THINKTHROUGH CONSULTING



IMPACT ASSESSMENT OF PROJECT PRERNA

Metso

PLAN INTERNATIONAL

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Executive Summary

India stands at a critical juncture where improving the quality of school education is essential to fully recognise the demographic potential. While access to schooling has expanded, challenges related to digital literacy, foundational learning and school infrastructure continue to affect the learning outcome, particularly in government schools. Against this backdrop, Metso has implemented CSR projects to strengthen the holistic education environment in Alwar, Rajasthan. The executive summary presents a comprehensive impact evaluation of Metso's CSR initiatives, Project Swachh Jeevan and Project Prerna, implemented to improve school infrastructure, strengthen foundational learning and enhance the overall learning environment in government schools. The project addresses the gaps in sanitation, hygiene, digital infrastructure and foundational literacy and numeracy (FLN) in the Alwar district of Rajasthan. The assessment conducted independently by ThinkThrough Consulting (TTC) utilises the OECD-DAC framework to evaluate the program's relevance, effectiveness, efficiency, outcomes, impact and sustainability.

Background

Despite the increasing enrollment in schools and expansion of infrastructure, learning outcomes in India remain uneven, especially in early grades. National assessments such as ASER and NAS consistently highlight gaps in basic reading and numeracy skills among primary school children. Rajasthan's average performance is slightly above the national average according to the NAS 2021 resort and Alwar district is broadly at par with the state's learning outcome, yet they show a significant room for improvement in the early foundational literacy level in rural parts. Alongside learning gaps, infrastructure and resource distribution remain uneven. The state's infrastructure facility has improved to 86% usable toilets and drinking water availability to 75% the use of effective learning resources still lags[1]. Access to digital tools remains limited, with many schools either lacking computers or not using devices for regular teaching and learning. These challenges are particularly in the context of foundational literacy and numeracy (FLN), as weak early grade learning creates cumulative gaps that affect students' performance in higher grades.

The moderate NAS scores, coupled with low early-grade reading proficiency as highlighted in recent ASER reports, underscore the urgent need for comprehensive interventions that address both the enabling conditions for learning and the quality of classroom instruction. This includes strengthening sanitation, hygiene, and basic infrastructure, while simultaneously enhancing FLN outcomes through structured pedagogy and technology-enabled approaches. In response to these systemic gaps, Metso's Corporate Social Responsibility (CSR) initiatives—Project Swacch Jeevan and Project Prerna—aim to adopt a holistic and sustainable strategy to improve both the school environment and core teaching-learning processes.

About the Project

Project Prerna is a longstanding project aimed at transforming the educational landscape in 24 schools of the Alwar district. Implemented by Plan India under the CSR project of Metso, the project has been operational for a decade, working closely with the school and local communities to enhance the quality of education. The activities undertaken during the year included providing scholarship support to students pursuing higher education, as well as delivering remedial education to learners with low academic performance in order to strengthen and consolidate foundational learning outcomes. The initiative embedded e-learning strategies to strengthen technology-enabled pedagogy, encouraging systematic use of computer labs, smart classrooms, and curated digital content in everyday classroom practice. Career guidance session were conducted s to help students make informed academic and career-related choices. Improving community engagement, especially

[1] Annual Status of Education Report (Rural) 2022

through capacity development and engagement with School Management Committees (SMCs), to foster a more inclusive and supportive school environment.

Project Swacch Jeevan focuses on improving school sanitation, hygiene, and basic infrastructure to create safe, healthy, and dignified learning environments for students. The project supports the availability and usability of essential facilities, thereby improving attendance, student well-being, and overall school functionality.

Study Objectives and Methodology

The impact assessment study of Projects Prerana and Swachh Jeevan aimed to assess the relevance, effectiveness, efficiency, outcomes, impact, and sustainability of these education and WASH initiatives. The assessment focused on changes brought about in school infrastructure and service delivery, learning outcomes (including foundational literacy skills and digital learning), enrollment, attendance, and retention of students, as well as changes in health, hygiene, and behaviour of stakeholders. The study also aimed to explore the effective use of the provided infrastructure, comparisons between project and non-project schools, and best practices and recommendations for scale-up and sustainability.

The assessment uses a mixed-methods, quasi-experimental approach, combining desk review with field-level quantitative and qualitative data collection. Data collection was done through school surveys, classroom observations, focus group discussions, and key informant interviews with students, teachers, school administrators, School Management Committees (SMCs), parents, and community stakeholders. The OECD-DAC evaluation framework was used in conjunction with the UNICEF Quality Education framework to ensure a thorough and systematic assessment of both education and WASH outcomes at various levels of stakeholders.

Key Findings

The findings of the impact assessment are presented in line with the OECD-DAC evaluation criteria and draw on quantitative FLN benchmarking, school-level infrastructure assessments, and stakeholder consultations. The analysis examines the extent to which Project Prerna and Project Swachh Jeevan have responded to contextual needs, strengthened school systems, and contributed to foundational learning outcomes in structurally constrained environments.

Relevance: Project Prerna and Project Swachh Jeevan are highly relevant to the needs of government schools in the industrial corridor of Alwar, where economic growth has not translated into equitable access to quality education and basic services. Schools continue to face infrastructure deficits — inadequate WASH facilities, classroom shortages, unreliable electricity, and teacher shortages resulting in multi-grade teaching — all of which directly constrain learning outcomes and retention. The projects' integrated focus on WASH, solar power, safe learning spaces, digital classrooms, FLN support, career counselling, and scholarships aligns well with the socio-economic profile of first-generation learners from low-income households with limited home-based academic support.

Effectiveness: FLN performance, benchmarked against NAS 2021 district standards, shows partial but uneven progress. In Grade 3, only a small proportion of schools achieved parity with the literacy benchmark (67.5), while about half aligned with the numeracy benchmark (64.5). In Grade 5, literacy benchmarks (68%) were not met, though nearly 45% of schools met or exceeded the numeracy benchmark (58%). The modest gains and small performance gap between intervention and control schools suggest that short-term FLN inputs alone are insufficient in structurally constrained environments marked by overcrowded classrooms and limited teacher availability. These findings reinforce the need to embed FLN within broader systemic school-strengthening efforts.

Efficiency: The projects demonstrate operational efficiency through an integrated model that simultaneously addresses infrastructure, digital enablement, and academic support. However, systemic constraints — including administrative burdens on teachers and limited instructional time —

reduce the pace at which inputs translate into measurable learning gains. Strengthening standardised pedagogy and sustained teacher capacity-building will be critical to optimising returns.

Impact: The interventions have improved school infrastructure and the overall learning environment through strengthened WASH facilities, renewable energy solutions, and digital systems, contributing to more enabling, student-centric spaces. While foundational learning gains remain modest, progress against district benchmarks confirms the continued importance of the initiative in narrowing learning gaps in disadvantaged settings.

Sustainability: Infrastructure investments provide a durable foundation for long-term benefits. However, sustained learning improvements will depend on stronger community ownership, institutionalisation of standardised FLN practices, improved digital utilisation, and continued teacher capacity development. Long-term systemic engagement will be necessary to consolidate gains.

Recommendations

Based on the field findings and beneficiary feedback, the assessment proposes a set of strategic recommendations to strengthen the scalability, replicability and long-term sustainability of the project. These include:

- Strengthening the partnership with the school and SMC members, and community stakeholders is essential to improve ownership and maintenance of the assets, particularly the WASH and Solar infrastructure, to reduce the risk of theft and poor maintenance through community-level monitoring.
- Utilisation of the digital resources needs to be enhanced through regular teacher training, refresher modules, and structured peer learning platforms. Third FLN needs to be strengthened and standardised through the Teaching at Right Level Approach, with longer or more intensive remediation cycles to gain a measurable impact on the students' learning level.
- In view of the strong utility and acceptance levels of the multipurpose tin sheds, this multi-functional infrastructure intervention needs to be replicated in other schools to address the ever-present shortages of classrooms and spaces in resource-poor settings.
- The scholarship scheme needs to be complemented by a comprehensive career counselling initiative, including aptitude analysis and career mapping, to help students make informed decisions and expand their post-schooling options. By doing so, it is expected that the effectiveness of the programme will be improved, and Project Prerna will emerge as a replicable model for enhancing education outcomes in rural and resource-poor settings.

Conclusion

The impact assessment brings to the fore the significance of Metso's CSR efforts in making a tangible contribution to improving educational access, quality, and learning environments. Project Prerna is a holistic and responsive intervention by Metso in partnership with Plan India, which seeks to change the face of government schools in rural areas of Alwar and make them conducive to learning. Based on the objectives of improving foundational learning, developing school infrastructure, increasing digital access, and facilitating transitions to higher education, the project has made significant headway in addressing the systemic issues. The interventions of WASH upgrades, multipurpose learning spaces, ICT integration, FLN remediation, support for renewable energy, and scholarships have cumulatively helped in increasing student engagement, dignity, retention, and aspirations, especially for girls and first-generation learners.

At the same time, the assessment has also pointed out the operational and sustainability challenges that affect the long-term impact of the project. Lack of community engagement, absence of a proper maintenance system, gaps in teachers' capacity to deliver digital and remedial education, unequal use of infrastructure, and improper governance of sustainability mechanisms (such as sanitation funds) have affected the project's ability to sustain its gains. The ground realities of overcrowded

classrooms, lack of teachers, and socio-economic conditions have also impacted the project's implementation.

Despite these challenges, Project Prerna offers significant scope for scaling and replication. Building on community engagement, teacher capacity development, using standardised level-wise FLN approaches, developing a formal maintenance ecosystem, and integrating career counselling can significantly improve the project's effectiveness. A clear focus on local ownership, accountability, and systems integration will be required to ensure sustained outcomes even after the project ends.

1. Background and Context

Education remains a powerful tool for human advancement and social transformation. At its core, education empowers individuals to break the cycles of poverty, overcome discrimination, and seize opportunities that lead to better livelihoods and informed decision-making.

Nevertheless, in a rapidly changing world marked by **economic uncertainties, conflicts, technological shifts and environmental crises, education systems are facing a growing pressure to adapt to shifting demographics, digital disruption, climate change, and widening inequality**. These factors drive skill mismatches and demand more agile, future-ready learning models. Education is now central to addressing global transitions, with increasing emphasis on localised, inclusive approaches to skill development and other aspects influencing the quality of life.

The Sustainable Development Goals (SDGs), adopted as part of the UN Agenda 2030, **serve as a crucial reminder for a collaborative approach** between the states, civil society organisations and the private sector actors to balance the economic, social and environmental dimensions of sustainable development. **SDG aids critical global partnerships in areas of poverty alleviation, gender inequality, social inclusion, climate change, education and health outcomes**.

1.1. Indian Context

At the national level, India has achieved near-universal access to schooling, with UDISE+ 2024–25 reporting approximately **14.7 lakh schools** across the country. Basic infrastructure provisioning has improved significantly: over **99% of schools have drinking water**, about **98% have handwashing facilities**, and approximately **92% have electricity connections**, with functional electricity in nearly the same proportion. Functional girls' toilets are available in roughly **93% of schools**, indicating substantial progress in gender-responsive infrastructure. However, inclusion gaps remain pronounced — only about **35% of schools provide CWSN-friendly toilet facilities**, and just **36% have ramps with handrails**, limiting accessibility for children with disabilities. Digital readiness presents a mixed picture: while around **64% of schools report computer facilities** and **63–64% have internet connectivity**, only about **57% have functional computers for pedagogical use**, pointing to a gap between infrastructure availability and effective classroom integration[2].

The **ASER 2024** findings further contextualise this infrastructure landscape by highlighting trends in enrolment and learning outcomes. Among pre-primary children (3–5 years), enrolment in early childhood institutions has steadily improved, with **77.4% of 3-year-olds**, **83.4% of 4-year-olds**, and **71.4% of 5-year-olds** enrolled in 2024 — reflecting expanding early childhood access, largely driven by Anganwadi centres. Underage entry into Grade I has declined significantly, with only **16.7% of children entering Std I below the recommended age**, the lowest level recorded to date.

For elementary-age children (6–14 years), enrolment remains consistently above **95% nationally (98.1% in 2024)**. However, the post-pandemic surge in government school enrolment has moderated, declining from **72.9% in 2022 to 66.8% in 2024**, indicating a rebalancing between public and private schooling. While access is nearly universal, learning outcomes reveal a more complex picture. Encouragingly, foundational skills have shown recovery since 2022. In government schools, the proportion of Std III children able to read a Std II-level text increased from **16.3% (2022) to 23.4% (2024)** — the highest level recorded since ASER began. Similarly, arithmetic competencies improved, with **33.7% of Std III children able to perform basic subtraction**, up from 25.9% in 2022. Among Std V students, reading levels recovered to **44.8%**, and division skills rose to **30.7%** nationally. However, even with these improvements, fewer than half of Grade V children demonstrate grade-appropriate reading, underscoring persistent foundational learning deficits[3].

[2] blob:https://udiseplus.gov.in/d5d5b729-064f-473b-97e8-377884a052b4
[3] https://asercentre.org/aser-2024/

Taken together, national data suggests that India has successfully expanded schooling access and basic infrastructure, and post-pandemic learning recovery is underway. However, foundational literacy and numeracy remain below desired benchmarks, digital integration into pedagogy is incomplete, and inclusive infrastructure gaps persist. The system is transitioning from an access-expansion phase to a quality-enhancement phase — where strengthening foundational learning, inclusive facilities, teacher capacity, and meaningful digital integration will be central to achieving **SDG 4 commitments on equitable and quality education**.

1.2. Rajasthan Context

Rajasthan continues to face structural challenges in educational access, quality, and infrastructure despite sustained policy reforms and public investment. While enrolment levels have improved under flagship programmes such as Samagra Shiksha Abhiyan and the National Education Policy (NEP) 2020, foundational learning outcomes remain below national benchmarks. The state's literacy rate continues to trail the national average, and although Alwar district reports a literacy rate of approximately 70.7%[4] — higher than the state average — persistent gender disparities and rural vulnerabilities highlight enduring inequities in access and learning outcomes.

Recent UDISE+ 2024–25 data reflects both progress and continuing gaps in school infrastructure. Rajasthan has achieved near-universal coverage of functional drinking water (98.7%) and high availability of handwashing facilities (96.8%), indicating substantial strides in WASH provisioning. Electricity coverage is strong (over 91% functional), yet renewable energy adoption remains limited, with solar panels present in less than 8% of schools. Functional sanitation facilities are available in the majority of schools; however, approximately 12–16% still lack fully functional toilets — a gap with direct implications for adolescent girls' attendance and retention.

Digital infrastructure presents a more uneven picture. While nearly 70% of schools report internet access, only about half have functional computer facilities for pedagogical use, and digital libraries remain negligible. This gap between connectivity and meaningful classroom integration underscores systemic constraints in digital adoption, device availability, and teacher preparedness. Inclusion infrastructure remains a significant concern — only about one-fourth of schools have CWSN-friendly toilet facilities, and roughly one-third have ramps with handrails, limiting accessibility for children with disabilities[5].

These infrastructure gaps intersect directly with learning outcomes. ASER findings for rural Rajasthan indicate that foundational learning levels remain fragile. A substantial proportion of children in Grade 3 are unable to read Grade 2-level text, and even by Grade 5, a significant share struggle with basic reading fluency. Arithmetic competencies show similar trends — many students in upper primary grades are unable to perform basic division, reflecting persistent foundational skill deficits despite high enrolment. While enrolment levels remain above 95% in the elementary stage, ASER continues to highlight the "learning crisis" — where schooling participation does not consistently translate into grade-level proficiency.

Encouragingly, ASER also notes improvements in school availability and participation post-pandemic, alongside increased smartphone penetration in rural households, which presents opportunities for blended learning. However, the digital divide in effective academic usage remains pronounced, reinforcing the need for structured digital pedagogy rather than mere connectivity provision[6].

These estimates indicate that while access to schooling has expanded and basic WASH infrastructure has improved, the quality and enabling conditions for equitable learning require sustained strengthening. Infrastructure functionality, inclusive design, digital integration for pedagogy, and

[4] Census 2011
[5] blob:https://udiseplus.gov.in/d5d5b729-064f-473b-97e8-377884a052b4
[6] chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://asercentre.org/wp-content/uploads/2022/12/Rajasthan-2.pdf

intensive foundational learning support remain priority areas. In this context, targeted CSR investments that reinforce WASH functionality, digital enablement, renewable energy, inclusive facilities, and teacher capacity — alongside structured foundational literacy and numeracy interventions — can play a catalytic role in bridging persistent gaps. This is particularly critical in districts such as Alwar, where socio-economic vulnerabilities intersect with systemic educational constraints. Such interventions align strongly with SDG 4 (Quality Education) by advancing inclusive, equitable, and quality learning outcomes rather than access alone.

Metso's CSR initiatives aimed at holistic improvement of schools **across the 3 blocks of Alwar, namely Ramgarh, Malakheda and Umrain** align well with the existing policies and programmes of the Government of India, such as Samagra Shiksha Abhiyan and National Education Policy (2020) all of which **emphasise upgradation of physical and digital infrastructure to improve learning outcomes**.

