



Impact Assessment of Smart School Development Project in Deoria and Kushinagar Districts *Uttar Pradesh*

Impact Assessment Report

Impact Assessment of Smart School Development Project in Deoria and Kushinagar Districts of Uttar Pradesh

Impact Assessment Report

Project ID

P0503

Abbreviations

ACF	Ambuja Cement Foundation
AV	Audio-Video
BaLA	Building as Learning Aid
CSR	Corporate Social Responsibility
KABP	Knowledge, Attitude, Behaviour and Practices
LLF	Learning Links Foundation
MHM	Menstrual Hygiene Management
MI	Monitoring and Impact
NGO	Non-Government Organization
RO	Reverse Osmosis
SMC	School Management Committee
SS	Smart Schools
STEM	Science Technology Engineering Mathematics
TLM	Teaching Learning Materials
WASH	Water Sanitation and Health



Table of Contents

Executive Summary	7
Introduction	11
1.1 Background	11
1.2 About the Project	11
1.3 Key Activities Undertaken under the Project	11
1.4 Objective of Impact Assessment Study	12
The Intervention Model	13
2.1 Assessment Framework.....	15
2.2 Research Methods.....	16
2.3 Geographic Coverage	16
2.4 Target Groups	16
2.5 Sample and Sampling Procedure.....	17
2.6 Sample Coverage	17
2.7 Study Tools	17
2.8 Training of Data Collection Teams.....	18
2.9 Team Deployment	18
2.10 Survey Implementation	18
2.11 Data Analysis and Report Writing.....	18
2.12 Challenges Faced	19
Current Status of the Equipment and Supplies.....	20
3.1 Smart Class	20
3.2 STEM Lab	22
3.3 Infrastructure Support.....	24
3.4 WASH Support	25
3.5 Library	26
Study Findings	28
4.1 Sample coverage	28
4.2 Profile of the Target Respondents.....	28
4.2.1 Principals.....	28
4.2.2 Teachers	29
4.2.3 SMC.....	30
4.3 Support Received from HDFC Bank	31

4.3.1	Principals/Head Master	31
4.3.2	Teachers	33
4.3.3	SMC Members	33
4.4	Hard/Civil Infrastructure (New Construction and Renovation).....	34
4.4.1	Principals' Opinion of Hard/Civil Infrastructure	34
4.5	Critical/Communication Infrastructure (Smart Class/Lab/Library)	37
4.5.1	Principals' Opinion of Critical/Communication Infrastructure.....	38
4.5.2	Teachers' Opinion of Critical/Communication Infrastructure.....	42
4.6	Capacity Building of the Teachers	46
4.6.1	Principals' Opinion of Teachers' Capacity Building	46
4.6.2	Teachers' Opinion of Teachers' Capacity Building	48
4.7	Capacity Building of School Management Committees (SMCs)	50
4.8	Students' View on the Development Support.....	52
Conclusion and Recommendation		55
4.1	CONCLUSION	55
4.2	RECOMMENDATIONS	56
Findings on the OECD Criteria		57

GRAPHS

Graph 1: Educational Qualification of Principals (N=19)	28
Graph 2: Gender and Age of Principals (N=40)	29
Graph 3: Experience of Principals (N=40)	29
Graph 4: Educational Qualification of Teachers (N=40).....	29
Graph 5: Gender and Age of Teachers (N=40).....	30
Graph 6: Experience of Teachers (N=40)	30
Graph 7: Educational Qualification of SMC Members	31
Graph 8: Gender and Age of SMC Members	31
Graph 9: Support Received from HDFC Bank	31
Graph 10: Hard Infrastructure Support Received	32
Graph 11: Critical/Communication Infrastructure Support Received	32
Graph 12: Critical/Communication Infrastructure Support Received	33
Graph 13: SMC Development Support Received.....	33
Graph 14: Condition of the Infrastructure before receiving support from HDFC Bank?	34
Graph 15: Support Provided Within the New Construction or Repairs of Civil Infrastructure	35
Graph 16: Availability, Functionality and Utilization of Assets and Services Provided by HDFC Bank	36
Graph 17: Support from Other Stakeholders in the Last Four Years (Convergence)	37
Graph 18: Support Received from Other Stakeholders	37
Graph 19: Status of Critical Infrastructure before HDFC's support	38
Graph 20: Support received from HDFC under Critical Infrastructure	38
Graph 21: Support Received for STEM Lab.....	39
Graph 22: Support Received for Library	39
Graph 23: Support Received from Smart Class	40

Graph 24: Support Received for Other Utilities	40
Graph 25: Support from Other Stakeholders in the Last Four Years (Convergence)	41
Graph 26: Support Received from Stakeholders	42
Graph 27: Availability, Functionality and Utilization of Assets and Services Provided by HDFC Bank	42
Graph 28: Status of Critical Infrastructure before HDFC's support	42
Graph 29: Support Received for Critical Infrastructure	43
Graph 30: Support Received for STEM Lab	43
Graph 31: Support Received for Library	43
Graph 32: Support Received for Smart Class	44
Graph 33: Support received for Other School Utilities	44
Graph 34: Support from Other Stakeholders in the Last Four Years (Convergence)	45
Graph 35: Support received from Stakeholders	45
Graph 36: Availability, Functionality and Utilization of Critical Infrastructure	46
Graph 37: Reason for Limited or Non-Functionality	46
Graph 38: Support Received for Teachers' Capacity Building	47
Graph 39: Support from Other Stakeholders in the Last Four Years	47
Graph 40: Training Support Received under HDFC project	48
Graph 41: Noticeable Changes in Student Engagement in the Classroom (N=40)	49
Graph 42: Measure for Sustaining the Benefits	49
Graph 43: Support from Other Stakeholders in the Last Four Years (Convergence)	50
Graph 44: Support received from Stakeholders	50
Graph 45: Support from Other Stakeholders in the Last Four Years (Convergence)	51
Graph 46: Perceived Improvement in SMC Functioning	51

