts throughout the impact assessment phase spanning 2019 to 2023. This ongoing acknowledgment emphasizes the enduring effects of HZL's initiatives on the community and stresses the necessity of consistent engagement and assistance in cultivating favourable socio-economic progress.



Facilites benefitted community by HZL(n=85)

Figure 79: Infrastructure that benefited the community

The data on infrastructure development highlights several initiatives that have significantly benefited the community. Renovation of community centres emerges as the most impactful, with 64% of respondents indicating positive outcomes. This is followed closely by the construction of community bathrooms at 39%, addressing a crucial need for sanitation facilities. Additionally, the development of cremation centres at 23% and women's resource centres at 20% demonstrates tangible benefits in crucial areas. Other notable infrastructure projects include the construction of toilets and bus stands, both contributing to enhancing community facilities and services. However, the provision of solar lights, community kitchens, and library setups have not yet been developed in the community and has scope for further infrastructure developments for more significant substantial improvements in various aspects of community life, fostering progress and prosperity.

Moreover, the addition of bathrooms as part of the renovation has had a particularly positive impact on the well-being of women in the community. Prior to the construction of these facilities, many women faced challenges in accessing safe and hygienic bathing spaces, especially during menstruation. However, with the introduction of the new bathrooms, women now have a secure and private area where they can maintain their personal hygiene with dignity. This improvement has not only enhanced their physical well-being but has also contributed to a greater sense of comfort and confidence among female members of the community

#### **Community centre renovation**

The recent renovation of the community centre in the village has had a significant impact on the lives of its residents. Before the renovation, villagers lacked a dedicated space for community gatherings, meetings, and celebrations. However, with the upgraded facility, they now have a central hub where they can come together for various events and activities. This newfound space has not only fostered a greater sense of unity and belonging within the community but has also provided practical benefits. One notable change is the increased frequency of village-level meetings to discuss important matters such as development plans and communal issues. These meetings, facilitated by the availability of the renovated centre, have enabled villagers to actively participate in decision-making processes that affect their lives.



#### Construction of toilet and bathroom

Figure 80: Benefits from construction of toilet and bathroom

The data reveals significant benefits stemming from the construction of toilets and bathrooms within the community, with 53% reporting improved sanitation and hygiene practices, 63% experiencing a reduction in waterborne diseases, and 66% expressing increased dignity and privacy. These statistics underscore the transformative impact of such facilities on the overall well-being of community members. Moreover, the provided insights highlight the specific positive outcomes for women. Prior to the construction, women faced challenges accessing safe and hygienic bathing spaces, particularly during menstruation. However, the addition of bathrooms has addressed these concerns, offering women a secure and private environment to maintain personal hygiene with dignity. This improvement not only positively affects their physical health but also enhances their overall comfort and confidence. Therefore, the construction of these facilities not only addresses basic sanitation needs but also contributes to gender equity and empowerment within the community.

#### Women resource centre



Impact on construction of women resource center (n=22)

Figure 81: Impact of women resource centre

From the graph above, it is evident that the construction of a women's resource centre has had significant positive impacts across various fields. First, there is a notable increase in income, with a staggering 77% reporting improvements. This suggests that the centre has facilitated opportunities for economic advancement among women in the community.



Moreover, there is a strong sense of independence reported by 82% of respondents, indicating that the centre has empowered women to take charge decisions. of their lives and Additionally, better skilling is reported an overwhelming 91% by of respondents. suggesting that the centre has played a crucial role in enhancing the skills and capabilities of women, possibly through training programs or access to educational resources. These findings underscore the importance and effectiveness of investing in women's resource centres as a means of promoting economic empowerment, independence, and

skill development within communities.

Figure 82: Income generated through working in women resource

Additionally, a significant portion, 82%, report earning more than Rs 5,000 but less than Rs 10,000, annualy, indicating that the centre has effectively contributed to lifting a substantial number of women above a certain income threshold. This suggests that the centre's programs or resources have played a crucial role in augmenting the earning potential of a considerable portion of its users. However, it's also noteworthy that 12% of respondents report earning more than Rs 10,000 but less than Rs 15,000, indicating a smaller yet still significant portion of women achieving higher levels of income through the centre's support. Additionally, although a smaller percentage, 6%, report earning up to Rs 5000, this still signifies an improvement in financial standing for some individuals who might have previously been earning less or had no income at all. These insights further underscore the positive impact of the women's

resource centre in uplifting women economically across a range of income brackets, contributing to overall community development and empowerment.



#### Education Infrastructure improvement

Figure 83: Type of education infrastructure developed

In Debari, infrastructure development under the education sector encompasses various activities aimed at enhancing educational facilities and student well-being. These include school ground levelling (9%), CCP centre construction (9%), school boundary establishment (13%), Anganwadi repair (36%), toilet construction (44%), renovation of school infrastructure (47%), classroom construction (55%), and hall construction (75%). Field insights underscore the holistic approach to education, with investments in repairing Anganwadi centres and constructing CCP centres emphasizing early childhood development and community engagement. Additionally, initiatives such as school boundary construction and ground leveling contribute to creating safe and accessible learning environments, vital for promoting student safety and fostering conducive educational atmospheres in rural areas.



#### Benefits of infrastructure development in school (n=64)



The benefits of infrastructure development in schools, as reported by 64 respondents, are significant and diverse. These include an increase in overall attendance (81%), indicating a positive impact on student engagement and participation. Notably, field insights suggest that improved infrastructure, such as the construction of toilets and boundary walls, has particularly contributed to enhancing girls' attendance (66%), reflecting improved accessibility and safety measures. Additionally, infrastructure development has led to enhanced teacher satisfaction (39%), potentially attributed to improved working conditions and facilities, as observed during field visits. Moreover, better academic results (31%) and improved discipline within the school environment (16%) were noted, underscoring the tangible benefits of investing in school infrastructure on educational outcomes and student well-being.



Figure 85: Perceived impact of education infrastructure

To specifically note the perceived impact of lab renovation, based on responses collected, reveals mixed sentiments. While 34% acknowledge an improvement in practical learning

opportunities, indicating a positive shift towards hands-on learning experiences, only 11% report increased student engagement. Additionally, 17% note enhanced scientific literacy, suggesting a positive influence on students' understanding of scientific concepts. However, a considerable proportion (36%) expressed dissatisfaction, stating that the renovation didn't help at all, while 25% were uncertain about the impact. Field insights suggest that despite the renovation efforts, challenges such as insufficient training for teachers or inadequate resources may hinder the realization of desired outcomes. Moreover, factors like maintenance issues or mismatches between renovated facilities and curriculum requirements could contribute to varied perceptions of impact among stakeholders.



Anticipated outcome of toilet construction on education accessibility(n=24)

Figure 86: Anticipated outcome of toilet construction on education accessibility

However, only 24 students could recall the construction of toilets in the school as an initiative by HZL, its impact was overwhelmingly positive, with 93% reporting a reduction in absenteeism, particularly among girls, due to sanitation-related issues. Moreover, 61% note an improvement in hygiene practices among students, highlighting the significant contribution of these facilities to promoting health and well-being within the school environment. While only 4% express uncertainty or dissatisfaction, indicating a lack of awareness or minimal perceived impact, the majority of respondents acknowledge the tangible benefits of toilet construction in enhancing student retention rates and fostering a conducive learning atmosphere. Field insights corroborate these findings, emphasizing the crucial role of adequate sanitation facilities in promoting attendance, health, and overall educational outcomes in schools.



Image 25: Toilets constructed by HZL in school



### Classroom construction expanded educational opportunities (n=35)

#### Figure 87: Classroom construction expanded educational opportunities

The impact of classroom construction on expanding educational opportunities is multifaceted. Out of the respondents mentioning the expansion in educational opportunities with construction of new classroom, 54% recognize a reduction in overcrowding and limited batch sizes, facilitating better focus on studies, an equal percentage emphasizes the benefit of teachers being able to teach with more focus on each student. This suggests that the creation of additional classroom space has positively influenced the quality of instruction and studentteacher interactions. However, a significant portion (31%) expresses uncertainty about the impact, possibly reflecting a lack of clarity or varied perceptions among stakeholders. Field insights further highlight the transformative effect of classroom expansion, enabling schools to offer a wider range of diverse learning activities and programs. Additionally, the provision



Image 26: School infrastructure development by HZL

of adequate space is seen as essential for accommodating various educational needs and fostering a conducive learning environment.



Repairing the Anganwadi contributed to early childhood development (n=23)

Figure 88: Impact of Anganwadi repair and construction

Out of the respondents mentioning about anganwadi renovation in the village, the impact of repairing the Anganwadi on early childhood development is notable, with 65% recognizing its role in providing children with essential nutritional intake. Moreover, 52% highlight the significance of parents being able to work freely by dropping their children at the Anganwadi, underscoring the facility's role in supporting workforce participation and economic empowerment. Despite these positive outcomes, 13% express uncertainty about the impact, suggesting a need for greater awareness or clarity regarding the benefits. Field insights further illuminate the transformative effect of Anganwadi repairs, emphasizing its pivotal role in creating a safe and nurturing environment for early childhood development. Additionally, observations indicate that improved infrastructure enhances community trust in childcare services, encouraging greater utilization and participation among parents, ultimately fostering holistic growth and development in young children.



#### Water Infrastructure improvement

Image 89: Water infrastructure providing the most benefit

The data illustrates the significant impact of water infrastructure on the community's wellbeing, with water tankers emerging as the most beneficial component, as reported by 68% of respondents. This high percentage suggests that the availability of water tankers has been instrumental in meeting the immediate water needs of the community, especially in areas where piped water infrastructure might be lacking or insufficient. The reliance on water tankers highlights the critical role of mobile water supply in ensuring access to clean water for drinking, cooking, and other daily needs.

Moreover, the utilization of water RO systems is noted as beneficial by 27% of respondents, these are a portion (23) of total respondents (83) who mentioned to have the RO facility at village. Underscoring the importance of ensuring water quality and safety. This indicates a recognition of the significance of clean drinking water for maintaining health and preventing waterborne diseases within the community.

The relatively low percentages for water pipeline installation (4%) and highest benefit has been received through the water tanker provision made for the community members (68%).

Field insights suggest that in semi-rural areas like Debari, where access to piped water infrastructure may be limited, water tankers serve as a lifeline, providing essential water supply

particularly during periods of scarcity or emergencies. This underscores the need for flexible and adaptable water infrastructure solutions that can address the unique challenges faced by communities in such contexts. Overall, the data emphasizes the importance of prioritizing mobile water supply solutions like water tankers alongside efforts to improve water quality for ensuring the well-being of semi-rural communities.



Figure 90: Charge of 1 litre of water

The data provided indicates varying pricing structures for accessing water from RO ATMs. Interestingly, a significant majority, 70%, of respondents reported that they were charged up to Rs 2 for 1 litre of water, suggesting that the majority of RO ATMs in the area provide affordable access to clean drinking water. This pricing strategy aligns with efforts to ensure access to safe drinking water for all members of the community, particularly those from economically disadvantaged backgrounds.

Conversely, 22% of respondents reported being charged between Rs 6 to Rs 8 for 1 litre of water. However normal water is sold at minimal rate, his higher pricing range is for chilled water which may pose affordability challenges for some individuals, potentially limiting their access to clean drinking water from RO ATMs.

#### 6.4. Convergence

*Convergence* in the IRECS framework refers to aligning efforts, resources, and policies across sectors and stakeholders toward common development goals. It emphasises the integration and coordination of efforts from various sectors, including government agencies, non-governmental organisations, community members, and other relevant stakeholders, to address complex development challenges comprehensively.

SI. No	Name of Partner	Type of Partnership	Responsibilities
1.	School Authorities	Project-based partnership	Handover of infrastructure after the completion
2.	Panchayat Raj Institutions	Project-based partnership	Site identification, provision for land, handover of infrastructure and maintenance of infrastructure handed over

The various infrastructure development projects were solely funded by HZL, who partnered with local village councils (Gram Panchayats) to build infrastructure. This involved careful planning with elected representatives (PRI) and need assessments within the community. Once the panchayats allocated land, HZL managed construction and ensured a smooth handover for operations and maintenance of the structures to the respective Gram Panchayats. The community members are an essential part of these Gram Panchayats and play a crucial role in the decisions taken by them.

#### 6.5. Service Delivery

Service delivery in the IRECS framework refers to providing essential amenities and infrastructure to communities efficiently and effectively to meet their needs. Effective service delivery involves the efficient and timely delivery of these services, ensuring accessibility, affordability, and quality, thereby contributing to the overall well-being and development of the community.



Figure 91: Current responsible authority for maintenance

Figure 92: Ideal responsible authority for maintenance

The community sees a shared responsibility for the project's long-term success. While the majority (64%) believe HZL is currently responsible for the maintenance of the infrastructure, a significant portion (34%) views PRI and 2% views government as having an ongoing role. This indicates a varying perception among the community members regarding the roles of both HZL and the PRI in ensuring the sustainability of the project. As the ideal authority responsible for the maintenance, an additional respondent with a total of 73% mentioned that it should be HZL's responsibility to do so.

It is worth noting that while some community members favour PRI involvement, some expressed concerns about transparency, lack of funds and maintenance of quality. They advocated for HZL to retain long-term ownership and maintenance rights to ensure sustainability and uphold quality standards. The community is of the notion that since HZL has developed this infrastructure and the HZL is operating specifically in these areas its HZL's responsibility to pay back to the community. While these worries might indicate doubts about the PRI's ability to maintain infrastructure effectively, it's important to acknowledge the principle of local ownership and empowerment embedded in decentralized governance structures like the PRI. To tackle these concerns and enhance infrastructure management under PRI leadership, it's vital for HZL to initiate proactive communication and capacity-building programs for PRI members, encouraging collaboration and partnerships, and establishing robust monitoring and evaluation systems. Through active involvement with the PRI, fostering collaboration, and investing in capacity development, HZL can bolster the shift towards sustainable infrastructure management under local ownership. This would promote
community empowerment and bolster the resilience and efficacy of infrastructure initiatives in the long term.

Some of the suggestions HZL can try is:

Increase Visibility: Boost visibility through increased presence of HZL banners and signage in the community, improving awareness of HZL's contributions and fostering stronger community engagement.

Enhance Sponsorship and Capacity: Scale up enrolment capacity in educational programs like Zinc Kaushal and extend sponsorship opportunities to more students, ensuring broader access to skill-building opportunities and fostering inclusivity.

## 6.6. Social Return on Investment\*

#### 1. SROI for Infrastructure development in Debari for FY 2019-20

#### 1.1. SROI of School toilet work at Bichadi

	Financial Proxies						
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)				
Community Members	Savings in healthcare Cost	Average savings in healthcare cost due to improved sanitation at school	Primary Survey				
School Authority	Structural durability and avoidance cost	Cost of construction of toilet saved by school authorities	Secondary Research				

Social Return on Investment						
Year	2020-21	2021-22	2022-23	2023-24	2024-25	
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.50%	
Discounted Rate Considered	5.36%					
Total input cost	₹ 560000					
Total Net Impact	₹ 5498829.6					
NPV	₹ 52,19,086.56					
SROI	₹ 9.32					

#### 1.2. SROI of School renovation work at Putiya

Financial Proxies							
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)				
School Authority	Structural durability and avoidance cost	Cost of construction of toilet saved by school authorities	Secondary Research				

Social Return on Investment						
Year	2020-21	2021-22	2022-23	2023-24	2024-25	
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.50%	
Discounted Rate Considered	5.36%					
Total input cost	₹ 150000					
Total Net Impact	₹ 2280000					
NPV	₹ 21,64,009.11					
SROI	₹ 14.43					

## 1.3. SROI of School Repair work at Zinc Smelter

Financial Proxies						
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)			
School Authority	Structural durability and avoidance cost	Cost of construction of toilet saved by school authorities	Secondary Research			

Social Return on Investment						
Year	2020-21	2021-22	2022-23	2023-24	2024-25	
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.50%	
Discounted Rate Considered	5.36%					
Total input cost	₹ 30000					
Total Net Impact	₹ 562500					
NPV	₹ 5,33,883.83					
SROI	₹ 17.80					

## 1.4. SROI of School Classroom work at Merta

Financial Proxies						
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)			
Community Members	Savings in Education Cost	Savings in fees from not shifting to private school with additional classrooms	Secondary Research			

Social Return on Investment						
Year	2020-21	2021-22	2022-23	2023-24	2024-25	
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.50%	
Discounted Rate Considered	5.36%					
Total input cost	₹ 997000					
Total Net Impact	₹ 1741824					
NPV	₹ 16,53,211.85					
SROI	₹ 1.66					

## 1.5. SROI of School renovation work at Thuriya Mangri

Financial Proxies						
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)			
School Authority	Structural durability and avoidance cost	Cost of construction of toilet saved by school authorities	Secondary Research			

Social Return on Investment						
Year	2020-21	2021-22	2022-23	2023-24	2024-25	
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.50%	
Discounted Rate Considered	5.36%					
Total input cost	₹ 1059000	)				
Total Net Impact	₹ 2580000					
NPV	₹ 24,48,747.15					
SROI	₹ 2.31					

## 1.6. SROI of borewell work at Mandesar

	Financial Proxies							
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)					
Community Members	Increased income potential	Additional income from extra economic activity	Primary Survey					

Social Return on Investment						
Year	2020-21	2021-22	2022-23	2023-24	2024-25	
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.50%	
Discounted Rate Considered	5.36%					
Total input cost	₹ 150000					
Total Net Impact	₹ 809406					
NPV	₹ 7,68,228.93					
SROI	₹ 5.12					

## 1.7. SROI of Water tank at Ladiya Kheda

Financial Proxies							
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)				
Community Members	Increased income potential	Additional income from extra economic activity	Primary Survey				
Community Members	Water fetch cost	Cost savings from not buying water jar	Secondary Research				

Social Return on Investment						
Year	2020-21	2021-22	2022-23	2023-24	2024-25	
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.50%	
Discounted Rate Considered	5.36%					
Total input cost	₹ 1071000					
Total Net Impact	₹ 13457442					
NPV	₹ 1,27,72,	₹ 1,27,72,818.91				
SROI	₹ 11.93					

## 1.8. SROI of Community hall at Sihada, Gariya Mangri

	Financial Proxies							
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)					
Community members	Increased income potential for PRI	Additional income from organizing marriages and events at community hall	Secondary Research					

Social Return on Investment						
Year	2020-21	2021-22	2022-23	2023-24	2024-25	
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.50%	
Discounted Rate Considered	5.36%					
Total input cost	₹ 1993000					
Total Net Impact	₹ 16577442					
NPV	₹ 1, 57,34	₹ 1, 57,34,094.53				
SROI	₹ 15.14					

#### 1.9. <u>SROI of Solar Lights at Bhesra Khurd, Bhesra Kala, Udaisagar, Tulsidasji Nagar,</u> <u>Matoon</u>

	Financial Proxies							
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)					
Community Members	Social cost of carbon emission	Decrease in GHG emissions due to Solar Panel Installations	Secondary Research					
Community Members	Savings on electricity bills	Savings on Electricity Bills for PRI	Secondary Research					

Social Return on Investment						
Year	2020-21	2021-22	2022-23	2023-24	2024-25	
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.50%	
Discounted Rate Considered	5.36%					
Total input cost	₹ 225000					
Total Net Impact	₹ 374240.5495					
NPV	₹ 3,55,201.74					
SROI	₹ 1.58					

#### 2. SROI for Infrastructure development in Debari for FY 2020-21

#### 2.1. SROI of Renovation of School Infrastructure at Godwa & Sinhada Govt. Schools

	Financial Proxies						
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)				
Community Members	Savings in Education Cost	Savings in fees from not shifting to private school with additional classrooms	Secondary Research				

Social Return on Investment						
Year	2020-21	2021-22	2022-23	2023-24	2024-25	
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.50%	
Discounted Rate Considered	5.36%					
Total input cost	₹720000					
Total Net Impact	₹ 919296					
NPV	₹ 8,72,528	₹ 8,72,528.47				
SROI	₹ 1.21					

## 2.2. SROI of School boundary wall at Bichadi

Financial Proxies						
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)			
School admin	Boundary fencing cost	Savings on cost of fencing for school authorities	Secondary Research			

Social Return on Investment						
Year	2020-21	2021-22	2022-23	2023-24	2024-25	
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.50%	
Discounted Rate Considered	5.36%					
Total input cost	₹720000					
Total Net Impact	₹ 4246886.4					
NPV	₹ 40,30,83	₹ 40,30,833.71				
SROI	₹ 5.60					

## 2.3. SROI of School hall Renovation at Gowla

Financial Proxies						
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)			
Community Members	Savings in Education Cost	Savings in fees from not shifting to private school with additional classrooms	Secondary Research			
School Authority	Structural durability and avoidance cost	Cost of construction of toilet saved by school authorities	Secondary Research			

Social Return on Investment						
Year	2020-21	2021-22	2022-23	2023-24	2024-25	
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.50%	
Discounted Rate Considered	5.36%					
Total input cost	₹ 301000					
Total Net Impact	₹ 799824					
NPV	₹ 7,59,134	4.40				
SROI	₹ 2.52					

## 2.4. SROI of School tinshed work at Gudli

	Financial Proxies						
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)				
Community Members	Savings in Education Cost	Savings in fees from not shifting to private school with additional classrooms	Secondary Research				

Social Return on Investment					
Year	2020-21	2021-22	2022-23	2023-24	2024-25
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.50%
Discounted Rate Considered	5.36%				
Total input cost	₹ 248000				
Total Net Impact	₹ 1093478.4				
NPV	₹ 10,37,849.66				
SROI	₹ 4.18				

#### 2.5. SROI of School toilet work at Udaisagar

Financial Proxies						
Stakeholder Indicator Financial proxy			Source (primary/secondary)			
Community Members	Savings in healthcare Cost	Average savings in healthcare cost due to improved sanitation at school	Primary Survey			
School Authority	Structural durability and avoidance cost	Cost of construction of toilet saved by school authorities	Secondary Research			

Social Return on Investment						
Year	2020-21	2021-22	2022-23	2023-24	2024-25	
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.50%	
Discounted Rate Considered	5.36%					
Total input cost	₹ 431000					
Total Net Impact	₹ 687388.8					
NPV	₹ 6,52,419.13					
SROI	₹ 1.51					

## 2.6. SROI of Matoon playground development

Financial Proxies						
Stakeholder	Indicator	Source (primary/secondary)				
School admin	Healthcare cost	Savings in treatment of non-communicable diseases from keeping fit	Secondary Research			

Social Return on Investment						
Year	2020-21	2021-22	2022-23	2023-24	2024-25	
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.50%	
Discounted Rate Considered	5.36%					
Total input cost	₹ 954000					
Total Net Impact	₹ 3988546.875					
NPV	₹ 37,85,636.75					
SROI	₹ 3.97					

#### 2.7. SROI of Paver block road at Kaladwas

Financial Proxies						
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)			
Community Members	Increased income potential	Inc. in income potential from improved infrastructures	Primary Survey			

Social Return on Investment					
Year	2020-21	2021-22	2022-23	2023-24	2024-25
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.50%
Discounted Rate Considered	5.36%				
Total input cost	₹ 3798000	)			
Total Net Impact	₹ 6523200.936				
NPV	₹ 61,91,344.85				
SROI	₹ 1.63				

## 2.8. SROI of Pipeline work in Bichhadi

Financial Proxies						
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)			
Community Members	Water fetch cost	Cost savings from not buying water jar	Secondary Research			

Social Return on Investment					
Year	2020-21	2021-22	2022-23	2023-24	2024-25
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.50%
Discounted Rate Considered	5.36%				
Total input cost	₹ 819000	₹ 819000			
Total Net Impact	₹ 12317760				
NPV	₹ 1,16,91,116.17				
SROI	₹ 14.27				

## 2.9. SROI of Canal renovation at Udaisagar

	Financial Proxies						
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)				
Community Members	Increased income potential	Inc. in income potential from improved infrastructures	Primary Survey				

Social Return on Investment					
Year	2020-21	2021-22	2022-23	2023-24	2024-25
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.50%
Discounted Rate Considered	5.36%				
Total input cost	₹ 1497000	)			
Total Net Impact	₹ 6309216				
NPV	₹ 59,88,246.01				
SROI	₹ 4.00				

## 2.10. SROI of Women resource centre at Zinc Smelter

Financial Proxies						
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)			
Community Members	Increased income potential	Additional income earning potential from new skill learnt	Primary Survey			

Social Return on Investment						
Year	2020-21	2021-22	2022-23	2023-24	2024-25	
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.50%	
Discounted Rate Considered	5.36%					
Total input cost	₹ 380000					
Total Net Impact	₹ 935294.4					
NPV	₹ 8,87,712.98					
SROI	₹ 2.34					

#### 3. SROI for Infrastructure development in Debari for FY 2021-22

#### 3.1. SROI of construction of hall at Bhallo ka guda, Bichadi, Sakroda

Financial Proxies						
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)			
Community Members	Savings in Education Cost	Savings in fees from not shifting to private school with additional classrooms	Secondary Research			

Social Return on Investment						
Year	2020-21 2021-22 2022-23 2023-24 2024-25					
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.50%	
Discounted Rate Considered	5.36%					
Total input cost	₹ 5905000	)				
Total Net Impact	₹ 9676800					
NPV	₹ 91,84,510.25					
SROI	₹ 1.56					

## 3.2. SROI of Construction of 2 classrooms at Sihada

Financial Proxies						
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)			
Community Members	Savings in Education Cost	Savings in fees from not shifting to private school with additional classrooms	Secondary Research			
Community Members	Wages forgone	Savings in cost of hospitalization due to heat-stroke	Secondary Research			

Social Return on Investment						
Year	2020-21	2021-22	2022-23	2023-24	2024-25	
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.50%	
Discounted Rate Considered	5.36%					
Total input cost	₹ 1196000	)				
Total Net Impact	₹ 2629200					
NPV	₹ 24,95,444.19					
SROI	₹ 2.09					

## 3.3. SROI of Renovation work at Udayniwas, Gudli, Karbadiya

Financial Proxies						
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)			
Community Members	Wages forgone	Savings in cost of hospitalization due to heat-stroke	Secondary Research			
School Authority	Structural durability and avoidance cost	Cost of construction of toilet saved by school authorities	Secondary Research			

Social Return on Investment						
Year	2020-21 2021-22 2022-23 2023-24 2024-25					
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.50%	
Discounted Rate Considered	5.36%					
Total input cost	₹ 3303000	)				
Total Net Impact	₹ 15400800					
NPV	₹ 1,46,17,312.07					
SROI	₹ 4.43					

## 3.4. SROI of Dome work at Matoon

Financial Proxies						
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)			
Community Members	Wages forgone	Savings in cost of hospitalization due to heat-stroke	Secondary Research			
Community Members	Savings in Education Cost	Savings in fees from not shifting to private school with additional classrooms	Secondary Research			

Social Return on Investment						
Year	2020-21	2021-22	2022-23	2023-24	2024-25	
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.50%	
Discounted Rate Considered	5.36%					
Total input cost	₹ 753000					
Total Net Impact	₹ 15400800					
NPV	₹ 1,46,17,312.07					
SROI	₹ 19.41					

## 3.5. SROI of Canal Renovation at Udaisagar

Financial Proxies						
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)			
Community Members	Water fetch cost	Cost savings from not buying water jar	Secondary Research			

Social Return on Investment						
Year	2020-21	2021-22	2022-23	2023-24	2024-25	
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.50%	
Discounted Rate Considered	5.36%					
Total input cost	₹ 1800000	)				
Total Net Impact	₹ 3830400					
NPV	₹ 36,35,535.31					
SROI	₹ 2.02					

## 3.6. SROI of Phanghat work at Panwadi, Karbdiya

Financial Proxies						
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)			
Community Members	Water fetch cost	Cost savings from not buying water jar	Secondary Research			

Social Return on Investment						
Year	2020-21	2021-22	2022-23	2023-24	2024-25	
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.50%	
Discounted Rate Considered	5.36%					
Total input cost	₹ 378000					
Total Net Impact	₹ 3830400					
NPV	₹ 36,35,535.31					
SROI	₹ 9.62					

## 3.7. SROI of Community Hall at Sihada, Zinc Smelter

		Financial Proxies	
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)
Community members	Increased income potential for PRI	Additional income from organizing marriages and events at community hall	Secondary Research

Social Return on Investment						
Year	2020-21 2021-22 2022-23 2023-24 2024-25					
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.50%	
Discounted Rate Considered	5.36%					
Total input cost	₹ 3118000	₹ 3118000				
Total Net Impact	₹ 4164000					
NPV	₹ 39,52,164.01					
SROI	₹ 1.27					

## 3.8. SROI of Boundary wall at Rehta

	Financial Proxies							
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)					
Community Members	Boundary fencing cost	Savings on cost of fencing for school administration	Secondary Research					

Social Return on Investment						
Year	2020-21	2021-22	2022-23	2023-24	2024-25	
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.50%	
Discounted Rate Considered	5.36%					
Total input cost	₹ 532000	₹ 532000				
Total Net Impact	₹ 4345651.2					
NPV	₹ 41,24,574.03					
SROI	₹ 7.75					

## 3.9. SROI of washroom construction at Govla, Wada, Chota Guda, Zinc Smelter

	Financial Proxies						
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)				
Community Members	Savings in healthcare Cost	Average savings in healthcare cost due to improved sanitation at school	Primary Survey				

Social Return on Investment						
Year	2020-21	2021-22	2022-23	2023-24	2024-25	
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.50%	
Discounted Rate Considered	5.36%					
Total input cost	₹ 1980000	)				
Total Net Impact	₹ 2230272					
NPV	₹ 21,16,810.93					
SROI	₹ 1.07					

#### 4. SROI for Infrastructure development in Debari for FY 2022-23

#### 4.1. SROI of School classroom at Bhallo ka Guda

	Financial Proxies						
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)				
Community Members	Savings in Education Cost	Savings in fees from not shifting to private school with additional classrooms	Secondary Research				

Social Return on Investment						
Year	2020-21	2021-22	2022-23	2023-24	2024-25	
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.50%	
Discounted Rate Considered	5.36%					
Total input cost	₹ 1785000	)				
Total Net Impact	₹ 3870720					
NPV	₹ 36,73,804.10					
SROI	₹ 2.06					

#### 4.2. SROI of School hall work at udaisagar

Stakeholder	Indicator	Financial proxy	Source (primary/secondary)
Community Members	Savings in Education Cost	Savings in fees from not shifting to private school with additional classrooms	Secondary Research

Social Return on Investment						
Year	2020-21 2021-22 2022-23 2023-24 2024-25					
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.50%	
Discounted Rate Considered	5.36%					
Total input cost	₹ 1785000	)				
Total Net Impact	₹ 7741440					
NPV	₹ 73,47,608.20					
SROI	₹ 4.12					

#### 4.3. SROI of School renovation at Anandpura, motikheda, Chota Guda

Financial Proxies						
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)			
School Authority	Structural durability and avoidance cost	Cost of construction of toilet saved by school authorities	Secondary Research			
Community Members	Savings in Education Cost	Savings in fees from not shifting to private school with additional classrooms	Secondary Research			

Social Return on Investment						
Year	2020-21	2021-22	2022-23	2023-24	2024-25	
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.50%	
Discounted Rate Considered	5.36%					
Total input cost	₹ 3720000	)				
Total Net Impact	₹ 12022617.6					
NPV	₹ 1,20,22,617.60					
SROI	₹ 3.23					

## 4.4. SROI of School classroom at Teela Kheda

	Financial Proxies						
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)				
Community Members	Savings in Education Cost	Savings in fees from not shifting to private school with additional classrooms	Secondary Research				

Social Return on Investment						
Year	2020-21	2021-22	2022-23	2023-24	2024-25	
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.50%	
Discounted Rate Considered	5.36%					
Total input cost	₹ 1627000	)				
Total Net Impact	₹ 2709504					
NPV	₹ 25,71,662.87					
SROI	₹ 1.58					

#### 4.5. SROI of School renovation at Panwadi and Kamlod

	Financial Proxies						
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)				
School Authority	Structural durability and avoidance cost	Cost of construction of toilet saved by school authorities	Secondary Research				
Community Members	Savings in Education Cost	Savings in fees from not shifting to private school with additional classrooms	Secondary Research				

Social Return on Investment						
Year	2020-21	2021-22	2022-23	2023-24	2024-25	
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.50%	
Discounted Rate Considered	5.36%					
Total input cost	₹ 1710000	)				
Total Net Impact	₹ 4377984					
NPV	₹ 41,55,261.96					
SROI	₹ 2.43					

## 4.6. SROI of Dome work at Zinc Smelter

Financial Proxies						
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)			
Community Members	Wages forgone	Savings in cost of hospitalization due to heat-stroke	Secondary Research			
Community Members	Savings in Education Cost	Savings in fees from not shifting to private school with additional classrooms	Secondary Research			

Social Return on Investment						
Year	2020-21	2021-22	2022-23	2023-24	2024-25	
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.50%	
Discounted Rate Considered	5.36%					
Total input cost	₹ 2439000	)				
Total Net Impact	₹ 3155040					
NPV	₹ 29,94,533.03					
SROI	₹ 1.23					

#### 4.7. SROI of Canal renovation work22 at Udaisagar

Financial Proxies						
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)			
Community Members	Increased income potential	Inc. in income potential from improved infrastructures	Primary Survey			

Social Return on Investment						
Year	2020-21	2021-22	2022-23	2023-24	2024-25	
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.50%	
Discounted Rate Considered	5.36%	5.36%				
Total input cost	₹ 1900000	)				
Total Net Impact	₹ 6309216					
NPV	₹ 59,88,246.01					
SROI	₹ 3.15					

#### 4.8. SROI of Community Hall at Lohar basti, Zinc Smelter

	Financial Proxies						
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)				
Community members	Increased income potential for PRI	Additional income from organizing marriages and events at community hall	Secondary Research				

Social Return on Investment						
Year	2020-21	2021-22	2022-23	2023-24	2024-25	
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.50%	
Discounted Rate Considered	5.36%					
Total input cost	₹ 4006000	)				
Total Net Impact	₹ 13404000					
NPV	₹ 1,27,22,095.67					
SROI	₹ 3.18					

\* (SROI for certain activities is not calculated due to partial information about the activities)

# Chapter 7 Findings of Impact Assessment Study- Kayad

## Chapter 7: Findings from the Impact Assessment: Kayad

The following analysis offers an overview of the intricate impacts on the community. These results highlight the efficacy of interventions envisioned to address the unique opportunities and challenges faced by the respondents in **Kayad**.