1.3. About Metso CSR

Metso's CSR in India is rooted in a commitment to extend the company's impact beyond business operations and contribute to sustainable community development. Guided by core principles of collaboration, scalability, measurable outcomes, and sustainability, Metso partners with government bodies, NGOs, and local stakeholders to address key social challenges and improve quality of life in underserved regions.

Metso's CSR initiatives in India encompass multiple thematic areas including **health, sanitation and nutrition; education, skill development and livelihood; environment and sustainability; sports promotion; and rural development**.

In **education and skill development**, Metso's *Project Prerna* in partnership with Plan India enhances learning environments through smart classrooms, computer labs, teacher development, access to safe and adequate sanitation facilities and scholarships for higher studies. The company also supports youth vocational training and livelihood programmes in collaboration with the National Skill Development Corporation.

Environmental education campaigns and eco-club activities cultivate sustainability awareness among students, while sports promotion initiatives foster holistic development through organised training and competitions. Metso's rural development efforts reinforce government schemes such as *Samagra Shiksha* and *Swachh Bharat Mission*, ensuring last-mile delivery of essential infrastructure improvements in schools and public health facilities. Through these integrated CSR programmes, Metso strives to deliver measurable, sustainable impact that aligns with national development priorities and contributes to long-term community resilience.

1.4. About PLAN India

Plan India, the Indian chapter of Plan International, is a nationally registered not-for-profit organisation committed to advancing the welfare and development of children and promoting equality for girls and young women across India. The organisation pursues a **gender-transformative, child-centred community development approach**, which places children, particularly the most marginalised, at the forefront of decision-making and programming. Through its grassroots engagement, Plan India strives to create lasting impact in the lives of poor and vulnerable children, their families, and communities by enabling access to government safety nets and essential services in education, healthcare, child protection, livelihood opportunities, and community participation.

Since its establishment in 1996, Plan India has helped millions of children and young people improve their quality of life by ensuring their rights are recognised and realised. Its current strategic framework emphasises four outcomes—**Learn, Lead, Decide, and Thrive**—and is designed around six thematic areas that integrate rights, empowerment, inclusion, and gender equality. The organisation

collaborates with civil society, government partners, and communities to address structural barriers, particularly discriminatory norms that affect girls' and children's ability to participate fully and equitably in society.

1.5. About Project Prerna

Education remains the central focus of Metso's CSR initiatives. In line with its commitment to inclusive social development, Metso supports government primary, upper primary, and senior secondary schools located in the plant area of Alwar through comprehensive education and infrastructure interventions. The overarching objective is to transform 25 government schools into model institutions by continuously upgrading physical infrastructure, strengthening WASH (Water, Sanitation, and Hygiene) facilities, and extending scholarship support to deserving students.

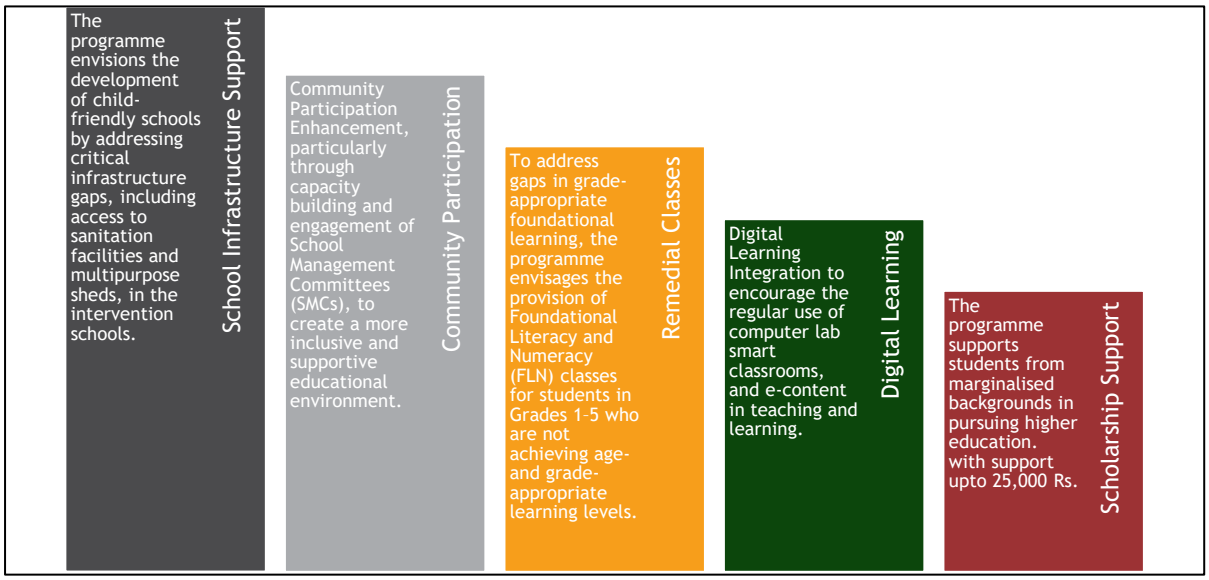


Figure 1 Project Prerna Interventions

This initiative is closely aligned with the Government of Rajasthan's Model School Programme, which emphasises the promotion of safe and hygienic school environments. Metso's approach extends beyond infrastructure development to fostering behavioural change and strengthening the overall learning ecosystem. Under *Project Prerna*, the following key objectives are pursued:

School Infrastructure Enhancement: Project Prerna aims to promote equity in education, particularly for girl students, by ensuring access to safe and adequate sanitation facilities and constructing multipurpose tin sheds. These interventions contribute to a conducive learning environment, improve student retention, and address absenteeism and dropout rates. The multipurpose sheds are especially critical in schools facing classroom shortages, providing space for academic instruction, mid-day meals, and school activities.

Enabling Digital Literacy: Enhancing 21st-century skills through digital literacy is a core objective of the project. Computer laboratories have been established in five secondary and senior secondary schools, and projectors and K-Yan digital teaching tools have been installed across intervention schools. These facilities enable students to access basic and advanced computer education, preparing them for future academic and professional opportunities.

Addressing Learning Gaps: Project Prerna directly engages with primary school teachers and students to address learning gaps in Foundational Literacy and Numeracy (FLN), which have been exacerbated by COVID-19-related school closures. The project aims to bring students to grade-appropriate learning levels and reduce systemic learning deficits.

Promoting Renewable Energy: To address persistent energy challenges in rural schools, the project supports the installation of solar power units across intervention schools. This initiative enhances the reliability of electricity supply while promoting clean energy, aligning with India's Net Zero commitment by 2070.

Capacity Building of Teachers: Alongside student digital empowerment, the project focuses on strengthening teacher capacity by training educators in modern pedagogical approaches and effective integration of digital tools into daily classroom teaching.

Scholarship Support for Economically Disadvantaged Students: In alignment with the spirit of *Project Prerna* (meaning "inspiration"), the initiative provides scholarships to talented and financially disadvantaged students from rural Alwar. This support enables access to higher education and empowers students to achieve long-term social and economic agency.

Promoting Social and Behavioural Change within the Community: Project Prerna, while working closely with schools, seeks to catalyse transformational change at the community level by fostering a strong sense of ownership and responsibility for educational outcomes and school infrastructure. Through periodic follow-ups and continuous engagement with community members and School Management Committees (SMCs), the project aims to institutionalise positive hygiene practices and strengthen attitudes toward education both within schools and at the household level. These efforts are designed to build community accountability and position local stakeholders as active custodians of project outcomes, thereby ensuring sustainability and long-term impact. By encouraging communities to act as informed and proactive stewards, Project Prerna reinforces collective responsibility for maintaining school infrastructure, promoting student retention, and sustaining behavioural change beyond the project lifecycle.

1.6. Theory of Change

Problem Statement	Government schools in rural Alwar face persistent infrastructure deficits, inadequate WASH facilities, limited digital access, teacher shortages, and significant foundational learning gaps, resulting in low retention and poor educational outcomes, particularly for girls and economically disadvantaged students.

Inputs	Activities	Outputs	Short-Term Outcomes	Mid-Term Outcomes	Long-Term Outcomes
Project Prerna incorporates the following resources. • Metso CSR funding • PLAN India partnership • Schools and SMCs • Project Staff • Community support • Computer Labs and Digital Tools • Multipurpose Tin Shed • WASH services • External Teaching Resource • 3Kv solar units	**Infrastructure Support** • Renovation of WASH Facilities • Setting up of Multipurpose Tinsheds • Setting up of Solar units for accessing renewable energy **Academic Enablement** • Setting up of ICT Labs and Digital Tools • Conducting FLN sessions for academically poor students • Capacity Building of the Teachers to access Digital Tools **Scholarship Support** • Prepare the SoP for scholarship support • Identify the needy students and provide them with a scholarship to access higher educations	• Functional WASH Infrastructure at 24 schools • Access and Integration of digital literacy into the school curriculum in 5 schools • 496 students trained and certificated in the Digital Literacy • 100% of the selected students (622) transitioning from poor academic output to grade-appropriate levels • 48 teachers trained in Digital tool and SMART classes • 11 schools supported with Multipurpose tin sheds	• Better Hygiene Awareness Among the Students and School Community • Higher retention and reduced absenteeism among the students • Improvement in Student Engagement through Digital Tools • Regularity of Classroom Teaching through regular access to learning spaces	• Improvement in learning outcomes across language and numeracy for primary children and improvement in digital literacy for secondary grade students • Reduction in dropouts among the community • Improved transitions from primary to secondary and later higher education • Rise in strong aspirations for quality education and access to WASH resources	• Equitable Quality Education • Socio-economic mobility • Strong school systems • Strong community ownership

Impact	Project Prerna aims to enable equitable access to quality education in rural Alwar by strengthening school infrastructure, enhancing digital and foundational learning, and supporting disadvantaged students to improve learning outcomes, retention, and future educational transitions.

1.7. About Alwar

Alwar is situated in the eastern part of Rajasthan between 27° 34' North Latitude and 76° 35' East Longitude at an elevation of 270 meters above sea level. It covers an area of 8,380 square kilometers.[7] The geography of Alwar comprises rivers, mountains, plains, and semi-arid regions. Alwar is divided into 52 wards with a population of 322,568, out of which 170,530 are males and 152,038 are females; thus, the Average Sex Ratio of Alwar is 892.[8] As per the 2011 census, Alwar has a literacy rate of 85.7%, with male and female literacy rates of 92.6% and 78.05%, respectively. The average literacy rate is higher than that of Rajasthan, which was about 66.11%.

The ASER data for Rajasthan between 2010 and 2022 shows a trend of improved basic facilities in schools; gaps remain in the effective use of learning resources and infrastructure. The mid-day meal facility has increased to 95%, while the drinking water availability still remains at 74.7%, and usable toilets available are 86%[9], indicating strong progress in infrastructure development, but the basic learning resources are still limited. ASER's data for Rajasthan shows 62.7%, 35%, 22%, 12.9%, and 10.1% of students in grades I, II, III, IV AND V, respectively, cannot even read a letter[10]. This illustrates a widespread foundational literacy gap among students in the state. The National Achievement Survey (NAS) 2021 report for Alwar district lies in the range of mid-50s to low-60s for language (68) and mathematics (66), which is comparable to the Rajasthan State average. The district's performance is slightly above the national score for language (62) and maths (57). Still, the education sector grapples with its gaps. The teacher-to-student ratio of Alwar is 19:1 (UDISE, 2015-16). The ratio is lower in government schools, adding more challenges to the educational foundation. These gaps underscore an urgent need for focused FLN intervention in the early school years.

Against this drawback, Alwar presents an opportunity for high-impact despite the fact that the district has relatively high levels of overall literacy and learning outcomes that are comparable to, or slightly better than, the state and national averages, the evidence from both ASER and NAS suggests that there are significant gaps in foundational literacy and numeracy skills, especially in the early grades. Therefore, improving foundational literacy and numeracy skills in Classes I-V is likely to yield significant long-term gains in learning outcomes by ensuring that children develop appropriate reading and numeracy skills through education interventions. Investments in digital classrooms, computer labs, and teacher capacity building can help enable the use of such infrastructure to enhance classroom practices. Aligning foundational literacy and numeracy support in early grades with technology-enabled learning in higher grades can help Alwar move from its current state of moderate and uneven learning outcomes to a more equitable and strong education system.

2. About the Study

To evaluate the effectiveness and the impact of its school-based interventions under **Project Prerna and Swachh Jeevan**, **Thinkthrough Consulting (TTC)** aims to aid Metso in conducting an impact assessment. The assessment focuses on understanding the outcomes of the interventions across key areas of educational performance, health and hygiene behaviour, and community engagement.

The scope of the assessment includes:

- **Evaluating the current status** of school infrastructure and services post-intervention, including WASH facilities, green energy systems, remedial classes, and digital education. The

[7] https://www.isdm.org.in/pdf/alwar.pdf
[8] Alwar Population, Religion, Caste, Working Data Alwar, Rajasthan - Census 2011
[9] Annual Status of Education Report (Rural) 2022
[10] Annual Status of Education Report (Rural) 2022

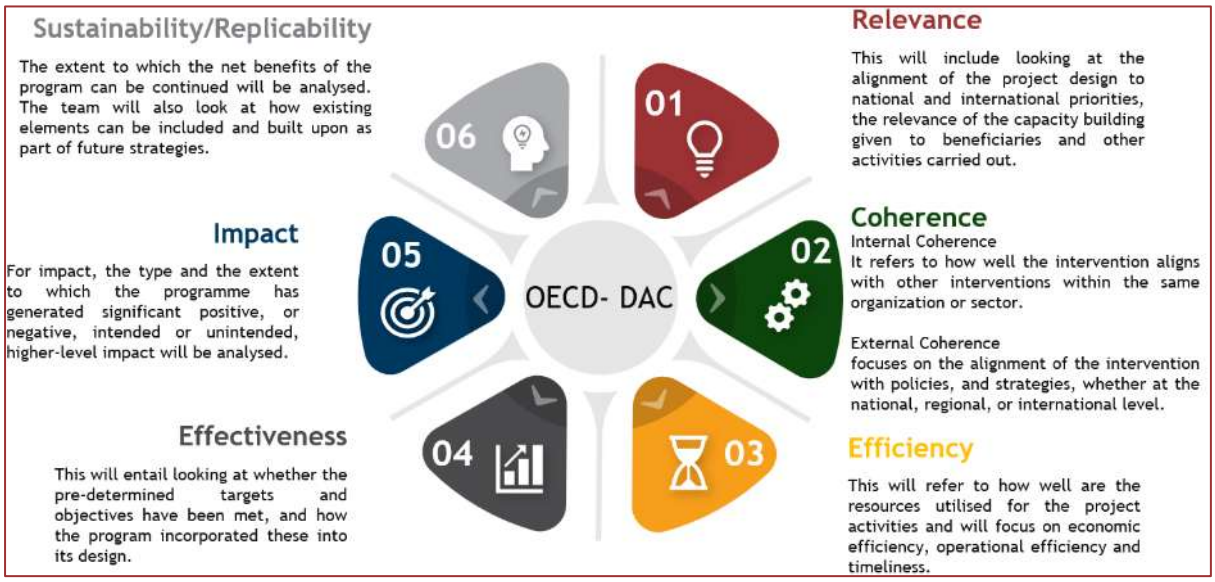
assessment will also examine improvements in literacy, the usage of installed infrastructure, and the presence of robust systems for operation and maintenance (O&M).

- **Assessing educational outcomes**, particularly the impact of interventions on student enrolment, attendance, and retention rates, as well as the perception of the school within the local community.
- **Measuring changes in behaviour**, including improvements in students' health and hygiene practices, learning abilities, and any notable behavioural shifts among school staff, management, and School Management Committees (SMCs).
- **Comparing the performance** of project schools with non-project (control) schools to isolate the specific contributions and effectiveness of the interventions.
- **Identifying best practices** that have emerged from the interventions and recommending the most effective models for future implementation.
- **Proposing realistic and actionable recommendations** to ensure the sustainability and potential replicability of the project across other geographies or institutions.

Through this assessment, TTC aims to provide evidence-based insights that will support Metso in enhancing the impact, scalability, and long-term sustainability of its education-focused CSR initiatives.

2.1. Approach

Aligned with the objectives outlined in the scope of the impact assessment study, TTC employed the OECD-DAC framework. This framework evaluates programs based on six key criteria: relevance, effectiveness, efficiency, impact, sustainability, and coherence. The study was conducted with a strong emphasis on diversity, inclusion, and intersectionality. Using the framework, a structured assessment of the project's design and implementation processes was undertaken, focusing on relevance, effectiveness, and efficiency. Additionally, the study captured the project's socioeconomic impact, including both intended and unintended outcomes. It further examined whether the impact generated was enduring (sustainability) and aligned with Metso's initiatives and those of external stakeholders (coherence). (An overview of the OECD DAC evaluation criteria aligned with the present study is presented below.)