TABLES

Table 1: School Rankings by Composite Smart Class Scores (Out of 15)	22
Table 2: School Rankings by Composite STEM Lab Scores (Out of 27)	23
Table 3: School Rankings by Composite Infrastructure Development Scores (Out of 7)	24
Table 4: School Rankings by Composite WASH Scores (Out of 10)	25
Table 5: School Rankings by Composite Library Scores (Out of 15)	27
Table 6: Interpretation of Hard/Civil Infrastructure on OECD Framework (On the scale of 1-5)	35
Table 7: Interpretation of Critical Infrastructure on OECD Framework (On the scale of 1-5)	41
Table 8: Interpretation of Critical Infrastructure on OECD Framework (On the scale of 1-5)	44
Table 9: Interpretation of Teacher Capacity Building on OECD Framework (On the scale of 1-5)	47
Table 10: Interpretation of Teacher Capacity Building on OECD Framework (On the scale of 1-5)	48
Table 11: Interpretation of Capacity Building of SMC on OECD Framework (On the scale of 1-5)	50
Table 12: Students' Response on the Perceived Changes Due to Smart Class/Digital Class	52

Executive Summary

1. Background

HDFC Parivartan provided a grant to the Learning Links Foundation (LLF) to implement a smart school project in 50 schools in two districts, namely Deoria and Kushinagar of Uttar Pradesh, between January 2022 and June 2023. The project primarily strengthened the infrastructure of these schools, such as the renovation of girls' and boys' toilets, drinking water facility and building and learning (BaLA) artwork on the walls. The project also included the establishment of a Smart Class, a Library, and a Laboratory in all 50 target schools.

A research agency: 'Impact PSD' was assigned to undertake the third-party impact assessment study. A summary of the assessment is shared below:

Project/Impact Assessment Details	
Implementing NGO Partner	Learning Links Foundation
Project Location and coverage	Uttar Pradesh – Deoria (25 schools) and Kushinagar (25 schools) Total 50 schools
Project Duration	January 2022 – June 2023
Assessment Approach and Methodology	
Study Objectives	- To assess the extent to which the project achieved its intended results. - To ascertain the perception of stakeholders and project participants on the relevance and usefulness of the project interventions. - To identify learnings from the project that can be adapted for similar projects in future.
Research Design	Mixed methods approach (Quantitative and qualitative) Quantitative - Digital classroom checklist, STEM Lab, Interviews with Teachers Qualitative – In-depth interviews with school principal and Focus Group Discussion with students
Sample Covered	Out of 50 schools covered, 20 (more than 30%) schools were selected to get a representative sample.

2. Key Observations and Impact

2.1 Smart Classroom Intervention

The physical verification process was administered to assess the current status of digital classrooms in terms of availability, functionality and current usage by the intended target groups (teachers and

students). The results of the physical verification and interaction with teachers, principals and students are discussed as follows:

The advanced classrooms in the sixteen schools (out of 20) were completely functional and available to students and teachers (eight each in Deoria and Kushinagar). These specialized classrooms provide smart class amenities, enabling teachers to facilitate engaging lessons customized to the specific grade-level syllabus.

- All 20 schools have confirmed the receipt of the smart class setup. The setup includes a K-Yan projector, whiteboard, speakers, a web camera, keyboard, mouse, and e-content for Grades 6-10. This comprehensive support meets all the teachers' classroom teaching needs.
- Teachers from all 20 schools informed that with the help of smart classes, students understand the concepts and principles that enhance their interest in the topics and subjects. The majority of teachers were of the opinion that the smart class generates a more joyous and conducive environment in the classroom. This helps the students ask more questions, rectify their doubts and encourage better participation due to motion and sound.
- During the focus group discussions, the students shared that Smart Class helps them understand concepts easily through videos and sound. The new technology-based pedagogy helps with quick comprehension. Students were of the opinion that topics learned through Smart Class help with better retention, quicker recall, and understanding of complex topics.
- The teachers also expressed satisfaction with implementing smart classes, encouraging students' active engagement in classes and seeking clarification for any uncertainties that arose in their minds. Teachers reported improved ease in lesson planning and providing the summary of chapters.
- HDFC's assistance has been widely recognized for incorporating advanced digital tools, significantly enhancing educational practices.

2.2 STEM Labs

Under the smart school development project, HDFC Bank supported STEM labs in the target schools. The results of the physical verification and interaction with teachers, principals and students are discussed as follows:

- All 20 schools covered under the assessment confirmed receipt of STEM lab support. All 20 schools had STEM labs and were found functional. Teachers confirmed the use of STEM Labs in the schools.
- The STEM Lab setup provided schools with various resources, including models and equipment related to Science and Mathematics, charts/posters and teaching materials. Teachers were found to be pleased with the Lab items supplied to the schools.
- The teachers informed that students undertake hands-on practical exercises, and teachers provide demonstrations that significantly facilitate their comprehension of various topics and concepts. In both districts, teachers in all the schools have expressed similar views that practical activities spark students' interest in different subjects and topics. Almost all teachers have observed that these activities encourage students to actively participate in project-based learning and create models, thereby improving their contextual understanding of the subjects. None of the teachers has noted an increase in student attendance, but teachers have seen improved academic performance in science and mathematics.
- The principals and teachers gratefully appreciated the HDFC Bank's assistance with STEM labs.