Within the IRECS framework, the "I" stands for *Inclusiveness*. This concept focuses on how effectively the program ensures all intended beneficiaries have fair access to its benefits irrespective of factors like age, gender, socioeconomic background, and geographic location.



Figure 93: Village-wise sample distribution.

Among the respondents, 42% were female, while the majority, constituting 58%, were male. Notably, this distribution indicates that almost numbers and equal of male female respondents were interviewed, showcasing a balanced participation across genders. The willingness of women to actively participate in the survey reflects their engagement and interest in contributing to the assessment of community impacts, highlighting their commitment to the betterment of their communities.

The survey team interacted with individual households in the villages who are also program beneficiaries. These beneficiaries are users of the various infrastructure facilities created in the programme, such as healthcare facilities, education infrastructure, solar power infrastructure, water infrastructure, and community infrastructure. The pie chart depicts the distribution of the sample population across the two villages included in the study. Eighty-four percent (84%) of the surveyed households reside in Kayad village, while sixteen per cent (16%) live in Ghooghra village.





Figure 94: Gender-wise classification of respondents.



Figure 95: Demographic profile of the respondents.

Participants showcased a rich tapestry of social backgrounds. This diverse social representation allowed for a nuanced understanding of how different social groups within the community perceived and experienced the initiatives of HZL. The largest group, at 72%, belonged to the Other Backward Classes (OBC) category. Scheduled Castes (SC) and Scheduled Tribes (ST) formed significant portions at 12% and 11%, respectively. The remaining 6% identified as belonging to the General category.



Figure 97: Primary source of household income

The survey garnered responses from a diverse age range, offering a well-rounded perspective on the views community's of CSR initiatives. The largest portion of respondents, at 36%, fell within the 18-30 age group. This was followed closely by the 31-40year-olds (27%) and the 41-50year-olds (25%). While the younger age groups dominated, representation continued across the spectrum, with 6% in the 51-60 range, 5% aged 61-70, and a small portion (1%) above 71 years old.

Caste Categorisation (n=85)



Figure 96: Caste categorisation

The survey revealed the community's workforce composition wherein farmers cultivating their own land dominated, making up 73% of respondents. This highlights the area's agricultural base. The remaining respondents represented diverse occupations, including salaried government / (9%), private jobs seasonal work (7%). agricultural casual labour (6%), livestock rearing (4%), and skilled trades (1%).

The comprehensive analysis of the impact assessment data reveals a holistic approach toward community engagement by ensuring balanced participation across genders, diverse age groups, social categories, and primary occupations of the respondents. This demonstrates HZL's commitment to inclusivity and equitable distribution of benefits.

#### 7.2. Relevance of the Programme

Most of the households earn between Rs. 25,001 - Rs. 1,00,000 annually (45%), with few earning less or more. Most households (76%) own farmland, ranging from 2.1 to 5 bigha. 24% do not own land, suggesting diverse livelihoods. Migration in the villages is rare (71% no migration). When it occurs, durations vary, often aligning with seasonal demands.

*Relevance* in the IRECS framework signifies the alignment between the program's goals and objectives with the actual needs and aspirations of the target beneficiaries. It assesses whether the program addresses the most pressing issues faced by the intended population.

In the villages of Kayad and Ghooghra in Ajmer district, Rajasthan, agriculture is the primary household occupation. With vast expanses of fertile land, agriculture serves as the backbone of the local economy, engaging a majority of households in crop cultivation and livestock rearing. Several notable observations emerged from the qualitative surveys, highlighting the prevalent challenges and limitations faced by the community, along with their expressed need for improved infrastructure facilities within the village. Respondents articulated concerns regarding various aspects, emphasising the necessity for enhancements to meet the evolving demands of the community, such as:

- Potholes and uneven surfaces remain common sights, posing challenges to transportation and mobility, especially during monsoon seasons. Additionally, the absence of adequate drainage systems aggravates the problem, leading to waterlogging and further deterioration of roads.
- Financial conditions vary among households with disparities in income levels and access to resources. While some households derive substantial income from agriculture and other livelihood activities, others face financial constraints, particularly during lean seasons.
- Streetlights enhance safety, but inconsistent coverage creates security concerns, particularly for vulnerable groups like women and children.



Average annual household income (n=85)

Figure 98: Average annual household

The data presents the distribution of respondents based on the average annual income of their households. These findings reflect the varying income levels within the community, with a significant portion of households falling within the lower to middle-income brackets. The majority of households, comprising 45% each, reported an average annual income ranging from Rs. 25,001 to Rs. 50,000 and Rs. 50,001 to Rs. 1,00,000. Additionally, 9% of households reported an income between Rs. 1,00,001 to Rs. 1,50,000, while only 1% reported an income of up to Rs. 25,000 annually.

The availability of street lighting in our village varies greatly as there are areas where the illumination is insufficient, especially at night. As a woman, I feel uneasy about my daughters' safety, particularly when they need to attend tuition classes after school hours. The crossroads on the way to the village, in particular, has been a cause for concern, as it's accident-prone and feels unsafe at night.



Figure 99: Primary source of fuel at beneficiary households

Farmland ownership data underscores the agricultural foundation of the respondent villages. A substantial majority (76%) of families reported owning farmland, highlighting agriculture's centrality as a primary source of income within the community. However, the presence of а significant minority (24%) who do not own

- Ms. Surma Jat, resident of Ghooghra village

The data for primary fuel sources used for cooking by households reveals that the majority of households, comprising 52%, rely on Liquefied Petroleum Gas (LPG) for cooking, indicating a transition towards cleaner and more efficient fuel sources. Additionally, 47% of households still utilise fuel wood for cooking, highlighting the continued prevalence of traditional cooking methods. Only a negligible percentage of households, accounting for 1%, use kerosene as their primary fuel source. These findings underscore the diverse range of cooking practices within the community.



Figure 100: Farmland owners among respondents

land suggests a more diverse range of livelihoods and income streams among households. These findings highlight the community's dependence on agriculture while also pointing towards potential land ownership disparities that warrant consideration for fostering equitable development. In terms of land ownership, the majority own plots ranging from 2.1 to 5 bigha,

with 2.1-3 bigha accounting for 25% and 4.1-5 bigha accounting for 26% of the total. Additionally, 23% of respondents reported owning farmland ranging from 3.1 to 4 bigha. A smaller percentage of respondents own larger plots, with 6% reporting ownership of more than 10 bigha. Moreover, 5% of respondents own less than 1 bigha of farmland. These findings highlight the diverse sizes of farmland ownership within the community, reflecting variations in agricultural practices and landholding patterns among households.



Figure 101: Size of farmland owned by respondents

Migration is not a prevalent practice in Kayad and Ghooghra villages, with 71% of families reporting no migration. However, for those who do migrate, the duration varies. A significant portion (12%) migrates for 5 months, potentially aligning with seasonal agricultural demands. Smaller percentages migrate for shorter durations: 1 month (6%), 4 months (6%), and 6 months (5%). This suggests that migration, when it occurs, may be linked to seasonal factors and a lack of economic opportunities in the region.





Figure 102: Income earned through migration of respondents

The data reveals that for migrant families, migration serves as a crucial supplement to household income. A significant portion of such families (71%) earn between Rs. 21,001 and

Rs. 41,000 through migration, while some households earn less (29% falling within the 11,001-21,000 bracket).

Overall, these findings highlight the importance of migration as a means of boosting household income and livelihoods within the community.

Inadequate infrastructure, inconsistent access to basic amenities like street lighting, and a significant presence of lower-income households paint a picture of a community facing resource limitations. Furthermore, the reliance on traditional cooking fuels alongside land ownership and migration patterns underscores the village's complex socio-economic reality. These findings underscore the need for targeted interventions. Focusing on infrastructure development, livelihood diversification, and mitigating socio-economic disparities will be crucial for improving the overall well-being of the community.

#### 7.3. Expectations from the Programme

*Expectation* in the IRECS framework focuses on the degree to which the programme's interventions have met the anticipated positive changes for the beneficiaries. It examines whether the programme has delivered on its promises and resulted in the expected social, economic, and cultural improvements for the target population.

The villages of Kayad and Ghooghra in Ajmer have had numerous interventions developed by HZL in recent times to address the diverse needs of the community. Through community engagement, crucial needs were identified, and targeted programmes were implemented to enhance safety, mobility, and economic empowerment. The community infrastructure constructed aligned with the beneficiaries' requirements, as discerned from the survey.

The crossroads at Kayad have posed significant concerns for both villagers and HZL alike. The area was previously shrouded in darkness at night, posing safety risks for residents and increasing the likelihood of accidents. There have been instances of fully loaded trucks toppling over, resulting in significant damage. Reports of accidents involving two-wheelers and pedestrians have also been brought to my attention, thereby necessitating the need for an intervention.

- Vivek Singh, from CSR team at HZL Kayad Mines

Structures such as the community centre, fencing of cremation grounds, animal sheds, and the Kayad Circle were meticulously constructed to address the specific needs and challenges identified by the residents. These interventions not only reflect the responsiveness of HZL to

#### Perceived benefits from the infrastructural developments

- **Solar street lighting**, has significantly enhanced safety, especially at night. Residents report feeling more secure while commuting during night time, with fewer accidents and improved visibility for pedestrians.
- The **Kayad Circle project** has significantly reduced traffic accidents while promoting smoother traffic flow, benefiting both residents and commuters. Lights were also installed at the circle thereby enhancing the safety metrics of the circle.
- The **renovation of the community centre** proved to be a highly effective intervention. Villagers from various religious backgrounds attend cultural events regardless of their faith, which helped in fostering communal harmony among residents.

the community's needs but also signify a collaborative effort towards holistic development and enhancement of overall well-being within the villages.

Moreover, the particular crossroads where the 'Kayad Circle' was constructed used to remain very dark due to the absence of street lights. However, high mast lights were also installed in the circle, which ensures ample illumination around the area.



Image 27: The Kayad Circle constructed by HZL, Ghooghra village crossing

#### Improvements in Community Infrastructures

Installation of **solar lights** was the most recognized intervention (72%), followed by Community Centre renovation (60%)

Road repairs yielded multiple benefits: easier travel during emergencies (89%) and improved school access for children (88%) Nearly half (46%) of respondents reported income increases (Rs. 1,000 - Rs. 2,000), from the interventions

A substantial proportion of respondents were aware of various infrastructure works undertaken by HZL. For instance, 72% of respondents are aware of the installation of solar lights, reflecting a widespread recognition of this particular intervention. 60% of respondents mentioned the

I reside near the cremation grounds, a vital gathering place for our community, used often during difficult times. Before the HZL intervention, there wasn't any public bathroom nearby. People used the open area, creating unpleasant odours and a real health risk, especially during the monsoon season due to water-logging. However, after HZL's intervention to construct a community toilet in the area, the problem has been well-addressed. The area remains clean throughout the year, providing a vital amenity for the community and it is a relief for us residents as well.

- Pawan Khewat, a resident of Kayad village in Ajmer

renovation of the Community Centre was a great feat achieved as it helped forge communal harmony in the village, thereby highlighting the visibility and impact of this infrastructure development initiative.

This data underlines the breadth of HZL's interventions, addressing both practical needs and quality-of-life improvements for the community.



Community infrastructure created by HZL (n=85)

Figure 103: Various Infrastructural developments created by HZL in the villages

The construction of toilets and bathrooms had a notably positive impact on public health, according to survey responses. An impressive 80% of respondents noted a reduction in waterborne diseases, while an equal percentage reported increased dignity and privacy for community members. Additionally, 60% acknowledged improved sanitation and hygiene practices.



Figure 104: Perceived benefits of toilet/bathroom construction in the community

It's important to acknowledge that respondents were selected through convenience sampling, targeting users of specific infrastructure developments. For instance, in the case of the chart presented (in Fig. 14), interviews were conducted with five families residing near the newly constructed toilets. The public bathrooms, located near the cremation grounds, were

established with the aim of tackling sanitation challenges, such as unhygienic conditions and disease transmission, particularly during the rainy season. Following their construction, nearby residents reported improved cleanliness in the area, reduced odours from open defecation, and a dip in the spread of diseases.

These findings highlight the significant benefits of infrastructure interventions in promoting the overall well-being of community members.

Survey findings on the Adu repairment of roads and road dividers revealed it Ch has brought notable benefits to the community, T emphasising the dur multifaceted advantages of road repairment initiatives in enhancing mobility within the

villages. 88% noted improved school accessibility for children,



Benefits from repair of road/road divider (n=75)

## Figure 105: Perceived benefits from repair of road and road divider

0% 20% 40% 60% 80% 100%

while 89% cited easier travel during health emergencies. However, only a smaller percentage mentioned benefits as adults being able to go out for work (34%) and improved supply of goods (3%).

The enhanced road safety measures have addressed concerns about child safety. providing a safer environment for children to play and move around. Secondarv stakeholder interviews underscored the significance of increased road accessibility, particularly during adverse weather conditions. where improved infrastructure now allows ambulances to access the village without hindrance.



Image 28: Community kitchen near the houses of worship

Living in Kayad with so many different religions and castes, it felt like we lacked a central point to connect. We never had a proper space for community events or even village meetings. But since the community centre got renovated, things have changed for the better. Now we have a place to hold those important gram sabha meetings and celebrate our cultures together. Everyone participates in each other's festivals now, no matter their faith. It's like this shared community space has brought us all closer, fostering a real sense of harmony in the village.

- Shivraj Gujjar, PRI representative, Kayad

Regarding facilities that significantly benefited the entire community, there were notable mentions commonly highlighted by both community members and PRI representatives. One



Image 29: Newly renovated community centre in Kayad village

such example is the construction of a community kitchen. Villagers reported that they now host cultural events and prepare large quantities of 'prasad', which was previously impractical. This enabled them to distribute 'prasad' to residents of their village and neighbouring villages attending religious ceremonies.

Another significant example is the recently renovated community centre in Kayad village, which provides essential space for community gatherings. Villagers can now convene gram sabha meetings, host cultural events, and enjoy various other benefits such as enhanced recreational activities and space for conducting marriages. Furthermore, some respondents noted that their children attend tuition classes at the community centre after school, facilitated by ample lighting in the hall.



Increment in income potential from improved community infrastructure (n=85)

Figure 106: Increase in income potential from the improvement in community infrastructures

The survey findings underscore the role of infrastructure development in fostering economic prosperity and livelihood opportunities within the villages. A significant 46% of respondents reported an approximate increase in income ranging from more than Rs. 1000 to less than Rs. 2000, highlighting the positive economic impact of infrastructure enhancements. Additionally, 22% noted an income potential increase ranging from more than Rs. 3000 to less than Rs. 4000, further emphasising the tangible benefits derived from improved community amenities.



Image 30: Interaction with the Block Agriculture Supervisor at Gagwana, Ajmer

These findings indicate a notable increase in income potential for individuals attributed to improved community infrastructure and facilities in Kayad and Ghooghra villages of Ajmer district.

#### 7.4. Convergence

*Convergence* in the IRECS framework refers to aligning efforts, resources, and policies across sectors and stakeholders toward common development goals. It emphasises the integration and coordination of efforts from various actors, including government agencies, non-governmental organisations, community members, and other relevant stakeholders, to address complex development challenges comprehensively.

HZL has collaborated with government agencies for specific projects. For example, the construction of the Kayad Circle involved national and state-level government agencies such as the National Highways Authority of India (NHAI) and Ajmer Development Authority (ADA).

SI. No	Name of Partner	Type of Partnership	Responsibilities
1.	National Highways Authority of India (NHAI)	Project-based partnership	Granted necessary approvals for the construction of 'Kayad Circle'
2.	Ajmer Development Authority (ADA) रात्यमेव उपने Government of Rajasthan	Project-based Partnership	Maintenance of the 'Kayad Circle'

The various infrastructure development projects were solely funded by HZL, who partnered with local village councils (Gram Panchayats) to build infrastructure. This involved careful planning with elected representatives (PRI) and needs assessments within the community. Once the panchayats allocated land, HZL managed construction and ensured a smooth handover for operations and maintenance of the structures to the respective Gram Panchayats. The community members are an essential part of these Gram Panchayats and play a crucial role in the decisions taken by them.

#### 7.5. Service Delivery

Service delivery in the IRECS framework refers to providing essential amenities and infrastructure to communities efficiently and effectively to meet their needs. Effective service delivery involves the efficient and timely delivery of these services, ensuring accessibility, affordability, and quality, thereby contributing to the overall well-being and development of the community.

The installation of solar LED lights has demonstrably enhanced safety within the community, as perceived by an overwhelming majority of residents. The findings revealed that 85% of respondents rated the improvement in safety as a "4" on a scale of 1 to 5, signifying a







0% 20% 40% 60% 80% 100%





substantial positive impact. This sentiment is further reinforced by the minimal percentage (11%) who rated the impact neutrally or negatively.

The community sees a shared responsibility for the project's long-term success. While the majority (64%) believe the PRI should take the lead, a significant portion (36%) views HZL as having an ongoing role. This indicates a varying perception among the community members regarding the roles of both HZL and the PRI in ensuring the sustainability of the project.

It is, however, worth noting that while many community members favour PRI involvement, some expressed concerns about transparency and maintenance quality. They advocated for HZL to retain long-term ownership and maintenance rights to ensure sustainability and uphold quality standards.



Image 31: Focus group discussion with SHG members, Ghooghra village

The community centre's renovation created a vibrant venue for social events and cultural programmes that promoted engagement and cohesion within the community. Additionally, fencing of the cremation grounds addressed a pressing need that the villagers expressed and improved the dignity and sanctity of the last rites of their loved ones.

By illuminating previously dark areas, solar light installation improved residents' safety and security, especially during the night. In conjunction with the installation of fodder sheds and concrete roads, these interventions demonstrated a comprehensive strategy for meeting the various needs of the neighbourhood. Through collaborative efforts with local stakeholders and government agencies, these initiatives aimed to uplift living standards and promote sustainable development in the villages.

#### Social return on investment \*

#### 1. SROI for Infrastructure development in Kayad FY 2020-21 <u>1.1 SROI of road Patch work</u>

Financial Proxies					
Stakeholder	Indicator	Financial proxy	Source		
			(primary/secondary)		
Community	Road accident	Savings from accident-	Secondary and		
members	cost	free transportation	primary		
Community	Wages foregone	Wages foregone due to	Secondary and		
members		accidents	primary		
Panchayat	Avoidance cost	Avoidance cost due to HZL intervention	Primary		

Social Return on Investment				
Year	2021-22	2022-23	2023-24	2024-25
India Inflation rate (Source IMF)	6.70%	5.50%	4.60%	4.10%
Discounted Rate Considered	5.23%			
Total input cost	₹ 169360			
Total Net Impact	₹ 2100888.858			
NPV	₹ 19,96,568.17			
SROI	₹ 11.79			

#### 2. SROI for Infrastructure development in Kayad FY 2021-22

2.1 SROI of CC Road, Kayd

Financial Proxies					
Stakeholder Indicator		Financial proxy	Source		
			(primary/secondary)		
Community	Road accident	Savings from accident-	Secondary and		
members	cost	free transportation	primary		
Community	Wages foregone	Wages foregone due to	Secondary and		
members		accidents	primary		
Panchayat	Avoidance cost	Avoidance cost due to	Primary		
		HZL intervention			

Social Return on Investment				
Year	2022-23	2023-24	2024-25	
India Inflation rate (Source IMF)	5.50%	4.60%	4.10%	
Discounted Rate Considered	4.73%			
Total input cost	₹ 5741680			
Total Net Impact	₹ 20846500			
NPV	₹ 1,99,04,360.28			
SROI	₹ 3.47			

#### 2.2 SROI of installation of LED lights, Gagwana & Ghooghra

Financial Proxies					
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)		
Community members	Reduction in emission	Decrease in GHG emissions due to Solar Panel Installations	Secondary and primary		
Community members	Savings in electricity	Savings on Electricity Bills	Secondary and primary		

Social Return on Investment				
Year	2022-23	2023-24	2024-25	
India Inflation rate (Source IMF)	5.50%	4.60%	4.10%	
Discounted Rate Considered	4.73%			
Total input cost	₹ 5741680			
Total Net Impact	₹ 20846500			
NPV	₹ 1,99,04,360.28			
SROI	₹ 3.47			

## 3. SROI for Infrastructure development in Kayad FY 2022-23

3.1 SROI of Zinc Kayd circle

Financial Proxies					
Stakeholder	Indicator	Financial proxy	Source		
			(primary/secondary)		
Community	Road accident	Savings from accident-	Secondary and		
members	cost	free transportation	primary		
Community	Wages foregone	Wages foregone due to	Secondary and		
members		accidents	primary		
Panchayat	Avoidance cost	Avoidance cost due to HZL intervention	Primary		

Social Return on Investment				
Year	FY 2023-2024	FY 2024-2025		
India Inflation rate (Source IMF)	4.60%	4.10%		
Discounted Rate Considered	4.35 %			
Total input cost	₹ 6257160			
Total Net Impact	₹ 44623402.8			
NPV	₹ 4,27,63,203.45			
SROI	₹ 6.83			

\* (SROI for certain activities is not calculated due to partial information about the activities)

## Chapter 8 Findings of Impact Assessment Study- Dariba





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# Chapter 8: Findings from the Impact Assessment: Dariba

The following analysis offers an overview of the intricate impacts on the community. These results highlight the efficacy of interventions envisioned to address the unique opportunities and challenges faced by the respondents in **Dariba**.

### 8.1 Inclusiveness of the Programme

The survey had higher number of women beneficiaries at 56%. The survey included respondents of various ages, with a strong showing from younger age groups (almost 50%) There was diverse social representation, with a majority from (OBC) (53%), followed by (SC) (19%) and (ST) (5%)

Within the IRECS framework, the "I" stands for *Inclusiveness*. This concept focuses on how effectively the programme ensures all intended beneficiaries have fair access to its benefits irrespective of factors like age, gender, socioeconomic background, and geographic location.



Figure 109: Village wise distribution

The survey team interacted directly with households in the villages benefiting from the programme. These beneficiaries make use of diverse infrastructure facilities provided through the programme. encompassing education. solar infrastructure, water infrastructure, and community infrastructure. The pie chart visually represents the distribution of the sample population across the six villages near the Dariba mines, which are the focal points of this study. Samples were gathered in nearly equal proportions from all six villages. Given that infrastructure

development has taken place across all six villages of Dariba, the sampling was balanced to ensure a comprehensive understanding of the community infrastructure's progress.

Of the respondents, 44% were male, with the remaining 56% being female, signifying a notable majority. This distribution underlines an almost equal representation of male and female respondents. demonstrating balanced а involvement across genders. The notable participation of women in the survey indicates their keen engagement and interest in contributing to the evaluation of community impacts, thereby showcasing their dedication to enhancing their communities and recognising the influence of HZL on community welfare.





Figure 110: Gender of the respondents



Figure 111: Cate category

The survey conducted as part of the evaluation unveiled a diverse representation of social backgrounds among the participants, offering valuable insights into how various social groups community perceived within the and experienced HZL's initiatives. A notable majority, comprising 53% of the participants, hailed from the Other Backward Classes (OBC) category, indicating a significant presence of this marginalised group within the community. Scheduled Castes (SC) made up 19% of the participants, highlighting another substantial demographic. Scheduled Tribes (ST)

constituted a smaller proportion, comprising just 5% of the participants. The remaining 23% identified themselves as belonging to the General category. This distribution underscores the inclusive nature of HZL's initiatives, primarily catering to marginalised sections of society, notably OBCs and Scheduled Castes, thereby addressing crucial social equity concerns.

The survey elicited responses from a wideranging age demographic, providing а comprehensive perspective on the community's perception of CSR initiatives. The majority of respondents comprised adults and young adults, collectively constituting half of the participants. The distribution among other age groups was fairly even, facilitating an analysis of the advantages brought about by supplementary infrastructure development activities and projects in the area.









#### Figure 113: Primary source of income

The survey yielded insights into the occupational composition of the community, highlighting the pivotal role of agriculture as the predominant livelihood. Farmers tending their fields constituted the largest segment of respondents, comprising 50% of the total. This discovery underscores the paramount importance of agriculture in the local economy and sustenance of livelihoods.

Moreover, the survey unveiled a diverse array of occupations among community members. Daily wage labourers, engaged in both NREGA and the unorganised sector, accounted for 18% of respondents, underscoring the prevalence of this form of employment. Salaried positions in government or private sectors represented 16% of respondents, indicating a significant portion involved in formal employment sectors. Meanwhile, self-employed individuals made up 14% of the respondent pool.

The in-depth analysis of the impact assessment data sheds light on HZL's community engagement strategy. It illustrates a dedication to fostering balanced participation across genders, varied age groups, social categories, and primary occupations of the respondents. This holistic approach underscores HZL's commitment to inclusivity and fair distribution of benefit within the community.

### 8.2 Relevance of the Programme

One half of the households, comprising 55%, reported an average annual income less than Rs. 1,00,000 One quarter of the households (23%) own farmland, less than 3 Bigha. Just 17% do not own a farmland.

Migration in the villages is rare and **94% has never migrated**.

*Relevance* in the IRECS framework signifies the alignment between the programme's goals and objectives with the actual needs and aspirations of the target beneficiaries. It assesses whether the programme addresses the most pressing issues faced by the intended population.

In the villages of Dariba, Gawardi, Khadbamaniya, Kotdi, Railmagra, and Rajpura, agriculture, and daily wage labour stand as the primary occupations. This underscores the necessity for infrastructure development in these regions to facilitate better mobility and access to essential services and resources.

From the qualitative surveys, several noteworthy observations emerged, shedding light on the prevailing challenges and constraints encountered by the community. Furthermore, respondents expressed a pressing need for improved infrastructure within the village. They articulated concerns across various aspects, emphasising the necessity for enhancements to meet the evolving demands of the community, including:

- Potholes and uneven surfaces are prevalent, presenting transportation and mobility challenges, particularly noticeable during the monsoon seasons.
- There's a pressing need for water supply in areas facing scarcity.
- Roads are needed to link households with main roads for improved connectivity.
- While streetlights strengthen safety, irregular coverage raises security concerns, especially for women, children, and the elderly.
- Government schools lack infrastructure development due to the unavailability of government funds.

#### Annual household income (n=315)



Figure 114: Annual household income

The data analysis reveals the distribution of respondents based on the average annual income of their households, shedding light on the economic diversity within the community. A notable portion of households, comprising 53%, reported an average annual income of less than Rs. 1,00,000. This underscores the prevalence of lower to middle-income brackets among community members, indicating economic challenges faced by a significant segment of the population. Moreover, 22% of households reported an income of less than Rs. 50,000 annually, highlighting a subset of the community experiencing particularly acute financial constraints.

In light of these findings, the infrastructure developments undertaken by HZL emerge as a significant relief to these lower-income households. These initiatives not only address immediate infrastructural needs but also contribute to enhancing the overall quality of life for economically vulnerable segments of the community.



The data on primary fuel sources used for cooking by households indicates that the majority, accounting for 81% of households, still rely on fuel wood, emphasising the enduring prevalence of traditional cooking methods. Moreover, 19% of respondents use Liquefied Petroleum Gas (LPG), signalling a shift towards cleaner and more efficient fuel sources. These findings underscore the challenges related to the accessibility and affordability of LPG for cooking practices.