TTC assessed the program's relevance by examining its alignment with the local context and its responsiveness to the educational challenges in the target areas. Additionally, TTC reviewed other ongoing educational initiatives and policies in the study locations to evaluate their convergence, if any, with the program implemented by Metso and PLAN India. The effectiveness evaluation focused

on key aspects such as program planning, resource deployment, achievement of learning outcomes, quality assurance processes, monitoring mechanisms, and implementation challenges. It also included FLN and digital literacy assessments to assess students' learning progression under the Project Prerna emphasizing the value of the intervention in fostering a supportive learning environment. Efficiency was assessed by examining how resources were utilized, the adequacy of human resources, and overall cost-effectiveness. For the impact assessment, TTC analyzed both the intended and unintended outcomes, particularly in relation to learning achievements. The study also explored the efforts made to sustain the interventions and ensure continuity of learning outcomes.

Research Design: A mixed-method research design, integrating both quantitative and qualitative data collection methods, was employed for the assessment. This approach allowed TTC to capture and synthesize diverse stakeholder perspectives on the 'Transforming Rural Schools into Model Learning Centres' Project. To enhance the robustness of the research design, significant emphasis was placed on analysing existing secondary literature. This included reviewing prior studies, reports, and relevant policy documents to provide contextual grounding and enrich the understanding of the program's relevance and outcomes. The insights from this review informed the design of questionnaires, ensuring they reflected project indicators while addressing contextual nuances. This comprehensive approach enabled a precise evaluation of the program's impact on the communities where interventions were implemented.

2.2. Methodology

The study was conducted in three phases: delve, diagnose and deliver. The preparatory work and the field data collection for the study were completed in January 2026. The study hinged on the following guiding principles:

2.2.1. Phase 1: Delve

During this phase, the team undertook the following key activities to gain an in-depth understanding of the programme such as:

Inception Meeting: An inception meeting with the Metso and PLAN India team was scheduled to arrive at a common understanding vis-à-vis the scope of work, outlining the goals and objectives. This was facilitative to both teams in developing a roadmap for the key themes, outlining the indicators to be measured and helping in chiselling out a data collection process.

Secondary Review of the Literature and Stakeholder Mapping: Post-inception meetings, a review of the literature was a critical step in understanding the study more closely. It involved gathering and analysing the project documents such as the project proposal, baseline study, project progress reports, annual reports and other related published reports on the project focus areas. A review of the literature was imperative to gain insights into the current scenario and challenges being faced as well as the gaps related to the project's focus area.

Based on the secondary review, the primary and secondary stakeholders identified were:

- Students
- School Teachers
- School Head-Teachers
- SMC Members
- PRI Members
- Project Implementation Partner

Preparing the Study Framework and Draft Assessment Tools: This step involved the preparation of the study and analysis framework. The framework aligned with the local context and the long-term impact generated by the project interventions. The whole assessment study was carried out from a student-centric framework, where the needs and motivation of students (including their

sociodemographic profile), attitude towards the project intervention and participant feedback during and beyond the project interventions were recorded especially through the gender lens.

Sampling

Metso and PLAN India implemented the Project Prerna across 24 intervention schools of Alwar across the three blocks, namely, Ramgarh, Malakheda & Umrain. A detailed breakdown of the Key Informant interviews (KIIs) and Focus Group Discussions (FGDs) is provided below:

Table 1 Qualitative Interactions in Treatment Schools

Stakeholder	Mode of Interaction	Interaction per Treatment School	Total Interactions Across all the Treatment Schools
Students (including students who have received the scholarship support)	KIIs	2 from each school	**50**
Teachers	IDIs	2 from each school	**50**
SMC Member	IDIs	1 from each school	**25**
Child Level Committee member (including Eco Clubs or Child Parliaments)	KIIs	1 from each school	**25**
SMC (including teachers, parents, local PRI member and school principal)	FGD	1 from each school	**25**
Relevant Block and District Level Government Officials	KII		**3**

Table 2 Qualitative Interactions in Control Schools

Stakeholder	Mode of Interaction	Interaction per Control School	Total Interactions Across all the Control Schools
Students	KIIs	2 from each school	**10**
Teachers	IDIs	2 from each school	**10**
SMCs	IDIs	1 from each school	**5**
Child Level Committee member (including Eco Clubs or Child Parliaments)	KIIs	1 from each school	**5**
SMC (including teachers, parents, local PRI member and school principal)	FGDs	1 from each school	**25**
Relevant Block and District Level Government Officials	KII		**3**

As part of the quantitative assessment to assess the FLN and Digital Literacy capacity of the students, an assessment for 367 students was conducted, chosen from the sample of over 700 students, applying the Cochran formula of 95% confidence rate and 5% margin of error. Among them, 240 FLN assessments (across Grades 1 to 5) and 127 DL assessments (across Grades 6 to 12) were conducted based on proportional sampling, based on the intervention planned with the students as part of the Project Metso. A detailed sampling (per school) is provided below:

Table 3 Grade and School-Wise FLN Assessment Sampling

Final Grade Wise Sampling						
	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Total
UPS Jhareda	12	6	6	6	4	34
MGGS Kaimala	3	7	6	10	6	31
GSSS Ghegholi	6	8	0	0	7	21
GSSS Bahala	6	4	2	5	2	20
GSSS Salpur	3	4	3	3	2	16
UPS Saiyyad Colony	6	3	2	3	1	15
GSSS Keshroli	0	5	3	2	2	12
GSSS Mahua Khurd	2	3	3	3	0	12
GSSS Jaatpur	3	4	1	1	1	10
GSSS Kakrali Mev	3	2	2	3	0	10
PS Goleta	3	3	1	1	1	10
GSSS Gundpur	1	2	2	2	2	9
MGGSS Dadar	3	2	1	2	1	8
MGGS Evaj Ka Bas	2	2	2	1	0	7
GSSS Choroti Pahad	2	1	2	0	2	7
UPS Palkha	0	2	0	3	1	7
UPS Choroti Bas	0	1	1	2	1	5
UPS Kakrali Jaat	1	0	1	2	1	5
UPS Dumeda	0	0	1	1	1	3
Grand Total	56	60	40	48	35	240

Table 4 Grade and School-Wise DL Assessments Sampling

Final Sampling								
Row Labels	10th	11th	12th	6th	7th	8th	9th	Grand Total
GSSS GHEGHOLI ALWAR	0	0	0	8	12	6	4	30
GSSS Kakrali Mev	0	0	0	5	7	3	5	20
GSSS Mahuakhurd	5	12	1	0	0	1	11	28
GSSS Salpur	4	3	3	0	5	6	7	27
MGGSSS Dadar	0	0	0	6	6	8	0	21
Grand Total	9	15	4	19	30	24	27	127

2.2.2. Phase 2: Diagnose

The project's second phase entailed data collection from the targeted cohorts, covering a wide range of stakeholders. A mixed-method approach combining quantitative and qualitative data collection techniques was adopted. The primary data collection entailed the beneficiaries' experiences during and the project interventions, i.e., the relevance of the intervention in their learning outcomes. The FGDs and KIIs during primary data collection were conducted with a variety of stakeholders to triangulate the findings of the literature review.

KIIs with students, the implementation team, and the school community (teachers) were conducted. Meanwhile, FGDs were conducted with the school community comprising of Students, teachers, Eco club members, SMC/SDMC & PRI, to assess and capture the impact and current practices around Metso's interventions.

Field Data Collection

The field data collection for the study was undertaken during the month of January. A seven-member team comprising two senior researchers and five qualitative researchers was part of the evaluation team. The assessment team comprised of senior researchers with a rich experience in quantitative and qualitative interactions. The study team also undertook the physical assessment of Project Prerna's school intervention and associated resources, while validating the documentation maintained by the stakeholders related to the project.

2.2.3. Phase 3: Deliver

The insights from the literature review and qualitative interactions provided key indicators in developing the analysis plan and findings of the study. Once the findings were collated the next steps involved analysis of the data. Data analysis was carried out by segregating the information as per the relevant themes and was analysed with in-depth discussions with the field researchers.

Data Analysis

The data analysis strategy used by TTC for this assignment is as follows:

- Quantitative data on project outreach, targets, outputs, and outcomes were sourced from progress reports, annual reports, and MIS data maintained by the implementing partner. School-wise disaggregated data on key indicators were validated during primary data collection with stakeholders.
- Internal workshops with field teams facilitated discussions on initial field insights, enabling triangulation of diverse stakeholder perspectives and fostering holistic understanding of key research questions.
- All field-level findings were transcribed and organized using an analysis framework, aligned with stakeholders, and consolidated into an information sheet.
- A code sheet was developed to identify key indicators and themes. Systematic coding and analysis of interview transcripts allowed for sorting, comparison, and synthesis of qualitative data, ensuring coherent insights aligned with the OECD DAC framework for the proposed intervention.

Quality Assurance

- The first step for quality assurance was to rigorously train the data collection teams. During the training, it was ensured that researchers fully understood the study objectives, methodology and tools. Mock practice sessions were organised to help researchers gain total familiarity with the tools.
- Senior team members were involved in each phase of the study from the literature review to the final report writing.
- The tools prepared were contextual and comprehensive.
- Everyday debriefing sessions of the field team were conducted to discuss the roadblocks faced during the data collection and their plausible solutions.

Limitations

Though the study framework was designed in a manner to ensure high-quality deliverables with mandatory measures for foreseeable risk mitigation in place, the study was constrained by the following limitations:

- With the school closure and extension of the same for primary school students, the members were not able to engage with the primary school FLN students for surveys and interaction. Though the assessment was carried out on a later date based on their availability, with the school schedule taking place, interactions remain limited to wherever possible.
- The insights presented in this study report are based on data/information provided by the various stakeholders. To the best of its ability, the research team has tried to ensure and validate the authenticity of data/information submitted by the respondents. However, it would be fair to assume certain errors in data recording.

3. Key Findings

The key findings for this assessment study are structured in line with the OECD-DAC criteria as detailed in the previous section. Observations, insights and findings are presented in the subsequent sections categories thematically as relevance, effectiveness, efficiency, outcomes/impact and sustainability.

3.1. Relevance

Geographical Relevance of the Intervention

In alignment with India's vision of *Viksit Bharat @2047*, Metso, in partnership with Plan India, has launched *Project Prerna* to address critical and emerging challenges affecting the education sector in rural and underserved regions. This initiative holds particular significance in Alwar district, a culturally diverse region that also functions as an industrial corridor attracting migrant populations. While industrial development has brought economic growth to the area, access to quality social services—particularly education and healthcare—remains limited in the surrounding rural villages. Consequently, intervention and control schools selected for this study are located in and around the Alwar industrial zone, where developmental benefits have not adequately translated into improved educational outcomes.

Government schools in Alwar face multiple systemic challenges, including inadequate infrastructure, poor access to WASH facilities, shortages of trained teachers, high dropout rates, and persistent digital and gender divides. These issues are further exacerbated by seasonal inaccessibility of schools,



Figure 2 Old and Dilapidated School Toilets in Control and Intervention School Respectively

frequent staff shortages, and structural deterioration of school buildings, which significantly disrupt teaching-learning processes and affect student retention and continuity of education.

A key component of Project Prerna is the renovation and construction of WASH facilities within school premises. Teachers unanimously identified inadequate access to safe and functional toilets as a major concern. Prior to the intervention, students were often compelled to return home to use washrooms or resort to open defecation, severely compromising privacy, dignity, and hygiene—particularly for female students. Earlier facilities lacked water supply and adequate lighting, resulting in poor hygiene conditions and limited usability.

> "We don't have proper washrooms for both girls and boys. It is very disheartening that we don't have a good, basic, important facility such as toilets. Many of our students go back home to access toilets, and many don't come back, especially boys."
>
> - **Teachers during KII** (UPS Bhuvaka)

Teacher shortages have also resulted in multi-grade classrooms, further compounded by repeated school closures, leading to substantial learning gaps among primary students. This was corroborated by the baseline assessment conducted by Plan India, which revealed that 44 percent of students were performing below Grade 3 learning levels based on ASER-aligned FLN assessments. The introduction of structured FLN support through the project was therefore widely welcomed by schools and communities as a critical intervention to address learning deficits.

Electricity shortages represent another major barrier. Schools in the intervention areas experience power outages averaging three to four hours daily, severely affecting classroom instruction and digital learning. In this context, the installation of 3 kW solar power units under Project Prerna has been instrumental in ensuring uninterrupted learning and facilitating the use of digital tools, including smart classrooms and computer labs.

Lack of electricity and classroom shortages have forced students to attend classes in open verandahs during extreme weather conditions, exposing them to physical discomfort and sanitation risks. This challenge was further intensified following the closure of dilapidated classrooms across the state after the tragic incident at Piplodi Government School in Jhalawar district. Subsequently, the Rajasthan High Court identified 86,934 unsafe classrooms and imposed a ban on their use. In response, the construction of multipurpose tin sheds under the project has provided safe alternative spaces for academic instruction, mid-day meals, and school-level activities such as No-Bag Days.



Figure 3 Dilapidated and Locked Classrooms of the Intervention School

The urgency of strengthening public education is further underscored by ASER 2024 findings, which indicate that although 83 percent of rural teachers in Rajasthan received some form of FLN training, only 38.2 percent of upper primary and 32.6 percent of primary schools received funding for FLN teaching-learning materials. Moreover, only 20.1 percent of Grade 3 students were able to perform basic subtraction, highlighting significant learning deficits.

To address these systemic gaps, Project Prerna delivers a comprehensive package of interventions, including infrastructure development (toilets and multipurpose sheds), renewable energy solutions (solar units), and academic and technological enhancements (computer labs, smart classroom boards, and K-Yan systems). These integrated measures have revitalised learning environments in underserved rural schools and are contributing to more inclusive, accessible, and quality education outcomes for children.

Relevance for the Target Demographic

The programme primarily focuses on government schools that serve students from economically disadvantaged backgrounds. For many of these learners, access to computer systems and digital learning content remains a distant aspiration, highlighting the stark digital divide between rural and urban schools in Alwar district. Field findings indicate that a majority of parents and SMC members are engaged in informal livelihoods, such as daily wage labour or domestic work, resulting in constrained household incomes and limited capacity to prioritise educational investments. Consequently, opportunities for academic reinforcement at home remain minimal, particularly for younger students.

This lack of academic support has contributed to significant learning gaps, with many primary school students falling below grade-appropriate learning levels, thereby increasing their vulnerability to school dropout. In this context, Project Prerna's FLN interventions have emerged as a critical support mechanism for students and families struggling to cope with classroom demands.

Field evidence further reveals that a substantial proportion of students are first-generation learners, with limited access to digital devices and smartphones at home. This has resulted in low levels of digital exposure and technological confidence among students. The project's digital education interventions have therefore been particularly impactful, not only for students but also for teaching staff, especially in schools operating at 50–60 percent teacher capacity due to prolonged deputation of educators for election and administrative duties.

For students nearing the completion of secondary education, uncertainty around career pathways and financial constraints significantly restrict post-school opportunities. To address this, Project Prerna organises annual career counselling sessions, often aligned with National Youth Day, to guide students in Grades 10 and 12. Based on rigorous screening and due diligence, economically vulnerable yet meritorious students are supported through scholarships provided by Metso and Plan India.

Through these integrated efforts, Metso and Plan India actively promote higher transition rates from secondary to tertiary education, enabling students—particularly girls from conservative rural contexts—to access new opportunities and break intergenerational cycles of poverty. By strategically identifying high-need schools and transforming them into model learning centres, the project addresses key barriers such as low learner confidence, weak foundational skills, and limited digital access. These interventions align strongly with Sustainable Development Goal 4, advancing inclusive, equitable, and quality education in underserved regions.

Observations

Inclusion Criteria for Schools: The selection of schools for project implementation was undertaken by the mobilisation team using a clearly defined set of criteria to ensure both feasibility and long-term sustainability of the interventions. A key determinant in the selection process was the geographical proximity of schools to the Metso Alwar plant and its surrounding villages. This strategic consideration facilitated regular monitoring, effective community engagement, and efficient programme implementation.

Additionally, priority was accorded to schools serving underprivileged communities, where a majority of households are dependent on agriculture as their primary source of livelihood or are a migrant community. This targeted approach ensured that the project reached populations with heightened vulnerability and limited access to educational resources, thereby maximising the relevance and impact of the interventions.

3.2. Coherence

Metso's ***Project Prerna*** demonstrates **strong internal and external alignment** with broader institutional and policy frameworks. Its design aligns organisational mandates, community realities

and national frameworks to create an integrated and context-responsive model for the promotion of educational and health outcomes in rural underprivileged regions of Rajasthan.

Internal Coherence and Alignment with Organisational Mandates: Internally, the initiative is closely aligned with Metso's commitment to advancing quality education in rural and underprivileged regions of Alwar by **ensuring equitable access to learning opportunities and strengthening school ecosystems**. The project reflects Metso's strategic focus on addressing structural barriers that impede educational access and outcomes for marginalised communities.

External Coherence and Alignment with National and Regional Frameworks: The initiative demonstrates strong alignment with national and sub-national policies related to **education, sanitation, renewable energy, and governance**, thereby reinforcing its relevance, coherence, and potential for sustainability.