2.3 Other Support under the Project

Library Support

- All 20 schools have acknowledged receipt of library-related support (10 each in Deoria and Kushinagar). Of these 20 schools, 18 had a dedicated teacher for library functions. Fourteen out of twenty schools have storage racks/shelves for books and textbooks, but all 20 schools were provided with steel almirahs by the partner. Additionally, 12 schools were found with functional reading corners.
- All teachers in charge of the library in all 18 schools noted that providing library resources has ensured that books are accessible and reading habits have improved. Students have gained interest in using the library to explore ideas for project-making and prepare for quizzes and activities.
- The libraries in all 18 schools are currently accessible and actively utilized by the students. Nevertheless, the library support has successfully fostered a conducive reading environment for the students. These schools have a system of book issuance for the students, which is encouraging.
- Focus group discussions with students revealed that they enjoy reading books from the library and participating in storytelling activities with their peers at school and at home. During the conversations, the students expressed great enthusiasm while sharing their experiences with libraries.

Repair and Refurbishment of WASH Structures (Toilets)

- All 20 schools endorsed receiving support for new construction, repairs and renovation of WASH structures within the schools (toilets). Of these, 11 schools got new construction of toilets, and the remaining received repair and renovation support. All the supported toilets were found to be appropriately functional in all the schools.
- Principals and teachers have reported the completion of new toilet construction in 11 schools and repair and renovation work in other remaining schools, including flooring, windows, and doors. Additionally, upgrades to water supply systems and replacements of faucets and wash basins have been carried out.
- Teachers have expressed that introducing improved infrastructure has positively impacted hygiene maintenance. The wellness sessions also contributed to the same. Teachers in a few schools noted an increase in girls' regular attendance and a decrease in absences during menstruation, potentially reducing illness occurrences.
- The school authorities were pleased with and praised HDFC Bank for its assistance in improving the schools' WASH (Water, Sanitation, and Hygiene) systems.

Repair and Refurbishment of WASH Structures (Drinking Water)

- All 20 schools have been provided with assistance pertaining to potable water. In 19 schools, Aqua Guard UV water purifiers were found available, and 18 were in working condition. Repairs or maintenance is required in two schools to make the equipment functional.
- Teachers and principals had the perception that there was a decrease in water-related illnesses following the provision of clean water to students.
- The students who participated in the discussions confirmed that the drinking water facilities are now clean and well-maintained. They expressed their satisfaction with them.
- The principals expressed their satisfaction and acknowledged the support received from HDFC Bank.

3. Findings on the OECD Criteria

This section provides the impact assessment findings considering the OECD research framework or criteria to oversee the overall impact of the HDFC Bank-supported Smart Schools Project in UP.

HARD INFRASTRUCTURE

Overall Results	Relevance	Efficiency	Effectiveness	Impact	Sustainability	Overall
Building and BaLA painting	4.4	4.8	4.9	4.2	3.6	4.4
Classroom	4.0	4.8	4.6	3.5	3.5	4.1
Toilet	4.6	4.9	5.0	3.6	4.1	4.4
Drinking Water	4.7	4.8	4.8	4.4	4.1	4.6
Library	4.2	4.6	4.6	3.8	4.1	4.3
Overall (Hard Infrastructure)						4.3

CRITICAL INFRASTRUCTURE

Overall Results	Relevance	Efficiency	Effectiveness	Impact	Sustainability	Overall
STEM Lab	4.7	4.9	4.6	3.5	3.6	4.3
Library	4.7	4.9	4.8	3.8	3.6	4.4
Smart Class	4.4	4.8	4.2	4.0	3.5	4.2
Other School Supplies	3.8	4.1	3.9	3.4	3.8	3.8
Overall (Critical Infrastructure)						4.2

TEACHERS' CAPACITY BUILDING

Overall Results	Relevance	Efficiency	Effectiveness	Impact	Sustainability	Overall
Using Smart Lab & Projector for Teaching	4.4	4.9	4.4	3.5	3.8	4.2
Innovative teaching learning methods	4.4	4.7	4.4	3.8	3.7	4.2
Teaching learning material development	4.7	4.6	4.5	3.7	3.9	4.3
Overall (Teachers' Capacity Building)						4.2

Overall Average Score – 4.23

4. Key Recommendations

- **Smart Class:** Strengthen technical support and maintenance of smart class equipment, addressing equipment functionality and content update challenges. Teachers should be provided with training on digital content and how to use it.
- **Training and Other Administrative Support:** Teachers face challenges with new methods due to rigid curricula, lack of administrative support, fragmented classroom environments, and electricity shortages. These issues hinder the effective implementation of smart classes.
- **Drinking Water:** Ensure that adequate funds are allocated towards enhancing and upkeeping water filtration and distribution systems to guarantee a consistent and secure drinking water supply for all students.

Introduction

1.1 Background

HDFC Bank Parivartan supports focused development programs (FDPs) in multiple focused areas such as education, rural development, skills development and livelihood enhancement, healthcare and hygiene and financial literacy. In one of the focused development programs, HDFC Bank has committed to creating 2500 smart classrooms in partnership with non-profit organisations to promote education wherein Digital Classrooms were introduced.

During the last few years, HDFC Bank supported the efforts of the government education department by providing them with need-based support to a large number of schools in many states across India. Primarily, the aim is to strengthen the school infrastructure holistically so that students are provided with an enabling environment for joyful learning, promoting enhanced participation and engagement and strengthening teacher-pupil dialogue and discussions. Ultimately, the inclusion of SMART classes and digital classrooms, along with developed infrastructure, led to improvement in student learning outcomes and an increase in enrolment and attendance. The HDFC Bank's support for the schools enhances the school's reputation among the local communities, stakeholders, and teachers, who are also equipped with techno-pedagogy.