The analysis of farmland ownership data underscores the agricultural bedrock of the respondent villages, reaffirming agriculture's pivotal role as the cornerstone of livelihoods within the community. An overwhelming 83% of families reported owning farmland, cementing the inseparable connection between land ownership and agricultural pursuits. This statistic vividly illustrates agriculture's dominance as the primary income source for a significant majority of households.



Figure 116: Respondents owning Farmland

Figure 117: Size of farmland owned

However, amidst this agricultural landscape, a noteworthy 17% of respondents do not own land, hinting at a more varied tapestry of livelihoods and income streams within the community. This diversity sheds light on the multifaceted economic activities beyond traditional farming.

Interestingly, despite the prevalence of farmland ownership, only 50% of respondents identified farming as their primary income source. This revelation underscores the economic complexities faced by small and marginalised farmers, who often resort to supplementary or alternative occupations to sustain their households.

While agriculture remains the foundation of the community's economic fabric, the presence of alternative livelihood strategies underscores the adaptive measures employed by households to navigate their socio-economic realities. This paints a rich picture of rural economies, characterised by resilience and versatility in the face of evolving challenges.

The analysis of land ownership patterns unveils a striking trend: a significant majority of respondents possess plots of land exceeding 7 bighas in size, signifying agriculture as the primary source of income. However, a notable 12% of farmers own farmland ranging from 1 to 2 bighas. This finding accentuates the prevalence of small landholding among community members, hinting at a predominantly subsistence-oriented agricultural system.

Indeed, small landholdings are a hallmark of rural areas, where agricultural endeavours are often geared towards satisfying the household's consumption needs rather than focusing on large-scale commercial production. This insight into land ownership provides a glimpse into the intricate dynamics of rural livelihoods, where subsistence farming plays a central role in sustaining households and communities.



Image 32: FGD with Community Members

Migration pattern with time frame (n=315)



• No • 1 month • 2 month • 3 month • 4 month • 5 month • 6 month • More than 6 month



Migration is not a prevalent phenomenon in the villages of the Dariba region, with an overwhelming 94% of families reporting no migration. However, for those who do migrate, the duration and motives vary significantly, offering insights into the socio-economic dynamics within the community. A noteworthy proportion of migrants reported engaging in migration for relatively short periods, typically ranging from 1 to 5 months. This brief duration of migration is often attributed to the imperative need to return to their families, prompted by the lack of suitable employment opportunities. This pattern suggests that migration may be influenced by seasonal factors, particularly during periods when agricultural activities cannot be pursued effectively. In contrast, a minority of respondents (1%) disclosed themselves or their family members staying away from the villages for longer durations, driven by the prospect of finding better opportunities elsewhere. This revelation underscores the impact of external economic prospects on migration decisions, indicating that migration is not solely dictated by seasonal exigencies but also by the pursuit of enhanced livelihood opportunities.



Figure 119: Income through migration

The data analysis reveals that income earned through migration is predominantly modest, with nearly half of the migrating population (47%) reporting earnings of up to Rs. 21,000. This suggests that a significant portion of migrants are involved in unskilled labour in the cities they migrate to, resulting in relatively lower income levels. Consequently, these lower earnings often prompt migrant workers to return to their villages after a relatively short period.

Conversely, 32% of migrants reported earning within the income bracket of Rs. 21,000 to Rs. 31,000, while 21% reported earnings falling within the range of Rs. 31,000 to Rs. 41,000. These findings indicate a varying spectrum of income levels among migrant workers, highlighting the diverse economic circumstances and opportunities encountered in migration destinations.



Figure 120: health facility preferred by respondents

Despite its shortcomings, 46% of respondents continued to utilise the local health facility, highlighting the limited options available to them prior to the intervention. However, when the local health facility proved inadequate, residents had to explore alternative avenues to address their health needs. A significant proportion (44%) sought healthcare at health centres in neighbouring villages, underscoring the pressing need for improved healthcare accessibility within their communities.

Additionally, 7% opted for private hospitals, suggesting a potential preference for the expertise offered by qualified medical professionals in the region. A smaller percentage (1%) chose private hospitals, followed by an even smaller percentage (1%) who preferred home remedies and self-diagnosis.

While the overwhelming majority of surveyed households sought healthcare in some form, the small proportion of non-seekers may indicate limited income and resources, which hinder their access to healthcare services. This highlights the socio-economic disparities impacting healthcare accessibility within the community.



Annual expenditure on private health clinic (n=174)

Figure 121: Annual expenditure on private health clinic

The graph indicates the considerable financial strain faced by community members relying on private healthcare facilities. When seeking treatment at private clinics or hospitals, households incurred various expenses throughout the year, revealing a significant cost burden:

- Low Spenders: Nearly a third of respondents (32%) spend less than Rs. 200 on private hospitals or clinics, opting for more economical healthcare services.
- Moderate Spending: A substantial portion of 29% of respondents using private facilities incurred costs ranging between Rs. 201 and Rs. 600 annually.

• High Spenders: Similarly, almost an equal number of respondents (31%) were found to be spending larger amounts, exceeding Rs. 800 per year on private medical care.

For many households, especially those with variable or low incomes, even moderate expenses can pose a significant financial challenge. The fact that people continue to utilise private care despite the costs suggests a perceived gap in the quality or availability of services offered by public health facilities. This underscores the importance of addressing issues related to healthcare accessibility and affordability within the community.



Figure 122: Source of water prior to intervention

The respondents adhere to traditional, labour-intensive methods for water collection, resorting to handpumps and wells. This stark reality underscores the urgent need for additional water infrastructure development to alleviate the burdens imposed by manual labour and ensure access to safe and reliable water sources for the community. Thus, HZL focus on water infrastructure is highly relevant for the members of the community in Dariba

The presence of inadequate infrastructure, coupled with inconsistent access to basic amenities such as water and the prevalence of lower-income households, collectively depict a community grappling with resource limitations. Moreover, the reliance on traditional cooking fuels, alongside intricate land ownership and migration patterns, underscores the village's multifaceted socio-economic reality.

These findings serve as a clarion call for targeted interventions. It's imperative to focus on infrastructure development, livelihood diversification, and mitigating socio-economic disparities. By addressing these pressing needs, the way can be paved for enhancing the overall well-being and resilience of the community, ensuring a brighter and more sustainable future for all its members.

### 8.3 Expectations from the Programme

*Expectation* in the IRECS framework focuses on the degree to which the programme's interventions have met the anticipated positive changes for the beneficiaries. It examines whether the programme has delivered on its promises and resulted in the expected social, economic, and cultural improvements for the target population.

The villages of Dariba, Gawardi, Khadbamaniya, Kotdi, Railmagra, and Rajpura have experienced significant transformation through a series of interventions spearheaded by HZL over an extended period. This sustained commitment underscores HZL's dedication to addressing the diverse needs of the community. Through extensive community engagement initiatives, critical needs were identified, paving the way for targeted programmes aimed at enhancing water access, safety, mobility, education, and economic empowerment within the villages.

The process of community engagement played a pivotal role in pinpointing specific requirements and challenges faced by residents, laying the groundwork for the design and implementation of tailored infrastructure developments. Projects such as water infrastructure enhancements, pond deepening, Vedanta stadium, community centres, cremation sheds, school infrastructure improvements, solar light installations, stadium construction, cement concrete (CC) road, model bus stand, bitumen & gravel road and community toilet development were meticulously planned and executed to address these identified needs.

The establishment of water infrastructure has significantly alleviated water scarcity in the area, providing residents with access to safe and clean water. The construction and maintenance of the Vedanta stadium have emerged as a catalyst for youth engagement in sports, offering opportunities for professional pursuits and community events.

The construction of cremation sheds reflects HZL's responsiveness to the cultural and social requirements of the community, ensuring dignified funeral rites. Similarly, improvements in school infrastructure contribute to enhancing educational opportunities and outcomes for local children, fostering human capital development.

The installation of solar lights not only enhances safety and security within the community but also boosts productivity and economic activity, particularly during evening hours. Additionally, the construction of CC roads improves mobility and connectivity, facilitating access to essential services and economic exchanges within and beyond the villages.

Furthermore, the renovation of Primary Health Centres (PHCs) and Community Health Centres (CHCs) represents a significant stride in healthcare services, providing upgraded primary and secondary health services to the community. The Zinc hospital's provision of free healthcare services further underscores HZL's commitment to community welfare.

These interventions highlight the collaborative effort between HZL and the community towards holistic development and the enhancement of overall well-being within the villages. By aligning infrastructure developments with the specific needs and aspirations of the beneficiaries, these initiatives exemplify a participatory approach to community development, fostering sustainable socio-economic progress and empowerment at the grassroots level.

### Improvements in Health Infrastructure

100%reportedrepairmentinCHCs,46%mentionedPHCs,

Spending "Up to Rs. 100" on **medicines** increased by **33%**, while higher categories saw a **19%** decrease. Spending "Up to Rs. 100" on **diagnostic tests** increased by **22%**, while higher categories saw a **19%** decrease.

The focus on improving health infrastructure in the intervention areas is evident from the survey findings, revealing various developments aimed at enhancing healthcare facilities for the community. Significant quantities of repair work have been reported for hospitals, Primary Health Centres (PHCs), and Community Health Centres (CHCs), indicating a concerted effort to bolster healthcare access and quality.

Qualitative surveys have shed light on the benefits stemming from these improvements to healthcare infrastructure in the villages, including:

- Enhanced access to essential medications at affordable prices within the community, facilitated by improved availability of medicines at repaired healthcare facilities.
- Increased accessibility to doctors for residents who previously relied on selfmedication or alternative treatments due to limited access to healthcare facilities. This has resulted in more frequent consultations, leading to more targeted and potentially less expensive prescriptions.
- The significance of Zinc Hospital, equipped with modern facilities, has contributed significantly to better health services provided free of cost to villages of Rajpura Dariba complex. This highlights the pivotal role played by modern healthcare facilities in enhancing healthcare access and outcomes for the community.



Development in Health Infrastructure (n=106)

Figure 123: Development in health infrastructure by HZL

The survey findings reveal that 100% of respondents aware of the health infrastructure upgrades by HZL affirmed the work done in Community Health Centres (CHCs), with nearly half of them also acknowledging repairs conducted at Primary Health Centres (PHCs), which have significantly strengthened primary healthcare in their villages. Additionally, 42% of respondents highlighted the significance of the Zinc Hospital in the area, which offers free medical services, including doctors' consultations and medicines.

The primary objective of these health infrastructure interventions was to enhance the community's current healthcare system. These initiatives were designed to improve accessibility and quality of care at the most critical points of entry for residents seeking medical attention, with a particular focus on prioritising repairs at PHCs and CHCs. This strategic approach underscores the commitment to bolstering primary healthcare services, ensuring that residents have access to essential medical care close to home.



Travel cost to visit other healthcare centre (n=174)

Figure 124: Travel cost to visit other healthcare centre

There has been a notable shift in travel costs following these interventions, as the majority of respondents now have access to healthcare services near their homes. Specifically, 56% of respondents reported walking to healthcare services, compared to only 27% who did so before the HZL intervention. This significant increase in the proportion of individuals walking to healthcare centres illustrates a clear shift in travel patterns and highlights the reduced need for costly transportation methods. This shift is depicted in the graph, emphasising the positive impact of the interventions on reducing travel expenses for accessing essential healthcare services within the community.

After the construction of a ward capable of treating patients in 8 bed, tile flooring and side wall tiling, painting, parking shed, ground levelling and other repair works by HZL now our hospital looks like a high-end private hospital.

- Dr Praveen Grag, Medical officer in charge, CHC Mehenduriya.



Image 33: Renovation done in CHC Mehenduriya



Image 34: Interaction with Medical officer in charge, CHC Mehenduriya



### Time taken to travel to healthcare centre (n=174)



The time taken to reach the healthcare centre is intricately linked to travelling costs, and a similar shift can be observed when conducting a pre- and post-analysis of the time taken. There is a significant reduction in travelling time, indicative of the positive impact of the interventions on improving access to healthcare services within the community. This reduction underscores the effectiveness of the interventions in bringing healthcare facilities closer to residents, thereby minimising the time and resources required for seeking medical assistance. Overall, this shift signifies a more efficient and convenient healthcare delivery system, resulting in improved health outcomes for the community.



Expenditure on medicines (n=174)

#### Figure 126: Expenditure on medicines

A significant shift towards lower spending categories for medications is evident following the HZL intervention. The number of respondents reporting spending less than Rs. 100 nearly doubled, rising from 26% before the intervention to 59% afterwards. Conversely, there is a notable decline in the higher spending categories, with the percentages for those spending "Rs. 401 – Rs. 500" and "More than Rs. 500" dropping by a combined 19% post-intervention. This shift underscores the positive impact of the interventions on reducing medication costs for residents, indicating improved affordability and accessibility of essential healthcare services within the community.



#### Figure 127: Expenditure on medical tests

The data on pre- and post-intervention expenditure on medical tests provides valuable insights into a potential rise in diagnostic testing within the community. Lower and mid-range spending categories exhibit a noticeable increase following the intervention. The proportion of respondents reporting spending "Up to Rs. 100" and "Rs. 101 - Rs. 200" has risen by 22% and 7%, respectively. This suggests that a larger number of individuals now have access to standard diagnostic procedures, reflecting improved healthcare accessibility and affordability.

Conversely, there is a clear decline in the high spending categories, with "Rs. 401 - Rs. 500" and "More than Rs. 500" dropping by 10% and 19%, respectively. This downward trend underscores the positive impact of the interventions on reducing the financial burden associated with medical tests, ensuring that residents can access necessary diagnostic services without incurring excessive costs. Overall, these findings highlight the enhanced availability and affordability of diagnostic testing within the community following the HZL intervention.

These results indicate that the interventions have successfully enhanced the quality of healthcare services and expanded access to medical testing within the community. As a result, beneficiaries have experienced a decrease in their expenditure on medical examinations. This suggests that the interventions have not only made healthcare services more accessible but have also made them more cost-effective for community members. Overall, these findings underscore the positive impact of the interventions on improving healthcare outcomes and reducing financial burdens for the beneficiaries.



Image 35: Zinc Hospital providing free diagnosis and medicines to the community

### Improvements in Education Infrastructure

(95%) reported reduced absenteeism due to sanitation issues among girls; from toilet construction in school. 72% reported increased girls' attendance, 52% increased teacher satisfaction, 34% better academic results. **93%** felt safer learning environment for kids. **85%** observed improved nutrition for children attending **Anganwadis**.

HZL's interventions within the community encompassed a diverse array of educational infrastructure enhancements, as indicated by the survey data. A notable emphasis was placed on the development of sanitation facilities, with 44% of responses mentioning toilet construction. This suggests a recognition of the vital role that clean and accessible toilets play in fostering a healthy learning environment for students.

Furthermore, the repairment of Anganwadi centres under the 'Khushi Nand Ghar' initiative of HZL emerged as the most recognized intervention in education. This highlights the significance of HZL's commitment, in collaboration with the community's dedication, to early childhood education and development. By focusing on improving infrastructure and facilities in schools, HZL has demonstrated its dedication to enhancing the overall educational experience and well-being of the community's youth.



#### Education infrastructure development (n=290)

Figure 128: Education infrastructure development by HZL

In addition to the aforementioned interventions, several initiatives were undertaken to enhance the overall learning environment in schools:

- Classroom construction (21%) tackled potential space constraints and overcrowding, ensuring students have adequate room for learning and interaction.
- School ground levelling (24%) provided a more suitable area for outdoor activities and physical education, promoting a healthier and more active lifestyle among children.

These initiatives demonstrate HZL's commitment to addressing various aspects of educational infrastructure to create a conducive environment for learning and holistic development among students. By improving classroom facilities and outdoor spaces, HZL aims to enhance the educational experience and well-being of the community's youth.

# Repairing the Anganwadi contributed to early childhood development (n=149)



Figure 129: Benefits of Anganwadi repair

A significant majority of respondents, accounting for 85%, acknowledged the provision of a safe learning environment for young children as a primary benefit resulting from the repair work of Anganwadi centres, as illustrated above. Additionally, 85% of respondents highlighted that children receive better nutritional intake through Anganwadis, indicative of improved facilities for food preparation and storage, potentially leading to a more consistent and nutritious diet for children attending these centres.

Furthermore, restoring Anganwadis was perceived by a substantial amount of respondents (93%) as providing parents with more flexibility at work by offering a dependable daycare option. This can be particularly beneficial for families where both parents work. While parents are at work, a well-run Anganwadi can provide a secure and engaging environment for children, potentially reducing child neglect and fostering early learning opportunities. These findings underscore the multifaceted benefits of Anganwadi Centre repair work, emphasising its pivotal role in promoting child development and supporting working families within the community.

As further elucidated by the survey team through additional interactions with the community and secondary stakeholders, the repair of Anganwadis plays a pivotal role in establishing a foundation for healthy early childhood development. By providing a safe space, ensuring access to nutritious food, and enabling parental work opportunities, these improvements can have a lasting positive impact on the well-being and prospects of young children within the community. This underscores the significance of investing in early childhood infrastructure and services as a means of fostering holistic development and empowering future generations.



Impact of school infrastructure development (n=290)

Figure 130: Impact of school infrastructure development by HZL

The development of infrastructure has brought about significant improvements in access to education, particularly for girls, and has enhanced the learning environment for both teachers and students. A substantial majority of respondents (72%) noted an increase in girls' attendance following the infrastructure development initiatives. Moreover, 68% reported a rise in overall attendance, indicating a broader positive impact on student participation.

Furthermore, 52% of respondents reported an increase in teacher satisfaction, attributed to factors such as improved classrooms, hygienic facilities, and the availability of instructional resources facilitated by the infrastructure development efforts. A more positive and wellequipped learning environment for teachers is likely to result in enhanced student engagement and potentially better learning outcomes.

Additionally, 34% of respondents reported achieving better academic results, suggesting a possible correlation between improved facilities and superior academic performance. Similarly, nearly the same number stated that there was an improvement in discipline in schools due to HZL interventions such as boundary wall construction and additional classrooms. These findings highlight the multifaceted benefits of infrastructure development in educational institutions, contributing to enhanced access, satisfaction, academic performance, and discipline within the school community.



Anticipated outcome of toilet construction on education accessibility

Figure 131: Impact of toilet construction by HZL in schools

The construction of toilets in schools has had a profound impact on reducing absenteeism, particularly among girls, as emphasised by 95% of the respondents. The availability of proper toilet facilities has effectively addressed a significant barrier to education, ensuring that girls no longer need to miss school due to a lack of access to sanitation facilities. Moreover, there has been an observed improvement in hygiene practices among boys, who previously resorted to open defecation due to the unavailability of washrooms in school.

These combined benefits have led to higher retention rates of students in schools, with 39% of respondents attributing the construction of toilets to lower dropout rates. By addressing fundamental issues of sanitation and hygiene, the provision of toilet facilities in schools has not only improved educational outcomes but also contributed to fostering a supportive and inclusive learning environment for all students. This underscores the vital role of infrastructure development in promoting equitable access to education and enhancing the overall educational experience for students.



Image 36: CC Road constructed in the Upper primary school, Kotdi



Image 37: Toilet constructed in school in Khadbamaniya

HZL CSR team build the boundary wall around the school which significantly increased the safety since outsiders were riding the bikes and cars inside the school premises and even cattle used to come inside the school before the construction of the boundary wall.

- Principal, Government senior school, Kotdi.

### Improvements in Community Infrastructures

#### Presence of on ground work by HZL (n=315)



Figure 132: Awareness among respondents regarding the work done by HZL in community infrastructure

A significant proportion of respondents demonstrated awareness of various infrastructure works undertaken by HZL, reflecting the visibility and impact of these interventions within the community. Approximately 64% of respondents were aware of the construction of CC roads, indicating widespread recognition of this infrastructure development initiative. Similarly, around 64% of respondents acknowledged the installation of solar lights, underscoring the

community's awareness of this particular intervention and its significance in enhancing safety and accessibility within the villages.

Moreover, 50% of the respondents were aware of the community centres, while 39% testified to the construction of community bathrooms, and 41% of respondents mentioned the construction of the cremation centre as having a significant impact, particularly in fostering a sense of community in the village. This recognition highlights the tangible benefits and positive outcomes associated with these infrastructure development initiatives, particularly in times of crisis.

Importantly, it is noteworthy that respondents continued to recognise and appreciate the work done by HZL even during the impact evaluation period of 2019-2023, despite the fact that some of the initiatives were completed prior to this period. This enduring recognition underscores the lasting impact of HZL's interventions on the community and emphasises the importance of sustained engagement and support in fostering positive socio-economic development outcomes.



Image 38: Community washroom in Gawardi



Impact of repairment on road / road divider (n=244)

0% 20% 40% 60% 80% 100%

Figure 134: Impact of road repair and work done by HZL



Image 39: Community toilet in Rajpura

The construction of CC Roads has brought about significant enhancements in the ease of travel for community members, positively impacting various aspects of daily life. Community spanning from children to members. adults. have experienced notable improvements in mobility, particularly in accessing essential services such as schools and workplaces. For children, the smoother and safer pathways provided by CC Roads have notably enhanced travel to school, with almost 90% testifying to this improvement. This not only facilitates regular attendance but also fosters a conducive learning environment, contributing ultimately to improved educational outcomes within the community.

Furthermore, community members have highlighted the substantial benefits of enhanced travel accessibility during health emergencies, with approximately 79% acknowledging the role of CC Roads in facilitating timely access to medical assistance and healthcare facilities. This capability to reach closer to homes due to CC Roads potentially mitigates the severity of health crises and improves overall health outcomes within the community.

Similarly, adults have reported increased ease of mobility for work-related purposes, enabling more efficient commuting to their workplaces. The construction of CC Roads has reduced travel times and minimized physical strain associated with traversing uneven or unpaved surfaces, thereby enhancing productivity and economic participation among community members.

Moreover, the adverse impact of kutcha roads, particularly during the monsoon season, has been significantly mitigated by the presence of CC Roads. Previously, the unpaved and uneven surfaces posed considerable difficulties in walking, exacerbating challenges during inclement weather. The provision of CC Roads has alleviated these challenges, ensuring safer and more accessible travel even in adverse weather conditions. Overall, the construction of CC Roads has brought about a transformative improvement in mobility, safety, and overall quality of life for community members.

HZL has developed a lot of community infrastructure in Khadbamniya ranging from community centre, 5-6 CC roads, Solar lights, Solar pump, classroom & toilets in schools, CCP centre and pond deepening. I might be missing somethings due to the high number of works done in our village. The community as well as the PRI members are very thankful and happy with the work done by HZL in our village - Sarpanch, Khadbamaniya village.



Figure 135: Impact of community centre by HZL

Nearly all beneficiaries of the community centre attributed the increase in social gatherings as a key benefit of the facility. Additionally, 55% of respondents highlighted that the renovation enhanced access to cultural activities, providing a diverse range of engaging experiences for community members. Moreover, 82% of respondents noted an improvement in the community's image due to the renovation, indicating that the upgraded facility positively influenced community perception and pride.

These findings suggest that the refurbished centre offers a greater variety of interesting activities appealing to a range of interests,

thereby fostering a sense of enjoyment and relaxation among community members. This is further supported by the reported 18% increase in recreational activities, indicating a greater uptake of leisure pursuits facilitated by the improved amenities of the community centre. Overall, the renovation has not only enhanced social cohesion and cultural engagement but has also positively impacted the overall image and sense of community pride.



Image 40: Community centre in Rajpura

# Approximate increase in income potential for individuals as a result of improved community infrastructure and facilities (n=315)



Figure 136: Increase in income due to community infra development

The development and repair of community infrastructures have yielded significant positive impacts on the income potential of individuals, primarily attributed to the enhancement of community infrastructure and facilities. An overwhelming majority of respondents (99%) believe that improved infrastructure has directly contributed to an increase in income potential.

Specifically, approximately 50% of respondents reported experiencing an increase of up to Rs. 1000 in their income potential, highlighting the tangible financial benefits derived from improved infrastructure. Moreover, 31% noted a more substantial increase ranging from more than Rs. 1000 to less than Rs. 2000, indicating a significant uplift in income levels for a considerable portion of the community. Additionally, 13% of respondents reported an even higher rise in income, falling between more than Rs. 2000 and less than Rs. 3000, further underscoring the substantial economic gains resulting from infrastructure improvements.

These findings underscore the critical role of community infrastructure in fostering economic growth and enhancing livelihood opportunities for individuals within the community. The significant increase in income potential reflects the tangible benefits derived from investments

in infrastructure development, highlighting the transformative impact of such initiatives on socio-economic well-being.

The increased income potential can be attributed to various factors facilitated by improved infrastructure:

- Enhanced Mobility: Better roads (due to CC road construction) have eased commute times and enable villagers to reach workplaces or markets more efficiently.
- Business Opportunities: Improved infrastructure, like community centres or market facilities, helped create new business avenues, potentially generating employment opportunities.
- Boosted Productivity: Access to sanitation facilities (from toilet construction) and time saved due to better roads led to increased work hours and productivity.
- **Community events:** The cost of community-related activities is reduced due to the community centre.

### Improvements in Water Infrastructure

The survey findings suggest that water security is a paramount concern for the community, with residents prioritising enhancements in water access, storage, and overall water management infrastructure.

#### Development areas in society (n=297)



#### Figure 137: Water infrastructure development by HZL

The construction of RO (Reverse Osmosis) and water ATMs stands out as a major water infrastructure development undertaken by HZL in Dariba. Nearly 92% of the beneficiaries of these water infrastructure initiatives attribute the implementation of RO and water ATMs to the reduction of water scarcity and the enhancement of access to clean and safe water within the community. Moreover, the need for increased water storage capacity to meet daily demands or account for seasonal variations is evident, as reflected in the construction of water tanks, a

development noted by 21% of respondents. Additionally, a smaller yet notable percentage of respondents attribute the reduction of water scarcity to water pipeline installation (15%).

Pond-deepening activities in Dariba have also contributed significantly to addressing water scarcity, with approximately 6% of respondents testifying to its importance as a major source of water. The relatively lower percentage of respondents in this category could be attributed to the specific location specificity of this intervention.



Image 41: Pond deepening in Khadbamaniya

Overall, these findings underscore the multifaceted approach employed by HZL to address water scarcity issues within the community, highlighting the diverse range of interventions aimed at enhancing water accessibility and quality for residents.



Figure 138: Most effective improvement towards clean water initiative by HZL

Nearly 70% of respondents identified water ATMs and water supplied via tanker as the primary sources of clean drinking water within the community. Remarkably, respondents reported procuring water at a rate of Rs 6 per 20 litres, indicating both affordability and accessibility of clean drinking water through these avenues.



Image 42: Water RO and ATM in Gawardi



Additionally, 27% of respondents attributed the construction of water tanks, particularly those filled by HZL, to the increased availability of clean drinking water. This underscores the significant contribution of infrastructure development, such as water tank construction, in ensuring adequate access to potable water for community members.



Figure 139: Other livelihood opportunities post Figure 140: Greatest positive impact on agricultural intervention productivity brought up by HZL intervention

The water infrastructure interventions in Dariba primarily target providing water for drinking and domestic use, such as cooking, through initiatives like water ATMs and water tankers. As a result, approximately 85% of respondents do not agree that these interventions contribute to any of their livelihood activities beyond domestic use.

However, respondents living near the areas where pond-deepening activities were conducted by HZL have attributed these interventions to livelihood-related benefits, particularly in agriculture and livestock rearing. While the number of respondents in this category is significantly smaller, it highlights the localised impact of specific water infrastructure initiatives on livelihood activities beyond domestic use. RO and water ATM has been revolutionary we can go with cards and fill water according to our needs and the water prices are very minimal. The water also tastes safe considering we were taking water from hand pumps.

- Resident from Gawardi village



HZL water intervention has reduced cases of waterborne diseases (n=315)

#### Figure 141: HZL water intervention has reduced cases of waterborne diseases

The installation of RO machines in each location, combined with the implementation of water ATMs and water tankers distributing water, are widely regarded by the community as the two most successful interventions for enhancing access to clean water. Together, these interventions form an extensive water supply system that ensures appropriate storage and dependable access to clean water.

According to the data, HZL's water interventions have contributed to a reduction in the number of waterborne illness cases in the surveyed communities. A significant majority of respondents, comprising 62% of the total, reported experiencing at least some level of reduction in waterborne diseases like diarrhoea and vomiting; following the implementation of HZL's interventions. However, 38% of respondents reported no improvement in reduced cases. This discrepancy may be attributed to several factors, such as a lack of understanding among villagers regarding waterborne diseases or a lack of recall among respondents.

### Improvements in Solar Infrastructure

**97%** respondents were aware of solar light installations, and **71%** acknowledged installation of LED lights 90% respondents believe electricity bill for community electricity consumption has reduced d solar lights. Introduction of solar technology enhanced safety and security while also improving visibility at night.

Community members have reported several initiatives implemented by the HZL team to improve access to clean energy sources within the villages. One notable initiative includes the installation of solar LED lights, which have significantly illuminated even the darkest corners of the villages. Moreover, these lights serve as a valuable option for street lighting, enhancing safety for commuters during nighttime hours.

Furthermore, the installation of solar pumps in villages like Khadbamaniya has played a crucial role in supporting HZL's water infrastructure initiatives. These solar pumps contribute to efficient water management and distribution, thereby augmenting the overall effectiveness of HZL's efforts to improve access to clean water within the community.



Figure 142: Presence of any solar based intervention by HZL

Approximately 70% of the respondents were aware of the solar infrastructure development implemented in the villages of Dariba. However, the remaining respondents were not aware of these interventions due to the location-specific nature of the infrastructure. Specifically, the solar lights were confined to the neighbourhoods where they were installed, limiting their visibility and awareness among residents residing outside these areas.





Figure 143: Solar based developments done by HZL

The intervention of installation of solar lights were recognised by 100% of respondents who were aware of the solar infrastructure development in their villages, underscoring its

widespread presence and utilisation within the community. Additionally, 71% of respondents acknowledged the installation of LED lights, demonstrating HZL's efforts to enhance lighting infrastructure using sustainable solar technology.



Image 44: Solar Lights installed by HZL

There was negligible to no recognition of the solar pumps among respondents. This lack of recognition can be attributed to villagers' unfamiliarity with the technical aspects of the pumps, particularly whether they were solar-powered or not.



Figure 144: Reduction in electricity bill due to HZL intervention

HZL has made significant progress in introducing solar technology to the village, primarily through the installation of solar lights. This intervention has notably enhanced safety and security while also improving visibility during nighttime. Moreover, there has been a noticeable shift towards LED lighting solutions, known for their energy efficiency.

According to the data, a majority of respondents (54%) believe that the installation of solar lights has led to a reduction in the electricity bill for community electricity consumption paid by the panchayat. This suggests that the adoption of solar lighting solutions not only benefits the

community in terms of safety and visibility but also offers potential cost savings by reducing reliance on conventional electricity sources.