Policy / Framework	Key Provisions	Alignment / Programme Response
National Education Policy (NEP) 2020	Emphasises foundational learning and mother-tongue instruction up to Grade 5	**Project Prerna promotes Foundational Literacy and Numeracy (FLN)** among low-performing students through structured instruction in basic Hindi literacy and numeracy
Samagra Shiksha Abhiyan	Focuses on strengthening school infrastructure, teacher capacity, and early learning	**Project Prerna prioritises resilient infrastructure development**, including multipurpose tin sheds and WASH facilities, to ensure sustained access to education in rural schools
Rajasthan Model School Scheme (Swami Vivekananda Government Model Schools – SVGMS)	Establishes Centres of Excellence with modern infrastructure and ICT-enabled learning in educationally backward blocks	**ICT laboratories have been established in five senior secondary schools**, alongside smart classrooms equipped with K-Yans and digital boards
Swachh Vidyalaya Abhiyan	Ensures functional WASH facilities in government schools under the Swachh Bharat Mission	**Dilapidated WASH infrastructure has been renovated**, with separate toilets for boys and girls, promoting hygiene, dignity, privacy, and community ownership
School Ke Bhamashah Yojana	Strengthens public–private partnerships for school infrastructure	**Metso and Plan India have enhanced accountability and transparency** through platforms such as the Gyan Sankalp Education Portal, receiving official recognition from the Government of Rajasthan
PM Surya Ghar: Muft Bijli Yojana	Promotes renewable energy and addresses electricity disruptions	**Installation of solar power systems in schools aligns with India's Net Zero target by 2070**, ensuring uninterrupted learning

Sustainable Development Goals (SDGs)	SDG 3: Good Health and Well-being; SDG 4: Quality Education	**Direct contribution through integrated education, WASH, health, and resilience-building interventions**

Regional Relevance and Convergence Synergy: While several NGOs and CSR initiatives operate in the region, **Metso's structured, needs-based approach** has proven particularly effective in addressing **core regional challenges**, including the digital divide, infrastructure deficits, and foundational learning gaps. The project's targeted design and sustained engagement have enhanced its relevance within the local educational ecosystem.

Global and Cross-Sectional Coherence: Beyond national and regional alignment, Project Prerna reflects **global best practices** in education and WASH programming. Its design resonates with international frameworks, including:

- **UNICEF's WASH Framework**, which promotes equitable, resilient, and sustainable WASH systems by addressing socio-political and environmental factors.
- **The RAPID Framework** developed by the Global Coalition for Foundational Learning, which emphasises reaching every child, assessing learning levels, prioritising foundational skills, improving instructional efficiency, and supporting psychosocial well-being.

This cross-sectoral and global coherence enhances the programme's **replicability and scalability** across similar geographies in Alwar and beyond.



Figure 4 Bhahmashah Award Presented to Metso for CSR Contributions by the Government of Rajasthan

Field Insights: Field observations indicated that, in a few intervention schools, additional toilet facilities had been constructed by other CSR partners and through Gram Panchayat initiatives, including Pink Toilets. However, the sanitation facilities renovated under Metso's intervention were observed to be of comparatively higher construction quality and usability.

Coherence as an Enabler of Sustainability: The initiative's strength lies in its **multi-level coherence**, effectively linking community realities with institutional mandates and national policy priorities. By operationalising **NEP 2020's FLN focus**, **Swachh Vidyalaya Abhiyan's WASH objectives**, and **SVGMS's emphasis on digital literacy**, Project Prerna creates a **self-reinforcing ecosystem of learning, health, and well-being**.

In doing so, Project Prerna positions itself not merely as a context-specific intervention, but as a **scalable, policy-aligned model** that meaningfully advances the Sustainable Development Goals and supports long-term systemic change.

3.3. Efficiency

The efficiency assessment examines the project's capacity to deliver intended results through optimal use of financial, human, and institutional resources in Alwar's rural government schools. It evaluates how convergence, community participation, and adaptive planning can minimise transaction costs and enhance value for money.

Resource Utilisation and Cost Effectiveness

Educational service delivery in the three intervention blocks—**Ramgarh, Malakheda, and Umrain**—is constrained by dilapidated classrooms and limited availability of physical and learning resources. In this context, **Project Prerna has demonstrated prudent resource utilisation by strengthening existing systems rather than creating parallel structures**. A notable example is the construction of **multipurpose tin sheds**, which serve multiple functions, including addressing overcrowded classrooms, facilitating school-level activities, and providing a designated space for the mid-day meal programme. This intervention represents a cost-effective and contextually appropriate solution to multiple infrastructural challenges.



Figure 5 Eco Club Activities Promoted by PLAN India

Similarly, **environmental education initiatives**, such as Eco Clubs, have been implemented using **sustainable and low-cost materials**, including waste-to-best activities and plastic-free dustbins, reinforcing both environmental consciousness and cost efficiency.

For WASH interventions, **Project Prerna has introduced a dedicated Sanitation Fund** to promote ownership and long-term maintenance of facilities. This fund, jointly supported by Metso-Plan India and the respective schools, has been placed in a fixed deposit, with the accrued interest earmarked for routine maintenance and upkeep of sanitation infrastructure and related interventions. This financial mechanism strengthens sustainability while minimising recurring costs.

Further, **robust Standard Operating Procedures (SOPs)** developed by Plan India govern the identification of scholarship beneficiaries. The **direct transfer of scholarship funds to beneficiaries' bank accounts** ensures transparency, eliminates intermediaries, and enhances the efficiency and accountability of financial delivery systems.

Human Resource Adequacy and Deployment

A critical constraint affecting programme efficiency is the **shortage of trained teachers and instructional staff** in the intervention schools. To address this, Project Prerna has adopted a strategy of **developing a locally recruited and trained human resource pool** to complement and strengthen the existing teaching cadre. For both FLN remedial education and computer lab operations, **Plan India has prioritised hiring local educators and facilitators**, fostering community trust and contextual relevance.

This approach has resulted in:

- **Reduced dependence on external trainers and associated costs**
- **Continuous, in-situ capacity building of school staff**
- **Enhanced ownership and long-term sustainability through local mentoring**

By embedding skills and leadership within the community, the project aligns with **NEP 2020's emphasis on decentralised capacity building and local leadership**, thereby strengthening resilience within the human resource ecosystem.

Institutional and Community Efficiency



Figure 6 SMC Follow-Up Conducted by PLAN India

Project Prerna leverages **existing community institutions**, such as School Management Committees (SMCs, to enhance programme efficiency and accountability. This strategy reduces administrative overheads and supports **localised monitoring and ownership**, which are central to the project's design.

The engagement of community structures facilitates **real-time feedback mechanisms**, encourages voluntary participation, and promotes collective responsibility for sustaining outcomes. However, community mobilisation and sustained engagement have emerged as **implementation challenges**, as reported by both Metso and Plan India. These constraints will be examined in greater detail in the **effectiveness and sustainability sections** of this report.

3.4. Effectiveness

The effectiveness criterion of the OECD DAC framework seeks to evaluate the extent to which the intervention has achieved or is expected to achieve its objectives and its results, including any differential results across groups. This section has been divided into three sub-sections:

- Programme Design and Planning
- Insights from Programme Implementation

3.4.1. Programme Design and Planning

To assess the effectiveness of Project Prerna, it is essential to examine the programme's design and implementation framework. The model is founded on a **student-centric approach** that positions students as **agents of change and schools as catalytic spaces for broader social transformation**. This approach reflects the student-first orientation of Project Prerna and recognises the inherent potential of each learner to contribute meaningfully to community development.

In alignment with the shared vision of Metso and Plan India, Project Prerna has been specifically designed and tailored to **address the needs of students and schools in rural and underserved regions** of Alwar. The programme design is informed by a systematic identification of key educational bottlenecks in the region and incorporates context-specific solutions to ensure that limitations in resources or access to learning opportunities do not hinder educational outcomes. By accounting for school-level variations and local challenges, the intervention **seeks to promote equitable learning conditions across diverse settings**.

The initiative places particular emphasis on strengthening students' self-confidence, reading proficiency, and digital literacy, with the broader objective of **fostering self-reliance and improving quality of life**. Evaluation findings indicate that the programme's objectives are closely aligned with the institutional missions of Metso and Plan India, as well as with the aspirations of local communities. A robust monitoring and evaluation framework further supports adaptive programme management by enabling timely responses to emerging challenges.

Project Prerna is implemented through a **collaborative, multi-stakeholder model that promotes active participation and continuous feedback** among the Department of Education, Plan India, and the school community. This iterative and consultative structure facilitates ongoing dialogue and shared accountability, embeds internal checks and balances, and incorporates self-correcting

mechanisms within the programme architecture. Collectively, these features strengthen the programme's responsiveness, sustainability, and overall effectiveness.

Programme Implementation Team

To ensure the effective implementation of the programme, a **dedicated project team** was established at the Metso project office in Alwar. The organisational structure, as presented below, illustrates the **composition and functional hierarchy** of personnel responsible for project execution and field-level coordination.

The implementation strategy follows a **hub-and-spoke model**, under which clusters of schools are supported by designated field coordinators. These coordinators operate under the supervision of a single **Plan India Team Lead for Project Prerna**, ensuring decentralised support at the school level while maintaining uniformity, coordination, and quality control across all implementation sites. This structure enables responsive field engagement without compromising strategic coherence.

Overall project delivery is overseen by the **State Head**, who provides **strategic leadership, administrative oversight, and continuous performance monitoring**. This role is critical in ensuring alignment with project objectives and in facilitating adaptive management to address emerging contextual challenges. Through this multi-tiered governance framework, the project achieves both operational efficiency and accountability in implementation.

Field Insights: Although a hub-and-spoke model has been adopted for Project Prerna, field observations indicate that each field facilitator is, on average, responsible for approximately eight schools within their assigned cluster. This workload has resulted in constraints on the depth and frequency of school-level monitoring, as facilitators are required to balance programme supervision with administrative responsibilities and the additional task of identifying new schools for subsequent project phases.

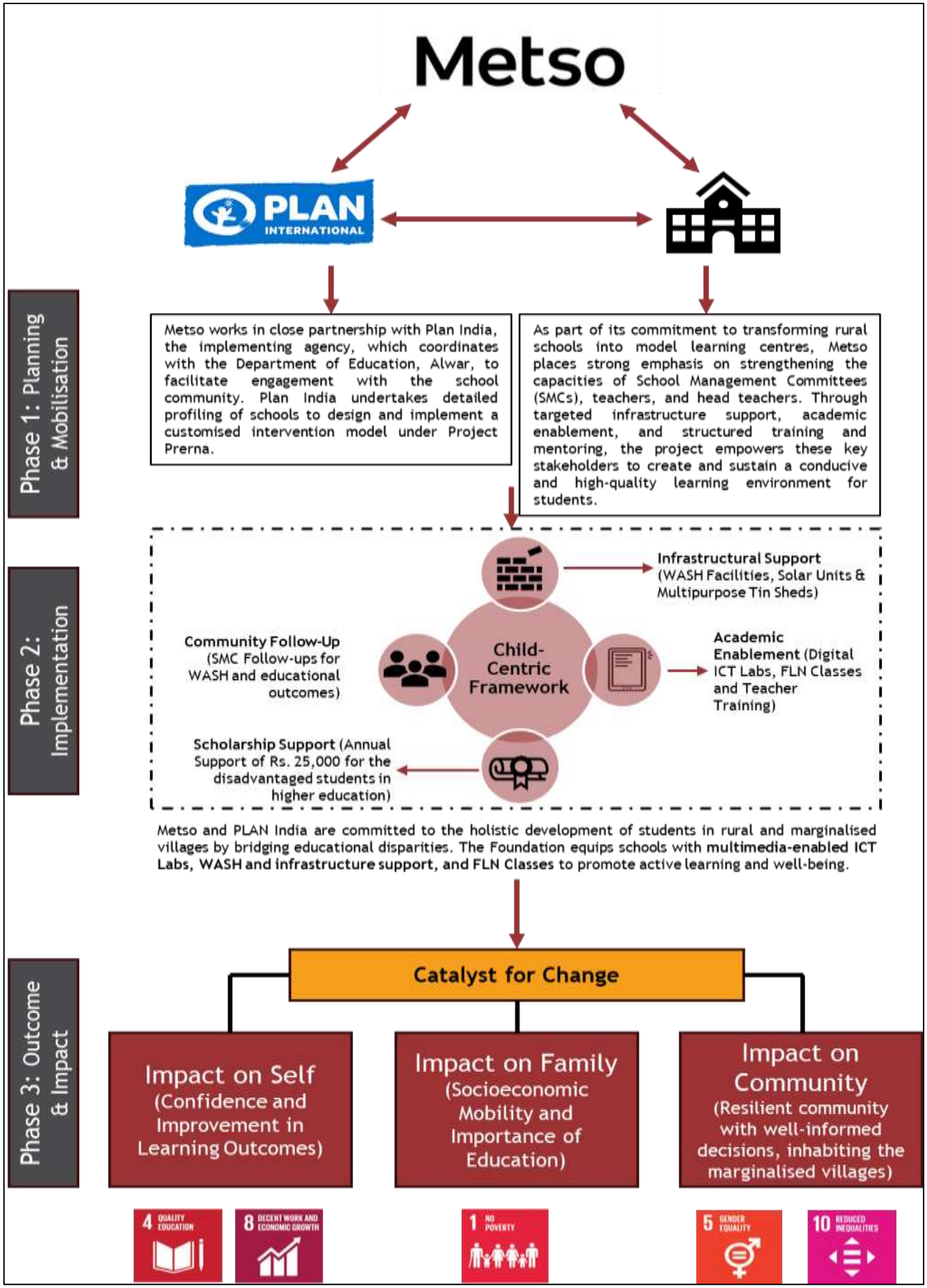


Figure 7 Metso Planning and Implementation Model

Implementation Process

As outlined in the programme overview, the following section details the **implementation process of Project Prerna**.

Metso and Plan India have been working with **24 intervention schools** for over a decade, delivering interventions in a **phased manner each year**. Plan India works closely with the **Department of Education, Rajasthan**, to obtain access to government primary, upper primary, secondary, and senior secondary schools. Based on this coordination, Plan India prepares an **annual school-wise action plan** by mapping each school's vulnerabilities and challenges. Consequently, interventions are **customised according to school profiles** validated by teachers, head teachers, and School Management Committees (SMCs).

In line with the project's objective of promoting **equitable educational opportunities**, Plan India adopts a **holistic implementation approach** encompassing both infrastructural and academic enablement. For infrastructure-related interventions—such as **WASH facility repair, ICT lab establishment, and solar unit installation**—a **vendor-driven procurement model** is followed, involving public quotations and transparent vendor selection. Upon vendor finalisation, interventions are delivered in a **phase-wise sequence**.

For human resource deployment, Plan India mobilises **external academic facilitators** through an internal recruitment process guided by its **SoPs**. For example, FLN remedial classes conducted by external instructors are scheduled during regular school hours in consultation with teachers. Whereas, the infrastructure works are implemented primarily during **school closure periods** to minimise disruption and ensure student safety.

Recognising that a **capacitated school community** is critical for sustainability, Plan India conducts **centralised annual training programmes**. Each participating school is represented by the Head Teacher and one nominated teacher. Training focuses on enhancing operational readiness for key interventions, including **ICT labs, K-Yan digital tools, solar-powered classrooms, and related systems**. These one-day trainings are organised at central locations to facilitate **peer learning and uniform dissemination of methodologies**. Further, to support effective utilisation of interventions, **field facilitators conduct periodic monitoring visits** to identify operational challenges and additional support requirements.

For the **scholarship programme**, field facilitators mobilise eligible students from the catchment areas of intervention schools and encourage them to apply. Selection is conducted strictly in accordance with the **SoPs developed by Plan India**. Shortlisted candidates undergo a second-level verification and personal interviews at the Metso project office, followed by an orientation programme.

Career counselling, which remains common for both senior secondary students and scholarship candidates, is provided annually. These sessions guide students in shaping their academic and professional trajectories and also serve as a mechanism to identify potential scholarship beneficiaries.

Overall, the implementation process is grounded in **evidence-based planning and continuous monitoring**, reinforcing the project's commitment to maintaining a **child-safe, inclusive, and supportive learning environment** across all intervention schools.

3.4.2. Insights from the Project Interventions

Building on the contextual foundation established in the preceding section, this section seeks to present the perspectives and experiences of the primary stakeholders, namely the student beneficiaries, as well as other key actors closely engaged with the project interventions. The scope of this section extends beyond the immediate experiences of students and the operational processes

during the implementation phase. The insights gathered will also incorporate the experiences from the capacitated teachers and their learnings, aiding Metso and PLAN India to replicate and scale up the Project Prerna across a wider region. Accordingly, this section is structured into the following sub-sections to provide a comprehensive understanding of both direct and ripple effects of the intervention:

- Infrastructural Support
- Academic Enablement Support
- Scholarship Support

3.4.2.1. Infrastructural Support

Lack of adequate infrastructure remains a persistent challenge for schools across India, particularly in rural regions, contributing to a pronounced rural–urban disparity in educational outcomes. As highlighted in the preceding sections, student enrolment in many schools has increased over time, resulting in overcrowded classrooms, while the corresponding expansion of infrastructure capacity has not occurred.