1.2 About the Project

HDFC Bank collaborated with the **Learning Links Foundation (LLF)** to implement the SMART Schools project in twenty-five schools each located in the Deoria and Kushinagar districts of Uttar Pradesh respectively. The primary objective of this initiative was to provide a comprehensive solution that fosters an effective learning environment, which is essential for the holistic development of children. This involved the enhancement of infrastructure through the establishment of dedicated learning spaces, including laboratories, libraries, and classrooms equipped with information and communication technology (ICT). Furthermore, the project aimed to improve sanitation facilities within the schools by providing water purifiers, incinerator machines, dustbins, and additional resources. Crucially, the initiative also focused on empowering teachers and students to maximize the benefits derived from these enhancements.

1.3 Key Activities Undertaken under the Project

Repair work/refurbishment of the school building such as walls, verandah, etc.
Repair work for Toilets
Repair work for Drinking water facilities
Provision of RO and Filter for Drinking Water
Upgrading library with books and/or sitting arrangements
Installation of a Smart class/Digital Classrooms
BaLa painting work
Set up of STEM Lab/Installation of Science Kits
SMC training and exposure visits for the SMC members to model schools

1.4 Objective of Impact Assessment Study

HDFC Bank aimed to assess the overall effectiveness and efficiency of the project interventions. Additionally, the bank sought to evaluate the sustainability of the outcomes achieved through the project.

IMPACT PSD Private Limited was entrusted to undertake the impact assessment of the smart school development project. The ensuing chapters of this report present the methodology and findings of the study.

The Intervention Model

The project carried out several activities in the target schools. The table below provides the list of activities, as reported by the Learning Links Foundation (LLF). Also included in the matrix are the indicators proposed for the assessment.

Activity	Outcome achieved		Assessment Parameters
	Quantitative	Qualitative	
Set up Digital Classroom	50	50 digital classrooms in 50 schools. - Training of 500 teachers in 50 schools, to access Kyan set up and functioning for betterment of education.	- Functionality of equipment of digital classroom, including power backup - Average weekly attendance in digital class against overall school attendance
Digital Class Training of Teachers	50	- Organized 4 digital class trainings on methods used for its operations which helps easy learning for students, allows teachers to track their progress, and highlights to the students' performance. - Enhance skill of students and increase their interest of education.	- Teachers' perception/confidence in managing smart class - Students and teachers perception on usefulness of Digital Class - Ease of access to Digital Class including crowding, waiting and time allocated to students
Library established	50	- Books for all class students in 50 Schools - It instils confidence in reading. - It will increase their reading habit	- Weekly rate of issue of books - Students' perception on reading habits - Average weekly time spent by students in the library - Inclusion of library period in school timetable
Installation of Incinerator machine for menstrual hygiene	50	Installed 50 incinerators	- Utilization of incinerator - Change in KABP regarding menstrual hygiene due to training
SMC Training	2 (50 schools)	SMC training events to strengthen the capacity of SMC members	- Average attendance of members in SMC meetings (before and after the training) - Recall of issues discussed during the training
Repair and Maintenance of school	50		- Availability of supplied equipment and their functionality - Quality of products supplied - Repair and maintenance (provision, funds, warranty) - Usefulness of products

Activity	Outcome achieved		Assessment Parameters
	Quantitative	Qualitative	
			- Perception of its impact on student attendance and regularity - Perception of its impact on school reputation
Capacity Building of Teachers	5	Organized training for the teachers to enhance their Capacity in different methods of teaching and use to new technologies as teaching aid	- Teachers' perception on usefulness of the training - Utilization of new technologies as teaching aids
Establishment of Mini science cum labotary	50	- Established Mini science Lab. - Organized the training to strengthen the capacity of teachers	- Use rate of STEM Lab (average students accessing STEM lab per week) - Perception of teachers on their capacity to effectively use STEM lab
Drinking water facility	50	Installed the Aqua guard UV Purifier in 50 schools	Functionality of equipment
Wellness sessions to children on health and hygene	50	Organized the awareness sessions on WASH to develop understanding about the importance of hand washing with soap.	- Recall of activities conducted on WASH - Change in WASH related KABP of students

Study Methodology

2.1 Assessment Framework

For undertaking the impact assessment studies, the following assessment framework was proposed as the standard OECD-DAC criteria¹ which is considered as one of the gold standards in evaluation. This framework recommends adapting this framework, wherever feasible and applicable:



Using this framework, the following questions/indicators were suggested to assess each program, using the six parameters stated above.

A. FDP on Education

	Indicators/Questions
Relevance	- What criteria were adopted for identifying the schools for support - How was the need assessment undertaken for the support - To what extent did the support meet the identified needs
Coherence	- What challenges were faced by schools due to non-availability of SMART class and other Infrastructure support (WASH, Library and other) - How the type of equipment, digital content and other essentials were finalized for the SMART Class - How did the smart classroom and infrastructure supported the school in achieving the expected results - How the labs, libraries, WASH and other infrastructures provided under the project helped schools fulfilling the needs of the students - Options available with the school for repair and maintenance services of SMART Classroom and maintenance and upkeep of constructed/refurbished infrastructure

¹ <https://www.oecd.org/dac/evaluation/daccriteriaforevaluatingdevelopmentassistance.htm>

	Indicators/Questions
Efficiency	• What proportion of students were regularly attending SMART class • What proportion of teachers could receive the benefits and type of benefits achieved • What subjects are being taught using the SMART class • How many students could get benefits of Classrooms academically, socially and health-wise • What proportion of students were regularly attending the library
Effectiveness	• The extent to which SMART class contributed in improving the retention and regularity of students in classes • To what extent WASH support helped girls and boys students
Impact	• Proportion of teachers and students stated the type of benefits and achievements • Proportion of teachers/principal reported: ○ Increase in attendance or participation of students ○ Improvement in learning outcomes of students ○ Improvement in critical thinking and analytical skills of students
Sustainability	• Teachers and Principal have the understanding on how SMART class, labs and libraries must be used to support students and in achieving the desired and improved results/ learning outcomes. • Mechanism in place for regular maintenance and repairing, availability of vendors' contacts and allocation of funds for smooth functioning of SMART class and upkeep of infrastructure

2.2 Research Methods

A mixed method approach was adopted for the impact assessment study wherein face-to-face interviews were conducted under the quantitative research and check-lists were filled up in each school. Under the qualitative component, focus groups were conducted with the students who participated in the smart classes and their experience related to project-related support in the schools.