### 8.4 Convergence

*Convergence* in the IRECS framework refers to aligning efforts, resources, and policies across sectors and stakeholders toward common development goals. It emphasises the integration and coordination of efforts from various actors, including government agencies, non-governmental organisations, community members, and other relevant stakeholders, to address complex development challenges comprehensively.

SI. No	Name of Partner	Type of Partnership	Responsibilities
1.	School Authorities	Project-based partnership	Handover of infrastructure after the completion
2.	Panchayat Raj Institutions	Project-based partnership	Site identification, provision of land, handover of infrastructure and maintenance of infrastructure handed over

The diverse infrastructure development projects were exclusively funded by HZL in collaboration with local village councils known as Gram Panchayats, reflecting a strong partnership between the corporate entity and the grassroots governance structure. This collaborative effort involved meticulous planning alongside elected representatives (PRI) and thorough need assessments within the community. Upon allocation of land by the panchayats, HZL took charge of construction activities, ensuring precision and quality throughout the process. Subsequently, a seamless handover of operations and maintenance responsibilities for the structures was facilitated to the respective Gram Panchayats. This transition marked a crucial step towards community ownership and sustainability of the infrastructure projects.

Community members, who form an integral part of these Gram Panchayats, actively participate in the decision-making processes, thereby ensuring that the infrastructure developments align closely with the needs and aspirations of the local populace. This inclusive approach underscores the collaborative spirit between HZL and the community, fostering a sense of ownership and empowerment among residents.

### 8.5 Service Delivery

Service delivery in the IRECS framework refers to providing essential amenities and infrastructure to communities efficiently and effectively to meet their needs. Effective service delivery involves the efficient and timely delivery of these services, ensuring accessibility, affordability, and quality, thereby contributing to the overall well-being and development of the community.



Rating on installation of LED lights

Figure145: Ratings for Solar Lights installed by HZL

The installation of solar LED lights has undeniably bolstered safety measures within the community, garnering recognition from a majority of residents. Approximately 55% of respondents acknowledged a notable enhancement in safety, rating it as a "4 or 3" on a scale ranging from 1 to 5 (1 being the lowest and 5 being the highest), thereby indicating a significant positive impact on community safety.

However, the survey data also unveils certain limitations, as indicated by a small fraction of respondents. Approximately 4% reported "no improvement," while 27% rated the improvement as minimal or slight, giving it a rating of "1" or "2." Further exploration through qualitative interactions with beneficiaries and PRI representatives revealed instances where the efficacy of solar lights was compromised. Some respondents reported instances where the solar lights ceased functioning after a couple of years or even within a few months of installation, thereby contributing to the lower ratings observed in the survey.

These insights underscore the importance of not only implementing sustainable infrastructure solutions but also ensuring their long-term functionality and maintenance. Addressing issues related to durability and maintenance can help maximise the effectiveness of such initiatives, ensuring sustained benefits for the community. The qualitative findings shed light on these concerns:

- **Maintenance Issues:** Some residents expressed concern about inoperable lights brought on by a lack of maintenance. The PRI should ensure the maintenance of the infrastructure handed over.
- **Inadequate Coverage**: According to some respondents, the village still had some areas that weren't well-lit. To further improve safety, the network of LED lights could be expanded to include these areas of darkness.

Despite some challenges with maintenance, the installation of Solar LED lights has notably enhanced the community's sense of safety. To further augment the effectiveness of this intervention, addressing maintenance issues is imperative. Implementing regular maintenance schedules and ensuring prompt repairs can help sustain the functionality of the solar lights, thereby maintaining consistent illumination in the community. Extending coverage to currently unlit areas can significantly enhance overall safety levels. Conducting thorough assessments to identify areas with insufficient lighting and strategically installing additional solar lights can help fill these gaps, ensuring comprehensive coverage throughout the community. By addressing maintenance concerns and expanding coverage to unlit areas, the community can maximise the benefits of the Solar LED lights, further bolstering safety measures and fostering a secure environment for all residents.



Figure 146: Current responsibility of maintenance

Figure 147: Future responsibility of maintenance

The community sees a shared responsibility for the project's long-term success. While the majority (56%) believe HZL is currently responsible for the maintenance of the infrastructure, a significant portion (44%) views PRI and government as having an ongoing role. This indicates a varying perception among the community members regarding the roles of both HZL and the PRI in ensuring the sustainability of the project. Almost the same number of respondents feel that the current responsibility of maintenance is with HZL, and HZL should be responsible for the maintenance in the future as well. But it is to be noted that HZL transfers the responsibility the maintenance and upkeeping of the infrastructure developed after handover to PRI.

The concerns raised by some community members regarding transparency, funding, and maintenance quality under PRI management highlight important considerations for sustainable infrastructure development and management. While these concerns may reflect a lack of confidence in the PRI's capacity to effectively maintain infrastructure, it is essential to recognise the principle of local ownership and empowerment inherent in decentralised governance structures like the PRI. The thing to be noted is that this is the perception of the respondents that HZL needs to do the maintenance of the infrastructure developed. This approach can not be feasible for HZL and this can hinder the new CSR activities that can be carried out. The responsibility of the maintenance should be solely on PRI.

## Social return on investment \*

### 1. SROI for Infrastructure development in Dariba FY 2019-20

1.1 SROI of installation of pipeline at Mataji ka Kheda and Rajpura villages

Financial Proxies						
Stakeholder	Indicator	Financial proxy	Source			
			(primary/secondary)			
Community	Water procurement	Average savings in	Primary and			
members	expenses	water	secondary			
Community	Additional income	Additional income	Primary			
members	activity	from extra economic				
		activity				

Social Return on Investment							
Year	2020-21	2021-22	2022-23	2023-24	2024-25		
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.10%		
Discounted Rate Considered	5.28%						
Total input cost	₹ 48568						
Total Net Impact	₹ 1287177.88						
NPV	₹ 12,22,623.37						
SROI	₹ 25.17						

## 1.2 SROI of construction of RO room at Kharbamniya

Financial Proxies			
Stakeholder	Indicator	Financial proxy	Source
			(primary/secondary)
Community	Water procurement	Average savings in	n Primary and
members	expenses	water	secondary

Social Return on Investment							
Year	2020-21 2021-22 2022-23 2023-24 2024-25						
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.10%		
Discounted Rate Considered	5.28%						
Total input cost	₹ 3,53,966						
Total Net Impact	₹ 4612140						
NPV	₹ 43,80,832.07						
SROI	₹ 12.38						

# 1.3 SROI of construction of RO platform for ATM at Mataji ka Kheda

Financial Proxies					
Stakeholder	Indicator	Financial proxy		Source	
				(primary/secon	dary)
Community	Water procurement	Average saving	s in	Primary	and
members	expenses	water		secondary	

Social Return on Investment							
Year	2020-21	2021-22	2022-23	2023-24	2024-25		
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.10%		
Discounted Rate Considered	5.28%						
Total input cost	₹ 68,770						
Total Net Impact	₹ 670468.5						
NPV	₹ 6,36,843.18						
SROI	₹ 9.26						

# 1.4 SROI of construction of CC road at Sunariyakheda

Financial Proxies							
Stakeholder Indicator		Financial proxy	Source				
			(primary/secondary)				
Community	Road accident	Savings from accident-	Secondary and				
members	cost	free transportation	primary				
Community	Wages foregone	Wages foregone due to	Secondary and				
members		accidents	primary				
Panchayat	Avoidance cost	Avoidance cost due to	Primary				
		HZL intervention					

Social Return on Investment							
Year	2020-21 2021-22 2022-23 2023-24 2024-25						
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.10%		
Discounted Rate Considered	5.28%						
Total input cost	₹ 19,01,067						
Total Net Impact	₹ 14166180.84						
NPV	₹ 1,34,55,718.88						
SROI	₹ 7.08						

# 1.5 SROI of construction of CC road at Rajpura

Financial Proxies							
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)				
Community members	Road accident cost	Savings from accident- free transportation	Secondary and primary				
Community members	Wages foregone	Wages foregone due to accidents	Secondary and primary				
Panchayat	Avoidance cost	Avoidance cost due to HZL intervention	Primary				

Social Return on Investment					
Year	2020-21 2021-22 2022-23 2023-24 2024-25				
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.10%
Discounted Rate Considered	5.28%				
Total input cost	₹ 38,26,413	3			
Total Net Impact	₹ 21589681.32				
NPV	₹ 2,05,06,916.15				
SROI	₹ 5.36				

# 1.6 SROI of construction of CC road on the way to Bherubapji

Financial Proxies					
Stakeholder	Indicator	Financial proxy	Source		
			(primary/secondary)		
Community	Road accident	Savings from accident-	Secondary and		
members	cost	free transportation	primary		
Community	Wages foregone	Wages foregone due to	Secondary and		
members		accidents	primary		
Panchayat	Avoidance cost	Avoidance cost due to	Primary		
		HZL intervention			

Social Return on Investment					
Year	2020-21 2021-22 2022-23 2023-24 2024-25				
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.10%
Discounted Rate Considered	5.28%				
Total input cost	₹ 55,67,311				
Total Net Impact	₹ 21246114.16				
NPV	₹ 2,01,80,579.56				
SROI	₹ 3.62				

# 1.7 SROI of construction of CC road ta Naya Dariba

Financial Proxies						
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)			
Community members	Road accident cost	Savings from accident- free transportation	Secondary and primary			
Community members	Wages foregone	Wages foregone due to accidents	Secondary and primary			
Panchayat	Avoidance cost	Avoidance cost due to HZL intervention	Primary			

Social Return on Investment					
Year	2020-21 2021-22 2022-23 2023-24 2024-25				
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.10%
Discounted Rate Considered	5.28%				
Total input cost	₹ 24,20,726				
Total Net Impact	₹ 21150702.77				
NPV	₹ 2,00,89,953.24				
SROI	₹ 8.30				

# 1.8 SROI of construction of CC road at Kotdi Bus stand

Financial Proxies					
Stakeholder	Indicator	Financial proxy	Source		
			(primary/secondary)		
Community	Road accident	Savings from accident-	Secondary and		
members	cost	free transportation	primary		
Community	Wages foregone	Wages foregone due to	Secondary and		
members		accidents	primary		
Panchayat	Avoidance cost	Avoidance cost due to	Primary		
		HZL intervention			

Social Return on Investment					
Year	2020-21 2021-22 2022-23 2023-24 2024-25				
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.10%
Discounted Rate Considered	5.28%				
Total input cost	₹ 14,50,327				
Total Net Impact	₹ 52942658.38				
NPV	₹ 5,02,87,479.46				
SROI	₹ 34.67				

# 1.9 SROI of construction of CC road Makhanpuriya

Financial Proxies						
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)			
Community members	Road accident cost	Savings from accident- free transportation	Secondary and primary			
Community members	Wages foregone	Wages foregone due to accidents	Secondary and primary			
Panchayat	Avoidance cost	Avoidance cost due to HZL intervention	Primary			

Social Return on Investment					
Year	2020-21 2021-22 2022-23 2023-24 2024-25				
India Inflation rate (Source IMF)	5.50% 6.70% 5.50% 4.60% 4.10%				
Discounted Rate Considered	5.28%				
Total input cost	₹ 6,27,318				
Total Net Impact	₹ 6805189.38				
NPV	₹ 64,63,895.69				
SROI	₹ 10.30				

# 1.10 SROI of construction of CC road Rajpura Kheda

Financial Proxies					
Stakeholder	Indicator	Financial proxy	Source		
			(primary/secondary)		
Community	Road accident	Savings from accident-	Secondary and		
members	cost	free transportation	primary		
Community	Wages foregone	Wages foregone due to	Secondary and		
members		accidents	primary		
Panchayat	Avoidance cost	Avoidance cost due to	Primary		
		HZL intervention			

Social Return on Investment					
Year	2020-21 2021-22 2022-23 2023-24 2024-25				
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.10%
Discounted Rate Considered	5.28%				
Total input cost	₹ 38,26,413				
Total Net Impact	₹ 21589681.32				
NPV	₹ 2,05,06,916.15				
SROI	₹ 5.36				

# 1.11 SROI of construction of CC road towards cremation shed Sunariyakheda

Financial Proxies						
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)			
Community members	Road accident cost	Savings from accident- free transportation	Secondary and primary			
Community members	Wages foregone	Wages foregone due to accidents	Secondary and primary			
Panchayat	Avoidance cost	Avoidance cost due to HZL intervention	Primary			

Social Return on Investment								
Year	2020-21	2021-22	2022-23	2023-24	2024-25			
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.10%			
Discounted Rate Considered	5.28%							
Total input cost	₹ 18,00,000							
Total Net Impact	₹ 14065113.84							
NPV	₹ 1,33,59,720.59							
SROI	₹ 7.42							

## 1.12 SROI of construction of gravel road along the pipeline in Rajpura

Financial Proxies									
Stakeholder	Indicator	Financial proxy	Source						
			(primary/secondary)						
Community	Road accident	Savings from accident-	Secondary and						
members	cost	free transportation	primary						
Community	Wages foregone	Wages foregone due to	Secondary and						
members		accidents	primary						
Panchayat	Avoidance cost	Avoidance cost due to	Primary						
		HZL intervention							

Social Return on Investment								
Year	2020-21	2021-22	2022-23	2023-24	2024-25			
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.10%			
Discounted Rate Considered	5.28%							
Total input cost	₹ 8,37,935							
Total Net Impact	₹ 18601203.32							
NPV	₹ 1,76,68,316.22							
SROI	₹ 21.09							
## 1.13 SROI of construction of gravel road from Shivpura to Raghunathpura

Financial Proxies							
Stakeholder	Indicator	Financial proxy	Source				
			(primary/secondary)				
Community	Road accident	Savings from accident-	Secondary and				
members	cost	free transportation	primary				
Community	Wages foregone	Wages foregone due to	Secondary and				
members		accidents	primary				
Panchayat	Avoidance cost	Avoidance cost due to HZL intervention	Primary				

Social Return on Investment						
Year	2020-21	2021-22	2022-23	2023-24	2024-25	
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.10%	
Discounted Rate Considered	5.28%					
Total input cost	₹ 8,11,213					
Total Net Impact	₹ 12895069					
NPV	₹ 1,22,48,355.81					
SROI	₹ 15.10					

## 1.14 SROI of construction of bitumen road at Mata ji ka Kheda

Financial Proxies						
Stakeholder	Indicator	Financial proxy	Source			
			(primary/secondary)			
Community	Road accident	Savings from accident-	Secondary and			
members	cost	free transportation	primary			
Community	Wages foregone	Wages foregone due to	Secondary and			
members		accidents	primary			
Panchayat	Avoidance cost	Avoidance cost due to	Primary			
		HZL intervention				

Social Return on Investment						
Year	2020-21 2021-22 2022-23 2023-24 2024-25					
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.10%	
Discounted Rate Considered	5.28%					
Total input cost	₹ 8,38,808					
Total Net Impact	₹ 7953178.32					
NPV	₹ 75,54,310.71					
SROI	₹ 9.01					

## 1.15 SROI of construction of toilet at Anjana village

Financial Proxies							
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)				
Community Members	Healthcare cost	Average savings in sanitation and hygiene related diseases	Primary and secondary				
Community Members	Wages foregone	Average savings due to wages forgone	Primary and secondary				

Social Return on Investment						
Year	2020-21	2021-22	2022-23	2023-24	2024-25	
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.10%	
Discounted Rate Considered	5.28%					
Total input cost	₹ 161550	₹ 1615505				
Total Net Impact	₹ 17103802.05					
NPV	₹ 1,62,46,012.59					
SROI	₹ 10.06					

#### 1.16 SROI of construction of community bathroom at Anjana

Financial Proxies						
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)			
Community Members	Healthcare cost	Average savings in sanitation and hygiene related diseases	Primary and secondary			
Community Members	Wages foregone	Average savings due to wages forgone	Primary and secondary			

Social Return on Investment						
Year	2020-21	2021-22	2022-23	2023-24	2024-25	
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.10%	
Discounted Rate Considered	5.28%					
Total input cost	₹ 798865					
Total Net Impact	₹ 5701267.35					
NPV	₹ 54,15,337.53					
SROI	₹ 6.78					

## 1.17 SROI of construction of Kabaddi ground at Kabra

Financial Proxies							
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)				
Community Members	Fitness cost	Savings in non-communicable diseases like diabetes, cholesterol, coronary heart diseases or obesity	Secondary				

Social Return on Investment						
Year	2020-21	2021-22	2022-23	2023-24	2024-25	
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.10%	
Discounted Rate Considered	5.28%					
Total input cost	₹ 200000					
Total Net Impact	₹ 2817024	.912				
NPV	₹ 28,17,02	4.91				
SROI	₹ 14.09					

#### 1.18 SROI of annual maintenance of Vedanta stadium

Financial Proxies						
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)			
Community Members	Fitness cost	Savings in non-communicable diseases like diabetes, cholesterol, coronary heart diseases or obesity	Secondary			

Social Return on Investment						
Year	2020-21	2021-22	2022-23	2023-24	2024-25	
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.10%	
Discounted Rate Considered	5.28%					
Total input cost	₹ 560000					
Total Net Impact	₹ 1917648	3				
NPV	₹ 18,21,47	'4.16				
SROI	₹ 3.25					

<u>1.19 SROI of Additional classrooms at Mahenduriya, Naya Driba and Dariba Government schools</u>

Financial Proxies						
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)			
Students	Savings in school fees	Savings in fees from not shifting to private school with additional classrooms	Secondary and primary			
School Authority	Avoidance cost	Avoidance cost due to HZL intervention	Primary			

Social Return on Investment						
Year	2020-21 2021-22 2022-23 2023-24 2024-25					
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.10%	
Discounted Rate Considered	5.28%					
Total input cost	₹ 4249649	)				
Total Net Impact	₹ 15040248.68					
NPV	₹ 1,42,85,950.49					
SROI	₹ 3.36					

1.20 SROI of construction of drainage at Mahenduriya, Anjana and Sindesar Kalan

Financial Proxies						
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)			
Community Members	Healthcare cost	Average savings in sanitation and hygiene related diseases	Primary and secondary			
Community Members	Wages foregone	Average savings due to wages forgone	Primary and secondary			

Social Return on Investment						
Year	2020-21 2021-22 2022-23 2023-24 2024-25					
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.10%	
Discounted Rate Considered	5.28%					
Total input cost	₹ 5155232	1				
Total Net Impact	₹ 70072738.75					
NPV	₹ 6,65,58,452.46					
SROI	₹ 12.91					

## 1.21 SROI of renovation of Sindesar Kalan Government school

Financial Proxies					
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)		
Students	Savings in school fees	Savings in fees from not shifting to private school with additional classrooms	Secondary and primary		
Students	Healthcare cost	Average savings in sanitation and hygiene related diseases	Primary and secondary		
School Authority	Avoidance cost	Avoidance cost due to HZL intervention	Primary		

Social Return on Investment						
Year	2020-21	2021-22	2022-23	2023-24	2024-25	
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.10%	
Discounted Rate Considered	5.28%					
Total input cost	₹ 669550					
Total Net Impact	₹ 4661515					
NPV	₹ 44,27,730.81					
SROI	₹ 6.61					

## 1.22. SROI Installation of solar lights

Financial Proxies						
Stakeholder	Indicator	Financial proxy	Source			
			(primary/secondary)			
Community members	Reduction in emission	Decrease in GHG emissions due to Solar Panel Installations	Secondary and primary			
Community members	Savings in electricity	Savings on Electricity Bills	Secondary and primary			

Social Return on Investment						
Year	2020-21	2021-22	2022-23	2023-24	2024-25	
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.10%	
Discounted Rate Considered	5.28%					
Total input cost	₹ 3837083.67					
Total Net Impact	₹ 3837083.67					
NPV	₹ 36,44,646.34					
SROI	₹ 0.79					

1.23. SROI of community centre at Sunariyakheda, Banjaro ka Kheda, Dariba and Naya Dariba

Financial Proxies						
Stakeholder	Indicator	Financial proxy	Source			
			(primary/secondary)			
Community Members	Rent	Rent from organizing events in a centre/ auditorium	Secondary			

Social Return on Investment						
Year	2020-21 2021-22 2022-23 2023-24 2024-25					
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.10%	
Discounted Rate Considered	5.28%					
Total input cost	₹ 4434000	)				
Total Net Impact	₹ 28080000					
NPV	₹ 2,66,71,732.52					
SROI	₹ 6.02					

#### 1.24 SROI of construction of girls toilet, Mata Ka Kheda

Financial Proxies						
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)			
Community Members	Healthcare cost	Average savings in sanitation and hygiene related diseases	Primary and secondary			
Community Members	Wages foregone	Average savings due to wages forgone	Primary and secondary			

Social Return on Investment						
Year	2020-21	2021-22	2022-23	2023-24	2024-25	
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.10%	
Discounted Rate Considered	5.28%					
Total input cost	₹ 300000					
Total Net Impact	₹ 551735.55					
NPV	₹ 5,24,064.92					
SROI	₹ 1.75					

#### 2. SROI for Infrastructure development in Dariba FY 2020-21

#### 2.1 SROI of maintenance of Railmagra stadium

Financial Proxies						
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)			
Community Members	Fitness cost	Savings in non-communicable diseases like diabetes, cholesterol, coronary heart diseases or obesity	Secondary			

Social Return on Investment						
Year	2020-21	2021-22	2022-23	2023-24	2024-25	
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.10%	
Discounted Rate Considered	5.28%					
Total input cost	₹ 694000					
Total Net Impact	₹ 16512866.93					
NPV	₹ 1,56,84,714.03					
SROI	₹ 22.60					

## 2.2 SROI of CC road at Sunariya Kheda

Financial Proxies			
Stakeholder	Indicator	Financial proxy	Source
			(primary/secondary)
Community	Road accident	Savings from accident-	Secondary and
members	cost	free transportation	primary
Community	Wages foregone	Wages foregone due to	Secondary and
members		accidents	primary
Panchayat	Avoidance cost	Avoidance cost due to	Primary

Social Return on Investment					
Year	2020-21 2021-22 2022-23 2023-24 2024-25				2024-25
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.10%
Discounted Rate Considered	5.28%				
Total input cost	₹ 1367092	6.03			
Total Net Impact	₹ 1367092	6.03			
NPV	₹ 1,29,92,089.36				
SROI	₹ 9.24				

## 2.3 SROI of CC road at Makanpuriya

Financial Proxies			
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)
Community members	Road accident cost	Savings from accident- free transportation	Secondary and primary
Community members	Wages foregone	Wages foregone due to accidents	Secondary and primary
Panchayat	Avoidance cost	Avoidance cost due to HZL intervention	Primary

Social Return on Investment					
Year	2020-21 2021-22 2022-23 2023-24 2024-25				2024-25
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.10%
Discounted Rate Considered	5.28%				
Total input cost	₹ 625141.85				
Total Net Impact	₹ 6803013.23				
NPV	₹ 64,65,206.21				
SROI	₹ 10.34				

### 2.4 SROI of CC road at Rajpura Kheda

Financial Proxies			
Stakeholder	Indicator	Financial proxy	Source
			(primary/secondary)
Community	Road accident	Savings from accident-	Secondary and
members	cost	free transportation	primary
Community	Wages foregone	Wages foregone due to	Secondary and
members		accidents	primary
Panchayat	Avoidance cost	Avoidance cost due to	Primary
		HZL intervention	

Social Return on Investment					
Year	2020-21 2021-22 2022-23 2023-24 2024-25				
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.10%
Discounted Rate Considered	5.28%				
Total input cost	₹ 1479141.58				
Total Net Impact	₹ 19242409.9				
NPV	₹ 1,82,86,918.41				
SROI	₹ 12.36				

## 2.5. SROI of community centre at Behru Bapji and Sindesar Khurd

Financial Proxies						
Stakeholder	Indicator	Financial proxy	Source			
			(primary/secondary)			
Community Members	Rent	Rent from organizing events in a centre/ auditorium	Secondary			

Social Return on Investment					
Year	2020-21 2021-22 2022-23 2023-24 2024-25				
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.10%
Discounted Rate Considered	5.28%				
Total input cost	₹ 2179698				
Total Net Impact	₹ 7440000				
NPV	₹ 70,70,563.08				
SROI	₹ 3.24				

#### 3. SROI for Infrastructure development in Dariba FY 2021-22

#### 3.1 SROI of toilet at school, Mahenduriya

Financial Proxies			
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)
Students	Savings in healthcare	Savings in healthcare due to better sanitation	Secondary and primary
School Authority	Avoidance cost	Avoidance cost due to HZL intervention	Primary

Social Return on Investment					
Year	2022-23	2023-24	2024-25		
India Inflation rate (Source IMF)	5.50%	4.60%	4.10%		
Discounted Rate Considered	4.73%				
Total input cost	₹ 576322				
Total Net Impact	₹ 11602292.2				
NPV	₹ 1,10,26,174.58				
SROI	₹ 19.13				

## 3.2 SROI of Rajpura Kheda school toilet, hall and boundary

Financial Proxies					
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)		
Students	Savings in healthcare	Savings in healthcare due to better sanitation	Secondary and primary		
School Authority	Avoidance cost	Avoidance cost due to HZL intervention	Primary		

Social Return on Investment				
Year	2022-23	2023-24	2024-25	
India Inflation rate (Source IMF)	5.50%	4.60%	4.10%	
Discounted Rate Considered	4.73%			
Total input cost	₹ 1600000			
Total Net Impact	₹ 7900554.4			
NPV	₹ 75,08,248.42			
SROI	₹ 4.69			

## 3.3 SROI of Old Dariba byepass to Dariba village pipeline

Financial Proxies					
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)		
Community members	Water procurement expenses	Average savings in water	Primary and secondary		
Community members	Additional income activity	Additional income from extra economic activity	Primary		

Social Return on Investment				
Year	2022-23	2023-24	2024-25	
India Inflation rate (Source IMF)	5.50%	4.60%	4.10%	
Discounted Rate Considered	4.73%			
Total input cost	₹ 200000			
Total Net Impact	₹ 1438609.88			
NPV	₹ 13,67,174.99			
SROI	₹ 6.84			

#### 3.4 SROI of two borewell, Dariba school and Kabra school

Financial Proxies					
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)		
School Authority	Water procurement expenses	Average savings in water	Primary and secondary		
School Authority	Avoidance cost	Avoidance cost due to HZL intervention	Primary		

Social Return on Investment				
Year	2022-23	2023-24	2024-25	
India Inflation rate (Source IMF)	5.50%	4.60%	4.10%	
Discounted Rate Considered	4.73%			
Total input cost	₹ 267538			
Total Net Impact	₹ 526428			
NPV	₹ 5,00,287.95			
SROI	₹ 1.87			

3.5 SROI of 5 borewell and motor supply, Mehanduriya, Raghunathpura, Dariba, Chouthpura, and Sunariyakheda,

Financial Proxies				
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)	
Community members	Water procurement expenses	Average savings in water	Primary and secondary	
Community members	Additional income activity	Additional income from extra economic activity	Primary	

Social Return on Investment				
Year	2022-23	2023-24	2024-25	
India Inflation rate (Source IMF)	5.50%	4.60%	4.10%	
Discounted Rate Considered	4.73%			
Total input cost	₹ 626147.16			
Total Net Impact	₹ 1504080			
NPV	₹ 14,29,394.16			
SROI	₹ 2.28			

## 3.6 SROI of water tank Sindesar Khurd

Financial Proxies			
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)
Community members	Water procurement expenses	Average savings in water	Primary and secondary
Community members	Additional income activity	Additional income from extra economic activity	Primary

Social Return on Investment					
Year	2022-23	2023-24	2024-25		
India Inflation rate (Source IMF)	5.50%	4.60%	4.10%		
Discounted Rate Considered	4.73%				
Total input cost	₹ 626147.16				
Total Net Impact	₹ 780617.52				
NPV	₹ 7,41,855.57				
SROI	₹ 1.18				

## 3.7 SROI of Anopura water tank

Financial Proxies					
Stakeholder	Indicator	Financial proxy	Source		
			(primary/secondary)		
Community	Water procurement	Average savings in	Primary and		
members	expenses	water	secondary		
Community	Additional income	Additional income	Primary		
members	activity	from extra economic			
		activity			

Social Return on Investment				
Year	2022-23	2023-24	2024-25	
India Inflation rate (Source IMF)	5.50%	4.60%	4.10%	
Discounted Rate Considered	4.73%			
Total input cost	₹ 478007			
Total Net Impact	₹ 429414.84			
NPV	₹ 4,08,092.03			
SROI	₹ 0.85			

## 3.8 SROI of CC road Dariba

Financial Proxies					
Stakeholder	Indicator	Financial proxy	Source		
			(primary/secondary)		
Community	Road accident	Savings from accident-	Secondary and		
members	cost	free transportation	primary		
Community	Wages foregone	Wages foregone due to	Secondary and		
members		accidents	primary		
Panchayat	Avoidance cost	Avoidance cost due to	Primary		
		HZL intervention			

Social Return on Investment					
Year	2022-23	2023-24	2024-25		
India Inflation rate (Source IMF)	5.50%	4.60%	4.10%		
Discounted Rate Considered	4.73%				
Total input cost	₹ 1895517				
Total Net Impact	₹ 33555219.72				
NPV	₹ 3,18,89,018.50				
SROI	₹ 16.82				

#### 3.9 SROI of Bitumen road SK, Sindesar Khurd

Financial Proxies					
Stakeholder	Indicator	Financial proxy	Source		
			(primary/secondary)		
Community	Road accident	Savings from accident-	Secondary and		
members	cost	free transportation	primary		
Community	Wages foregone	Wages foregone due to	Secondary and		
members		accidents	primary		
Panchayat	Avoidance cost	Avoidance cost due to	Primary		
		HZL intervention			

Social Return on Investment					
Year	2022-23	2023-24	2024-25		
India Inflation rate (Source IMF)	5.50%	4.60%	4.10%		
Discounted Rate Considered	4.73%				
Total input cost	₹ 3192935				
Total Net Impact	₹ 18871738.16				
NPV	₹ 1,79,34,652.56				
SROI	₹ 5.62				

## 3.10 SROI of Lathiya Khedi CC road

Financial Proxies					
Stakeholder	Indicator	Financial proxy	Source		
			(primary/secondary)		
Community	Road accident	Savings from accident-	Secondary and		
members	cost	free transportation	primary		
Community	Wages foregone	Wages foregone due to	Secondary and		
members		accidents	primary		
Panchayat	Avoidance cost	Avoidance cost due to	Primary		
		HZL intervention			

Social Return on Investment					
Year	2022-23	2023-24	2024-25		
India Inflation rate (Source IMF)	5.50%	4.60%	4.10%		
Discounted Rate Considered	4.73%				
Total input cost	₹ 1713298				
Total Net Impact	₹ 11622059.92				
NPV	₹ 1,10,44,960.72				
SROI	₹ 6.45				

## 3.11 SROI of CC road Chamariya Khedi (Kotdi)

Financial Proxies					
Stakeholder	Indicator	Financial proxy	Source		
			(primary/secondary)		
Community	Road accident	Savings from accident-	Secondary and		
members	cost	free transportation	primary		
Community	Wages foregone	Wages foregone due to	Secondary and		
members		accidents	primary		
Panchayat	Avoidance cost	Avoidance cost due to	Primary		
		HZL intervention			