In this context, the establishment of multipurpose tin sheds, renovation of WASH facilities, and installation of solar power units in the intervention schools constitute critical interventions under Project Prerna. These measures serve a dual purpose. First, they directly support educational outcomes by facilitating holistic child development beyond conventional classroom instruction through the provision of safe, functional, and enabling learning environments. Second, they act as strong incentives for student retention by improving school usability and comfort, thereby reducing absenteeism—particularly in underserved villages where the perceived value of formal education is often limited.

3.4.2.1.1. Multipurpose Tin Sheds

Metso has supported schools through the construction of **multipurpose tin sheds measuring 25 x 50 feet**, in accordance with the standard specifications prescribed under the **Samagra Shiksha Scheme**. These structures have emerged as a **critical infrastructure asset**, particularly following the state-wide prohibition on the use of dilapidated classrooms in government schools across Rajasthan.

The tin sheds are extensively utilised as **additional classroom spaces**, especially during the summer months when extreme heat makes indoor classrooms uncomfortable for both students and teachers. Their use has ensured continuity of teaching–learning processes despite constraints in permanent classroom infrastructure.

> "Our school has an active Child Parliament; however, earlier, the lack of adequate space and fully occupied classrooms made it difficult to conduct meetings, particularly during the summer months when outdoor gatherings were not feasible. With the construction of the multipurpose tin sheds, this constraint has been addressed, and Child Parliament meetings are now held regularly in a comfortable and appropriate setting for students."
>
> - **Sumita** (Primary School Teacher, UPS Jhareda)

Beyond academic instruction, the multipurpose sheds have enabled schools to conduct a range of activities, including **No-Bag Days, Republic Day celebrations, and other school-led events**. They also serve as common spaces for **morning assemblies and the distribution of Mid-Day Meals**, thereby bringing together the entire school community in a shared and functional environment.

The demand for tin sheds remains **high among both intervention and control schools**. Schools equipped with these structures acknowledge their substantial utility; however, they also report that the **current size is insufficient in relation to rising student enrolment**. Despite this limitation, the

multipurpose tin sheds are widely recognised by teachers, students, and School Management Committees as a **highly valuable and contextually appropriate intervention** provided by Metso.

Field Observation: The multipurpose tin sheds effectively complement the other interventions implemented under the project Prerna, such as Eco Club and solar units. For instance, student-led activities such as Eco Club sessions are now conducted within these sheds, providing a dedicated and functional space for programme-related engagement.



Figure 8 Multipurpose Tin Sheds Provided by Metso and PLAN India

3.4.2.1.2. Solar Power Units

The intervention schools are located in **power-deficient areas of Alwar**, where unreliable electricity supply poses a significant constraint on the conduct of regular classes, particularly during the summer months. To address this challenge, **Project Prerna installed 3 kW solar power units in all twenty-four intervention schools**. Each system comprises **6-8 solar panels (depending on school requirements), a battery, and a protective iron cage** to prevent theft and ensure student safety.

Although the solar units were a critical and timely intervention, their **operational effectiveness has been inconsistent**. Field findings indicate that several systems have remained **non-functional for extended periods** due to factors such as short-circuiting, battery fires, lack of regular maintenance,

"The solar units have been a big aid for us. The school do not have light for 3-4 hours a day and becomes paralysed. The solar power units have been helpful in operating the computer lab, given by Metso and other classrooms, when the lab is not in use."

- **Teachers during FGD** (GSSS Kakrali Mev)

"We are considering removing the existing solar panels and batteries and installing an inverter using our own resources. The solar units have remained non-functional for the past two to three years, and we are dissatisfied with their performance."

- **Maninder Kumar** (Senior-Secondary School Teacher, GSSS Salpur)

and theft of batteries and components. Additionally, **limited ownership and technical capacity at the school level** have constrained timely repairs and upkeep.

With increasing student enrolment and expanding school infrastructure, the **current capacity of the solar units is insufficient to meet full-school demand**. In most schools, the systems are capable of supporting only **one to two classrooms at a time for limited hours** during the school day. Nevertheless, during the initial years of installation, the solar units played a **crucial role in enabling classroom instruction**, particularly when they adequately met the schools' energy requirements.

To ensure sustained functionality, the solar units were placed under an **Annual Maintenance Contract (AMC)**. However, the AMCs have **not been utilised effectively**, as evidenced by prolonged periods of system breakdown and delayed repairs. These challenges will be examined in greater detail in the **sustainability section** of this report.



Figure 9 Solar Power Units Provided to Intervention Schools

Overall, the **effectiveness of the solar power intervention has been limited**, owing to quality concerns, maintenance gaps, and capacity constraints. At the time of the impact assessment, **only a small number of schools had fully functional solar units**, indicating the need for improved technical support, clearer ownership mechanisms, and stronger sustainability planning.

3.4.2.1.3. Renovation of WASH Facilities

Access to quality education is a fundamental right under the Right to Education Act; however, for students in the 24 intervention schools, this remained a distant reality for a prolonged period. Field observations indicate that **inadequate access to functional and hygienic WASH facilities significantly contributed to student absenteeism and, in some cases, dropout**. Teachers reported that earlier washrooms were largely unusable due to poor hygiene conditions. Similar challenges continue to persist in several control schools, where temporary toilet facilities have been constructed through pooled contributions from teachers, as observed at UPS Sankla.



Figure 10 Renovated WASH Facilities in Metso Intervention Schools

Against this backdrop, **the renovation of school toilets has emerged as the most critical intervention under Project Prerna**. Renovation works included **tiled flooring and walls, child-friendly urinals, provision of water supply, and installation of handwashing stations**, thereby substantially improving the physical quality and usability of sanitation infrastructure.

Despite these improvements, the **functionality and quality of WASH facilities remain constrained by weak maintenance systems**. More than **70 per cent of schools reported the absence of dedicated funds or cleaning staff from the Department of Education** for sanitation upkeep. Consequently, schools depend on external cleaners hired through pooled contributions from teachers. Cleaning is typically undertaken **three to four times per month**, which falls significantly below **UNICEF WASH standards recommending daily cleaning**.

These findings reflect **limited institutional ownership of WASH facilities at the school level**. Effective utilisation is further constrained by external factors, including **frequent theft of taps and pipelines** and **irregular water supply** in the region. Teachers reported that repeated theft incidents have compelled them to remove taps and pipes as a preventive measure. As a result, the absence of a consistent water supply increases the risk of unhygienic conditions and undermines the sustainability of sanitation infrastructure.

> "Washroom remains the best intervention done by Metso for our school. It was the basic need of the school, and the washroom is more accessible for all."
>
> - **Neha** (Lab Assistant, MGGSSS Ramgarh)

> "In this region, the water supply is often inconsistent, and in some schools, the water motor is non-functional. As a result, toilets do not have a regular water supply and consequently remain unhygienic."
>
> - **Sheeladevi** (Parent, UPS Kaimala)

A core objective of Project Prerna is to promote **hygiene-related behavioural change among students** through improved access to WASH facilities. The **Sanitation Fund**[11] was introduced as a key mechanism to support this goal. However, frequent teacher transfers and shifting administrative

[11] The **Sanitation Fund** is a financial mechanism designed and implemented by Metso in partnership with Plan India, based on equal financial contributions from Metso and the school community deposited into the School Management Committee (SMC) bank account. These pooled funds are subsequently placed in a Fixed Deposit (FD), with the interest generated earmarked specifically for the routine maintenance and upkeep of school toilet facilities. This approach aims to promote shared ownership, ensure financial sustainability, and support the long-term functionality of WASH infrastructure in schools.

responsibilities have led to **weak utilisation of sanitation funds** across intervention schools. As a result, **institutional memory remains limited**, and roles and responsibilities related to sanitation fund management are diluted.





Figure 11 Challenges such as Theft Leading to Non-Utilisation of WASH Resources



Figure 12 Irregular Maintenance of the WASH Facilities in the Intervention Schools

While the renovation of WASH facilities has contributed significantly to **improved hygiene, safety, and dignity—particularly for girl students**, challenges related to **irregular cleaning, theft, and water availability** continue to affect utilisation. Consequently, although the facilities remain largely functional, they are **underutilised**, and the standardisation of hygiene and cleaning practices remains compromised.

Field Observation: Although the toilets were renovated less than two years ago, inadequate maintenance and the overpainting of Metso branding in multiple areas remain critical challenges from a branding standpoint.

3.4.2.2. Academic Enablement Support

While the infrastructure support by Metso has been imperative to address the systematic challenges of the rural schools of Alwar. Project Prerna does not shy away from direct intervention with the primary beneficiaries, namely the students. To improve the learning outcomes of the students, Project Prerna provides multiple interventions, including the establishment of ICT Labs for secondary and senior secondary students, FLN classes for the needy primary school students and the establishment of digital learning tools such as smart boards and K-Yans. With a tailored approach, Project Prerna aims to address the root challenges impeding the overall learning outcomes of the students.

3.4.2.2.1. FLN Remedial Classes

Foundational Literacy and Numeracy (FLN) serve as a critical gateway to all subsequent learning. Current learning indicators demonstrate a concerning baseline: fewer than **50% of students in Grades 3-5 are able to read Grade 2-level text**, and less than **25% can perform two-digit subtraction with borrowing (ASER 2024),** as indicated in the figure below. It can be seen that the progression of learning outcomes remains marginal despite moving up the grades. This is the result of multiple factors, as mentioned in the previous sections, where the absence of teachers, classrooms, lack of

awareness among parents, and the no-fail policy together create bottlenecks. Such learning deficits place students at risk of falling behind grade-level expectations, contributing to disengagement, absenteeism, and eventual dropout, while reinforcing systemic learning inequities.

Further, to identify students requiring targeted support, Metso implemented a baseline assessment using the **ASER Do-It-Yourself framework**, which maps learning stages and enables tracking of student growth trajectories. Findings indicated that **approximately 44% of assessed students required FLN remediation**, highlighting the scale of the foundational learning gap.

Std	Not even letter	Letter	Word	Std I level text	Std II level text	Total
I	47.4	37.6	8.5	4.0	2.5	100
II	23.1	43.8	15.0	10.8	7.3	100
III	11.6	34.8	18.7	16.3	18.6	100
IV	7.3	22.7	16.8	20.6	32.7	100
V	5.5	15.6	13.1	18.3	47.6	100
VI	3.6	12.8	10.7	17.8	55.2	100
VII	2.9	9.6	8.4	15.8	63.4	100
VIII	2.0	7.4	7.0	14.6	69.1	100

Std	Not even	Recognise numbers		Subtract	Divide	Total
	1-9	1-9	11-99			
I	42.4	37.7	17.8	1.3	0.7	100
II	17.0	46.9	28.4	6.6	1.2	100
III	7.1	38.2	34.7	14.3	5.7	100
IV	3.7	26.5	37.4	19.0	13.5	100
V	2.8	19.4	34.1	21.9	21.9	100
VI	1.7	15.9	36.9	20.7	24.9	100
VII	1.1	12.3	34.9	20.9	30.8	100
VIII	1.2	7.9	34.9	22.7	33.3	100

Figure 13 ASER 2024 Rajasthan Rural Reports

Design and Delivery of FLN Remedial Support

In response, Project Prerna introduced **FLN remedial classes across 17 intervention schools**. Recognising the administrative burden on government teachers, the programme deploys **externally recruited local facilitators** to conduct these sessions. Local recruitment ensures contextual familiarity and community trust.

Facilitators were selected based on Plan India's remedial Standard Operating Procedure (SoP), which requires:

- Graduation or ongoing higher education from a recognised institution
- Residency within the same Gram Panchayat as the intervention school

This approach promotes local representation and sustainability. Following recruitment, facilitators receive orientation to support child-level learning assessment and instructional planning. However, field observations indicate that **implementation consistency remains uneven**. There is no standardised Teaching-Learning Material (TLM) package, structured instructional framework, or formalised progress-tracking mechanism. As a result, instructional approaches vary across facilitators, limiting comparability of outcomes and reducing programme coherence.

"I used multiple methods of engaging with children, including drawings, singing and dancing. However, we were not given any standardised FLN TLM or training. Rather, we were given orientation and rest I used my experience to teach the students."

- **Pooja Meena** (FLN Instructor)

"I have not thought about FLN in the long run. I have been hired by Metso for only three months. Metso has provided the colour pencils to conduct activity-based FLN, but not proper training. I know that I have to help with the students' doubts."

- **Priyanka** (FLN Instructor)

Stakeholder perceptions of FLN sessions were mixed. Many teachers appreciated the availability of external support, particularly given institutional constraints. Others expressed concerns regarding facilitator pedagogical depth and the absence of standardised teaching methodologies.

A recurring concern relates to the **short duration of the FLN cycle (approximately two months)**, which stakeholders felt was insufficient to generate sustained improvements in foundational skills. Nonetheless, many schools valued the intervention as an important equity mechanism, particularly for students from low-income households who lack access to private remediation.

Importantly, facilitators often shared classroom experiences with teachers, creating informal channels of peer learning and pedagogical exchange.

Field Observation: While the selection process for external FLN instructors has been standardised with SoP, the consistency of instructional quality has not always been assured. In certain schools, including GSSS Bahala and GSSS Dadar, the school leadership declined to continue engagement with the FLN remedial programme due to concerns regarding the instructors' proficiency and their ability to demonstrate confidence and credibility within the school community.

Performance Trends of the FLN Remedial Classes Among the Intervention and Control School

A deeper examination of the FLN assessment revealed nuanced performance trends between intervention and control schools. **On aggregate, intervention schools demonstrated comparatively stronger outcomes across Grades 1 to 4, suggesting early-stage gains associated with targeted remedial support**. However, in Grade 5, control schools marginally outperformed intervention schools. Importantly, the difference in performance between the two groups remained narrow, averaging within five percentage points. This modest margin indicates that while the intervention may be contributing to incremental improvements, **broader systemic learning challenges continue to influence outcomes across both contexts**. These findings are consistent with earlier observations, reinforcing the conclusion that foundational learning deficits remain a shared concern rather than one confined to a specific school category.

Table 5 Aggregate Average Percentage (Grade-Wise) Across Intervention and Control Schools

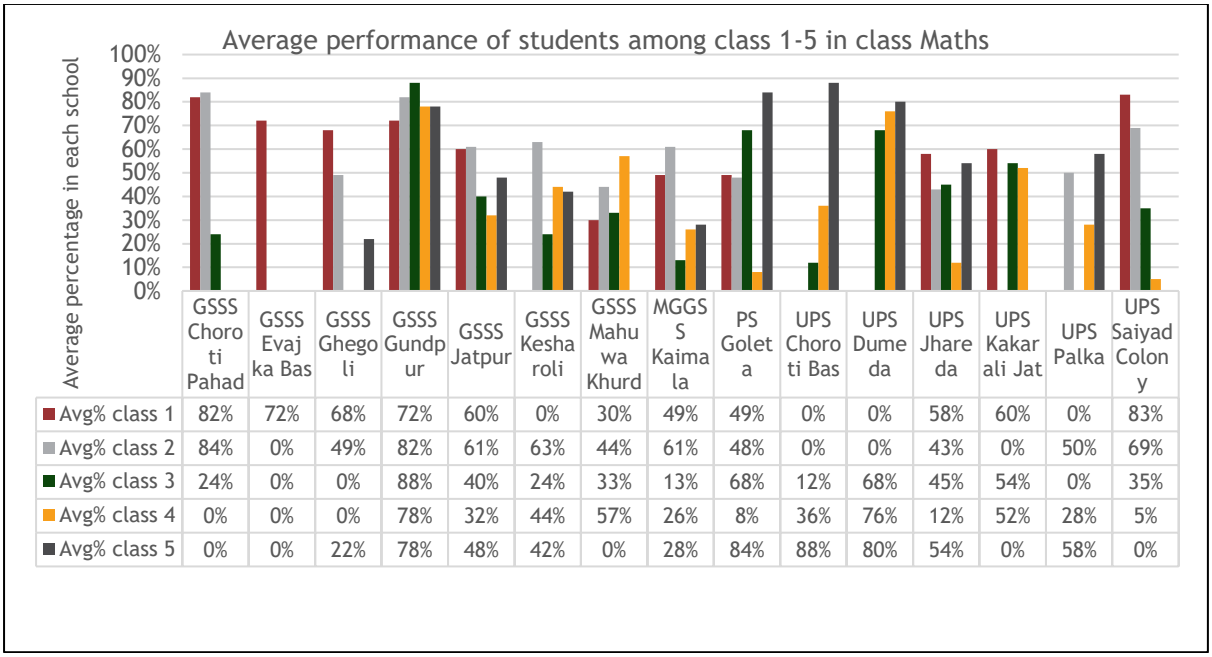
Grades	Aggregate Average Percentage	
	Control Schools	Intervention Schools
Grade 1	45%	51%
Grade 2	39%	42%
Grade 3	33%	36%
Grade 4	28%	32%
Grade 5	38%	37%

Gender-disaggregated analysis presents a similarly nuanced picture. Both boys and girls in intervention schools consistently recorded higher performance levels than their counterparts in control schools, indicating that the FLN remedial effort is contributing to overall learning gains. Within intervention schools**, girls demonstrated relatively stronger outcomes in Grades 4 and 5**, while boys performed marginally better in Grades 1 to 3. Although these differences are statistically small, they point toward the need for early-grade gender-responsive instructional strategies. Strengthening parental engagement—particularly in rural households where caregiving responsibilities are predominantly undertaken by women—can reinforce learning continuity at home and support equitable foundational progress. **Targeted sensitisation efforts could therefore play a critical role in sustaining gender-balanced learning trajectories**.