2.3 Geographic Coverage

The project was implemented in 50 schools across two districts of Uttar Pradesh (Deoria and Kushinagar). This included 25 schools in 15 blocks of Deoria and 25 schools from 13 blocks of Kushinagar district. The project directly benefited students, teachers, and SMC members through these 50 schools.

2.4 Target Groups

The following target group was included in the impact assessment study:

- Principal
- Teachers (Science and Mathematics)
- SMC members
- Students

2.5 Sample and Sampling Procedure

The optimum sample size was calculated to be statistically valid with a 95% confidence interval and a 5% margin of error, resulting in a sample size of 400 students (including allowance for non-response). Therefore, a survey was conducted to reach this sample size. The obtained sample of 400 students was divided into 20 schools, with 20 students surveyed per school.

Since both Deoria and Kushi Nagar districts have an equal number of schools, the sample of 20 schools was divided equally, covering ten schools in each district. This division was deemed appropriate because the two districts are adjacent and share similar socio-economic and demographic characteristics.

2.6 Sample Coverage

The study included 20 randomly selected students from each school, two teachers (one Science teacher and one Maths teacher), one SMC member (subject to availability), and one Principal from each of the 20 selected schools.

For students, four Focus Group Discussions (FGDs) were conducted in each school, with five students in each group. This included two FGDs exclusively with boys and two FGDs exclusively with girls. For other stakeholders, In-Depth Interviews (IDIs) were carried out using a semi-structured discussion guide.

The following sample was covered under the assessment:

Target Group	Sample Size		
	Deoria	Kushinagar	Total
Schools	10	10	20
Quantitative			
Verification Checklists			
SMART Class	10	10	20
Library	10	10	20
Laboratory	10	10	20
Sports Items	10	10	20
WASH	10	10	20
Semi-Structured & Qualitative			
Students (FGDs)	40 FGDs (200 Students)	40 FGDs (200 Students)	80 FGDs (400 Students)
Teachers (IDIs)	20	20	40
SMC Members (IDIs)	10	10	20
Principals (IDIs)	9	10	19

2.7 Study Tools

The following tools were developed for collecting data:

- Observation and Verification Checklist for assessment of Smart Classrooms and Infrastructure provided through the project
- FGD Discussion Guide for the students, which were semi-structured in nature

- Qualitative in-depth interview discussion guides for teachers, SMC members and Principals

All the developed tools were shared for review and were finalised in association with the HDFC MI team. The tools were duly translated into Hindi for the data collection.

2.8 Training of Data Collection Teams

A day-long training of data collectors was organized at Kushinagar, and all the team members were experienced in social sector surveys as well as other impact assessments of smart schools project funded by HDFC Bank. Senior management from IMPACT facilitated the training to ensure the quality of training of the data collection team.

2.9 Team Deployment

Two trained investigators were sent to each of the 20 sample schools, and they completed one school on a daily basis. Two teams were deployed in each district and the data collection was completed in five days in each district. Data collection was conducted simultaneously in both districts. Additionally, one coordinator was deployed in each district to supervise, back-check, and facilitate the discussions. The coordinators served as the link between the team and the researchers. IMPACT researcher supervised the data collection in both districts and provided general support.

2.10 Survey Implementation

The data collection process followed by the teams is described as follows:

- For the assessment, a team of two trained investigators was deployed to visit the selected sample school.
- The team reached to the selected school with prior appointments coordinated by the LLF officials.
- Both team members completed the data collection in one day covering the qualitative and quantitative interviews and physical verification of the infrastructure support.
- Initially, the principals were contacted and informed about the purpose of the survey and informed consent was obtained from them.
- Principals were interviewed and then teachers teaching Science and Maths subjects were interviewed.
- Later, physical verification was undertaken which was facilitated by the teachers and/or principals to give the details of the features and status of the support.
- In the end, a request was made to the teachers to allow and interact with the students who have undergone sessions in the smart class and information was gathered in mini-groups without disturbing the classes. Additionally, written consent was obtained from the principals for conducting the discussions with students.
- Interviews with members of the SMC were conducted on the assessment day at specific schools, depending on their availability and the time they could allocate.
- Before the return, the principals and teachers were duly acknowledged for their coordination and support offered for the impact assessment study.

2.11 Data Analysis and Report Writing

Considering the project indicators and analysis requirements, a detailed Data Analysis Plan and Content Analysis Guide were developed to obtain the results and outcomes. The report incorporated

the analysis of data received from the schools. Additionally, it included a separate chapter on findings obtained through the content analysis of in-depth discussions with the respondents. Senior management was involved in writing the report.

Scoring Analysis as Basis of OECD Evaluation

The assessment of HDFC's support to schools follows the OECD framework. The data, primarily collected on a Likert scale (1-5), was analyzed based on the range from highest (5 marks) to lowest (1 mark). For each support category under Hard Infrastructure, weighted scores were computed. The mean scores were then calculated to determine the overall status, aligned with the OECD framework, providing a clear understanding of the support levels.