Social Return on Investment					
Year	2022-23	2023-24	2024-25		
India Inflation rate (Source IMF)	5.50%	4.60%	4.10%		
Discounted Rate Considered	4.73%				
Total input cost	₹ 561127				
Total Net Impact	₹ 6603055				
NPV	₹ 62,75,177.00				
SROI	₹ 11.18				

## 3.12 SROI of Construction and road repair Surajbari to Rajpura Kheda

Financial Proxies					
Stakeholder	Indicator	Financial proxy	Source		
			(primary/secondary)		
Community	Road accident	Savings from accident-	Secondary and		
members	cost	free transportation	primary		
Community	Wages foregone	Wages foregone due to	Secondary and		
members		accidents	primary		
Panchayat	Avoidance cost	Avoidance cost due to	Primary		
		HZL intervention			

Social Return on Investment					
Year	2022-23	2023-24	2024-25		
India Inflation rate (Source IMF)	5.50%	4.60%	4.10%		
Discounted Rate Considered	4.73%				
Total input cost	₹ 966370				
Total Net Impact	₹ 38728420				
NPV	₹ 3,68,05,340.94				
SROI	₹ 38.09				

### 3.13 SROI of CC road Kotdi

Financial Proxies			
Stakeholder	Indicator	Financial proxy	Source
			(primary/secondary)
Community	Road accident	Savings from accident-	Secondary and
members	cost	free transportation	primary
Community	Wages foregone	Wages foregone due to	Secondary and
members		accidents	primary
Panchayat	Avoidance cost	Avoidance cost due to	Primary
		HZL intervention	

Social Return on Investment					
Year	2022-23	2023-24	2024-25		
India Inflation rate (Source IMF)	5.50%	4.60%	4.10%		
Discounted Rate Considered	4.73%				
Total input cost	₹ 1525072				
Total Net Impact	₹ 53017403.38				
NPV	₹ 5,03,84,797.70				
SROI	₹ 33.04				

## 3.14 SROI of CC road Bamaniya Kalan

Financial Proxies					
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)		
Community members	Road accident cost	Savings from accident- free transportation	Secondary and primary		
Community members	Wages foregone	Wages foregone due to accidents	Secondary and primary		
Panchayat	Avoidance cost	Avoidance cost due to HZL intervention	Primary		

Social Return on Investment				
Year	2022-23	2023-24	2024-25	
India Inflation rate (Source IMF)	5.50%	4.60%	4.10%	
Discounted Rate Considered	4.73%			
Total input cost	₹ 2439191			
Total Net Impact	₹ 43901921.9			
NPV	₹ 4,17,21,950.01			
SROI	₹ 17.10			

#### 3.15 SROI of Makanpuriya cremation road filling gravel

Financial Proxies					
Stakeholder	Indicator	Financial proxy	Source		
			(primary/secondary)		
Community	Road accident	Savings from accident-	Secondary and		
members	cost	free transportation	primary		
Community	Wages foregone	Wages foregone due to	Secondary and		
members		accidents	primary		
Panchayat	Avoidance cost	Avoidance cost due to	Primary		
		HZL intervention			

Social Return on Investment					
Year	2022-23	2023-24	2024-25		
India Inflation rate (Source IMF)	5.50%	4.60%	4.10%		
Discounted Rate Considered	4.73%				
Total input cost	₹ 163492				
Total Net Impact	₹ 6341363.38				
NPV	₹ 60,26,479.81				
SROI	₹ 36.86				

## 3.16 SROI of gravel road, Sarvadiya Khedi

Financial Proxies					
Stakeholder	Indicator	Financial proxy	Source		
			(primary/secondary)		
Community	Road accident	Savings from accident-	Secondary and		
members	cost	free transportation	primary		
Community	Wages foregone	Wages foregone due to	Secondary and		
members		accidents	primary		
Panchayat	Avoidance cost	Avoidance cost due to	Primary		
		HZL intervention			

Social Return on Investment					
Year	2022-23	2023-24	2024-25		
India Inflation rate (Source IMF)	5.50%	4.60%	4.10%		
Discounted Rate Considered	4.73%				
Total input cost	₹ 467000				
Total Net Impact	₹ 3981553.14				
NPV	₹ 37,83,847.13				
SROI	₹ 8.10				

#### 3.17 SROI of construction of CC road Gawardi with drain

Financial Proxies					
Stakeholder	Indicator	Financial proxy	Source		
			(primary/secondary)		
Community	Road accident	Savings from accident-	Secondary and		
members	cost	free transportation	primary		
Community	Wages foregone	Wages foregone due to	Secondary and		
members		accidents	primary		
Panchayat	Avoidance cost	Avoidance cost due to	Primary		
		HZL intervention			

Social Return on Investment					
Year	2022-23	2023-24	2024-25		
India Inflation rate (Source IMF)	5.50%	4.60%	4.10%		
Discounted Rate Considered	4.73%				
Total input cost	₹ 2710055				
Total Net Impact	₹ 41333079.74				
NPV	₹ 3,92,80,664.99				
SROI	₹ 14.49				

## 3.18 SROI of construction of village roads and drains at Naya Dariba

Financial Proxies					
Stakeholder	Indicator	Financial proxy	Source		
			(primary/secondary)		
Community	Road accident	Savings from accident-	Secondary and		
members	cost	free transportation	primary		
Community	Wages foregone	Wages foregone due to	Secondary and		
members		accidents	primary		
Panchayat	Avoidance cost	Avoidance cost due to	Primary		
		HZL intervention			

Social Return on Investment					
Year	2022-23	2023-24	2024-25		
India Inflation rate (Source IMF)	5.50%	4.60%	4.10%		
Discounted Rate Considered	4.73%				
Total input cost	₹ 3300000				
Total Net Impact	₹ 22029976.8				
NPV	₹ 2,09,36,067.28				
SROI	₹ 6.34				

#### 3.19 SROI of annual maintenance of Vedanta Stadium

Financial Proxies					
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)		
Community Members	Fitness cost	Savings in non-communicable diseases like diabetes, cholesterol, coronary heart diseases or obesity	Secondary		

Social Return on Investment				
Year	2022-23	2023-24	2024-25	
India Inflation rate (Source IMF)	5.50%	4.60%	4.10%	
Discounted Rate Considered	4.73%			
Total input cost	₹ 455000			
Total Net Impact	₹ 2130720			
NPV	₹ 20,24,918.03			
SROI	₹ 4.45			

## 3.20 SROI of additional class rooms at Sindesar Kala and Shivpura schools

Financial Proxies						
Stakeholder	Indicator	Financial proxy	Source			
Students	Savings in school fees	Savings in fees from not shifting to private school with additional classrooms	Secondary and primary			
School Authority	Avoidance cost	Avoidance cost due to HZL intervention	Primary			

Social Return on Investment						
Year	2022-23	2023-24	2024-25			
India Inflation rate (Source IMF)	5.50%	4.60%	4.10%			
Discounted Rate Considered	4.73%					
Total input cost	₹ 2466145					
Total Net Impact	₹ 13642849					
NPV	₹ 1,30,26,272.12					
SROI	₹ 5.28					

#### 3.21 SROI of construction of drainage Sindesar Khurd

Financial Proxies						
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)			
Community Members	Healthcare cost	Average savings in sanitation and hygiene related diseases	Primary and secondary			
Community Members	Wages foregone	Average savings due to wages forgone	Primary and secondary			

Social Return on Investment						
Year	2022-23	2023-24	2024-25			
India Inflation rate (Source IMF)	5.50%	4.60%	4.10%			
Discounted Rate Considered	4.73%					
Total input cost	₹ 8,59,740					
Total Net Impact	₹ 12314577.86					
NPV	₹ 1,17,58,031.05					
SROI	₹ 13.68					

## 3.22 SROI of water project- raising height of Check Dam Pipawas

Financial Proxies			
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)
Community	Water procurement	Average savings in	Primary and
members	expenses	water	secondary
Community members	Additional income activity	Additional income from extra economic activity	Primary
Panchayat	Avoidance cost	Avoidance cost due to HZL intervention	Primary

Social Return on Investment					
Year	2022-23	2023-24	2024-25		
India Inflation rate (Source IMF)	5.50%	4.60%	4.10%		
Discounted Rate Considered	4.73%				
Total input cost	₹ 3305201.38				
Total Net Impact	₹ 3775226.38				
NPV	₹ 36,04,608.26				
SROI	₹ 1.09				

#### 3.23 SROI of CHC Mahenduriya renovation

Financial Proxies							
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)				
Community Members	Savings in healthcare	Savings in from not visiting private hospital with better amenities	Secondary and primary				
Hospital Authority	Avoidance cost	Avoidance cost due to HZL intervention	Primary				

Social Return on Investment						
Year	2022-23	2023-24	2024-25			
India Inflation rate (Source IMF)	5.50%	4.60%	4.10%			
Discounted Rate Considered	4.73%					
Total input cost	₹ 45,50,000					
Total Net Impact	₹ 15014930					
NPV	₹ 1,43,36,343.09					
SROI	₹ 3.15					

## 3.24. SROI of additional classrooms at Sindesar Kala and Shivpura schools

Financial Proxies						
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)			
Students	Savings in school fees	Savings in fees from not shifting to private school with additional classrooms	Secondary and primary			
School Authority	Avoidance cost	Avoidance cost due to HZL intervention	Primary			

Social Return on Investment						
Year	2022-23	2023-24	2024-25			
India Inflation rate (Source IMF)	5.50%	4.60%	4.10%			
Discounted Rate Considered	4.73%					
Total input cost	₹ 42,49,649					
Total Net Impact	₹ 15040248.68					
NPV	₹ 1,43,60,517.52					
SROI	₹ 3.38					

#### 3.25. SROI of community stage/platforms at Sansera, Suraj Baari, Naya Dariba

Financial Proxies						
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)			
Community Members	Rent	Rent from organizing events in a stage/platform	Secondary			

Social Return on Investment							
Year	2020-21	2020-21 2021-22 2022-23 2023-24 2024-25					
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.10%		
Discounted Rate Considered	5.28%						
Total input cost	₹ 1179004.5						
Total Net Impact	₹ 55,80,000						
NPV	₹ 53,27,816.68						
SROI	₹ 4.52						

3.26. SROI of community centres at Kabra Ganeshpura, Kanthiya Kheda, Naya Dariba, Gadri Basti, Chapri, Rajpura, Mahenduriya, Makhanpuriya and Shivpura

Financial Proxies				
Stakeholder	Indicator	Financial proxy	Source	
			(primary/secondary)	
Community Members	Rent	Rent from organizing events in a centre/auditorium	Secondary	

Social Return on Investment					
Year	2020-21	2021-22	2022-23	2023-24	2024-25
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.10%
Discounted Rate Considered	5.28%				
Total input cost	₹ 6827506				
Total Net Impact	₹ 2,97,60,0	00			
NPV	₹ 2,84,15,022.28				
SROI	₹ 4.16				

#### 4. SROI for Infrastructure development in Dariba FY 2022-23

4.1 SROI of Naya Dariba drain and road work

Financial Proxies			
Stakeholder	Indicator	Financial proxy	Source
			(primary/secondary)
Community	Road accident	Savings from accident-	Secondary and
members	cost	free transportation	primary
Community	Wages foregone	Wages foregone due to	Secondary and
members		accidents	primary
Panchayat	Avoidance cost	Avoidance cost due to HZL intervention	Primary

Social Return on Investment			
Year	FY 2023-2024	FY 2024-2025	
India Inflation rate (Source IMF)	4.60%	4.10%	
Discounted Rate Considered	4.35 %		
Total input cost	₹ 3860286		
Total Net Impact	₹ 6926564.46		
NPV	₹ 66,37,819.32		
SROI	₹ 1.72		

## 4.2 SROI of Gawardi CC road

Financial Proxies				
Stakeholder	Indicator	Financial proxy	Source	
			(primary/secondary)	
Community	Road accident	Savings from accident-	Secondary and	
members	cost	free transportation	primary	
Community	Wages foregone	Wages foregone due to	Secondary and	
members		accidents	primary	
Panchayat	Avoidance cost	Avoidance cost due to	Primary	
		HZL intervention		

Social Return on Investment			
Year	FY 2023-2024	FY 2024-2025	
India Inflation rate (Source IMF)	4.60%	4.10%	
Discounted Rate Considered	4.35 %		
Total input cost	₹ 3053818		
Total Net Impact	₹ 1,27,09,574		
NPV	₹ 1,21,79,754.85		
SROI	₹ 3.99		

## 4.3 SROI of Sunariya Kheda school ground filling and toilet work

Financial Proxies			
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)
Students	Savings in healthcare	Savings in healthcare due to better sanitation	Secondary and primary
School Authority	Avoidance cost	Avoidance cost due to HZL intervention	Primary

Social Return on Investment				
Year	2022-23	2023-24	2024-25	
India Inflation rate (Source IMF)	5.50%	4.60%	4.10%	
Discounted Rate Considered	4.73%			
Total input cost	₹ 450000			
Total Net Impact	₹ 2,60,30,251			
NPV	₹ 2,49,45,137.39			
SROI	₹ 55.43			

## 4.4 SROI of Kotdi road divider

Financial Proxies				
Stakeholder	Indicator	Financial proxy	Source	
			(primary/secondary)	
Community	Road accident	Savings from accident-	Secondary and	
members	cost	free transportation	primary	
Community	Wages foregone	Wages foregone due to	Secondary and	
members		accidents	primary	
Panchayat	Avoidance cost	Avoidance cost due to	Primary	
		HZL intervention		

Social Return on Investment			
Year	FY 2023-2024	FY 2024-2025	
India Inflation rate (Source IMF)	4.60%	4.10%	
Discounted Rate Considered	4.35 %		
Total input cost	₹ 3,42,051		
Total Net Impact	₹ 35,60,322		
NPV	₹ 34,11,904.09		
SROI	₹ 9.97		

## 4.5 SROI of Khad Bamniya Keer Kheda CC road

Financial Proxies				
Stakeholder	Indicator	Financial proxy	Source	
			(primary/secondary)	
Community	Road accident	Savings from accident-	Secondary and	
members	cost	free transportation	primary	
Community	Wages foregone	Wages foregone due to	Secondary and	
members		accidents	primary	
Panchayat	Avoidance cost	Avoidance cost due to	Primary	
		HZL intervention		

Social Return on Investment			
Year	FY 2023-2024	FY 2024-2025	
India Inflation rate (Source IMF)	4.60%	4.10%	
Discounted Rate Considered	4.35 %		
Total input cost	₹ 834688		
Total Net Impact	₹ 64,08,367		
NPV	₹ 61,41,223.36		
SROI	₹ 7.68		

## 4.6 SROI of Shivpura CC road

Financial Proxies				
Stakeholder	Indicator	Financial proxy	Source	
			(primary/secondary)	
Community	Road accident	Savings from accident-	Secondary and	
members	cost	free transportation	primary	
Community	Wages foregone	Wages foregone due to	Secondary and	
members		accidents	primary	
Panchayat	Avoidance cost	Avoidance cost due to	Primary	
		HZL intervention		

Social Return on Investment			
Year	FY 2023-2024	FY 2024-2025	
India Inflation rate (Source IMF)	4.60%	4.10%	
Discounted Rate Considered	4.35 %		
Total input cost	₹ 1589155		
Total Net Impact	₹ 31,86,490		
NPV	₹ 30,53,655.69		
SROI	₹ 2.01		

## 4.7 SROI of Gawardi well deepening

Financial Proxies						
Stakeholder	Indicator	Financial p	proxy		Source	
					(primary/second	dary)
Community	Water procurement	Average s	savings	in	Primary	and
members	expenses	water			secondary	

Social Return on Investment			
Year	FY 2023-2024	FY 2024-2025	
India Inflation rate (Source IMF)	4.60%	4.10%	
Discounted Rate Considered	4.35 %		
Total input cost	₹ 368540		
Total Net Impact	₹ 36,39,890		
NPV	₹ 34,88,154.77		
SROI	₹ 9.88		

## 4.8 SROI of community bathroom

Financial Proxies				
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)	
Community Members	Healthcare cost	Average savings in sanitation and hygiene related diseases	Primary and secondary	
Community Members	Wages foregone	Average savings due to wages forgone	Primary and secondary	

Social Return on Investment			
Year	FY 2023-2024	FY 2024-2025	
India Inflation rate (Source IMF)	4.60%	4.10%	
Discounted Rate Considered	4.35 %		
Total input cost	₹ 424832		
Total Net Impact	₹ 70,38,780		
NPV	₹ 67,45,357.09		
SROI	₹ 16.57		

## 4.9 SROI of Khad Bamniya girls toilet and school painting work

Financial Proxies				
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)	
Students	Savings in healthcare	Savings in healthcare due to better sanitation	Secondary and primary	
School Authority	Avoidance cost	Avoidance cost due to HZL intervention	Primary	

Social Return on Investment			
Year	FY 2023-2024	FY 2024-2025	
India Inflation rate (Source IMF)	4.60%	4.10%	
Discounted Rate Considered	4.35 %		
Total input cost	₹ 951885		
Total Net Impact	₹ 4,74,49,976		
NPV	₹ 4,54,71,946.79		
SROI	₹ 49.85		

## 4.10 SROI of community bathroom and toilet work

Financial Proxies				
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)	
Community Members	Healthcare cost	Average savings in sanitation and hygiene related diseases	Primary and secondary	
Community Members	Wages foregone	Average savings due to wages forgone	Primary and secondary	

Social Return on Investment			
Year	FY 2023-2024	FY 2024-2025	
India Inflation rate (Source IMF)	4.60%	4.10%	
Discounted Rate Considered	4.35 %		
Total input cost	₹ 1096054		
Total Net Impact	₹ 20,90,258		
NPV	₹ 20,03,122.15		
SROI	₹ 1.91		

### 4.11 SROI of Chothpura CC road and drain work

Financial Proxies				
Stakeholder	Indicator	Financial proxy	Source	
			(primary/secondary)	
Community	Road accident	Savings from accident-	Secondary and	
members	cost	free transportation	primary	
Community	Wages foregone	Wages foregone due to	Secondary and	
members		accidents	primary	
Panchayat	Avoidance cost	Avoidance cost due to HZL intervention	Primary	

Social Return on Investment			
Year	FY 2023-2024	FY 2024-2025	
India Inflation rate (Source IMF)	4.60%	4.10%	
Discounted Rate Considered	4.35 %		
Total input cost	₹ 273699		
Total Net Impact	₹ 24,29,912		
NPV	₹ 23,28,617.21		
SROI	₹ 8.88		

## 4.12 SROI of Kesarpura bitumen road

Financial Proxies			
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)
Community members	Road accident cost	Savings from accident- free transportation	Secondary and primary
Community members	Wages foregone	Wages foregone due to accidents	Secondary and primary
Panchayat	Avoidance cost	Avoidance cost due to HZL intervention	Primary

Social Return on Investment			
Year	FY 2023-2024	FY 2024-2025	
India Inflation rate (Source IMF)	4.60%	4.10%	
Discounted Rate Considered	4.35 %		
Total input cost	₹ 2927412		
Total Net Impact	₹ 76,09,906		
NPV	₹ 72,92,674.84		
SROI	₹ 2.60		

## 4.13 SROI of CC road at Anjana

Financial Proxies				
Stakeholder	Indicator	Financial proxy	Source	
			(primary/secondary)	
Community	Road accident	Savings from accident-	Secondary and	
members	cost	free transportation	primary	
Community	Wages foregone	Wages foregone due to	Secondary and	
members		accidents	primary	
Panchayat	Avoidance cost	Avoidance cost due to	Primary	
		HZL intervention		

Social Return on Investment			
Year	FY 2023-2024	FY 2024-2025	
India Inflation rate (Source IMF)	4.60%	4.10%	
Discounted Rate Considered	4.35 %		
Total input cost	₹ 999000		
Total Net Impact	₹ 68,52,118		
NPV	₹ 65,66,476.04		
SROI	₹ 6.86		

## 4.14 SROI of CC road at Khadbamniya

Financial Proxies				
Stakeholder	Indicator	Financial proxy	Source	
			(primary/secondary)	
Community	Road accident	Savings from accident-	Secondary and	
members	cost	free transportation	primary	
Community	Wages foregone	Wages foregone due to	Secondary and	
members		accidents	primary	
Panchayat	Avoidance cost	Avoidance cost due to	Primary	
		HZL intervention		

Social Return on Investment			
Year	FY 2023-2024	FY 2024-2025	
India Inflation rate (Source IMF)	4.60%	4.10%	
Discounted Rate Considered	4.35 %		
Total input cost	₹ 1771150		
Total Net Impact	₹ 73,44,829		
NPV	₹ 70,38,647.42		
SROI	₹ 4.15		

## 4.15 SROI of CC road at Makanpuriya

Financial Proxies				
Stakeholder	Indicator	Financial proxy	Source	
			(primary/secondary)	
Community	Road accident	Savings from accident-	Secondary and	
members	cost	free transportation	primary	
Community	Wages foregone	Wages foregone due to	Secondary and	
members		accidents	primary	
Panchayat	Avoidance cost	Avoidance cost due to	Primary	
		HZL intervention		

Social Return on Investment			
Year	FY 2023-2024	FY 2024-2025	
India Inflation rate (Source IMF)	4.60%	4.10%	
Discounted Rate Considered	4.35 %		
Total input cost	₹ 985260		
Total Net Impact	₹ 25,29,728		
NPV	₹ 24,24,272.01		
SROI	₹ 2.57		

## 4.16 SROI of additional class rooms at Gawardi and Rajpura Kheda

Financial Proxies			
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)
Students	Savings in school fees	Savings in fees from not shifting to private school with additional classrooms	Secondary and primary
School Authority	Avoidance cost	Avoidance cost due to HZL intervention	Primary

Social Return on Investment			
Year	FY 2023-2024	FY 2024-2025	
India Inflation rate (Source IMF)	4.60%	4.10%	
Discounted Rate Considered	4.35 %		
Total input cost	₹ 6474186		
Total Net Impact	₹ 82333524.24		
NPV	₹ 7,89,01,316.95		
SROI	₹ 12.19		

## 4.17 SROI of waste water tank in Rajpura and Railmagra

Financial Proxies			
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)
Community Members	Healthcare cost	Average savings in sanitation and hygiene related diseases	Primary and secondary
Community Members	Wages foregone	Average savings due to wages forgone	Primary and secondary

Social Return on Investment			
Year	FY 2023-2024	FY 2024-2025	
India Inflation rate (Source IMF)	4.60%	4.10%	
Discounted Rate Considered	4.35 %		
Total input cost	₹ 390659		
Total Net Impact	₹ 8390449.442		
NPV	₹ 24,24,272.01		
SROI	₹ 2.57		

## 4.18 SROI of Mahanduriya drain work

Financial Proxies			
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)
Community Members	Healthcare cost	Average savings in sanitation and hygiene related diseases	Primary and secondary
Community Members	Wages foregone	Average savings due to wages forgone	Primary and secondary

Social Return on Investment			
Year	FY 2023-2024	FY 2024-2025	
India Inflation rate (Source IMF)	4.60%	4.10%	
Discounted Rate Considered	4.35 %		
Total input cost	₹ 708183		
Total Net Impact	₹ 41364967.71		
NPV	₹ 3,96,40,601.54		
SROI	₹ 55.98		

#### 4.19. SROI of community stage/platforms at Sansera and Naya Dariba

Financial Proxies			
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)
Community Members	Rent	Rent from organizing events in a stage/platform	Secondary

Social Return on Investment			
Year	FY 2023-2024	FY 2024-2025	
India Inflation rate (Source IMF)	4.60% 4.10%		
Discounted Rate Considered	4.35 %		
Total input cost	₹ 963751		
Total Net Impact	₹ 3720000		
NPV	₹ 35,64,925.73		
SROI	₹ 3.70		

#### 4.20. SROI of community centres at Rajpura, Chothpura, Makanpuriya, and Anjana

Financial Proxies			
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)
Community Members	Rent	Rent from organizing events in a centre/auditorium	Secondary

Social Return on Investment			
Year	FY 2023-2024	FY 2024-2025	
India Inflation rate (Source IMF)	4.60%	4.10%	
Discounted Rate Considered	4.35 %		
Total input cost	₹ 3893795		
Total Net Impact	₹ 14880000		
NPV	₹ 1,42,59,702.92		
SROI	₹ 3.66		

#### 4.21. SROI of additional class rooms at Shivpura schools

Financial Proxies			
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)
Students	Savings in school fees	Savings in fees from not shifting to private school with additional classrooms	Secondary and primary
School Authority	Avoidance cost	Avoidance cost due to HZL intervention	Primary

Social Return on Investment			
Year	FY 2023-2024	FY 2024-2025	
India Inflation rate (Source IMF)	4.60%	4.10%	
Discounted Rate Considered	4.35 %		
Total input cost	₹ 8,20,721		
Total Net Impact	₹ 3399491.432		
NPV	₹ 33,99,491.43		
SROI	₹ 4.14		

\* (SROI for certain activities is not calculated due to partial information about the activities)

# Chapter 9 Findings of Impact Assessment Study- Agucha

जिंक कौशल केन्द्र

## Chapter 9: Findings from the Impact Assessment: Agucha

The following analysis offers an overview of the intricate impacts on the community. These results highlight the efficacy of interventions envisioned to address the unique opportunities and challenges faced by the respondents in **Agucha**.



Within the IRECS framework, the "I" stands for *Inclusiveness*. This concept focuses on how effectively the programme ensures all intended beneficiaries have fair access to its benefits irrespective of factors like age, gender, socioeconomic background, and geographic location.

Team CSRBOX interacted with individual households in the villages who are the beneficiaries of various interventions of HZL in Agucha and nearby areas. The beneficiaries utilise diverse infrastructure facilities established through the programme, including those for healthcare, education, solar power, water, and community services. The chart depicts the distribution of the sample population across the four villages included in the study.



Figure 148: Village wise sample distribution

The survey methodology ensured a balanced representation by collecting samples in nearly equal proportions from all four villages under study. Notably, the villages of Agucha, Kohthiya, and Rampura served as the focal points for the CSR initiatives spearheaded by the Agucha Rampura mine, while Hurda assumed a peripheral role in these activities. Despite its peripheral status, Hurda witnessed a notable uptake in CSR endeavours, thus necessitating a slight increase in the sample size from this locale. This elevation in engagement is particularly significant given Hurda's strategic importance to HZL, with numerous governmental bodies at the block

level operating within its vicinity. In total, our survey garnered 262 responses, surpassing the initial target sample size of 180, indicative of robust community participation and interest in the evaluation process.



The survey reveals a significant majority of female respondents, comprising almost two-thirds of the total sample population. This noteworthy representation of women underscores their active involvement and commitment to contributing insights towards the evaluation of community impacts. Such enthusiastic underscores their dedication participation to community betterment, recognising the pivotal role that HZL plays in fostering local welfare initiatives. Moreover, this trend also suggests that female respondents may have been more readily available during standard working hours, highlighting their accessibility and willingness to engage with the survey process.

Figure 149: Gender of respondents



#### Figure 150: Age of respondents

Turning our attention to the demographic breakdown by age, our findings reveal a diverse distribution across various age cohorts. Predominantly, a significant proportion of respondents fall within the young adult category, aged approximately between 18 and 40 years, collectively constituting 63% of the surveyed population. This demographic trend indicates robust engagement from individuals in their prime working years, likely driven by a vested interest in witnessing tangible improvements within their localities.

Furthermore, the survey reflects noteworthy representation from both younger and older age brackets. Individuals below the age of 18 and those belonging to the age group of 41-50 years constitute 6% and 17% of the respondents, respectively, while respondents aged 51 and above account for 14% of the total sample. This broad spectrum of age demographics underscores the multi-generational involvement in the assessment process, thereby enriching our evaluation with a diverse array of perspectives and life experiences. Such inclusivity enables a comprehensive understanding of the impact of HZL's initiatives across different age groups within the community.

Understanding who participated helps us see how inclusive the whole process was, which is important for making sure the evaluation is as thorough as possible.

Type of ration card	Ownership (in %)
APL	81%
BPL	13%
Antyodaya	5%
No ration card	1%

An examination of the distribution of ration cards among respondent families unveils significant insights into the economic dynamics of the communities involved in Hindustan Zinc Limited's (HZL) CSR initiatives. According to the data, a notable majority, constituting 81% of the population, possess Above Poverty Line (APL) ration cards. This finding is indicative of a considerable level of economic stability within the community, as a substantial segment resides above the poverty threshold set by the government. Such a prevalence of APL ration cards underscores a degree of financial security among the populace, potentially attributed to both HZL's CSR efforts and broader socio-economic factors shaping the region.

The presence of Below Poverty Line (BPL) cards among 13% of respondents shines a spotlight on a significant segment of the population grappling with economic vulnerability, underscoring the necessity for targeted support to address their distinct needs. While the majority of the community demonstrates a degree of economic stability, the existence of this sizeable minority facing financial hardships is a pertinent observation. Recognising and comprehending these nuanced dynamics are crucial for HZL and its CSR initiatives to tailor interventions effectively, taking into account the diverse financial circumstances of community members. By acknowledging and addressing the specific challenges faced by economically vulnerable households, HZL can foster more inclusive and impactful initiatives that uplift the entire community.





An in-depth analysis of the primary sources of income for the 262 households surveyed unveils a notable dependence on agriculture, with 38% of respondents relying on cultivation on their own land. This underscores the deep-seated agrarian traditions within the community and
accentuates the critical importance of agricultural support and development initiatives in fostering sustainable livelihoods. Salaried permanent positions in both the private and government sectors constitute approximately 26% of the working force within respondent households. This highlights the diversification of income streams and the presence of formal employment opportunities, contributing to the economic stability of a significant portion of the community.

Self-employment or entrepreneurial ventures emerge as a noteworthy avenue, with 15% of respondents engaged in such pursuits, indicating a potential for entrepreneurship within the community. This underscores the importance of fostering an enabling environment for small business development and self-reliance. Daily wage labour across various sectors provides income for 8% of households, reflecting the prevalence of casual employment as a source of livelihood, particularly in rural settings where seasonal work may be prevalent. It is noteworthy that livestock rearing, while traditionally significant in rural economies, is reported by only 7% of households. This data prompts considerations regarding the reasons behind its relatively limited adoption, suggesting potential barriers or challenges that may hinder its wider economic impact within the community.

Overall, this nuanced understanding of the community's economic landscape underscores the importance of targeted interventions that address the diverse livelihood needs and challenges faced by different segments of the population, ultimately contributing to more inclusive and sustainable development outcomes.