Table 6 Aggregate Average Percentage (Grade-wise and Gender-wise) Across the Intervention and Control Schools

Grades	Average Percentage			
	Control		Intervention Schools	
	Male	Female	Male	Female

Grade 1	42%	47%	53%	54%
Grade 2	36%	38%	48%	39%
Grade 3	32%	24%	42%	39%
Grade 4	30%	25%	30%	44%
Grade 5	36%	49%	40%	44%



	GSSS Choroti Pahad	GSSS Evajka Bas	GSSS Ghegoli	GSSS Gundpur	GSSS Jatpur	GSSS Kesharoli	GSSS Mahuwa Khurd	MGGSS Kaimala	PS Goleta	UPS Choroti Bas	UPS Dumeda	UPS Jharda	UPS Kakarali Jat	UPS Palka	UPS Saiyad Colony
Avg% class 1	82%	72%	68%	72%	60%	0%	30%	49%	49%	0%	0%	58%	60%	0%	83%
Avg% class 2	84%	0%	49%	82%	61%	63%	44%	61%	48%	0%	0%	43%	0%	50%	69%
Avg% class 3	24%	0%	0%	88%	40%	24%	33%	13%	68%	12%	68%	45%	54%	0%	35%
Avg% class 4	0%	0%	0%	78%	32%	44%	57%	26%	8%	36%	76%	12%	52%	28%	5%
Avg% class 5	0%	0%	22%	78%	48%	42%	0%	28%	84%	88%	80%	54%	0%	58%	0%

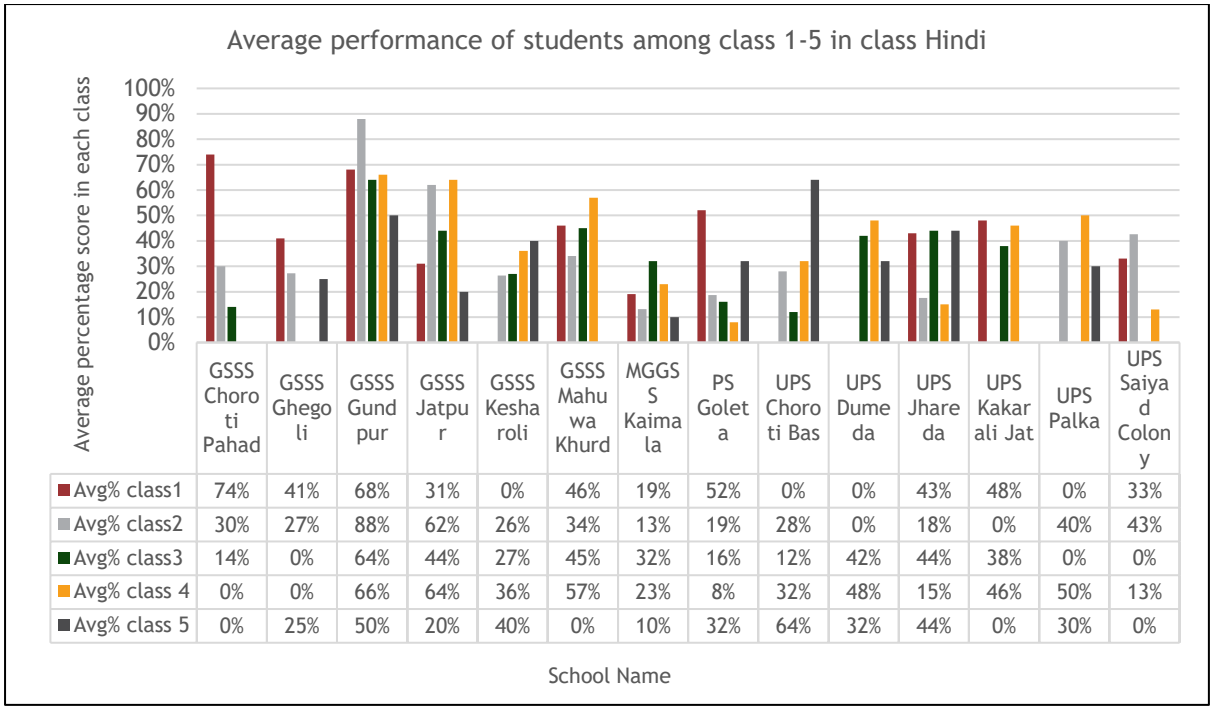
Figure 14 Average performance of students among classes 1-5 in class Maths

The graph illustrates the average percentage performance of students in Mathematics from Grades 1 to 5 across the intervention schools under Project Prerna. It is important to note that instances where **"0%" appear in the graph do not indicate poor academic performance; rather, they reflect grades where assessments were not conducted during the study period**.

At the **early primary level (Grades 1 and 2)**, several schools demonstrate relatively strong foundational numeracy outcomes, with average scores frequently ranging between 60–85 percent. Schools such as GSSS Choroti Pahad and GSSS Gundpur show comparatively higher performance in these grades, suggesting that foundational mathematical concepts are being absorbed effectively at the entry level. As they progress through the grades, performance patterns become more varied.

In **Grade 5**, performance dispersion becomes more pronounced across schools. Some institutions report strong averages (above 80 percent), whereas others fall within moderate ranges. This variation aligns with contextual challenges identified earlier in the report, including multigrade classrooms, teacher shortages, inconsistent reinforcement at home, and varying implementation intensity of FLN support.

These trends are mirrored in the performance of students in the Hindi assessment across the grades. Overall, **students demonstrate relatively stronger performance in Mathematics than in Hindi**, particularly in the early primary grades. In several schools, Mathematics scores in Grades 1 and 2 range between moderate to high levels, whereas Hindi performance during the same grades reflects greater variability and comparatively lower averages, which has been explored further in the sections below.



	GSSS Choroti Pahad	GSSS Ghegoli	GSSS Gundpur	GSSS Jatpur	GSSS Kesharoli	GSSS Mahuwa Khurd	MGGSS Kaimala	PS Goleta	UPS Choroti Bas	UPS Dumeda	UPS Jharеda	UPS Kakarali Jat	UPS Palka	UPS Saiyad Colony
Avg% class1	74%	41%	68%	31%	0%	46%	19%	52%	0%	0%	43%	48%	0%	33%
Avg% class2	30%	27%	88%	62%	26%	34%	13%	19%	28%	0%	18%	0%	40%	43%
Avg% class3	14%	0%	64%	44%	27%	45%	32%	16%	12%	42%	44%	38%	0%	0%
Avg% class 4	0%	0%	66%	64%	36%	57%	23%	8%	32%	48%	15%	46%	50%	13%
Avg% class 5	0%	25%	50%	20%	40%	0%	10%	32%	64%	32%	44%	0%	30%	0%

Figure 15 Average performance of students among class 1-5 in class Hindi

The thematic breakdown of assessment results reveals a consistent pattern across both intervention and control schools: **students performed significantly better in numeracy than in literacy**. Numeracy tasks tend to rely on direct conceptual reasoning, which students appeared to grasp more readily. In contrast, literacy assessments required higher-order cognitive processes such as word recognition, sentence formation, and paragraph comprehension. The relative underperformance in literacy suggests structural gaps in instructional reinforcement, particularly the **absence of standardised Teaching-Learning Materials (TLM)** designed to support vocabulary retention, phonetic recognition, and contextual word association. Strengthening literacy-focused pedagogical tools—such



Figure 16 Government FLN and Metso FLN Sessions at the Respective Intervention Schools

as word charts, flashcards, and visual aids—could improve recall and cognitive engagement, thereby narrowing the performance gap between the two domains.

Further thematic analysis highlights the influence of sociocultural learning pathways on foundational competencies. **Among early-grade students, Muslim learners demonstrated comparatively lower Hindi literacy proficiency than their Hindu peers.** This difference is largely attributable to the prevalence of Urdu-medium instruction in madrasa-based early education, which shapes initial language exposure. Encouragingly, by Grades 4 and 5, Muslim students had largely closed this gap and, in some instances, surpassed their counterparts in literacy performance. A similar trend was observed in numeracy outcomes, where Muslim students demonstrated stronger performance in later grades. These findings suggest that **early transitional challenges associated with parallel**

educational systems can be mitigated through sustained exposure and targeted instructional support. Given that Muslim students constitute a meaningful proportion of the population in the intervention geography, culturally responsive pedagogy remains an important consideration in programme design.

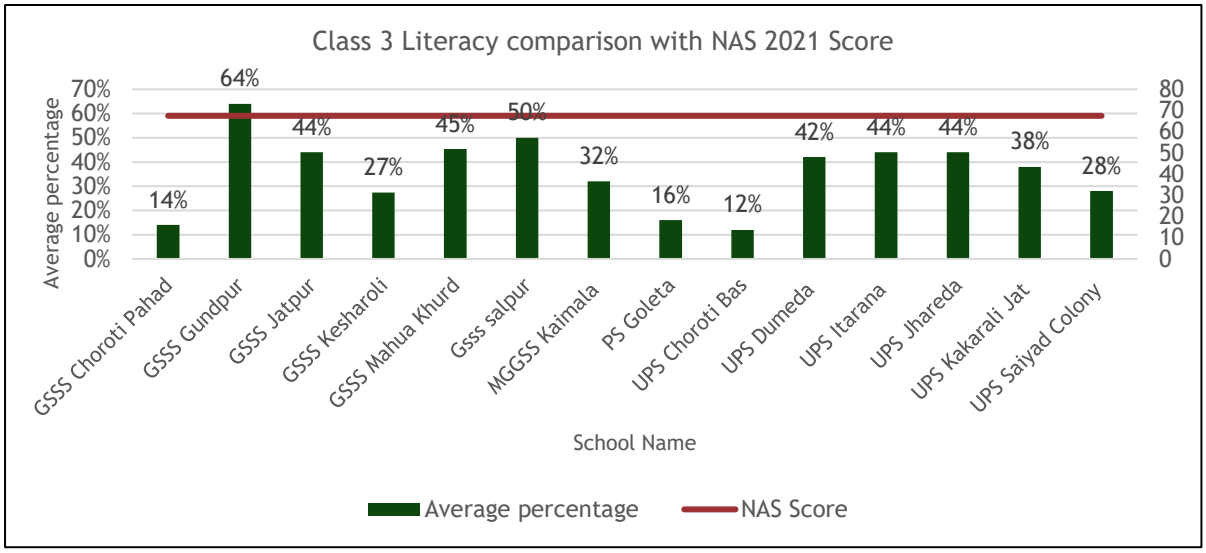


Figure 17 Class 3 Literacy Score Comparison with NAS 2021 Score

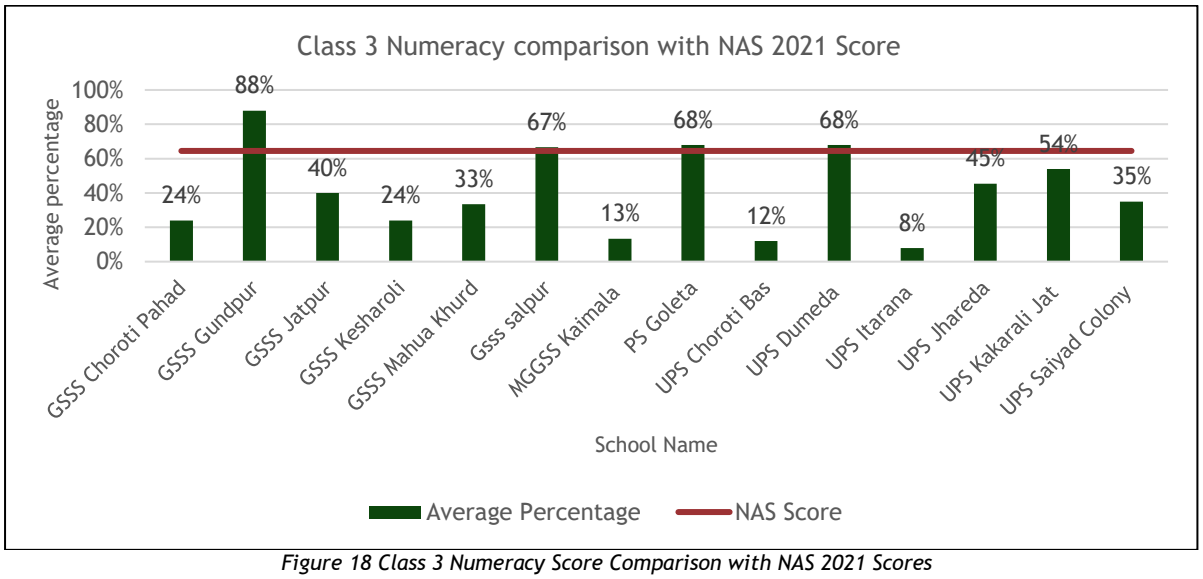


Figure 18 Class 3 Numeracy Score Comparison with NAS 2021 Scores

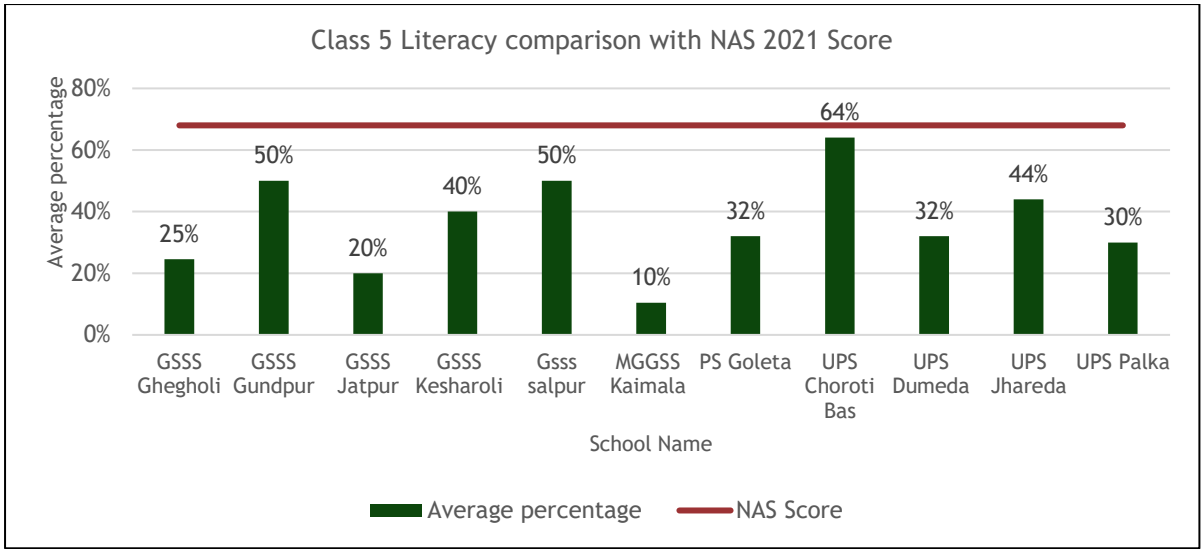


Figure 19 Class 5 Literacy Score Comparison with NAS 2021 Score

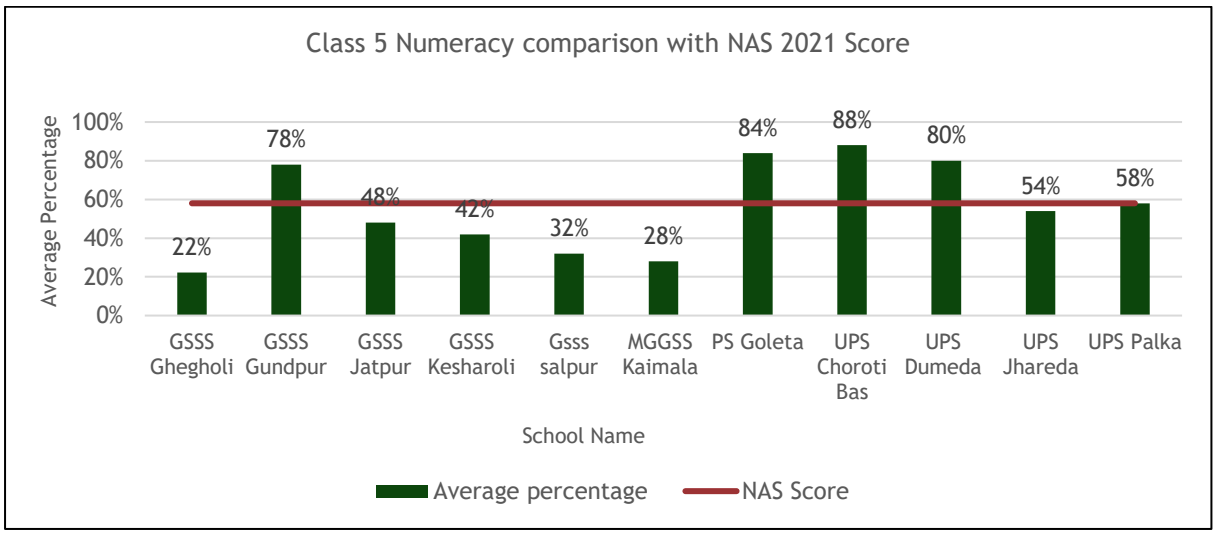


Figure 20 Class 5 Numeracy Score Comparison with NAS 2021 Score

To contextualise programme performance within broader educational benchmarks, FLN outcomes were compared with district-level standards from the NAS 2021 assessment. For Grade 3, the Alwar district average stood at 67.5 in literacy and 64.5 in numeracy. **Only a limited proportion of intervention schools reached parity with the literacy benchmark, while approximately half achieved alignment with numeracy standards. At Grade 5, literacy benchmarks (68%) remained unmet across intervention schools, whereas nearly 45% of schools met or exceeded the numeracy standard of 58**. These comparisons indicate modest progress relative to district expectations but also highlight the continued need for intensified literacy interventions.