Here's a step-by-step breakdown of how the analysis of HDFC's support to schools was conducted using the OECD framework:

1. **Data Collection**
 - Data was gathered using a **Likert scale** (1–5), where:
 - 5 = Highest support/relevance/adequacy/sufficiency/etc.
 - 1 = Lowest support/relevance/adequacy/sufficiency/etc.
 - Each school's response was recorded for various support categories (e.g., Hard Infrastructure, Critical Infrastructure, Teacher Capacity Building, and SMC Development).
2. **Weighted Scores Calculation**
 - For each school, responses were multiplied by their respective Likert score.
 - Formula:
$$\text{Weighted Score} = \sum (\text{Response Count for Score} \times \text{Score Value})$$
3. **Mean Score Calculation**
 - The mean score was calculated to assess the overall status of support.
 - Formula:
$$\text{Mean Score} = \frac{\text{Weighted Score}}{\text{Total Responses}}$$
4. **Overall Status Interpretation (OECD Framework)**
 - The mean score for each category was aligned with the OECD framework to assess the extent of support:
 - 4.5–5.0: Excellent support
 - 3.5–4.4: High support
 - 2.5–3.4: Moderate support
 - 1.5–2.4: Low support
 - 1.0–1.4: Minimal or no support
5. **Category-Level Analysis**
 - The scores for individual categories (e.g., Hard Infrastructure, SMC Development) were compared to identify disparities.
 - Categories with lower mean scores (e.g., Monitoring and Evaluation Mechanisms) were highlighted as areas for improvement.

2.12 Challenges Faced

- No challenges were faced during the study.

Current Status of the Equipment and Supplies

This chapter provides an in-depth exploration of the assessment findings resulting from the physical verification of support extended through the smart school development project. The evaluation covered a carefully selected sample of 20 schools, equally divided between Deoria and Kushinagar districts in Uttar Pradesh.

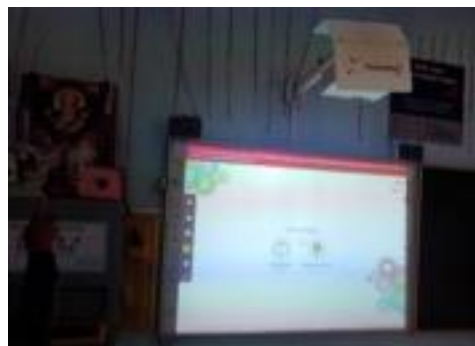
The findings offer a comprehensive overview of the current status of various educational enhancements. These include the implementation of smart classrooms equipped with modern technologies, the establishment of innovative STEM labs designed to foster scientific learning, and the availability of clean and functional toilets. Additionally, the assessment evaluates the accessibility and quality of drinking water facilities, the adequacy of library materials to support literacy and learning, and the presence of sanitary pad incinerators aimed at promoting hygiene and safe disposal methods. Furthermore, the report highlights the ongoing infrastructural developments within the schools, such as the vibrant and creative BaLA (Building as Learning Aid) paintings adorning the walls of classrooms and common areas. These paintings are intended to create an engaging learning environment.

The section also ranked participating schools in Kushinagar and Deoria based on composite scores in their respective areas of school development. Evaluations considered the availability and functionality of facilities and resources. Each school received a score out of the maximum, with higher scores indicating better facilities.

3.1 Smart Class

The assessment, conducted in the Kushinagar and Deoria districts, covered **20 schools** (10 in each district) to verify the installation, availability, and functionality of Smart Class equipment.

All 20 schools confirmed the availability of at least one K-Yan projector. Out of these, 16 projectors (80%) were found to be functional and usable (8 in each district), while four projectors were non-functional (2 in each district). Sixteen schools (80%) had smart projectors with electronic boards installed, with six schools in Kushinagar and all 10 schools in Deoria. Except for the two projectors in Deoria that were non-functional, all were found to be functional.



Most schools have digital screens where digital content can be used. However, the majority of the schools struggled with internet connectivity, with 55% lacking it altogether. This issue is further compounded by the fact that only seven schools (35%) reported having functional internet—four in Kushinagar and three in Deoria.

Schools were scarcely equipped with desktops and laptops. Only three schools (15%) had desktop computers (one in Kushinagar and two in Deoria), two of which were functional. For laptops, just one school (5%) in Deoria reported having a functional laptop, and no schools in Kushinagar had laptops.

Other peripherals such as Printers, speakers, and keyboards/mouse were reported in the majority of the schools. At least one Speaker or headset was reported in 18 schools (90%) (8 in Kushinagar and 10 in Deoria). All reported equipment were functional.

Printers and power backup provisions were scarce. Only a printer was available in only one school in Deoria, and it was functional. Kushinagar did not report the availability of printers in any school. Similarly, only two schools in Deoria had power backup facilities, and both were functional. None of the schools in Kushinagar have reported having power backup provisions. Without essential power backup, the equipment becomes unusable during power cuts, which are common in rural areas.

In Kushinagar, principals reported that the district's power supply is erratic, with electricity typically available from 8 pm to 6 am. This disrupts the regular use of smart classes.

Digital content was available in 13 schools (65%) (6 in Kushinagar and 7 in Deoria). Out of these, 11 schools reported usable content while two schools in Deoria reported issues accessing the digital content. Quantitatively, only two schools in Kushinagar reported more than 100 digital content files. Most of the schools had fewer than 50 digital content files, suggesting a likely shortage of digital content.

Other teaching and learning materials, including charts, posters, models, and IEC materials, were also physically verified. Eight schools in Kushinagar and five in Deoria had charts, posters, and other learning materials. Of these, 11 schools reported that the materials were functional and usable. Regarding quantity, only one school each in Deoria and Kushinagar reported having more than 50 units of such materials, while the majority (11 schools) displayed fewer than 50 materials.