Figure 152: Caste of respondents

The caste composition of respondents offers valuable insights into the social fabric of the community under study. Notably, the majority of respondents, comprising 76%, belong to the Other Backward Classes (OBC), indicating their substantial presence within the surveyed population. This demographic dominance underscores the significance of considering the socioeconomic status and needs of this group in the design and implementation of community development initiatives. The General category constitutes 9% of the

population, representing a significant albeit smaller proportion of the community's composition. While relatively smaller in number, the inclusion of the General category highlights the diversity within the community and underscores the importance of ensuring equitable access to opportunities and resources for all members.

Moreover, the presence and contribution of historically marginalised groups are evident, with Scheduled Castes (SC) and Scheduled Tribes (ST) comprising 12% and 3% of the respondents, respectively. This underscores the importance of addressing historical inequalities and ensuring the inclusion and empowerment of these communities in the development process.

Overall, the diverse caste composition of respondents underscores the importance of adopting a nuanced and inclusive approach in designing and implementing CSR initiatives. By acknowledging and addressing the specific needs and challenges faced by different caste groups, HZL can foster more equitable and sustainable development outcomes that benefit the entire community.



Primary fuel source used for cooking by the household(n=262)

Figure 153: Cooking fuel used by respondents

The data pertaining to primary cooking fuel sources among households underscores a prevalent reliance on traditional methods, with 65% of respondents utilising fuel wood for cooking purposes. Additionally, Liquid Petroleum Gas (LPG) is utilised by 35% of households, indicating a significant but still underrepresented usage of cleaner-burning fuels such as LPG. However, the usage of kerosene (1%) as cooking fuel is minimal, suggesting their marginal role within the community.

This observed disparity highlights the pressing need for initiatives aimed at facilitating the transition towards cleaner energy sources. Continued dependence on fuel wood not only poses environmental concerns, such as deforestation but also contributes to air pollution, which can adversely affect both the environment and human health. Therefore, promoting wider access to cleaner fuels like LPG can mitigate these adverse effects while simultaneously improving the overall quality of life within the community.

By prioritising initiatives that encourage the adoption of cleaner cooking technologies and fuels, Hindustan Zinc Limited can play a pivotal role in promoting sustainable development and environmental stewardship, thereby fostering healthier and more resilient communities for generations to come.

### 9.2. Relevance of the Programme

*Relevance* in the IRECS framework signifies the alignment between the programme's goals and objectives with the actual needs and aspirations of the target beneficiaries. It assesses whether the programme addresses the most pressing issues faced by the intended population.

Through extensive community engagement, including focus group discussions (FGDs), key informant interviews (KII) and beneficiary (households') surveys, the survey team was able to

identify several key issues as they emerged, shedding light on the pressing need for infrastructure development.

The insights gleaned from the data collected through the survey resonate with the objectives outlined by Hindustan Zinc Limited (HZL) for their interventions in the villages surrounding the Agucha mines. Central to these interventions was the aim to address pressing community needs and elevate overall well-being. The infusion of resources into infrastructure development projects in the vicinity of Agucha mines likely sparked a surge in expectations among local residents. Anticipations were understandably high, with the community envisaging a range of beneficial improvements poised to enhance their quality of life significantly.

The palpable anticipation among locals underscores the transformative potential of HZL's interventions and reflects the aspirations of the community for tangible enhancements in their living conditions. As custodians of these expectations, it is imperative for HZL to channel their efforts effectively, ensuring that interventions align closely with community needs and priorities. By nurturing this symbiotic relationship between community expectations and corporate initiatives, HZL can foster sustainable development outcomes that resonate deeply with local stakeholders, ultimately contributing to the holistic advancement of the communities it serves.



Average annual income(n=262)

Figure 154: Average annual income of respondents

The analysis of data regarding the distribution of respondents based on the average annual income of their households provides valuable insights into the economic landscape and diversity within the community. A substantial proportion of households, constituting 34%, reported an average annual income of less than Rs. 1,00,000. This prevalent economic bracket underscores the prevalence of lower to middle-income households, indicative of the economic challenges confronting a significant segment of the community.

Furthermore, the data reveals that 11% of households reported an income of less than Rs. 50,000 annually, highlighting a subset of the community grappling with particularly acute financial constraints. These findings underscore the pressing need for targeted CSR interventions aimed at poverty alleviation and income generation within the community to uplift vulnerable households and enhance their economic resilience. Only 18% of households reported an income exceeding Rs. 3,00,000 annually, indicating a smaller yet significant segment enjoying relatively higher economic prosperity. While this higher-income group represents a minority within the community, their economic stability presents opportunities for collaboration and support towards broader community development initiatives.



Figure 155: Number of earning members in household

The survey findings regarding the number of earners per household reveal a concerning reliance on single incomes within the community. Alarmingly, a significant majority, comprising 63% of families, depend entirely on the financial support of just one individual. This concentrated reliance on a sole earner underscores the vulnerability of these households, as they lack diversified sources of income. In the event of job loss or illness affecting the primary earner, the entire family's financial stability could be severely compromised.

In stark contrast, only 35% of households benefit from the economic stability afforded by having 2 to 3

earners, while a negligible 2% have the advantage of more than 3 earners. These figures underscore the urgent necessity for initiatives aimed at boosting household income. Whether through measures to enhance agricultural productivity, provide vocational training, or foster small businesses, targeted programmes are imperative to alleviate economic vulnerability within the community.

The restricted access to higher incomes highlights the critical need for interventions that can enhance earning potential among community members. By facilitating access to education and vocational training, individuals can acquire the skills needed to contribute effectively to household incomes, thereby enhancing the economic resilience of these families and promoting long-term financial stability.

The prevalence of single-income households underscores the vulnerability of many families within the community. Addressing this challenge requires targeted interventions aimed at diversifying income sources, enhancing earning potential, and promoting economic empowerment. Through concerted efforts in these areas, Hindustan Zinc Limited can make meaningful strides towards fostering sustainable socio-economic development and improving the livelihoods of community members.







The survey findings regarding farmland ownership among surveyed households unveil a significant trend, with 75% of families reporting land ownership, underscoring the agrarian nature of the community. This highlights the pivotal role of agriculture and emphasises the importance of prioritising agricultural development initiatives to support livelihoods within the community effectively.

The distribution of farm sizes reveals notable insights into the agricultural landscape, with small-sized holdings emerging as the most common category, constituting over 46% of reported farm sizes, falling between 0.5 and 4 bighas. While 11% of households own farm sizes ranging from 4.1 to 5 bigha, significant percentages of households possess larger plots, with 9% owning between 5.1 to 7 bigha and 30% owning more than 7 bigha.

As the primary asset for livelihoods and economic stability in rural areas, land ownership holds significant socioeconomic implications. It serves as the foundation for agricultural productivity and income generation, thus necessitating tailored interventions to support farmers in optimising their land's potential. Providing training, access to resources, and technology-focused initiatives aimed at enhancing productivity, particularly for medium-sized plots, could prove particularly beneficial. By empowering farmers with the knowledge and tools to maximise agricultural output, Hindustan Zinc Limited can contribute to sustainable rural development and bolster the economic resilience of farming communities.





The overwhelming majority of the surveyed population, comprising 91%, indicated that they did not migrate. However, among the households reporting migration, the duration of migration exhibited a varied pattern, with the most common duration being 1 month, constituting 6% of

Figure 158: Migration pattern with time period

respondents. Additionally, smaller percentages of households reported migrating for 2 months, 3 months, and 4 months, each comprising 1%. This data underscores a high degree of residential stability within the community. Several factors may contribute to this stability, including strong family ties, deep-rooted connections to the community, or limited opportunities for migration elsewhere. The community's commitment to staying rooted in their locality suggests a strong sense of attachment and belonging.

Moreover, among households reporting migration, the majority reported earning between Rs. 21,001 to Rs. 31,000 from family members' migration, comprising 42% of respondents. This was followed by 29% of households earning between Rs. 11,001 to Rs. 21,000, and 21% each earning between Rs. 31,001 to Rs. 41,000. Additionally, 8% of households reported earning up to a meagre amount of Rs. 11,000.



Income earned through migration(n=24))

Figure 159: Income earned from migration

The data on migration trends, coupled with the earlier findings regarding household incomes from migration, suggests the possibility that some community members may resort to outmigration as a strategy to cope with the limited local employment opportunities. While migration may offer the prospect of increased income for some, it may not necessarily result in a significant improvement in earnings for others.

For those individuals who migrate, the prospect of securing employment elsewhere may present a promising avenue to augment their income and support their families. However, it's crucial to recognise that the financial gains from migration may vary considerably depending on the circumstances and opportunities available in the destination areas.

Indeed, while some migrants may experience a modest increase in their income, others may find that their earnings elsewhere do not markedly surpass their income potential within the community. This underscores the complexity of migration dynamics and highlights the importance of considering not just the potential benefits but also the risks and challenges associated with migration.



Figure 160: Health services availed before HZL intervention

The inadequacy of the local health facility has compelled residents to seek alternative options to address their healthcare needs. A significant proportion of respondents. comprising 40%, have resorted to seeking healthcare at health centres in other villages, underscoring the pressing need for improved healthcare accessibility within their communities. Despite its shortcomings, 45% of respondents continue to visit the local health facility, highlighting the limited options available locally. 12% of respondents have opted for private hospitals, indicating a willingness to access healthcare services outside the community when necessary. Additionally, a smaller percentage (4%) have sought care at private doctor clinics, suggesting a potential preference for gualified medical professionals in the region.

A negligible percentage (1%) of respondents reported not seeking health services at all. However, it is essential to recognise that almost all surveyed households have sought healthcare in some form or another. The small proportion of non-seekers may indicate a lack of awareness regarding the availability of healthcare services or other barriers preventing access.



Expenditure on private clinic/hospital in an year(n=201)



The chart depicting expenditures incurred by community members when seeking treatment at private healthcare facilities illustrates the significant financial strain imposed on households. The breakdown of expenses reveals a diverse range of financial burdens:

- 1. **Multitude of low spenders:** A considerable proportion, approximately 40% of respondents, incurred expenses of less than Rs. 200 per year on private medical care. Despite being relatively low, these expenses may still pose a challenge for households with limited financial resources.
- 2. **Moderate spenders:** Another substantial portion, constituting 40% of respondents, reported expenditures ranging between Rs. 201 and Rs. 600 per year on private healthcare services. While these costs may be more manageable compared to higher expenses, they still represent a notable financial burden for many households, particularly those with variable or low incomes.
- 3. Limited high spenders: A smaller percentage of respondents, accounting for 21%, reported spending more than or exceeding Rs. 600 per year on private medical care. Although this group represents a minority, their expenditure levels underscore the significant financial strain faced by some households when accessing private healthcare services.

The prevalence of private healthcare utilisation despite the associated costs suggests that community members may perceive a gap in the quality or availability of services offered by public health facilities. Despite the financial implications, individuals may prioritise private care due to factors such as perceived better quality of treatment, shorter wait times, or greater accessibility.

#### 9.3. Expectations from the Programme

*Expectation* in the IRECS framework focuses on the degree to which the programme's interventions have met the anticipated positive changes for the beneficiaries. It examines whether the programme has delivered on its promises and resulted in the expected social, economic, and cultural improvements for the target population.

The villages near the Agucha mines have experienced significant transformation through a series of interventions spearheaded by HZL over an extended period. This sustained commitment underscores HZL's dedication to addressing the diverse needs of the community. Through extensive community engagement initiatives, critical needs were identified, paving the way for targeted programmes aimed at enhancing water access, safety, mobility, education, and economic empowerment within the villages.

The process of community engagement played a pivotal role in pinpointing specific requirements and challenges faced by residents, laying the groundwork for the design and implementation of tailored infrastructure developments. Projects such as water infrastructure enhancements, pond deepening, Vedanta stadium, community centres, cremation sheds, school infrastructure improvements, solar light installations, stadium construction, and cement concrete (CC) road development were meticulously planned and executed to address these identified needs.

The establishment of water infrastructure has significantly alleviated water scarcity in the area, providing residents with access to safe and clean water.

The construction of cremation sheds reflects HZL's responsiveness to the cultural and social requirements of the community, ensuring dignified funeral rites. Similarly, improvements in school infrastructure contribute to enhancing educational opportunities and outcomes for local children, fostering human capital development.

The installation of solar lights and High mast lights not only enhances safety and security within the community but also boosts productivity and economic activity, particularly during evening hours. Additionally, the construction of roads improves mobility and connectivity, facilitating access to essential services and economic exchanges within and beyond the villages.

Furthermore, the renovation of Primary Health Centres (PHCs) and Community Health Centres (CHCs) represents a significant stride in healthcare services, providing upgraded primary and secondary health services to the community. The Zinc hospital's provision of free healthcare services further underscores HZL's commitment to community welfare.

These interventions highlight the collaborative effort between HZL and the community towards holistic development and the enhancement of overall well-being within the villages. By aligning infrastructure developments with the specific needs and aspirations of the beneficiaries, these initiatives exemplify a participatory approach to community development, fostering sustainable socio-economic progress and empowerment at the grassroots level.

#### Improvements in Health Infrastructure

The survey findings underscore a notable focus on enhancing health infrastructure in the intervention areas, indicative of concerted efforts aimed at improving healthcare facilities for the community. Various developments, particularly repair work, have been undertaken to bolster hospitals, Primary Health Centres (PHCs), and Community Health Centres (CHCs), signifying a commitment to enhancing healthcare accessibility and quality.

Furthermore, qualitative surveys have revealed several benefits stemming from the improvements made to healthcare infrastructure in the villages. Among these benefits are:

- Enhanced access to essential medications at affordable prices: The intervention has led to improved availability of medicines at repaired healthcare facilities, primarily government health facilities. This development ensures that community members have access to vital medications without facing exorbitant costs, thereby promoting better health outcomes and financial stability among residents.
- Increased accessibility to healthcare services within the community: Residents who once depended on healthcare services from neighbouring villages can now access them conveniently within their community. This shift decreases the necessity for external healthcare, resulting in time and resource savings while also promoting community wellbeing and empowerment

Everyone in our village goes to the PHC in the village renovated by HZL. It is a huge relief for people like us with limited income when it comes to health emergencies.

- Resident from Khotiya village



Figure 162: Health infrastructure development by HZL

The survey findings reveal a significant focus on strengthening primary healthcare services at the grassroots level, with approximately 86% of respondents noting repairment in Primary Health Centres (PHCs). This underscores a concerted effort to enhance healthcare accessibility and guality at the primary level, where residents often seek initial medical attention for their healthcare needs. A portion of respondents (12%) reported repair works at Community Health Centres (CHCs), demonstrating а commitment to addressing deficiencies not only at the primary but also at the secondary healthcare levels. This comprehensive approach reflects a recognition of the

importance of both primary and secondary healthcare facilities in delivering quality healthcare services to the community.

The primary objective of the health infrastructure interventions was to enhance the community's current healthcare system, with a focus on improving accessibility and quality of care at critical points of entry for residents seeking medical attention. By prioritising repairs at PHCs and CHCs, the initiatives aimed to strengthen the foundation of the healthcare system and ensure that residents have access to essential healthcare services close to their homes.



Time-taken to travel to healthcare centre(n=201)

Figure 163: Time taken to travel to healthcare centre

The analysis of the time taken to reach healthcare centres reveals a notable shift when conducting a pre- and post-analysis, reflecting the positive impact of interventions on improving access to healthcare services within the community. A significant reduction in travelling time is observed, indicative of the effectiveness of these interventions in bringing healthcare facilities closer to residents.

This reduction in travelling time underscores the success of the interventions in enhancing accessibility to healthcare services, minimizing the time and resources required for residents to seek medical assistance. By reducing the distance to healthcare facilities, residents can access timely medical care, thereby improving health outcomes and potentially mitigating the severity of health issues.

Overall, this shift signifies a transition towards a more efficient and convenient healthcare delivery system. The improved accessibility to healthcare services not only benefits individual residents but also contributes to the overall health and well-being of the community. Hindustan Zinc Limited's interventions have played a crucial role in facilitating this positive change, demonstrating the company's commitment to supporting the health needs of the communities it serves. Continued efforts to enhance healthcare accessibility and quality will be essential in sustaining these improvements and fostering healthier, more resilient communities in the long term.



Cost of buying medicines (n=201)

#### Figure 164: Cost incurred in buying medicines

The data comparing pre- and post-intervention healthcare expenditures indicates encouraging signs of improvement in the community's access to and affordability of healthcare services.

Following the intervention by HZL, there is a significant shift towards lower spending categories for medications. The number of respondents reporting spending less than Rs. 100 has risen from 33% before the intervention to 48% afterwards. This substantial increase suggests that more residents are now able to access essential medications at lower costs, reflecting improved affordability and accessibility of healthcare services within the community.

There is a notable decline in the higher spending categories for medications post-intervention. The percentages of respondents spending "Rs. 401 - Rs. 500" and "More than Rs. 500" have dropped by a combined 13%. This decrease in higher spending categories further underscores the positive impact of the interventions on reducing medication costs for residents.

Overall, this shift towards lower medication spending categories indicates a tangible improvement in the community's ability to afford essential healthcare services. By reducing medication costs, the interventions have helped to enhance healthcare affordability and accessibility, ultimately contributing to improved health outcomes and well-being for residents.

HZL has been doing a lot of intervention in our Hurda village. In my tenure here in PHC Hurda HZL has worked on the ground filling in the hospital which has significantly reduced the flooding during the rainy season. Now there is better mobility during rainy season.

- Senior nursing officer, PHC Hurda

#### Improvements in Education Infrastructure

(94%) reported reduced absenteeism due to sanitation issues among girls; from toilet construction in school.

**78%** reported increased girls' **attendance** and **58%** increased teacher **satisfaction**,

86% felt safer learning environment for kids. 78% observed improved nutrition for children attending Anganwadis.

HZL's interventions within the community encompassed a broad range of educational infrastructure improvements, as evidenced by the survey data. A significant focus was placed on classroom construction as 73% of responses HZL constructed more classrooms in Government schools, addressing potential space constraints and congestion in school.



Sector of education infrastructure development by HZL(n=245)

Figure 165: Education infrastructure developed by HZL

The repairment of Anganwadi centres under the 'Khushi Nand Ghar' initiative of HZL emerged as one of the most recognised interventions (68%). This underscores the significance of HZL's commitment alongside the community's dedication to early childhood education and development.

Also, several initiatives aimed to improve the overall learning environment in schools, such as:

- Prayer shed (62%) addresses the need for a shaded space dedicated to prayer and assemblies for students.
- Toilet construction (57%) by HZL is a recognition of the vital role that clean and accessible toilets play in fostering a healthy learning environment for students.
- School ground levelling (41%) facilitated a more suitable space for outdoor activities and physical education for the children.

• Laboratory renovations (14%) improved the quality of science education by providing students with better-equipped labs for practical learning.

By addressing sanitation, learning spaces, and additional basic facilities at the government school, HZL's initiatives contributed to creating a more conducive and well-equipped learning environment for students within the community.



Outcome of toilet construction in schools(n=139)

Figure 166: Outcome of toilet construction in schools

The survey results overwhelmingly point towards a positive association between toilet construction and improved accessibility to education, particularly for girls. Notably, 94% of respondents mentioned a reduction in absenteeism due to sanitation-related issues among female students. This highlights the importance of improved sanitation facilities in enhancing school attendance and retention rates, especially for marginalised groups.

The vast majority (65%) stated that student hygiene practices among students in schools have improved. This was due to factors like more handwashing stations next to restrooms, teachers and parents highlighting the importance of maintaining cleanliness and hygiene, further preventing the spread of diseases and contributing to a healthier learning environment.

HZL has worked a lot on sanitization in schools as well as around the villages. This is a great way for building a healthier community

-Chief block education officer, Hurda

#### Amount spend on health issues(n=138)



Before the intervention of toilet repair/construction

#### Figure 167: Amount spend on health issues for students

The data on pre and post-intervention expenditure on health issues reveals a promising trend that suggests a potential decrease in sanitation-related health expenses within the community, particularly among school children. The majority of respondents (42%) stated they had spent between Rs. 201 and Rs. 400 on health-related issues prior to the intervention. Nevertheless, the proportion of respondents reporting lower spending brackets increased significantly after the intervention, with 47% reporting spending between Rs. 201 and Rs. 400.

A substantial rise (18%) is observed in the proportion of respondents reporting expenditure "Up to Rs. 200" on health issues after the toilet construction intervention, denoting a significant increase in the low expenditure category. Also conversely, there was a substantial decrease in higher expenditure brackets post-intervention, indicating a potential reduction in health-related expenses following the implementation of toilet repair or construction at schools.

There appears to be a shift in the frequency of sanitation-related illnesses in the community, particularly those requiring extensive medical attention, as evidenced by the notable increase in the low-expenditure category and the decline in the high-expenditure category. This improvement is directly related to better hygiene habits and decreased pathogen exposure made possible by the installation of restrooms in schools.



Image 45: Toilets constructed by HZL in schools



Impact of school infrastructure upgradation(n=245)

Figure 168: Impact of school infrastructure upgradation

The development of infrastructure has significantly improved access to education, especially for girls, and improved the learning environment for both teachers and students. A significant majority of respondents (82%) acknowledged an increase in attendance following the infrastructure development initiatives. Moreover, 78% reported a rise in girls' attendance, suggesting a broader positive effect on student participation.

52% of respondents reported an increase in teacher satisfaction. This is attributable to factors like better classrooms, hygienic facilities, and the accessibility of instructional resources made possible by infrastructure development endeavours. A more positive and well-equipped learning environment for teachers likely translates to enhanced student engagement and potentially better learning outcomes. Furthermore, 42% of respondents said students had achieved better academic results, suggesting a possible link between better facilities and superior academic performance.



Image 46: Paver blocks at school by HZL



Figure 169: Impact of Anganwadi repair

A substantial majority of respondents, comprising 86%, recognised the provision of a safe learning environment for young children as a key benefit resulting from the repair work of the Anganwadi centre. Again, 81% of respondents testify new Angnawadi centre gives parents more flexibility at work by offering a dependable daycare option. This can be especially helpful for families in which both parents work. While parents are at work, a well-run Anganwadi can provide a secure and engaging environment for kids, possibly lowering child neglect and fostering early learning. Restoring Anganwadis, according to nearly four out of five respondents (78%) indicated that children receive better nutritional intake through Anganwadis, reflecting upon the improved facilities for food preparation and storage, potentially leading to a more consistent and nutritious diet for children attending these centres.

As learnt by the survey team during further interactions with the community and secondary stakeholders, repairing Anganwadis plays a crucial role in creating a foundation for healthy early childhood development by providing a safe space, ensuring access to nutritious food, and enabling parental work opportunities, these improvements can have a lasting positive impact on the well-being and prospects of young children within the community.



Figure 170: Benefits of prayer-shed construction in school

The construction of prayer sheds in multiple government schools across all four villages in Agucha represents a significant infrastructure enhancement aimed at fostering a sense of belonging, cultural inclusivity, and moral and spiritual development among students.

According to survey responses, nearly 88% of respondents testified that the introduction of prayer sheds has contributed to a heightened sense of belonging among students. This is attributed to the fact that students can now gather together under the shed for their morning prayers and assemblies, creating a shared space for communal activities and fostering a sense of unity and cohesion.

Furthermore, approximately 71% of respondents believe that the presence of prayer sheds has resulted in increased cultural inclusivity among students. By providing a designated space for prayer and assembly, the prayer sheds promote cultural diversity and understanding, allowing students from different backgrounds to come together and celebrate their shared values and traditions.

Additionally, around 63% of respondents believe that the prayer sheds have played a role in encouraging moral and spiritual development among students. The morning assemblies, which commence with moral sessions followed by prayer and the national anthem, provide students with an opportunity for reflection, moral guidance, and spiritual growth. This structured start to the day instils values of discipline, respect, and patriotism, contributing to the overall development of students' character and ethos.



Image 47: Prayer shed in school constructed by HZL



#### Classroom expansion's impact on educational opportunities(n=179)

Figure 171: Impact of classroom construction

The addition of more classrooms has significantly facilitated structured education delivery in the schools. Qualitative interactions with teachers and principals revealed that, previously, students from different classes were compelled to sit together due to the excess student-toclassroom ratio, resulting in overcrowding and a rotation class system, thereby wasting time and reducing individual attention from teachers. However, the construction of new classrooms has alleviated overcrowding issues, with 88% of respondents citing this as a major benefit. Teachers have also confirmed an enhanced ability to focus on individual students following the construction of new classrooms by HZL. This underscores the critical role of infrastructure development in improving the quality of education delivery and fostering an environment conducive to effective teaching and learning.



Image 48: Road to school constructed by HZL

#### Improvements in Community Infrastructure

89% reported easier school access, 80% for better travel during medical emergencies from improved roads.

Community center renovation **enhanced** social gatherings (100%), cultural activities (85%), recreation (73%). Income potential increased for 48% respondents; up to Rs. 1000, and by Rs. 1000 to Rs. 2000 for 34%



#### Infrastructure work done in Village(n=262)

Figure 172: Infrastructure work done in the village

The community awareness of infrastructure initiatives implemented by HZL in their villages revealed a notable level of familiarity with various projects. Almost three-fourth of respondents (74%) were aware of solar light installation, underscoring the community's awareness of this particular intervention and its significance in enhancing safety and accessibility within the villages. 71% of respondents mentioned the construction of the cremation centre as having a significant impact, particularly in fostering a sense of community in the village. Similarly, a large portion (64%) were aware of the community centre renovation, highlighting another major investment in the development of public facilities.

High awareness of toilet construction (32%) was also attained, suggesting its possible visibility and influence on day-to-day living. Many members of the community also acknowledged the importance of infrastructure upgrades, such as road repairs (29%).

It is noteworthy that respondents continued to recognise and appreciate the work done by HZL even during the impact evaluation period of 2019-2023, despite the fact that some of the initiatives, like open gym, bus stand, etc., were completed prior to this period. This enduring

recognition underscores the lasting impact of HZL's interventions on the community and emphasises the importance of sustained engagement and support in fostering positive socioeconomic development outcomes.

The impact of road repairs and the construction of road dividers paints a positive picture of how these interventions have improved various aspects of life within the community. An overwhelming proportion of respondents (89% and 80% respectively), stated that kids can now get to school more easily, and traveling gets easier in case of medical emergencies. This suggests that better road conditions have lowered obstacles to travel for timely medical care as well as access to education. 79% of respondents mentioned that adults were able to go out for work more efficiently, emphasizing the positive economic impact of improved road infrastructure on livelihoods and employment opportunities.



Impact of repairment on road/road divider (n=85)

Figure 173: Impact of road work by HZL



#### Figure 174: Impact of community centre

The survey results overwhelmingly point towards a positive impact of the community centre renovation on the overall well-being of the community. Significantly, 100% of respondent beneficiaries of the community centre noted that the renovation led to increased social gatherings, indicating that the upgraded facility served as a focal point for community

interaction and engagement. 85% of respondents highlighted that the renovation enhanced access to cultural activities.

This suggests that the refurbished centre offers a greater variety of interesting activities appealing to a variety of interests and encourages enjoyment and relaxation, especially when combined with the reported 73% increase in recreational activities.

Also, 50% of respondents noted an improvement in the image of the community due to the renovation, suggesting that the upgraded facility positively influenced community perception and pride. While only a small percentage reported no discernible impact or were unsure, the vast majority of responses highlight the tremendous contribution of the refurbished community center to promoting community cohesion, cultural vitality, and general well-being.



Approximate increase in income potential for individuals as a result of improved community infrastructure and facilities(n=262)

Figure 175: Increase in income due to community infrastructure

The development and repair of community infrastructures have had a significant positive impact on the income potential of individuals due to the enhancement of community infrastructure and facilities. A majority of respondents (92%) believe that improved infrastructure has led to an increase in income potential. Approximately 24% of respondents reported an increase of up to Rs. 1000 in their income potential, while 48% noted an increase ranging from more than Rs. 1000 to less than Rs. 2000. Another 20% experienced an even higher rise, falling between more than Rs. 2000 and less than Rs. 3000.

The increased income potential can be attributed to various factors facilitated by improved infrastructure:

- Enhanced Mobility: Better roads have eased commute times and enabled villagers to reach workplaces or markets more efficiently.
- **Business Opportunities:** Improved infrastructure, like community centres or market facilities, helped create new business avenues, potentially generating employment opportunities.
- Bolstered Productivity: Access to sanitation facilities (from toilet construction) and time saved due to better roads led to increased work hours and productivity.

#### Improvements in Water Infrastructure



The survey findings, as depicted, suggest that water security is a top concern for the community as residents prioritise improvements in water access, storage, and overall water management infrastructure. A dominant majority of respondents (over 70%) highlighted

interventions directly related to water access and management. Additionally, proper drainage is seen as an important aspect of a healthy environment.



#### Development areas in water infrastructure(n=113)

Figure 176: Water infrastructure development by HZL

Water tank construction (59%), pipeline construction (32%), and borewell & motor supply (15%) were the top three choices. This overwhelming focus suggests a strong desire for improved and reliable access to clean water throughout the community. The need for more water storage capacity to meet daily demands or account for seasonal variations is well reflected in the construction of water tanks.

Borewell and motor supply highlight the existing dependence on groundwater sources, with potential desires for improvement or expansion. While efforts are underway to address water scarcity through initiatives such as the installation of Water ATMs and contracting drinking water supply tankers, there appears to be limited awareness of these interventions among residents. Findings from qualitative surveys suggest several reasons for this lack of recognition. Firstly, only a few surveyed villages have fully functioning Water ATMs, contributing to widespread unawareness of their existence.



# Most effective improvement towards clean water intiative by HZL(n=262)

Figure 177: Initiative aiding to clean water for community

The most effective intervention of HZL in improving access to the clean water was water tanker service, with 70% of respondents acknowledging its effectiveness. Water Pipeline Installation (67%) refers to the process of setting up household pipeline infrastructure, further emphasising the value placed on a functional piped water system. The construction of water tanks (14%) emerged as another critical intervention, highlighting the importance of sufficient storage capacity to meet daily water demands and thereby address seasonal variations in water availability. Traditional water sources continue to be relevant, especially in areas not yet reached by the pipeline network. While prominent, open wells (67%) still play a role by being recognised as an effective intervention.

The data indicates that building water tanks and building pipelines are regarded by the community as the two most successful interventions for enhancing access to clean water. Together, these interventions provide an extensive water supply system that guarantees appropriate storage and dependable access.



Figure 178: Reduction in waterborne diseases

Based on the data, it is evident that HZL's water interventions have helped to lower the number of waterborne illness cases in the communities that were surveyed. A significant majority of respondents, comprising 51% of the total, reported at least some level of reduction in waterborne diseases following the implementation of HZL's interventions.

This suggests that the interventions have been largely effective in raising the standard of water sources or implementing sanitation measures, which has led to a noticeable drop in the number of waterborne illnesses. The findings also denote the importance of such interventions in enhancing public health and well-being within the community.



Most significant impact on agricultural productivity brought up by HZL

Figure 179: Agriculture productivity due to water intervention

Among respondents, the HZL intervention with the greatest positive impact on agricultural productivity was borewell renovation, cited by 10% of participants. Pond renovation was highlighted by 13% of respondents, indicating its significant contribution to water conservation and management in agricultural areas.