Overall Trends of FLN Assessment

The cumulative findings suggest a pattern of progressive learning loss as students advance from Grade 1 to Grade 5. This trajectory must be understood within the broader structural realities of the intervention geography, including overcrowded classrooms, limited teacher availability due to administrative assignments, and the prevalence of multi-grade instruction. **Without level-aligned pedagogical strategies and consistent instructional reinforcement, the transformative potential of short-duration remedial interventions remains constrained**. The narrow performance differential between intervention and control schools underscores the importance of integrating FLN strategies within systemic school strengthening efforts.

While **Project Prerna demonstrates a commitment to improving foundational learning outcomes, achieving sustained impact requires a multi-layered strategy**. Standardising FLN instructional frameworks, extending remediation cycles, strengthening literacy-focused TLM deployment, and

embedding structured progress tracking can enhance programme effectiveness. Equally important is the sensitisation and capacity building of parents to support learning reinforcement at home, particularly in rural contexts where educational continuity often depends on family engagement. A contextualised and evidence-driven FLN approach—aligned with local sociocultural realities—will be essential for translating incremental gains into lasting educational transformation.

3.4.2.2.2. ICT Labs and Digital Tools

Recent national data indicate that **computer availability in Indian schools increased from 57.7% in 2023-24 to 64.7% in 2024-25 (UDISE +).** While this reflects gradual systemic improvement, it masks persistent rural disparities. All intervention schools in Alwar reported having no access to structured ICT infrastructure prior to Metso's engagement. Against this backdrop, Project Prerna introduced ICT laboratories and classroom digital tools to strengthen students' digital literacy and exposure to technology-enabled learning. The initiative seeks not merely to provide hardware but to expand students' long-term digital competencies and readiness for an increasingly technology-driven learning and employment ecosystem.

Under the programme, five intervention schools were equipped with full ICT laboratories, each receiving ten computer systems, while nine schools were supported with digital projectors and boards. Teachers acknowledged that the number of computers is insufficient relative to enrolment; however, schools have adopted adaptive classroom management strategies, enabling two to three students to share a system during sessions. This collaborative arrangement has allowed broader student participation despite infrastructure limitations and demonstrates local innovation in maximising resource utilisation.



Figure 21 ICT Labs in Intervention Schools

Structured Training and Skill Development

To operationalise the ICT infrastructure, **Metso engaged external instructors for a six-month training cycle**. Students received foundational training in MS Word, Excel, PowerPoint, and Paint, alongside structured **digital learning modules delivered through UNICEF and YuWaah's Passport to Earning (P2E) platform**. The integration of P2E certification aligns the intervention with employability-oriented competencies and provides students with formal recognition of their digital skills. Teachers reported that this structured exposure improved students' confidence in navigating computers and fostered early familiarity with digital applications relevant to higher education and employment.

While computer classes were initially embedded into school timetables—ensuring weekly lab exposure for each cohort—**sustainability challenges emerged following the withdrawal of external instructors**. Many schools lack teachers with adequate digital training to independently continue ICT instruction. In the absence of structured capacity building, dedicated teaching-learning materials, or refresher training, several ICT laboratories have experienced reduced utilisation. This highlights a

systemic gap between infrastructure provision and institutional ownership, underscoring the need for ongoing teacher capacity development to ensure sustained programme impact.

In contrast to ICT lab utilisation, digital classroom tools such as projectors and smart boards have been more consistently integrated into teaching practices. **These tools are primarily used in secondary and senior secondary classrooms to support subjects including mathematics, political science, and history.** Teachers reported that multimedia content has enhanced conceptual clarity and student engagement, enabling more interactive and visually rich instruction. Nevertheless, utilisation remains uneven due to teacher availability constraints and the absence of structured peer-learning systems to build collective digital teaching capacity.

Student Learning Outcomes

Assessment results from five intervention schools indicate generally positive digital learning outcomes, with most students scoring above 40% in competency-based evaluations. Exceptions were observed in two schools where teachers reported high absenteeism linked to limited parental engagement. Irregular attendance reduced exposure to computer sessions, directly affecting student performance. Gender-disaggregated analysis revealed that girls in Grades 6–8 performed marginally better than boys, while boys demonstrated stronger outcomes in higher grades. These trends suggest that attendance continuity and home-level engagement remain critical determinants of digital learning success.

Table 7 School Name Percentage of Students Who Scored Above 40% (School and Grade-Wise

School Name	Percentage of Students Who Scored Above 40%		
	Grade 6-8	Grade 9-10	Grade 11-12
GSSS Dadar	70		
GSSS Ghegholi	96	75	
GSSS MahuaKhurd	4	6	33
GSSS Salpur	100	60	100
GSSS Kakrali Mev	8	20	

Despite encouraging adoption, digital tools are often used as standalone instructional aids rather than being embedded into broader pedagogical processes. Opportunities remain to integrate ICT into assignments, project-based learning, and independent student preparation—particularly in contexts where digital access could support scholarship applications, competitive exam readiness, and employability pathways. The current utilisation pattern indicates that while the infrastructure has expanded access, deeper curricular integration is required to unlock the full educational and socio-economic potential of digital literacy.

Overall Digital Literacy Implications

The digital component of Project Prerna represents a significant step toward bridging rural digital inequities and enhancing technology-enabled learning environments. While the initiative has successfully introduced foundational digital exposure and improved student confidence, sustainability depends on strengthening teacher capacity, institutionalising ICT pedagogy, and aligning digital tools with curriculum-driven learning objectives. Addressing these structural gaps would enable the programme to move beyond access provision toward transformative digital empowerment, reinforcing its broader objective of improving quality of life through education and employable skills.

3.4.2.3. Scholarship Support

Access to employment opportunities for rural youth is often constrained by limited exposure to quality education and a lack of employable skills. Rajasthan's Gross Enrolment Ratio (GER) stands at approximately **26.1 per cent**, marginally above the national average, with a concentration of enrolment in arts streams and comparatively low participation in STEM disciplines (UDISE+ 2024-25). Although girls demonstrate stronger academic performance on aggregate, their enrolment in science

and commerce remains lower than that of boys. These state-level trends are also reflected in Alwar district.

In response, the **Project Prerna scholarship programme** seeks to address these challenges by strengthening access to higher education, enhancing employability, and **empowering girls from marginalised backgrounds**. Beneficiaries are selected through a **robust and standardised process** guided by a SoP developed by Plan India. Selection criteria include **minimum academic performance (60 per cent)**, **financial vulnerability (annual household income below INR 8 lakh and per capita income below INR 2 lakh)**, **course relevance**, and **residency within the intervention blocks**. Selected students receive **INR 25,000 per annum or actual tuition fees (whichever is lower)**.

Plan India adopted multiple mobilisation strategies to reach potential applicants, including **teacher referrals, community mobilisation through autorickshaw campaigns, school-based career counselling, and word-of-mouth dissemination**. Among these, community-based mobilisation proved particularly effective, with most beneficiaries reporting that they learned about the scholarship either through local networks or Metso-led community engagements. In addition, **annual career counselling sessions** are conducted, often on National Youth Day. While these sessions were initially delivered by external agencies and later transitioned to a volunteer-led model involving Metso employees, their effectiveness has been constrained by **limited one-to-one counselling and the absence of a standardised counselling methodology**. Consequently, teacher referrals have remained the primary pathway for candidate identification.

Following the initial screening of applicants, Plan India conducts home visits to verify the income sources and socio-economic conditions of shortlisted candidates. This two-tier verification mechanism minimises selection gaps and potential biases, thereby strengthening the overall integrity of the scholarship selection process. Subsequently, shortlisted students are invited to the Plan India office for a personal interview, which further enhances transparency and ensures an objective and equitable selection procedure by both Metso and Plan India.



Figure 22 Scholarship Process Carried Out by Metso for Project Prerna

The introduction of the SoP also significantly strengthened the selection and fund utilisation process. Prior to its adoption, the scholarship was available to students pursuing professional degrees, diplomas, or competitive examination coaching, with limited safeguards to ensure appropriate utilisation of funds—particularly for coaching courses. Additionally, earlier disbursements were

uniformly set at INR 25,000 irrespective of actual tuition costs. These gaps have been addressed under the revised SoP, which links scholarship amounts to verified fee structures and restricts eligibility to formal academic programmes identified under the scholarship SoP.

Analysis of beneficiary profiles indicates that **female students predominantly opt for humanities (with a focus on teaching careers) and B.Sc. Nursing**, while **male students primarily enrol in mechanical and technical courses**, is followed by undergraduate programmes aimed at preparing for government examinations. A common challenge across both groups is the **absence of structured career guidance** regarding long-term employment prospects and post-completion pathways.

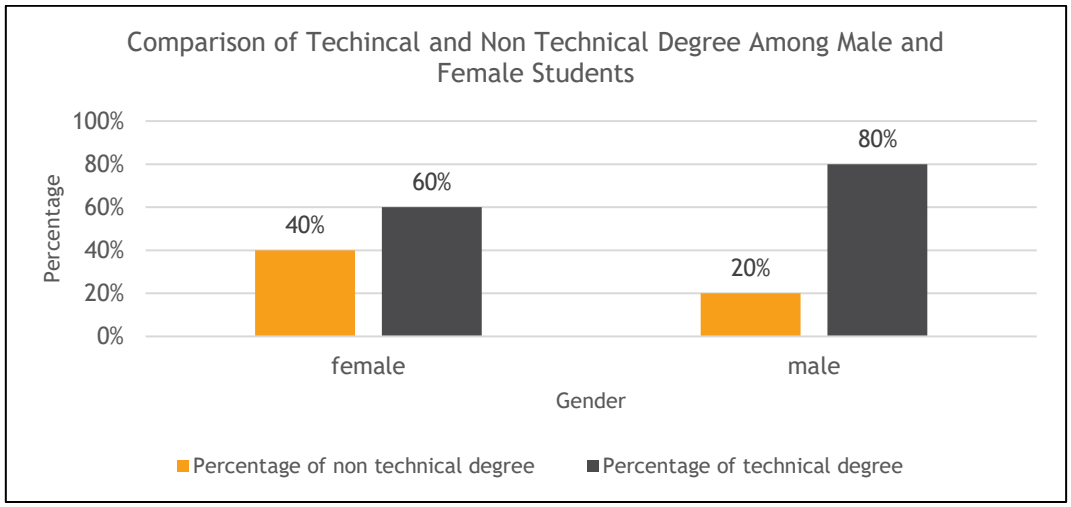


Figure 23 Comparison of Technical and Non-Technical Degree Among Male and Female Students (N=20)

Between 2023 and 2025, **over 50 students** have been supported through the scholarship programme. Preliminary evidence suggests that the scholarship has had a **significant positive influence on students' educational trajectories and aspirations**, with detailed impact findings presented in the subsequent sections of this report.

3.5. Outcomes and Impact

This section captures the broader impact of the Metso on the primary and secondary stakeholders within and beyond the classroom. This section complements the Relevance chapter by tracing the trajectory of student progress, showcasing how the Project Prerna successfully met its objectives and made a lasting impact on improving educational outcomes.

WASH Facilities Reduce Absenteeism and Dropouts

A central pillar of Project Prerna has been the **upgradation of school infrastructure** in the intervention schools. The renovation of WASH facilities, along with the construction of **multipurpose tin sheds** and the installation of **solar power units**, has extended beyond physical improvements to create a **safer and more conducive learning environment** for both students and teachers.

Teachers reported that, prior to the intervention, **school washrooms were in extremely poor condition**, leading many students to resort to open defecation rather than using the facilities. For several students—particularly girls—this represented a serious violation of **dignity and privacy**. In order to access toilets, students frequently returned home during school hours and often did not come back, resulting in **high levels of absenteeism** across intervention schools.

Project Prerna has contributed to a marked reversal of these conditions. **Renovated toilet facilities have improved access to safe sanitation**, reduced absenteeism, and minimised classroom disruptions. During field interactions, students described their earlier school buildings as **"Khandar" (ruins)** and expressed strong satisfaction with the renovated infrastructure. For many, the renovation of toilets was perceived as the **most significant intervention** undertaken by Metso.

The WASH facilities constructed under the project are designed to be **child-friendly**, featuring **lockable doors, adequate numbers of toilets and urinals, ventilation, lighting, and water access**. Beyond infrastructure provision, Project Prerna has also succeeded in promoting **positive hygiene-related behavioural change** among students, contributing to improved health, safety, and overall school attendance.

> "Earlier, many girls were reluctant to use the school washrooms due to their poor condition and instead depended on staff toilets, which were not accessible at all times. As a result, students often had to return home during school hours and, in many cases, did not return due to household responsibilities or fatigue, leading to frequent leaves. Following the construction of the new washrooms, this situation has improved significantly, as students no longer need to leave school to access sanitation facilities, particularly during extreme heat."
>
> - **FGD with Female Students** (GSSS Gundpur)

Multipurpose Tin Sheds: A Versatile School Space

The closure of dilapidated classrooms in intervention schools resulted in a **significant reduction in active teaching spaces**, leading to the formation of **multi-grade classrooms**. This arrangement has disrupted classroom management and adversely affected students' learning outcomes.

Through the installation of **multipurpose tin sheds**, Project Prerna has addressed multiple infrastructural challenges simultaneously. Schools reported high levels of satisfaction with these structures, as they provide a **dedicated and protected space** for conducting morning assemblies and organising mid-day meal distribution.

In schools equipped with multipurpose tin sheds, students are no longer required to sit outdoors in extreme weather conditions. By contrast, schools without such facilities reported that students were compelled to sit **under direct sunlight during summer months and in open areas during the monsoon season**, severely affecting their comfort, concentration, and learning outcomes.

> "Many of our friends and small children have repeatedly fainted during the morning assembly. Also, we had no choice but to sit in the sun if the classrooms were all busy. I am happy that we can attend assembly, study and play comfortably on a rainy or sunny day under the tin sheds now, we like it."
>
> - **FGD with Students** (MGGSSS Ramgarh)

The provision of multipurpose tin sheds has therefore played a **critical role in mitigating space constraints**, improving the school environment, and supporting continuity in teaching and learning activities under challenging climatic conditions.

Enhanced Academic Performance Through Digital Tools

Project Prerna moves beyond traditional classroom pedagogy by introducing **ICT laboratories in five intervention schools** and **smart classrooms in twelve intervention schools**. Metso is among the pioneering CSR organisations to have established such digital learning facilities in rural Alwar, in alignment with the Government of Rajasthan's Model School Scheme. Intervention schools reported that **they had no prior access to digital tools** before Metso's support, and the establishment of ICT labs and smart boards has played a pivotal role in integrating technology into the school environment.

Field interactions with the school community revealed that **students have developed increased confidence in using computers and digital tools**. Physical observations further indicated that students are capable of operating smart boards and projectors independently. Teachers reported

that the integration of digital tools has **significantly transformed classroom teaching practices**, with students demonstrating higher levels of attention and engagement during lessons delivered through smart boards.

> "Previously, lessons in subjects such as History and Political Science were largely limited to reading and verbal explanations by teachers, which made learning monotonous for students. With the introduction of smart boards and projectors, teachers now use digital platforms such as YouTube to display educational videos, images, and audio content. This approach has made classroom teaching more engaging and interactive, and students report a stronger interest in learning through these digital tools."
>
> - **FGD with Students** (GSSS Salpur)

Digital tools have enabled teachers to **simplify complex subjects such as science and mathematics** through visual and interactive content. Additionally, the use of projectors and smart classrooms has helped partially offset teacher shortages, particularly in contexts where a reduced number of active teachers are available due to BLO-related duties.

Through the computer laboratories, students have gained proficiency in **basic productivity applications such as MS Word, MS Excel, and MS PowerPoint**, which constitute essential 21st-century digital skills. Students also expressed strong satisfaction with receiving **certifications under the P2E courses**, which have enhanced their visibility in digital competencies and are perceived to improve their prospects for future employment.