Wall paintings in Smart Classrooms were present in 12 schools (60%)—8 in Kushinagar and 4 in Deoria—with all paintings being functional and well-maintained. Classroom furniture, including benches, tables, and chairs, was available in 6 schools (30%)—5 in Kushinagar and 1 in Deoria—all of which were in functional and usable condition. Two schools had 1-5 sets of furniture, while four schools had 6-10 sets. The overall infrastructure reveals a significant gap in terms of furniture and the visual presence of the smart class.

The data indicates a fair system for managing and sustaining Smart Class equipment but reveals gaps in comprehensive implementation. Warranty cards were available in 13 out of 20 schools (65%), with 12 of these (92.3%) reported as functional. This leaves 7 schools (35%) without warranty cards, which poses a potential issue for long-term sustainability.

Maintenance provisions were available in 17 schools (85%), leaving three schools (15%) without such support. Helpline or complaint numbers were provided in 19 schools (95%), but their absence in 1 school (5%) indicates a need for universal coverage. These gaps underscore areas that require attention to ensure better management and sustainability of Smart Class infrastructure across all schools.

Summary

The assessment emphasizes that while most schools are equipped with Smart Class essentials, such as K-Yan projectors and digital boards, gaps remain in functionality and sustainability. Schools in Deoria are somewhat better equipped, with all of them having smart projectors and a higher availability of

functional peripherals like laptops and power backup. However, both districts encounter challenges with digital content accessibility and internet connectivity, as only 35% of schools have functional internet. Sustainability measures, such as warranty cards (65%) and maintenance provisions (85%), are in place but are not universally applied. Overall, only a few schools in Deoria display relatively better Smart Class infrastructure, yet significant improvements are necessary in both districts.

Table 1: School Rankings by Composite Smart Class Scores (Out of 15)

District	Block	Name of School	Composite Score (MM=15)	Rank
Deoria	Gauribazar	Composite School Lovkani	12	1
Deoria	Baitalpur	Composite School Suryapur	11	2
Kushinagar	Vishnupura	Composite School Pachkheda	11	2
Kushinagar	Sukrauli	Composite School Naumunda	10	4
Kushinagar	Sukrauli	Composite School Jagdishpur	9	5
Deoria	Gauribazar	Composite School Parsotima	9	5
Kushinagar	Padrauna	Composite School Sidhuwa sthan	8	7
Kushinagar	Padrauna	Composite School jungle Hanuman ganj	8	7
Kushinagar	Motichak	Composite School Satbhariya	8	7
Deoria	Bhatani	Composite School Kurmauta Ghouri	7	10
Kushinagar	Vishnupura	Composite School Padari Peeparpatti	7	10
Kushinagar	Motichak	Composite School Atharaha	7	10
Kushinagar	Vishnupura	Composite School Manikaura	7	10
Deoria	Baitalpur	Composite School Aora chauri	6	14
Deoria	Bhagalpur	Composite School Kundaval Hari	6	14
Deoria	Deoriasadar	Composite School Jungal thakurahi	6	14
Kushinagar	Padrauna	Composite School Bangal Patti	5	17
Deoria	Bhagalpur	Composite School Padari Gurraw	5	17
Deoria	Bhatani	Composite School Motipur Tikait	3	19
Deoria	Deoriasadar	Composite School Ijarah	2	20

It is evident that 11 schools did not score half the total composite score (7.5), seven of which were in Deoria and four in Kushinagar.

3.2 STEM Lab

The physical verification of the STEM lab was conducted in the presence of teachers who primarily teach STEM subjects, such as Science and Mathematics. STEM labs are operational in 18 schools (90%), nine in each of the two districts. However, one school in each district does not have a STEM lab. During the physical verification, the schools in Kushinagar and Deoria demonstrated commendable efforts in maintaining their STEM lab infrastructure and resources.



All 20 schools have platform/wooden tables for keeping models and instruments, with 90% having 1 to 2 tables and 10% having 3 to 5 tables. All of them are functional currently. Similarly, all

schools reported having models, equipment, or instruments available, with 55% having 1 to 5 items and 45% having 6 to 10 items. All items are functional. In one school, one teacher in Kushinagar complained that they were not consulted before supplying the models.

Whiteboards or blackboards are available in 95% of the schools, with all schools having 1 to 5 boards or more, and all reported boards are functional. Some inadequacy was observed for chalk boxes and dusters' availability in 70% of the schools, with 40% having 1 to 5 items and 30% having 6 to 10 items, all of which are functional.

Subject-wise Materials:

- **Science:** Fixed models/prototypes are available in 100% of schools; working models/prototypes in 95%; kits in 100%; posters/charts in 100%; quizzes/puzzles in 70%; project materials in 90%; and workbooks in 90%.
- **Mathematics:** Fixed models/prototypes are available in 65% of schools; working models/prototypes in 75%; kits in 70%; posters/charts in 75%; quizzes/puzzles in 55%; project materials in 65%; and workbooks in 75%.
- **Social Studies or EVS:** Fixed models/prototypes are available in 20% of schools; working models/prototypes in 15%; kits in 20%; posters/charts in 50%; quizzes/puzzles in 75%; project materials in 40%; and workbooks in 70%.

Summary

The high percentage of STEM resources that are available and functional suggests that the schools are adequately equipped to support STEM education. The data shows that while science and mathematics resources are relatively well-provided, there is a notable shortage of social studies or EVS materials.