A sizeable portion (78%) stated that the intervention was "not applicable", indicating that some farmers have not directly benefited from these efforts and that others are unsure of the precise impact of interventions.





Figure 180: Livelihood opportunities post intervention

Following HZL interventions such as pond and borewell construction respondents, reported engaging in various livelihood opportunities. A vast majority of respondents (44%) reported better agricultural opportunities, suggesting the success of interventions in addressing the critical need for irrigation facilities, enabling villagers to expand or improve their agricultural practices. A significant portion of the participants (67%) mentioned enhanced opportunities for raising livestock, which suggests that the improved access to water helped animal husbandry, potentially enabling locals to raise more livestock and take better care of their existing livestock.



# Annual additional income earned through the economic activity selected (n=262)

Figure 181: Annual additional income earned through the economic activity

The data on additional income generated through new economic activities paints a promising picture, with a significant portion of households experiencing a financial increase. 58% of respondents reported earning upto Rs 1000 annually through these activities. Specifically, 28% of households reported earning between Rs 1000 to Rs 10,000, while 10% reported earning between Rs 10,001 to Rs 20,000. Even smaller percentages reported higher income brackets, with 1% earning between Rs 20,001 to Rs 30,000 and 2% earning between Rs 30,001 to Rs 40,000.

This suggests that HZL's interventions or the improved infrastructure within the village have likely created income-generating opportunities for many households, enabling them to generate supplementary income and potentially improve their economic well-being.

## Improvements in Solar Infrastructure



As reported by community members, several initiatives to improve access to clean energy sources were put in place by the HZL team. While the installation of solar LED lights significantly helped in illuminating the darkest corners of the villages, they are also an option for street lighting, which further aids commuters on the streets. There are also multiple high mast lights in some junctions, increasing the visibility for traffic at night.



Figure 182: Solar based intervention

of LED lighting solutions that are energy efficient.

A majority of respondents (77%) believe that the electricity bill for community electricity consumption paid by the panchayat has been reduced with the installation of solar lights.

Also, there is a limited negative impact as only a small percentage (23%) of respondents did not perceive a reduction in the electricity bill. This can be attributed to factors like the solar lighting system not yet being fully functional or a limited initial impact depending on the scale of the installation.

The survey results reflect a positive perception of the impact of solar lights on reducing community electricity expenses.

The findings on the installation of solar lights were recognised by 98% of respondents, indicating its widespread presence and utilisation within the community.

39% of respondents acknowledged the installation of LED lights, further highlighting HZL's efforts to enhance lighting infrastructure using sustainable solar technology.

HZL has made significant strides in bringing solar technology to the village, primarily through the installation of solar lights. This intervention has helped increase safety and security while also improving visibility at night. Additionally, the data points to a shift in favour





#### 9.4. Convergence

*Convergence* in the IRECS framework refers to aligning efforts, resources, and policies across sectors and stakeholders toward common development goals. It emphasises the integration and coordination of efforts from various actors, including government agencies, non-governmental organisations, community members, and other relevant stakeholders, to address complex development challenges comprehensively.

SI. No	Name of Partner	Type of Partnership	Responsibilities
1.	School Authorities	Project-based partnership	Handover of infrastructure after the completion
2.	Panchayat Raj Institutions	Project-based partnership	Site identification, provision of land, handover of infrastructure and

	maintenance	of
	infrastructure	handed
	over	

The diverse infrastructure development projects were exclusively funded by HZL in collaboration with local village councils known as Gram Panchayats, reflecting a strong partnership between the corporate entity and the grassroots governance structure. This collaborative effort involved meticulous planning alongside elected representatives (PRI) and thorough need assessments within the community. Upon allocation of land by the panchayats, HZL took charge of construction activities, ensuring precision and quality throughout the process. Subsequently, a seamless handover of operations and maintenance responsibilities for the structures was facilitated to the respective Gram Panchayats. This transition marked a crucial step towards community ownership and sustainability of the infrastructure projects.

Community members, who form an integral part of these Gram Panchayats, actively participate in the decision-making processes, thereby ensuring that the infrastructure developments align closely with the needs and aspirations of the local populace. This inclusive approach underscores the collaborative spirit between HZL and the community, fostering a sense of ownership and empowerment among residents.

### 9.5. Service Delivery

Service delivery in the IRECS framework refers to providing essential amenities and infrastructure to communities efficiently and effectively to meet their needs. Effective service delivery involves the efficient and timely delivery of these services, ensuring accessibility, affordability, and quality, thereby contributing to the overall well-being and development of the community.





The survey results indicate varying perceptions regarding the impact of LED light installation on community safety. The installation improved safety, according to a substantial majority of respondents (66%) who rated it a "4" (significant improvement) and a "5" (major improvement), respectively. This implies that residents now feel safer, especially at night, thanks to improved lighting facilities. 25% of respondents perceived a moderate improvement, rating the intervention as a 3. As learnt from administering the qualitative schedules, many respondents who rated the intervention as a "4" likely did so because they acknowledged the positive

impact on safety while also recognising the need for more extensive lighting and improved maintenance practices.

The data also highlights some limitations, such as the 1% of respondents reported "no improvement" and 10% rated it a "1" or "2" (minimal or slight improvement). The qualitative findings shed light on these concerns:

- **Maintenance Issues:** Some residents expressed concern about inoperable lights brought on by sporadic maintenance. The responsibility for this rests with the PRI, as the solar infrastructure was transferred to the PRI for the purpose of proper upkeep and maintenance.
- **Inadequate Coverage**: According to some respondents, the village still had some areas that weren't well-lit. To further improve safety, the network of LED lights could be expanded to include these areas of darkness.

All things considered, it looks that the community's sense of safety has been improved by the installation of Solar LED lights. To increase the effectiveness of the intervention, maintenance issues should be addressed and unlit areas should be covered.



Figure 185: Current responsibility of maintenance



The community sees a shared responsibility for the project's long-term success. While the majority (82%) believe HZL is currently responsible for the maintenance of the infrastructure, a less significant portion (18%) views PRI and government as having an ongoing role. This indicates a varying perception among the community members regarding the roles of both HZL and the PRI in ensuring the sustainability of the project. Almost the same number of respondents feel that the current responsibility of maintenance is with HZL, and HZL should be responsible for the maintenance in the future as well (91%).

The concerns raised by some community members regarding transparency, funding, and maintenance quality under PRI management highlight important considerations for sustainable infrastructure development and management. While these concerns may reflect a lack of confidence in the PRI's capacity to effectively maintain infrastructure, it is essential to recognise the principle of local ownership and empowerment inherent in decentralised governance structures like the PRI. To address these concerns and promote effective infrastructure management under PRI leadership, it is crucial for HZL to engage in proactive

communication and capacity-building efforts. This includes ensuring transparent communication, supporting capacity-building initiatives for PRI members, fostering collaboration and partnerships, and implementing robust monitoring and evaluation mechanisms. By actively engaging with the PRI, fostering collaboration, and investing in capacity building, HZL can support the transition to sustainable infrastructure management under local ownership, promoting community empowerment and strengthening the resilience and effectiveness of infrastructure initiatives in the long run.

# Social return on investment\*

## 1. SROI for Infrastructure development in Agucha FY 2019-20

# 1.1 SROI of open gym in Agucha, Rampura & BK1

Financial Proxies						
Stakeholder	Indicator	Financial proxy	Source			
			(primary/secondary)			
Community	Fitness cost	Savings in non-communicable	Secondary			
Members		diseases like diabetes,				
		cholesterol, coronary heart				
		diseases or obesity				

Social Return on Investment						
Year	2020-21	2021-22	2022-23	2023-24	2024-25	
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.10%	
Discounted Rate Considered	5.28%					
Total input cost	₹ 848429					
Total Net Impact	₹ 6750120.96					
NPV	₹ 64,11,589.06					
SROI	₹ 7.56					

# 1.2 SROI of pipeline & cattle trough, Chattarpura

Financial Proxies			
Stakeholder	Indicator	Financial proxy	Source
			(primary/secondary)
Community	Water procurement	Average savings in	Primary and
members	expenses	water	secondary
Community	Additional income	Additional income	Primary
members	activity	from extra economic	
		activity	

Social Return on Investment						
Year	2020-21 2021-22 2022-23 2023-24 2024-25					
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.10%	
Discounted Rate Considered	5.28%					
Total input cost	₹ 722000					
Total Net Impact	₹ 765685.62					
NPV	₹ 7,27,284.97					
SROI	₹ 1.01					

# 1.3 SROI of construction of tin shade for community hall, Bherukheda 2

Financial Proxies			
Stakeholder	Indicator	Financial proxy	Source
Company and the	Covinera in		(primary/secondary)
Community	Savings in	Average savings in	Primary and
members	healthcare	healthcare cost	secondary
Community members	Hospitalization cost	Savings in cost of hospitalization due to heat-stroke	Primary
Panchayat	Avoidance cost	Avoidance cost due to HZL intervention	Primary

Social Return on Investment						
Year	2020-21	2021-22	2022-23	2023-24	2024-25	
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.10%	
Discounted Rate Considered	5.28%					
Total input cost	₹ 995925					
Total Net Impact	₹ 1381245					
NPV	₹ 13,11,972	2.83				
SROI	₹ 1.32					

# 1.4 SROI of renovation of lab Sr. Sec School, Hurda

Financial Proxies						
Stakeholder	Indicator	Financial proxy	Source			
			(primary/secondary)			
Students	Savings in school fees	Savings in fees from not shifting to private school with better lab	Secondary and primary			
School Authority	Avoidance cost	Avoidance cost due to HZL intervention	Primary			

Social Return on Investment						
Year	2020-21	2021-22	2022-23	2023-24	2024-25	
India Inflation rate (Source IMF)	5.50%	6.70%	5.50%	4.60%	4.10%	
Discounted Rate Considered	5.28%					
Total input cost	₹ 700000					
Total Net Impact	₹ 2891311.36					
NPV	₹ 27,47,741.85					
SROI	₹ 3.93					

# 2. SROI for Infrastructure development in Agucha FY 2020-21

## 2.1 SROI of shed at PHC, Kothiya

Financial Proxies			
Stakeholder	Indicator	Financial proxy	Source
			(primary/secondary)
Community	Savings in	Average savings in	Primary and
members	healthcare	healthcare cost	secondary
Community members	Hospitalization cost	Savings in cost of hospitalization due to heat-stroke	Primary
Panchayat	Avoidance cost	Avoidance cost due to HZL intervention	Primary

Social Return on Investment					
Year	2021-22	2022-23	2023-24	2024-25	
India Inflation rate (Source IMF)	6.70%	5.50%	4.60%	4.10%	
Discounted Rate Considered	5.23%				
Total input cost	₹627295				
Total Net Impact	₹ 2687571.4				
NPV	₹ 25,54,118.70				
SROI	₹ 4.07				

# 2.2 SROI of prayer shed at Govt. Sr. Sec School, Hurda

Financial Proxies			
Stakeholder	Indicator	Financial proxy	Source
			(primary/secondary)
Students	Savings in	Average savings in	Primary and
	healthcare	healthcare cost	secondary
Students	Hospitalization cost	Savings in cost of hospitalization due to heat-stroke	Primary
School Authority	Avoidance cost	Avoidance cost due to HZL intervention	Primary

Social Return on Investment						
Year	2021-22	2022-23	2023-24	2024-25		
India Inflation rate (Source IMF)	6.70%	5.50%	4.60%	4.10%		
Discounted Rate Considered	5.23%					
Total input cost	₹ 400000					

Total Net Impact	₹ 975312.4
NPV	₹ 9,26,882.78
SROI	₹ 2.32

## 2.3 SROI of prayer shed at Govt. Sr. Sec School, Kotdi

Financial Proxies			
Stakeholder	Indicator	Financial proxy	Source
			(primary/secondary)
Students	Savings in	Average savings in	Primary and
	healthcare	healthcare cost	secondary
Students	Hospitalization cost	Savings in cost of hospitalization due to heat-stroke	Primary
School Authority	Avoidance cost	Avoidance cost due to HZL intervention	Primary

Social Return on Investment					
Year	2021-22	2022-23	2023-24	2024-25	
India Inflation rate (Source IMF)	6.70%	5.50%	4.60%	4.10%	
Discounted Rate Considered	5.23%				
Total input cost	₹ 1028950				
Total Net Impact	₹ 1312604.8	8			
NPV	₹ 12,47,426	5.75			
SROI	₹ 1.21				

# 2.4 SROI of prayer shed at Govt. Sr. Sec School, Kothiya

Financial Proxies			
Stakeholder	Indicator	Financial proxy	Source
			(primary/secondary)
Students	Savings in	Average savings in	Primary and
	healthcare	healthcare cost	secondary
Students	Hospitalization cost	Savings in cost of hospitalization due to heat-stroke	Primary
School Authority	Avoidance cost	Avoidance cost due to HZL intervention	Primary

Social Return on Investment						
Year	2021-22	2022-23	2023-24	2024-25		
India Inflation rate (Source IMF)	6.70%	5.50%	4.60%	4.10%		
Discounted Rate Considered	5.23%					
Total input cost	₹ 1028950					
Total Net Impact	₹ 2675198.58					
NPV	₹ 25,42,360.26					
SROI	₹ 2.47					

# 2.5 SROI of installation of LED lights, Gagwana & Ghooghra

Financial Proxies			
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)
Community members	Reduction in emission	Decrease in GHG emissions due to Solar Panel Installations	Secondary and primary
Community members	Savings in electricity	Savings on Electricity Bills	Secondary and primary

Social Return on Investment						
Year	2022-23	2023-24	2024-25			
India Inflation rate (Source IMF)	5.50%	4.60%	4.10%			
Discounted Rate Considered	4.73%					
Total input cost	₹ 250000					
Total Net Impact	₹ 287937.3					
NPV	₹ 2,73,639.63					
SROI	₹ 1.09					

# 2.6 SROI of renovation of lab, Hurda

Financial Proxies						
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)			
Students	Savings in school fees	Savings in fees from not shifting to private school with better lab	Secondary and primary			
School Authority	Avoidance cost	Avoidance cost due to HZL intervention	Primary			

Social Return on Investment					
Year	2022-23	2023-24	2024-25		
India Inflation rate (Source IMF)	5.50%	4.60%	4.10%		

Discounted Rate Considered	4.73%
Total input cost	₹ 700000
Total Net Impact	₹ 2891311.36
NPV	₹ 27,47,741.85
SROI	₹ 3.93

## 3. SROI for Infrastructure development in Agucha FY 2021-22

## 3.1 SROI of construction of water tank, Rampura

Financial Proxies				
Stakeholder	Indicator	Financial proxy	Source	
			(primary/secondary)	
Community	Water procurement	Average savings in	Primary and	
members	expenses	water	secondary	
Community	Additional income	Additional income	Primary	
members	activity	from extra economic		
		activity		

Social Return on Investment				
Year	FY 2023-2024	FY 2024-2025		
India Inflation rate (Source IMF)	4.60%	4.10%		
Discounted Rate Considered	4.35 %			
Total input cost	₹ 475000			
Total Net Impact	₹ 1009592.4			
NPV	₹ 9,63,964.74			
SROI	₹ 2.03			

## 3.2 SROI of water pipeline installation, Gajsinghpura

Financial Proxies			
Stakeholder	Indicator	Financial proxy	Source
			(primary/secondary)
Community	Water procurement	Average savings in	Primary and
members	expenses	water	secondary
Community members	Additional income activity	Additional income from extra economic activity	Primary
Panchayat	Avoidance cost	Avoidance cost due to HZL intervention	Primary

Social Return on Investment		
Year	FY 2023-2024	FY 2024-2025

India Inflation rate (Source IMF)	4.60%	4.10%
Discounted Rate Considered	4.35 %	
Total input cost	₹ 200984	
Total Net Impact	₹ 1122043.68	
NPV	₹ 10,71,333.88	
SROI	₹ 5.33	

# 3.3 SROI of water pipeline installation, Sultanpura

Financial Proxies			
Stakeholder	Indicator	Financial proxy	Source
Community members	Water procurement expenses	Average savings in water	Primary and secondary
Community members	Additional income activity	Additional income from extra economic activity	Primary
Panchayat	Avoidance cost	Avoidance cost due to HZL intervention	Primary

Social Return on Investment				
Year	FY 2023-2024	FY 2024-2025		
India Inflation rate (Source IMF)	4.60%	4.10%		
Discounted Rate Considered	4.35 %			
Total input cost	₹ 321477			
Total Net Impact	₹ 2165875.2			
NPV	₹ 20,67,990.32			
SROI	₹ 6.43			

# 3.4 SROI of repair of bitumen road, Agucha

Financial Proxies				
Stakeholder	Indicator	Financial proxy	Source	
			(primary/secondary)	
Community	Road accident	Savings from accident-	Secondary and	
members	cost	free transportation	primary	
Community	Wages foregone	Wages foregone due to	Secondary and	
members		accidents	primary	
Panchayat	Avoidance cost	Avoidance cost due to	Primary	
		HZL intervention		
Social Return on Investment				
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Year	FY 2023-2024	FY 2024-2025		
India Inflation rate (Source IMF)	4.60%	4.10%		
Discounted Rate Considered	4.35 %			
Total input cost	₹ 11,13,665			
Total Net Impact	₹ 11745969.69			
NPV	₹ 1,12,15,120.64			
SROI	₹ 10.07			

#### 3.5 SROI of construction of gravel road, Bherukheda-2

Financial Proxies			
Stakeholder	Indicator	Financial proxy	Source
Community	Road accident	Savings from accident-	Secondary and
members		free transportation	nrimary and
Community	Wages foregone	Wages foregone due to	Secondary and
members	Wages loregone	accidents	primary
Panchayat	Avoidance cost	Avoidance cost due to HZL intervention	Primary

Social Return on Investment		
Year	FY 2023-2024	FY 2024-2025
India Inflation rate (Source IMF)	4.60%	4.10%
Discounted Rate Considered	4.35 %	
Total input cost	₹ 755051	
Total Net Impact	₹ 3790469.75	
NPV	₹ 36,19,162.71	
SROI	₹ 4.79	

#### 3.6 SROI of community place - tin shed, Bherukheda-1

Financial Proxies			
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)
Community members	Savings in healthcare	Average savings in healthcare cost	Primary and secondary
Community members	Hospitalization cost	Savings in cost of hospitalization due to heat-stroke	Primary
Panchayat	Avoidance cost	Avoidance cost due to HZL intervention	Primary

Social Return on Investment		
Year	FY 2023-2024	FY 2024-2025
India Inflation rate (Source IMF)	4.60%	4.10%
Discounted Rate Considered	4.35 %	
Total input cost	₹ 12,03,000	
Total Net Impact	₹ 2967155.232	
NPV	₹ 28,43,464.53	
SROI	₹ 2.36	

#### 3.7. SROI of renovation of Agucha PHC

Financial Proxies			
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)
Community Members	Savings ir healthcare	Savings in from not visiting private hospital with better amenities	Secondary and primary
Hospital Authority	Avoidance cost	Avoidance cost due to HZL intervention	Primary

Social Return on Investment		
Year	FY 2023-2024	FY 2024-2025
India Inflation rate (Source IMF)	4.60%	4.10%
Discounted Rate Considered	4.35 %	
Total input cost	₹ 559229	
Total Net Impact	₹ 6912936.5	
NPV	₹ 66,00,512.25	
SROI	₹ 11.80	

#### 3.8. SROI of renovation of primary school, Moolji Ka Kheda

Financial Proxies			
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)
Community Members	Savings in Education Cost	Savings in fees from not shifting to private school with additional classrooms	Secondary Research

School Authority	Structural durability and avoidance cost	Cost of construction of toilet saved by school authorities	Secondary Research
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Social Return on Investment		
Year	FY 2023-2024	FY 2024-2025
India Inflation rate (Source IMF)	4.60%	4.10%
Discounted Rate Considered	4.35 %	
Total input cost	₹ 757042	
Total Net Impact	₹ 2101042	
NPV	₹ 20,06,087.21	
SROI	₹ 2.65	

#### 4. SROI for Infrastructure development in Agucha FY 2022-23

4.1 SROI of 4 prayer shed construction at 4 Government schools (2 at Agucha, 1 at Kharika Lamba and 1 at Itidiya)

Financial Proxies			
Stakeholder	Indicator	Financial proxy	Source
			(primary/secondary)
Students	Savings in	Average savings in	Primary and
	healthcare	healthcare cost	secondary
Students	Hospitalization cost	Savings in cost of hospitalization due to heat-stroke	Primary
School Authority	Avoidance cost	Avoidance cost due to HZL intervention	Primary

Social Return on Investment		
Year	2024-25	
India Inflation rate (Source IMF)	4.10%	
Discounted Rate Considered	4.10%	
Total input cost	₹ 12203908	
Total Net Impact	₹ 17339038	
NPV	₹ 1,66,16,231.91	
SROI	₹ 1.36	

#### 4.2 SROI of community centre- shed construction, Agucha

Financial Proxies			
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)
Community members	Savings in healthcare	Average savings in healthcare cost	Primary and secondary
Community members	Hospitalization cost	Savings in cost of hospitalization due to heat-stroke	Primary
Panchayat	Avoidance cost	Avoidance cost due to HZL intervention	Primary

Social Return on Investment				
Year	2024-25			
India Inflation rate (Source IMF)	4.10%			
Discounted Rate Considered	4.10%			
Total input cost	₹ 2446927			
Total Net Impact	₹ 11024104			
NPV	₹ 1,05,64,546.24			
SROI	₹ 4.32			

#### 4.3 SROI of renovation at Upper Primary School, Kheda Palola

Financial Pro	Financial Proxies							
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)					
Students	Savings in school fees	Savings in fees from not shifting to private school with additional classrooms	Secondary and primary					
Students	Healthcare cost	Average savings in sanitation and hygiene related diseases	Primary and secondary					
School Authority	Maintenance cost	Cost saved in structural durability	Secondary					
School Authority	Avoidance cost	Avoidance cost due to HZL intervention	Primary					

Social Return on Investment				
Year	2024-25			
India Inflation rate (Source IMF)	4.10%			
Discounted Rate Considered	4.10%			

Total input cost	₹ 1810340
Total Net Impact	₹ 4653201.898
NPV	₹ 44,59,225.59
SROI	₹ 2.46

#### 4.4 SROI of classrooms and washroom construction at Mahatma Gandhi Girls School

Financial Pro	Financial Proxies							
Stakeholder	Indicator	Financial proxy	Source (primary/secondary)					
Students	Savings in school fees	Savings in fees from not shifting to private school with additional classrooms	Secondary and primary					
Students	Healthcare cost	Average savings in sanitation and hygiene related diseases	Primary and secondary					
School Authority	Avoidance cost	Avoidance cost due to HZL intervention	Primary					

Social Return on Investment	Social Return on Investment				
Year	2024-25				
India Inflation rate (Source IMF)	4.10%				
Discounted Rate Considered	4.10%				
Total input cost	₹ 2411026				
Total Net Impact	₹ 5748308.74				
NPV	₹ 55,08,681.11				
SROI	₹ 2.28				

\* (SROI for certain activities is not calculated due to partial information about the activities)

### Chapter 10 Findings of Impact Assessment Study- Udham Singh Nagar



#### Chapter 10: Findings from the Impact Assessment: Udham Singh Nagar

The following analysis offers an overview of the intricate impacts on the community. These results highlight the efficacy of interventions envisioned to address the unique opportunities and challenges faced by the respondents in **Udham Singh Nagar**.

#### 10.1. Inclusiveness of the Programme



Within the IRECS framework, the "I" stands for *Inclusiveness*. This concept focuses on how effectively the programme ensures all intended beneficiaries have fair access to its benefits irrespective of factors like age, gender, socioeconomic background, and geographic location.



Figure 187: Gender- wise classification of respondents

Considering that the intervention took place within a school setting, the primary beneficiaries were in the age bracket of under 18, specifically ranging from 11 to 13 years old.

Recognising that these young children might not comprehend each survey question at once, efforts were made to ensure clarity by translating the questions into Hindi using a simplified language. Throughout the data collection process, the team interacted with students from the upper primary school where the infrastructure intervention by HZL took place. Approximately 62% of the surveys were completed by female students, while around 38% were completed by male students. This categorisation facilitated an understanding of the intervention's impact on both male and female students attending the school.





Figure 189: Type of ration card holding

The entire community residing in the village is composed of individuals from the Scheduled Caste community. According to the teacher interviewed at the school, all the students attending the school come from the same village or nearby villages within a radius of 500 meters to 1 kilometre. This community generations ago migrated from West Bengal, and they collectively identify with the Scheduled Caste community. The students were not familiar with the ration card by its name. However, they could remember it based on the colour of the card. Through their recall capacity, it was discovered that the majority of students belonged to families holding the yellow ration card, which signifies the Below Poverty Line ration card.





Figure 190: Caste stratification of respondents

The programme was inclusive towards all the students at the school residing in the backward community for the better and holistic development of the students.

#### 10.2. Relevance

38% of family members of the beneficiaries earn primarily through daily wages. 50% of the HHs have an annual income between RS. 50,000 to Rs. 1,00,000

88% of HHs do not have any land for agriculture

only 13 % of people still migrate

*Relevance* in the IRECS framework signifies the alignment between the programme's goals and objectives with the actual needs and aspirations of the target beneficiaries. It assesses whether the programme addresses the most pressing issues faced by the intended population.

Jagdishpur, a village in the Gram Panchayat of Vijay Nagar, is located within the Gadarpur block of Udham Singh Nagar district in Uttarakhand. The village is predominantly inhabited by migrant families, with a majority of Bengali residents followed by a smaller Sikh community. Insights from focus group discussions shed light on the migration patterns spanning generations, where individuals moved to Uttarakhand in pursuit of employment opportunities and eventually settled here permanently.

Situated in close proximity to the industrial hub of Udham Singh Nagar, with Rudrapur as its headquarters, the village benefits from its strategic location. The presence of nearby industrial zones offers the community ample employment prospects, ranging from permanent positions to daily wage work.

#### **Relevance of the Programme**

Literacy, particularly among women, remains a significant gap in the district. While the overall literacy rate stands at 71.34 per cent, it drops to 67.77 per cent for females. Approximately 21.1 percent have received education below the primary level or have had informal education, while 14.6 percent and 15.1 per cent have reached primary and middle school levels, respectively<sup>2</sup>.

The pronounced gender disparity in educational achievements is concerning and is likely to impede socioeconomic progress and empowerment. Consequently, educational achievements remain unsatisfactory.

Low literacy levels often push individuals towards seeking daily wage labour. With limited education, they may struggle to access better-paying jobs or navigate formal employment



<sup>2</sup> https://icssr.org/sites/default/files/Exc-sum/Uddham%20Singh%20Nagar.pdf

processes. Consequently, in the surveyed area, it was observed that a significant number of parents of the beneficiaries primarily engage in daily wage work. Salaried jobs, often involving low-grade positions in the industrial sector, represent another common form of employment among them.



For at least 50% of these families, the annual average income falls within the range of Rs. 50,000 to Rs. 1,00,000. These families lack the option of earning through agriculture, as 88% of beneficiaries do not own any land. Even among the remaining 12%, land ownership is limited to a maximum of 2 bighas, which often lie fallow due to the majority of family members being engaged in daily wage labour.



Figure 193: Family land ownership

The population itself consists of migrants situated majorly dependent on the Rudrapur industrial area have only 13% of the population still migrating to other states for livelihood.



Figure 194: Migration pattern

The data on primary fuel sources used for cooking by households indicates a notable shift towards cleaner and more efficient fuel sources, with 75% relying on Liquefied Petroleum Gas (LPG). However, traditional cooking methods persist, with 13% of households still using fuel wood and 12% utilising cow dung. These findings highlight the diverse range of cooking practices within the community.

Furthermore, the reliance on LPG poses an additional financial burden for families with limited income, underscoring the challenges faced by these households in accessing cleaner cooking technologies.





Figure 195: Primary cooking fuel

Given the predominance of low-income households in the region, which largely rely on daily wage labour due to limited educational qualifications resulting in lower-grade employment, it became imperative for the project to prioritise investments in enhancing educational infrastructure. This strategic focus aims to nurture the educational prospects of future generations, laying the foundation for their socio-economic advancement.

# 10.3. Expectations from the Programme75% respondents<br/>(students) were aware of<br/>education infrastructure<br/>been developed by HZL100% Respondents<br/>(students) knew about the<br/>lab renovation work done<br/>by HZL79% students believe that<br/>they have got better<br/>accademic results from<br/>digital learning

*Expectation* in the IRECS framework focuses on the degree to which the programme's interventions have met the anticipated positive changes for the beneficiaries. It examines whether the programme has delivered on its promises and resulted in the expected social, economic, and cultural improvements for the target population.



To address the gap in education standards, HZL planned intervention an aimed at enhancing educational services for students attending the upper primary school in Jagdishpura. As part of this initiative, the school was equipped with 20 laptops to promote digital literacy.

Among the surveyed beneficiaries, 75% were aware of the intervention carried out by HZL, while 25% were not. It's worth noting that considering the intervention took place in the 2019-20 academic year, some children may have since forgotten about it.

Among the various infrastructure developments carried out by HZL across multiple locations, only two were conducted in Udham Singh Nagar district. These projects involved improvements at a school and a Nandghar, commonly known as Anganwadi. However, within the sampled village, only the education infrastructure received intervention.

All the students in the upper primary school acknowledged the renovation of the laboratory. Interestingly, 7% of them also perceived the lab room renovation as a distinct project and mentioned the construction of a hall separately. Education development by HZL(n=14)



Figure 197 Type of education infrastructure development

The introduction of a computer lab significantly improved academic outcomes for students, as reported by 79% of respondents. Female students, in particular, emphasised how their academic progress through digital learning has positively influenced their parents' encouragement for continued education at the school. Furthermore, this improvement has motivated parents to consider sending their daughters for higher education in nearby cities.



Figure 198: Benefits from education infrastructure development

The renovation of the laboratory and the provision laptops students have of to significantly enhanced the educational experience for them. Teachers have observed that students now find learning more engaging through digital mediums. The use of audiovisual aids has facilitated a deeper connection with study content, allowing students to access advanced knowledge more effectively.

"I was not scoring well so my mother told me to stay at home and look after my younger brother. But when I started to learn from the computers, it became so easy to understand that I scored well in the last term of my 5<sup>th</sup> class. My good marks gave my parents a hope for bright future, and I continued studies"

- Student- Class 8th

The current pedagogy incorporates digital platforms for every subject, ensuring that

students from grades 3 to 8 spend one-hour daily learning through these resources. This approach aims to enrich their learning experience and promote academic excellence.



Figure 199: Perceived impact of intervention

#### 10.4. Convergence

*Convergence* in the IRECS framework refers to aligning efforts, resources, and policies across sectors and stakeholders toward common development goals. It emphasises the integration and coordination of efforts from various actors, including government agencies, non-governmental organisations, community members, and other relevant stakeholders, to address complex development challenges comprehensively.