Field Observation: During computer laboratory sessions, students were encouraged to create personal Gmail accounts, thereby establishing a basic digital presence. However, observations indicate that many students currently have limited understanding of the practical applications and potential uses of these digital accounts

Scholarships as a Launching Pad for a Career

Following completion of senior secondary education, career pathways for many students in rural Alwar remain constrained by **financial limitations and restricted access to higher education opportunities**. In particular, **girl students** face additional barriers arising from domestic responsibilities, mobility constraints, and safety concerns, which often compel them to discontinue their education.

The **scholarship support provided by Metso and Plan India** has played a pivotal role in redefining educational and career trajectories for many students. Beneficiaries consistently reported that the scholarship represented a **turning point in their lives**, enabling them to pursue higher education that would otherwise have been unattainable. For a majority of recipients, access to higher education has not only expanded academic opportunities but has also facilitated **preparation for government competitive examinations**.

Field interactions revealed that **most beneficiaries are currently preparing for competitive examinations**, while several alumni have successfully secured employment in government departments after clearing such examinations. Beneficiaries acknowledged that **Project Prerna served as a source of motivation and inspiration**, reinforcing their commitment to continue education and pursue structured career pathways.

The intervention has generated a particularly **strong impact among female beneficiaries**, many of whom have challenged traditional gender norms and entered fields beyond conventional expectations, including STEM-related disciplines. This shift has contributed to **behavioural and social change** within families and communities, positioning these beneficiaries as **role models for younger students**.

By facilitating the transition from senior secondary education to higher education, Project Prerna has strengthened educational continuity and expanded life opportunities for marginalised youth. Detailed beneficiary experiences and outcomes are presented in the **case studies section** of this report.

Case Studies

A Scholarship as a Turning Point — Pushpendra's Journey to Higher Education

Pushpendra completed his senior secondary education in 2016 under challenging personal and financial circumstances. Following the loss of his father, his household faced significant economic strain, making higher education appear financially unattainable. At that stage, his options were limited to either selecting a course solely based on affordability, postponing further education, or incurring substantial debt to continue his studies.

Pushpendra's trajectory changed when he became a beneficiary of the scholarship programme supported by Metso under Project Prerna. In addition to financial assistance, he received career counselling that helped him clarify his academic aspirations and regain confidence in pursuing higher education. The annual scholarship support of INR 25,000 proved critical in enabling him to continue his studies without imposing additional financial burdens on his family.

The scholarship not only facilitated Pushpendra's educational progression but also strengthened his sense of responsibility and self-belief. He now intends to seek employment opportunities close to his village to remain connected with his family, while also preparing for government service examinations as a long-term goal. His educational journey has positioned him as the first member of his family to complete higher education, making him a source of inspiration within his household and community. Pushpendra's experience illustrates how targeted financial support combined with mentorship can transform educational access into a pathway for social mobility, resilience, and renewed life aspirations.

From Barriers to Breakthrough: Suhani's Journey to Becoming a Project Engineer

After completing Class 10 in 2018, Suhani faced serious financial constraints that made continuing her education uncertain. Without external support, she would have had to either take an education loan or discontinue her studies. To gain early financial independence and support her family, she enrolled in a civil engineering diploma after class 10th, while simultaneously preparing for the engineering entrance examination with the aim of pursuing a full engineering degree.

Suhani became a beneficiary of the scholarship programme under Metso's Project Prerna (2018–2022), which proved to be a turning point in her educational journey. The financial support reduced the burden on her family and allowed her to focus on her studies without the pressure of debt. Alongside this, career counselling helped her clarify her goals, build confidence, and secure her family's support to continue studying outside the village.

She went on to complete her B.Tech from Alwar and is now working as a Project Engineer with the Rajasthan Housing Board in Jaipur. Suhani's story demonstrates how timely financial assistance combined with guidance and encouragement can remove gender specific barriers, strengthen confidence, and enable young women from rural backgrounds to build successful professional careers.

3.6. Sustainability

This section examines the **long-term sustainability** of the education interventions implemented under Project Prerna by Plan India in partnership with Metso. The sustained success of the programme depends not only on infrastructure creation and academic support but also on the ability of schools and communities to **institutionalise ownership**, maintain assets, and continue utilisation beyond external facilitation. While the project design incorporates mechanisms intended to promote local sustainability, field findings indicate that operational, institutional, and behavioural challenges continue to influence long-term viability.

Metso's phased withdrawal strategy envisions a gradual transition from direct implementation to **community-led continuation**, where schools, teachers, and School Management Committees (SMCs) assume responsibility for maintaining project gains. However, the effectiveness of this transition varies significantly across intervention schools.

Community Ownership and Institutional Participation

Project Prerna is designed to transform schools into **enabling educational environments**, with sustainability anchored in strong community ownership. Regular engagement with SMCs and school staff was intended to ensure upkeep of WASH facilities, digital infrastructure, and other project investments.

Field interactions reveal that **community ownership remains limited and uneven**. Many SMC members and parents belong to economically vulnerable households, primarily working as wage labourers or homemakers, which restricts their ability to engage consistently with school governance. Additionally, low literacy levels among community members contribute to limited confidence in participating in school-level decision-making.

> "We know that Metso has constructed the toilets, and we are very happy about it. Before that, the students used to go outside school to use the toilets. There is improvement in conditions definitely, however, we don't know anything about what Metso has done, and we don't know if the school or toilets have any other problems."
>
> - **Kamla Devi and Imrati Devi** (Parents, MGGSSS Meenapura)

SMC meetings are irregular and often attended by only a small number of stakeholders, weakening collective oversight and accountability. This has direct implications for maintenance practices, particularly for WASH facilities and multipurpose tin sheds. Strengthening SMC participation through **structured capacity-building, periodic follow-ups, and integration with community platforms**—such as Village Health, Sanitation and Nutrition Days (VHSND) and other observance events—emerges as a critical requirement. Such integration could improve local ownership, promote behavioural reinforcement, and enhance programme visibility within the community.

Capacitation of Teachers and School-Level Systems

The sustainability of technical interventions—including **ICT labs, smart classrooms, digital boards, and computer education**—depends heavily on school-level technical competence and continuity. Several schools reported challenges in maintaining regular use of digital infrastructure due to the absence of trained personnel following the withdrawal of externally supported facilitators.

In certain schools, computer labs remain temporarily closed because no teacher possesses sufficient digital training to conduct sessions. In many cases, digital equipment is managed by a single trained teacher, creating operational dependency. Frequent teacher transfers, competing administrative duties such as BLO assignments, and the absence of refresher training further reduce utilisation.

These findings highlight the need for **institutionalised capacity-building frameworks**, including periodic refresher training, peer learning systems, and cross-training of multiple teachers. Embedding digital competency within the broader teaching cadre would reduce reliance on individual custodians and ensure continuity.

Sustainability of Infrastructure and Maintenance Systems

The long-term viability of infrastructure investments depends on reliable maintenance mechanisms. Field findings indicate that **solar power units**, despite their contextual relevance, face significant sustainability challenges. Several schools reported prolonged non-functionality due to vendor inaccessibility under Annual Maintenance Contracts (AMCs), technical failures, theft, and lack of local repair capacity. As a result, some schools perceive these systems as operational liabilities rather than assets.

Field Observation: Field observations indicated that, in most schools, the responsibility for cleaning the solar panels and maintaining the solar power units rested with a single individual. This has created a high degree of single-person dependency and highlights the absence of an institutionalised maintenance mechanism among the teaching staff.

Similarly, digital infrastructure lacks structured linkages with **local technical service providers**, leaving schools dependent on external support that is often delayed. Establishing partnerships with local vendors for maintenance of computers, solar systems, and digital equipment could significantly strengthen responsiveness, reduce downtime, and build local ownership.

Governance and Utilisation of Sanitation Funds

The **Sanitation Fund**, created to finance routine WASH maintenance through pooled contributions, represents an innovative sustainability mechanism. However, field observations indicate that governance and utilisation of these funds remain inconsistent. Awareness regarding fund purpose, roles, and operational procedures is often limited to one or two individuals within the school, with minimal SMC involvement.

This lack of transparency has resulted in uneven utilisation. In some schools, funds have been redirected toward unrelated development needs, while in others they remain unused as parked financial reserves. Consequently, sanitation issues persist despite the availability of earmarked funds. Strengthening financial governance through **clear role definition, record transparency, and active SMC participation** is essential to restoring the intended function of the sanitation fund.

> "We had around 20,000 as a sanitation fund with us, with a 50-50 contribution from the school and Metso. We broke the FD and have used the complete sanitation fund to repair our school boundary wall."
>
> - **Sangeeta Tiwari** (Teacher, UPS Desula)

Overall Sustainability Outlook

Project Prerna demonstrates strong conceptual alignment with sustainable education reform and has generated meaningful improvements in infrastructure, access, and student engagement. However, sustainability is currently constrained by **limited community ownership, institutional capacity gaps, inconsistent maintenance systems, and weak financial governance structures**.

While the programme possesses strong potential for replication and scale, achieving long-term sustainability will require deliberate strengthening of community engagement, teacher capacitation, decentralised maintenance networks, and accountability mechanisms. Addressing these systemic challenges will enable Project Prerna to evolve into a **self-sustaining model** capable of maintaining educational gains despite contextual constraints.

4. Recommendations

Based on beneficiary feedback and field findings, the following recommendations are proposed to strengthen the **replicability, scalability, and long-term sustainability** of Metso's Project Prerna model. These recommendations are grounded in observed implementation realities and are intended to enhance institutional ownership, improve utilisation of interventions, and maximise educational outcomes.

Strengthening Sustained Partnerships with Schools and Community Leaders

Field observations indicate that while WASH facilities remain highly relevant and valued by school communities, **maintenance practices are inconsistent**, reflecting limited community ownership. This gap poses a significant risk to sustainability. Building **institutionalised partnerships with school leadership, SMC members, and community stakeholders** is therefore essential.

A practical pathway involves **periodic community engagement initiatives**, including the celebration of community days and joint monitoring of project assets. Such engagements can reinforce shared responsibility and accountability. For instance, repeated incidents of theft affecting WASH infrastructure and solar equipment highlight the absence of basic preventive community-led measures. Simple protective solutions—such as improved boundary safeguards—could be implemented through collective action. Engaging the community as both an active participant and a local watchdog can foster ownership, strengthen stewardship of assets, and embed the project more deeply within the social fabric of the village.

Institutionalising Peer Learning and Capacity Building for Digital Interventions

Digital infrastructure—including ICT labs, smart boards, and projectors—remains underutilised in several schools due to **limited teacher capacity and absence of refresher training**. To address this, Plan India should institutionalise **regular training and refresher modules** that build teacher confidence in integrating digital pedagogy into classroom routines.

Additionally, annual training forums should include **structured peer-learning platforms**, allowing intervention schools to share innovative practices, problem-solving strategies, and locally adapted solutions. Such exchanges can accelerate adoption of effective methods and build a collaborative learning ecosystem across schools.

Standardising FLN Support through Teaching-at-the-Right-Level Approaches

Current FLN remedial sessions are short in duration and lack a **standardised, level-based instructional framework**. Grouping students without accounting for learning levels limits the effectiveness of remediation. Adopting a **Teaching-at-the-Right-Level (TaRL) methodology** would enable targeted instruction aligned with students' actual competencies.

It is further recommended that FLN interventions be **extended beyond the current timeframe** and scheduled to avoid conflict with regular classroom instruction. Alternatively, intensive learning camps during school breaks could allow focused remediation without disrupting curricular teaching. A structured, evidence-based FLN framework would better address foundational learning deficits and enhance measurable outcomes.

Expanding Multi-Functional Infrastructure Solutions

Multipurpose tin sheds have demonstrated **high contextual relevance** by addressing multiple school infrastructure challenges simultaneously—serving as temporary classrooms, assembly areas, and spaces for mid-day meal distribution. Both teachers and students report strong satisfaction with these facilities.

Given their multi-functional utility and high acceptance, expanding this intervention to **additional intervention and control schools** could significantly reduce infrastructure constraints in resource-limited settings. Scaling such solutions represents an efficient, adaptable approach to addressing systemic space shortages.

Strengthening Career Counselling for Scholarship Beneficiaries

While the scholarship programme has been strengthened through a revised Standard Operating Procedure, a recurring challenge remains the **absence of structured career counselling** for applicants. Many beneficiaries pursue competitive examination pathways without a clear understanding of alternative career options or skill development opportunities.

Introducing a **standardised counselling framework**—covering aptitude assessment, career mapping, and employability guidance—would enable students to make informed decisions aligned with their

interests and capabilities. Integrating employability-oriented counselling can diversify career pathways and enhance long-term economic outcomes.

Collectively, these recommendations aim to enhance **programme effectiveness, contextual relevance, and sustainability**. By strengthening community ownership, institutional capacity, pedagogical frameworks, infrastructure scalability, and career guidance systems, Project Prerna can evolve into a resilient and replicable model capable of delivering sustained educational impact across diverse rural contexts.

5. Conclusion

Project Prerna represents a comprehensive and context-responsive effort by Metso, in partnership with Plan India, to transform rural government schools in Alwar into enabling learning environments. Anchored in the objectives of improving foundational learning, strengthening school infrastructure, expanding digital access, and supporting higher education transitions, the programme has demonstrated meaningful progress in addressing long-standing systemic gaps. Interventions such as WASH renovation, multipurpose learning spaces, ICT integration, FLN remediation, renewable energy support, and scholarships collectively contribute to improved student engagement, dignity, retention, and aspirations — particularly for girls and first-generation learners.

At the same time, the assessment highlights critical operational and sustainability challenges that influence long-term impact. Limited community ownership, inconsistent maintenance systems, teacher capacity gaps in digital and remedial instruction, uneven utilisation of infrastructure, and weak governance of sustainability mechanisms such as sanitation funds constrain the programme's ability to institutionalise gains. Structural realities — including overcrowded classrooms, staff shortages, and socio-economic vulnerability — further shape implementation outcomes.

Despite these constraints, Project Prerna presents strong opportunities for scale and replication. Strengthening community partnerships, institutionalising teacher capacity building, adopting standardised level-based FLN frameworks, formalising maintenance ecosystems, and embedding structured career counselling can significantly enhance programme effectiveness. A deliberate shift toward local ownership, accountability, and systems integration will be essential for sustaining outcomes beyond external facilitation.

Overall, Project Prerna demonstrates that integrated, school-centred interventions can catalyse educational transformation in underserved contexts. With targeted refinements and sustained stakeholder engagement, the programme is well positioned to evolve into a resilient and scalable model capable of delivering long-term educational and social impact.

Annexure A: Infrastructure (Functional and Utilisation) Mapping of the Intervention School

- High Functionality and Utilisation
- Medium Functionality and Medium Utilisation
- Low Functionality and Low Utilisation
- Intervention Not Available
- Discontinuation of Interventions

				Computer lab	Smart class			Solar Power System	Tin shed	FLN
S/N	District	Block	School name		K-Yan	Digital projector	Digital Board			
1	Alwar	Ramgarh	MGGSS Ramgarh		Available	Available		Available	Available	
2	Alwar	Ramgarh	MGGSS Meenapura				Available	Available		
3	Alwar	Ramgarh	GSSS Jatpur		Available	Available		Available	Available	Available
4	Alwar	Ramgarh	GSSS Dhadholi		Available			Available		
5	Alwar	Ramgarh	GSSS Kesharoli		Available	Available		Available	Available	Available
6	Alwar	Ramgarh	GSSS Bahala		Available	Available		Available	Available	Available
7	Alwar	Ramgarh	PS Goleta		Available			Available		Available
8	Alwar	Ramgarh	GSSS Charoti pahad		Available	Available		Available		Available
9	Alwar	Ramgarh	UPS Charaoti Bas		Available			Available		Available
10	Alwar	Ramgarh	UPS Saiyad colony		Available			Available		Available
11	Alwar	Ramgarh	MGGSS Evaj ka Bas		Available			Available	Available	Available
12	Alwar	Malakheda	UPS Dumeda		Available			Available		Available
13	Alwar	Malakheda	UPS Jhareda		Available			Available	Available	Available
14	Alwar	Malakheda	GSSS Gundpur		Available	Available		Available	Available	Available
15	Alwar	Malakheda	MGGSS Dadar	Available	Available		Available	Available	Available	Available

16	Alwar	Malakheda	GSSS Mahuapur	Available	Available	Available		Available	Available	Available
17	Alwar	Malakheda	UPS Kakarali jat		Available			Available		Available
18	Alwar	Malakheda	GSSS Salpur	Available	Available	Available		Available		Available
19	Alwar	Malakheda	PS Naharpur		Available			Available	Available	
20	Alwar	Umarain	UPS Palka		Available			Available		Available
21	Alwar	Umarain	GSSS Ghegoli	Available	Available		Available	Available		Available
22	Alwar	Umarain	MGGSS Kaimala		Available			Available	Available	Available
23	Alwar	Umarain	GSSS Kakarali meo	Available	Available	Available		Available		Available
24	Alwar	Umarain	UPS Desula		Available			Available		
Total				**5**	**23**	**9**	**3**	**24**	**11**	**19**