With its intervention, HZL has worked aligning to the following government scheme-

S. No.	Scheme	Description
1.	National Digital Literacy Mission (NDLM)	The primary objective of NDLM is to provide digital literacy to all citizens, including those in rural and remote areas, by imparting basic digital skills required to operate computers, access the internet, and use digital devices effectively.

#### **10.5 Service Delivery**

Service delivery in the IRECS framework refers to providing essential amenities and infrastructure to communities efficiently and effectively to meet their needs. Effective service delivery involves the efficient and timely delivery of these services, ensuring accessibility, affordability, and quality, thereby contributing to the overall well-being and development of the community.

"We understand that its technology and with time it's going to get slow, but we look forward to the corporates around us. CSR funds have made so many improvements in our school and we keep looking forward to it".

- Principal, Upper primary school, Gadarpur.

The provision of laptops and the subsequent benefits to students constitute a significant aspect of the intervention. However, the maintenance of these laptops is crucial for long-term sustainability. It has been observed that the laptops have begun to slow down, and many of the headphones provided with them are now non-functional. While 69% of students believe that the school should be responsible for maintenance, 31% feel that it is the responsibility of HZL. During discussions with the headmaster, it became apparent that students were utilising the facility properly. However, over time, technology tends to slow down, leading to the current lag. The school authorities realise that maintenance should be undertaken by the school as the facility was handed over to the school. However, the school lacks sufficient funds for this

purpose. As mentioned by the headmaster, they look forward to the CSR operations of different corporate to help the school evolve with time.



Figure 200: Maintenance of the intervention work

Data collection showed balanced participation across genders and age groups, benefiting the Scheduled Caste community, primarily migrants from West Bengal. The programme aligns with educational needs, emphasising literacy and digital literacy. Financial constraints for maintenance pose challenges, suggesting the need for sustained support, possibly through the education department or CSR initiatives, to ensure long-term effectiveness in community development.



Image 49: Lab renovation done by HZL

\* (SROI for the activities is not calculated due to partial information about the activities)

## Chapter 11 Benchmark Findings

Sakhi Hagi

मर्यक्रम अंतम

शन, जात

#### Chapter 11: Benchmark Findings

#### 11.1. Introduction to benchmarking

Benchmarking is a process of comparing and measuring an organisation's performance, practices, or outcomes against those of industry leaders or best practices. It involves identifying standards, metrics, or benchmarks that represent the desired level of performance and then assessing how well an organisation or project measures up to these benchmarks.

In the context of CSR projects, benchmarking plays a crucial role in evaluating effectiveness by providing a means to measure performance and progress against established standards or goals. By comparing key indicators, outcomes, or practices with industry benchmarks or recognised best practices, benchmarking helps organisations assess their performance objectively, identify areas for improvement, and make informed decisions to enhance impact.

The purpose of benchmarking within the context of a specific CSR project is to assess its performance, effectiveness, and impact relative to industry standards, peer organisations, or established benchmarks. It allows stakeholders to gain insights into how well the project is achieving its objectives, where it stands compared to others in the field, and what opportunities exist for improvement. Benchmarking helps stakeholders understand the strengths and weaknesses of the CSR project, identify best practices or innovative approaches, and implement strategies to maximise impact and outcomes. Overall, benchmarking provides valuable insights and actionable data to support informed decision-making and continuous improvement in CSR initiatives.

#### 11.2. Approach considered for identification of benchmarking reports



#### 1. Selection Criteria:

Five companies operating within the same sector as HZL were chosen. These companies were selected based on their relevance to HZL's operations and their prominence in CSR initiatives.

#### 2. Timeframe:

CSR projects from the years 2021 to 2023 were considered. This three-year period provided a recent and relevant snapshot of CSR activities, ensuring applicability to current trends.

#### 3. Thematic Areas:

Thematic areas aligning with HZL's infrastructure development projects were identified:

- a. Solar infrastructure
- b. Education infrastructure
- c. Water infrastructure
- d. Healthcare infrastructure
- e. Community infrastructure

#### 4. Depth of Analysis:

Each thematic area was subjected to in-depth scrutiny.

The focus was on understanding the scope, scale, and impact of CSR projects undertaken by the selected companies within these areas.

#### 5. Comparison Approach:

Comparative analysis was conducted across the five companies. This comparison allowed for the identification of best practices and emerging trends.

#### 6. Data Collection:

Relevant data, including CSR reports, project documents, and other publicly available information, were collected for each company and thematic area.

#### 7. Evaluation Metrics:

Key performance indicators (KPIs) and evaluation metrics were defined for assessing the effectiveness and efficiency of CSR projects.

These metrics facilitated a systematic evaluation of project outcomes and impacts.

#### 8. Insights Generation:

Insights were generated based on the comparative analysis and evaluation of CSR initiatives.

These insights informed decision-making and strategic planning for HZL's CSR activities, helping to identify areas of improvement and opportunities for innovation.

#### 9. Strategic Alignment:

The ultimate goal was to align HZL's CSR strategies with industry best practices and emerging trends, thereby maximising the company's positive impact on society and the environment.

11.5. IIIe							
Compa nies	Project name	Implem entation Year	Project location	Alloca ted CSR Amou nt (in Rs)	Actu al Spen t CSR Amo unt (in Rs)	% of allocat ed CSR Amou nt Spent	Implement ation Mode Proportion
Solar Infr	astructure Pro	jects					
NMDC	Solar Electrification related works in Health Centers	2020-21	Bijapur, CG	3.58 Cr	1.79 Cr	50%	40 % indirect - through implementa tion partner 60% Direct

#### 11.3. Theme-wise Comparative Metrics

MOIL	Solar Street Lights in Dongri Buzurg Village	2020-21	Bhandara , Maharash tra	0.5 Cr	0.42 Cr	84%	implementa tion
NALCO	Electrification and renovation work at Gandhi Park and other places of Puri after cyclone FANI	2020-22	Puri, Odisha	0.3 Cr	0.29 Cr	97%	
COAL India	Construction of solar- heated classrooms and water reservoirs at the Himalayan Institute of Alternatives Ladakh (HIAL)	2021-22	Ladakh	0.3 Cr	0.12 Cr	40%	
Larsen & Toubro	Alternate Energy for Schools	2021-22	Surat, Gujarat	N/A	0.7 Cr		
Water Inf	rastructure Pro	ojects					
BALCO	Project Land & Water Management (Mor Jal Mor Maati)	2021-22	Korba, Chhatisga rh	0.85 Cr	0.84 Cr	99%	80% indirect implementa tion - through implementin g partners

TATA Steel Ltd	Watershed Project at Kuiani - An initiative for Water conservation	2021-22	Kuiani, Jharkhan d	0.32 Cr	0.08 Cr	25%	20 % - Direct implementa tion
Tata Steel	Drinking Water Supply Project	2020-24	Jharkhan d, Odisha	5.51 Cr	3.85 Cr	70%	
JSW STEEL	Integrated Water Resources Management	2020-21	Karnatak a, Maharash tra, Tamil Nadu, Odisha	10.68 Cr	4.00 Cr	37%	
Coal India Ltd	Repair and restoration of defunct water harvesting structures	2020-22	Rajnandg aon, Chhatisga rh	N/A	5.26 Cr		
Healthcar	re Infrastructur	e Projects	1	1	1	<u> </u>	
TATA Steel	Maternal and Newborn Survival Initiative (MANSI)	2020-21	Jharkhan d, Odisha	N/A	1.98 Cr		50% Indirect implementa tion - through implementin
Jindal Steel	Support to Hospitals and Healthcare Facilities	2020-21	Chhattisg arh, Jharkhan d, Odisha, Haryana	2.83 Cr	2.78 Cr	98%	g partners 50% direct implementa tion

NMDC	Strengthenin g of Health Services and other infrastructure -related facilities in District Dantewada	2021-22	Dantewad a, Chhatisga rh	4.2 Cr	2.8 Cr	67%	
& Toubro India	Health Centre, Thane		Maharash tra		Cr		
Educatio	n Infrastructure	e Projects				l	
Coal India Ltd.	CSR grant for construction of Lab, Library, Classrooms, and Hostel facility at Nivedita Siksha Sadan Balika Inter Collage, Varanasi	2020-21	Varanasi, Uttar Pradesh	0.47 Cr	0.47 Cr	100%	67% indirect implementa tion - through implementin g partners 33% - Direct implementa tion
MOIL	Construction of an Additional Floor at Saraswati Mandir, an educational institute for Deaf & Mute Children at Nagpur	2020-21	Nagpur, Maharash tra	0.9 Cr	0.56 Cr	62%	

JSW Steel	Educational infrastructure & systems strengthenin g	2020-21	Karnatak a, Maharash tra, Tamil Nadu, Odisha	14.81 Cr	7.61 Cr	51%					
NALCO	NALCO ki Ladli	2021-22	Koraput, Odisha	0.20 Cr.	0.19 Cr.	95%					
TATA Steel Limited	School Improvement Project (1000 schools project)	2021-22	Jharkhan d, Odisha	16.94 Cr	18.06 Cr.	Excee ded the allocat ed CSR amoun t					
HINDAL CO	School Education Programme	2021-22	Jharkhan d, Chhattisg arh, UP, Odisha, Kerala, Maharash tra, Karnatak a	N/A	11.68 Cr.						
Community Infrastructure Projects											
NMDC	Construction of Multipurpose Community Hall at Bacheli	2020-21	Bacheli, Chhatisga rh	N/A	0.8 Cr		40% Indirect implementa tion - through implementin g partners				
NALCO	Provision & installation of Aqua guard at different places of Damanjodi	2020-21	Koraput, Odisha	1.0 Cr	0.84 Cr	84%	60% Direct implementa tion				

Jindal Steel	Need-based community infrastructure development	2020-21	Chhatisga rh, Jharkhan d, Odisha	2.37 Cr	2.25 Cr	95%	
Shree Cement Ltd	Infrastructure support for nearby villages	2021-22	Jaipur- Rajasthan , Alwar- Rajasthan , Aurangab ad-Bihar, Hardwar- Uttarakha nd, Chhattisg arh, Panipat- Haryana, Pali- Rajasthan	52.12 Cr	23.53 Cr	45%	
BALCO	Community Development including Community Asset creation	2021-22	Korba, Chhatisga rh	0.75 Cr	0.39 Cr	52%	

#### 11.4. Key inferences from theme-wise metrics

The key inferences from different thematic areas are listed below -

#### 12.4.1 Solar Infrastructure Interventions (Number of Projects = 5)

Hindustan Zinc Limited competes with its key competitors such as NMDC, MOIL, NALCO, COAL India and Larsen and Toubro. The competitors are working on similar CSR projects in the same thematic area.

#### A. High-Priority SDGs of the Projects

Since all the interventions are deeply involved in Solar electrification and infrastructural development, they closely align with SDG 7 – Affordable and Clean Energy.

In 40% of the interventions, the healthcare facilities and community development & safety are the crucial aspects. Hence, those interventions also align with SDG 3 - Good Health and Well-Being.



Figure 201: High priority on SDGs

#### **B.** Implementation Modes of the Projects

In 40 per cent of the indirect implementations, the interventions are executed either through the foundations of the company itself or through the external NGO partners.





#### C. Company wise inference-

#### NMDC

- NMDC collaborated with Govt. of Chhattisgarh for the installation of solar powerbased electrification facilities in health centres and providing solar maternity cum mother care kits in health centres.
- The project is implemented in Bijapur, CG
- The project was implemented and completed in FY 2020-21 through the use of 50 per cent of the allocated CSR amount.
- The project closely aligns with SDG 3 and 7 and theme (i) of Schedule 7.

#### MOIL

- The project aimed to create a positive impact on various aspects of village life, encompassing safety, community development, and environmental sustainability.
- The project is implemented in Bhandara, Maharashtra.
- The project was implemented and completed in FY 2020-21 through the use of about 84 per cent of the allocated CSR amount.
- The project closely aligns with SDG 7 and 11 and the theme (x) of the Schedule 7.

#### NALCO

- The project aimed to restore and repair electrical arrangements and light posts in Gandhi Park and other places near the sea area in Puri, Odisha, which were severely damaged by Cyclone Fani in 2019. It further wished to enhance the park's beauty and improve its attraction for tourists.
- The project was implemented and completed in FY 2020-22 through the use of about 97 percent of the allocated CSR amount.
- The project closely aligns with SDG 3 and 7 and theme (v) of Schedule 7.

#### **COAL India**

- The solar-heated classrooms project aims to create a comfortable and conducive learning environment for students in Ladakh, where temperatures dip way below the freezing point. Additionally, the project also promotes renewable energy usage by utilising solar energy to explore sustainable alternatives and promote responsible resource usage.
- The project was implemented in FY 2021-22.
- The project closely aligns with SDG 4,6 and 7 and themes (ii) and (iv) of Schedule 7.

#### Larsen and Toubro

• The project aims to reduce reliance on fossil fuels and promote sustainable practices, cut electricity costs for schools, freeing up resources for other educational needs.

- The project is implanted in Surat, Gujrat.
- The project was implemented in FY 2021-22.
- The project closely aligns with SDG 4 and 7 and themes (ii) and (iv) of Schedule 7.

#### 12.4.2 <u>Water Infrastructure Projects (Number of Projects = 5)</u>

Hindustan Zinc Limited competes with its key competitors, such as **BALCO**, **TATA Steel**, **TATA Steel Ltd.**, **JSW Steel**, **and COAL India Ltd**. The competitors are working on similar CSR projects in the same thematic area.

#### A. High-Priority SDGs of the Projects

40% of interventions are deeply involved in community empowerment, sustainable livelihood, and sustainable agriculture, and hence, they closely align with SDG 2 – Zero Hunger, SDG 3 – Good Health and Well Being, and SDG 12 – Responsible Consumption and Production.

40% of the interventions are focused on water conservation and efficient agricultural practices. Hence, they align with SDG 6 – Clean Water and Sanitation and SDG 7 – Affordable and Clean Energy.



#### High Priority SDGs

Figure 203: High priority SGDs

#### **B.** Implementation Modes of the Projects

In 80 per cent of the indirect implementations, the interventions are executed either through the foundations of the company itself or through the external NGO partners.

#### Implementation Modes



Figure 204: Implementation modes

#### C. Company wise inference-

#### TATA Steel

- The project provided a sustainable source of safe drinking water to remote villages in Jharkhand and Odisha facing water shortages to reduce waterborne diseases and promote better hygiene practices. The project also empowers communities and supports sustainable livelihoods, enabling activities like agriculture and small businesses.
- The project was implemented and completed in FY 2020-24 through the use of about 70 per cent of the allocated CSR amount.
- The project closely aligns with SDG 3 and theme (i) of Schedule 7.

#### Coal India Ltd

- The project restored 16 water harvesting structures, increased storage, provided safe drinking water to over 25,000 residents, and also boosted irrigation potential for 1,000 hectares of farmland. This ensured to foster lasting community development and improved livelihoods for the residents.
- The project is implemented in Rajnandgaon, Chhattisgarh.
- The project was implemented and completed in FY 2020-22.
- The project closely aligns with SDG 7 and 11 and themes (i) and (iv) of Schedule
  7.

#### BALCO

- This project focuses on augmenting irrigation facilities, equipping farmers with the latest farming techniques, and promoting multi-cropping to reduce water usage.
- The project is implemented in Korba, Chhattisgarh.
- The project was implemented in FY 2021-22.
- The project closely aligns with SDG 2, 6, and 12 and theme (i) of Schedule 7.

#### TATA Steel Ltd.

- The project focuses on conserving water in the Kuiani area of Jharkhand through strategies like rainwater harvesting, soil, and moisture conservation techniques, and promoting sustainable water use practices to improve the overall water availability in the region, benefiting both communities and the environment.
- The project was implemented in FY 2021-22.
- The project closely aligns with SDG 2, 6, and 12 and theme (i) of Schedule 7.

#### **JSW Steel**

- The project aims to improve water availability through storage and recharge, promote efficient use in agriculture, empower communities through management roles, and ultimately enhance livelihoods by addressing water challenges and fostering sustainable practices.
- The project is implemented in Karnataka, Maharashtra, Tamil Nadu and Odisha.
- The project was implemented in FY 2020-21.
- The project closely aligns with SDG 3 and 7 and themes (i) and (iv) of Schedule 7.

#### 12.4.3 Healthcare Infrastructure Projects (Number of Projects = 4)

Hindustan Zinc Limited competes with its key competitors such as **TATA Steel**, **Jindal Steel Ltd.**, **NMDC and Larsen and Toubro India**. The competitors are working on similar CSR projects in the same thematic area.

#### A. High Priority SDGs of the Projects

All the healthcare infrastructure interventions are deeply involved in improving the quality of healthcare services with easy accessibility. Hence, they closely align with SDG 3 – Good Health and Well-Being.

**High Priority SDGs** 



SDG 3 : Good Health & Well-Being

Figure 205: High priority SGDs

#### **B.** Implementation Modes of the Projects

In 50 per cent of the indirect implementations, the interventions are executed through the foundations of the company itself.



#### C. Company wise inference-

#### **Jindal Steel**

- The project aimed to strengthen healthcare infrastructure and improve access to quality medical care through donations of medical equipment and supplies to hospitals and clinics. The project further supported infrastructure development and capacity building of healthcare personnel, organisation of free medical camps, and health awareness programmes.
- The project was implemented in Chhattisgarh, Jharkhand, Odisha and Haryana.
- The project was implemented and completed in FY 2020-21 through the use of about 98 per cent of the allocated CSR amount.
- The project closely aligns with SDG 3 and 11 and theme (i) of Schedule 7.

#### NMDC

- The project aimed to improve community access to healthcare, enhance the quality of healthcare and focus on specific health needs by arrangement of Doctors in the Medical Dept. and Veterinary Dept. and other infrastructure-related facilities.
- The project was implemented in Dantewada, Chhattisgarh.
- The project was implemented and completed in FY 2021-22 through the use of about 67 per cent of the allocated CSR amount.
- The project closely aligns with SDG 3 and theme (i) of Schedule 7.

#### Larsen & Toubro India

- The project ensured continued access to essential healthcare services for the community, including preventive care, basic medical services, and referrals to specialists. A functional Community Health Centre provides affordable healthcare, potentially mitigating financial burdens on community members, leading to better overall well-being for the community.
- The project was implemented in Thane, Maharashtra
- The project was implemented and completed in FY 2021-22.
- The project closely aligns with SDG 3 and theme (i) of Schedule 7.

#### **TATA Steel**

- The project aims to tackle high infant and maternal mortality rates in Jharkhand and Odisha. It focuses on building the capacity of existing community health volunteers (ASHAs, ANM, etc.) to provide home-based neonatal and childcare (HBNCC) services.
- The project was implemented in FY 2020-21.
- The project closely aligns with SDG 3 and theme (i) of Schedule 7.

#### 12.4.4 Education Infrastructure Projects (Number of Projects = 6)

Hindustan Zinc Limited competes with its key competitors, such as **Coal India Ltd**, **MOIL**, **JSW Steel**, **NALCO**, **TATA Steel Limited**, **and Hindalco**. The competitors are working on similar CSR projects in the same thematic area.

#### A. High-Priority SDGs of the Projects

All the interventions are supporting in improving the quality of education through educational infrastructure development and resources. Hence, they closely align with **SDG 4 – Quality Education**.

50 per cent of the interventions are helping in women's empowerment and inclusiveness in school enrolment and education accessibility. Hence, they closely align with **SDG 5 – Gender Equality.** 





#### B. Implementation Modes of the Projects

In 67 per cent of the indirect implementations, the interventions are executed either through the foundations of the company itself or through the external NGO partners.



C. Company wise inference-

#### Coal India Ltd.

- The project supported new classrooms and labs to equip students with better learning spaces and resources. The project also enhanced access to hostel facilities to encourage enrolment from girls in remote areas who face distance barriers. The project empowered women by investing in girls' education, improving facilities catering to their specific needs, and empowering them through knowledge.
- The project was implemented in Varanasi, Uttar Pradesh.
- The project was implemented and completed in FY 2020-21 through the complete use of the allocated CSR amount.
- The project closely aligns with SDG 4 and 5 and theme (i) of Schedule 7.

#### MOIL

- The project provided accommodation for more students and created specialised learning areas, potentially enhancing their educational experience. Accessibility features like ramps and wider doorways were likely incorporated to foster an inclusive environment. The project aimed to create a lasting positive impact for both individuals and the wider community.
- The project was implemented in Nagpur and Chhattisgarh.
- The project was implemented and completed in FY 2020-21 through the use of about 62 per cent of the allocated CSR amount.
- The project closely aligns with SDG 4 and 10 and theme (ii) of Schedule 7.

#### Hindalco

- The project aimed at improving the quality of education for underprivileged children in India in Jharkhand, Chhattisgarh, UP, Odisha, Kerala, Maharashtra, Karnataka
- The project was implemented and completed in FY 2021-22
- The project closely aligns with SDG 4 and 6 and themes (ii) and (v) of Schedule 7.

#### **JSW Steel**

- The project provides an improved learning environment and enhanced access to education facilities for the community dwellers and thereby encourages holistic development of the children belonging to the underprivileged sections of society.
- The project is implemented in Karnataka, Maharashtra, Tamil Nadu, and Odisha.
- The project was implemented in FY 2020-21.
- The project closely aligns with SDG 4 and theme (ii) of Schedule 7.

#### NALCO

- The project provides financial support to female students every year under the BPL category from periphery villages of M & R Complex, Damanjodi & S&P Complex Angul, Sports events for Ladies and other competitions among ladies and their career counselling.
- The project is implemented in Koraput, Odisha.
- The project was implemented in FY 2021-22.
- The project closely aligns with SDG 4 and 5 and theme (ii) of Schedule 7.

#### TATA Steel Limited

- The project supports enhancing the learning outcomes for students, particularly in core subjects like English, Maths, and Science. Secondly, the project strengthened school governance and management through active community participation is another key objective. By bridging the learning gap between government and private schools, this initiative strives for quality education across all institutions.
- The project is implemented in Jharkhand and Odisha.
- The project was implemented in FY 2021-22.
- The project closely aligns with SDG 4 and 5 and theme (ii) of Schedule 7.

#### 12.4.5 Community Infrastructure Projects (Number of Projects = 5)

Hindustan Zinc Limited competes with its key competitors such as NMDC, NALCO, Jindal Steel, Shree Cement Ltd., and BALCO. The competitors are working on similar CSR projects in the same thematic area.

#### A. High-Priority SDGs of the Projects

The interventions are involved in community infrastructure developments which uplift the economic growth and sustainability of cities. Hence, they closely align with SDG 8 – Decent Work and Economic Growth and SDG 11 – Sustainable Cities and Communities.



Figure 209: High priority SDGs

#### B. Implementation Modes of the Projects

In 40 per cent of the indirect implementations, the interventions are executed through the foundations of the company itself.





#### C. Company wise inference-

#### NMDC

- The project provided a much-needed space for community gatherings, cultural events, and social functions and created opportunities for skill development and income generation through vocational training programmes. The project also promoted social cohesion and community engagement by facilitating various activities and events.
- The project was implemented in Bacheli, Chhattisgarh.
- The project was implemented and completed in FY 2020-21.
- The project closely aligns with SDG 8 and 10 and theme (x) of Schedule 7.

#### NALCO

- The project supported in installing Aqua guards (water purifiers) in different locations aims to provide residents with easier access to clean and safe drinking water. By ensuring access to clean water, the project contributed to reducing waterborne diseases and improving overall health outcomes in the community.
- The project was implemented in Koraput, Odisha.
- The project was implemented and completed in FY 2020-21 through the use of about 84 per cent of the allocated CSR amount.
- The project closely aligns with SDG 3 and 6 and theme (x) of Schedule 7.

#### Jindal Steel

- The project supported the construction, upgradation, maintenance, repair, and renovation of roads, places of public utilities such as roads, drains, community buildings and multi-purpose halls, boundary walls, school toilets, check dams, water bodies, etc.
- The project was implemented in Chhattisgarh, Jharkhand, Odisha.
- The project was implemented and completed in FY 2020-21 through the use of about 95 per cent of the allocated CSR amount.
- The project closely aligns with SDG 8 and 11 and theme (x) of Schedule 7.

#### BALCO

- The project supported various types of community infrastructure development works such as building and repairing roads, bridges, and other essential infrastructure, construction of Anganwadis (childcare centres), community halls, and sanitation facilities.
- The project was implemented in Korba, Chhattisgarh.
- The project was implemented and completed in FY 2020-21 through the use of about 52 per cent of the allocated CSR amount.
- The project closely aligns with SDG 8 and 11 and theme (x) of Schedule 7.

#### Shree Cement Ltd

- The project supports the construction/ repair of roads in nearby villages, construction, repair, and maintenance of various community assets, infrastructure support/ facilities development in Govt. institutions, and providing construction material for various structures/ buildings.
- The project is implemented in Jaipur-Rajasthan, Alwar-Rajasthan, Aurangabad-Bihar, Hardwar-Uttarakhand, Chhattisgarh, Panipat-Haryana, Pali-Rajasthan.
- The project was implemented in FY 2021-22.

## Recommendations for the programme

EEE
## Chapter 12: Recommendations for the programmes

The Impact assessment study drew out the indicators showcasing the positive impact of the programme as stated by the beneficiaries. As per interactions with multiple stakeholders in the programmes, government officers from the health, education, agriculture department, and observations made during the field visit, the team presents its recommendations for the ongoing interventions.

## 12.1. Recommendations for Chittorgarh

Current Situation	Recommendation
Infrastructure has been developed but their maintenance remains a challenge	HZL may collaborate with the PRI to implement a proactive maintenance plan and provide training and resources for local maintenance teams.
Respondents have highlighted their pressing needs such as the extension of CC roads in Billiya, connecting Nagri and Dhordia villages, installing solar light posts, and exploring a lift-irrigation mechanism for farmers.	To further strengthen its community impact, HZL may consider extending CC roads in Billiya, connecting Nagri and Dhordia villages, installing solar light posts, and exploring a lift-irrigation system as suggested by respondents
Insufficient drainage systems result in prolonged water-logging on streets, leading to the spread of foot diseases, waterborne illnesses, and the risk of snakebites, especially due to heavy rainfall in recent years.	HZL could address this by constructing concrete drains to alleviate the problem.

12.2. Recommendations for Zawar	
Current Situation	Recommendation
Internet connectivity issues persist in the villages of Zawar.	HZL can focus on improving internet infrastructure in areas like Singhetwada to facilitate comprehensive development. Given the increasingly essential nature of internet access, such initiatives can have a lasting impact on the local community. HZL could begin by providing basic amenities such as WiFi in common areas, enabling students to access the internet free of charge.
The roads in Zawar are in poor condition. Through qualitative interactions, respondents frequently expressed the need for improved road infrastructure.	HZL has undertaken initiatives to improve road infrastructure in Zawar. To further enhance connectivity, the HZL team can intensify efforts by repairing additional roads and constructing new concrete (CC) roads in the surrounding villages.
There are maintenance issues with the existing infrastructure development.	HZL can engage in policy advocacy with government officials to redirect the District Mineral Foundation Trust (DMFT) funds towards the maintenance of existing infrastructure.

12.3. Recommendations for Debari	
Current Situation	Recommendation
No solar infrastructure work has been undertaken in Debari.	The Debari team can prioritize the development of solar infrastructure, as it offers a sustainable source of energy, contributing to environmental conservation. Additionally, such initiatives can significantly reduce electricity expenses for the community and the panchayat.
The water tanker service is exclusively accessible within a 7km radius from the Zinc smelter in Debari.	The residents of villages located beyond the 7km radius have expressed a need for water services in their communities. The Debari CSR team can consider these requests and undertake initiatives to address the water needs of these villages.
The government schools lack smart class facilities.	The principals of major government schools have requested the implementation of smart class facilities in their institutions. HZL can respond to this demand by initiating the development of smart class infrastructure in the schools located in Debari.

12.4. Recommendations for Kayad	
Current Situation	Recommendation
The Kayad circle is also the main bus-stop of Ghooghra village, plenty of respondents, especially women, expressed their need for a public urinal near the circle.	HZL may consider installing a public urinal near the Kayad circle with separate male and female sections.
The Government Senior Secondary School in Kayad is in need of maintenance, and there is a lack of a designated playground for children to play, leading to concerns among respondents about their safety while playing on the roads	To address safety concerns and provide a conducive environment for children's recreation, HZL may consider creating a playground within or near the school premises.
There is an accident-prone area in Kayad village too known as the 'Medical College Crossroads,' where several respondents have reported frequent deaths due to accidents, highlighting the urgent need for intervention	Considering the high incidence of accidents, HZL may construct a circle at the 'Medical College Crossroads', similar to the Kayad circle.

## 12.5. Recommendations for Dariba

Current Situation	Recommendation
	Recommendation
There is a need for regular maintenance of the Vedanta Stadium.	The Vedanta stadium requires regular maintenance due to non-functional water taps and unevenness in the ground caused by government functions held there.
Only 10 litres of water can be obtained from the water ATM using cards.	Introducing a tap with a coin accepting system would enhance inclusivity of the project, facilitating water collection for passers-by. Given the 10-liter minimum limit for water collection, individuals without large containers face difficulty in accessing water.
There are maintenance issues with the existing infrastructure that has been developed.	HZL can engage in policy advocacy with government officials to redirect District Mineral Foundation Trust (DMFT) funds towards the maintenance of the developed infrastructure.

12.6. Recommendations for Udham Singh Nagar	
Current Situation	Recommendation
Very limited infrastructure interventions have been implemented in the region.	Comprehensive Needs Assessment: Initiate a thorough evaluation of existing infrastructure gaps and prioritize areas for development based on socio-economic and environmental considerations.
	Stakeholder Engagement: Engage with diverse stakeholders including local communities, government agencies, and NGOs to incorporate their perspectives, local knowledge, and concerns into the project designing.
	Sustainable Development Focus: Prioritize infrastructure projects that promote long-term sustainability, resilience, and socio-economic benefits, while conducting rigorous assessments of both direct and indirect impacts on the environment and society. For example, solar electrification, water conservation structures, etc.

12.7. Recomm	endations for Agucha	3
Currei	nt Situation	Recommendation
The Primary He Hurda lacks a o stora	ealth Centre (PHC) in designated medicine age room.	The PHC in Hurda has consistently requested for the establishment of a medicine storage room. This addition would significantly enhance the operational capabilities and overall condition of the PHC.
There are mair the existing inf been	ntenance issues with frastructure that has developed.	HZL can engage in policy advocacy with government officials to redirect District Mineral Foundation Trust (DMFT) funds towards the maintenance of the developed infrastructure.

There is a significant issue of water scarcity in certain core villages.	It has been observed that tanker services are available in only 7 out of the 12 core villages of HZL. To address this discrepancy, HZL can extend the provision of water tanker services to cover all
	12 villages.



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