Table 2: School Rankings by Composite STEM Lab Scores (Out of 27)

District	Block	Name of School	Composite Score (MM=27)	Rank
Deoria	Baitalpur	Composite School Suryapur	27	1
Deoria	Deoriasadar	Composite School Ijarah	27	1
Kushinagar	Sukrauli	Composite School Naumunda	25	3
Deoria	Gauribazar	Composite School Lovkani	23	4
Kushinagar	Motichak	Composite School Satbhariya	23	4
Kushinagar	Vishnupura	Composite School Pachkheda	23	4
Kushinagar	Vishnupura	Composite School Manikaura	23	4
Deoria	Gauribazar	Composite School Parsotima	22	8
Kushinagar	Padrauna	Composite School Bangal Patti	21	9
Kushinagar	Vishnupura	Composite School Padari peeparpatti	21	9
Kushinagar	Padrauna	Composite School Sidhuwa sthan	20	11
Kushinagar	Motichak	Composite School Atharaha	19	12
Deoria	Deoriasadar	Composite School Jungal thakurahi	19	12
Kushinagar	Padrauna	Composite School jungle Hanuman ganj	18	14
Kushinagar	Sukrauli	Composite School Jagdishpur	18	14
Deoria	Bhatani	Composite School Kurmauta Ghoori	12	16
Deoria	Bhagalpur	Composite School Padari Gurraw	12	16
Deoria	Baitalpur	Composite School Aora chauri	11	18
Deoria	Bhatani	Composite School Motipur Tikait	11	18
Deoria	Bhagalpur	Composite School Kundaval Hari	11	18

3.3 Infrastructure Support

Significant infrastructure developments were noted during the physical verification of schools in Kushinagar and Deoria, although there is still room for progress. Specifically, 11 schools (55%), with 6 in Kushinagar and 5 in Deoria, have received classroom repairs, ensuring that all these classrooms are now operational. This represents a positive step towards fostering a conducive learning environment. Regarding interior enhancements, 18 schools (90%) have had their interior walls painted, and all 20 schools (100%) have been adorned with BaLA paintings, which are both educational and decorative, contributing to a more vibrant and stimulating educational atmosphere.



Common areas, which are crucial for various school activities, have been repaired or refurbished in 9 schools (45%). This highlights a significant effort to enhance the shared spaces within these schools. Additionally, Science and Maths labs, essential for STEM education, have been repaired in 10 schools (50%), and all these labs are functional, ensuring students have access to necessary practical learning environments. Providing new furniture is another development area, with 11 schools (55%) receiving new furniture. Two schools got their existing furniture repaired.

Summary

The schools in Kushinagar and Deoria have made considerable progress in infrastructural development, particularly in classroom repairs and interior wall paintings. However, further improvements, especially in the repair of common areas and the provision of new furniture, are needed to ensure that all schools are adequately equipped.

Table 3: School Rankings by Composite Infrastructure Development Scores (Out of 7)

District	Block	Name of School	Composite Score (MM=7)	Rank
Kushinagar	Sukrauli	Composite School Naumunda	7	1
Kushinagar	Motichak	Composite School Satbhariya	7	1
Kushinagar	Padrauna	Composite School Bangal Patti	6	3
Kushinagar	Padrauna	Composite School jungle Hanuman ganj	6	3
Kushinagar	Padrauna	Composite School Sidhuwa sthan	5	5
Deoria	Bhatani	Composite School Motipur Tikait	5	5
Kushinagar	Sukrauli	Composite School Jagdishpur	5	5
Kushinagar	Motichak	Composite School Atharaha	5	5
Kushinagar	Vishnupura	Composite School Manikaura	5	5
Deoria	Baitalpur	Composite School Aora chauri	4	10
Deoria	Bhagalpur	Composite School Padari Gurraw	4	10
Deoria	Deoriasadar	Composite School Ijarah	3	12
Deoria	Bhatani	Composite School Kurmauta Ghouri	3	12
Kushinagar	Vishnupura	Composite School Padari peeparpatti	3	12
Deoria	Deoriasadar	Composite School Jungal thakurahi	3	12

Deoria	Gauribazar	Composite School Lovkani	2	16
Deoria	Gauribazar	Composite School Parsotima	2	16
Deoria	Bhagalpur	Composite School Kundaval Hari	2	16
Kushinagar	Vishnupura	Composite School Pachkheda	2	16
Deoria	Baitalpur	Composite School Suryapur	1	20

3.4 WASH Support

The physical verification indicates significant developments in WASH (Water, Sanitation, and Hygiene) facilities in schools across Kushinagar and Deoria. Water coolers, essential for providing safe drinking water, are installed in only seven schools (35%), all of which are functional. Some of these schools may already have installed water coolers, which may explain the lower demand for additional units.

Aqua Guard UV purifiers were more widely available, with 19 schools (95%) equipped with these purifiers and 18 (95%) reported to be functional. This high availability and functionality indicate a strong effort towards providing purified water, though the remaining two schools without functional purifiers still need attention.

Drinking water stations are constructed in 14 schools (70%), with 13 (93%) being functional, reflecting a significant improvement. Additionally, 10 schools (50%) have repaired or refurbished their drinking water stations.

11 schools (55%) have newly constructed toilets, all of which are functional. Furthermore, 13 schools (65%) have repaired or refurbished toilets, with 12 (92%) being functional. This is a crucial development for improving sanitation.

Sanitary pad incinerators, essential for the proper disposal of sanitary products, are available in 17 schools (85%), with only 13 (76%) functioning. The functionality of these incinerators requires improvement.



14 schools (70%) have maintenance provisions for items and equipment. However, only 8 schools (40%) have funds available for repairs or purchases, indicating a financial constraint that could impact future developments and the longevity of the WASH infrastructure and facilities.

Summary

While significant efforts have been made to improve WASH facilities in schools in Kushinagar and Deoria, some areas require attention. The limited availability of water coolers and sanitary pad machines highlights infrastructure gaps. Although many schools have Aqua Guard UV purifiers and drinking water stations, the lack of funds for repairs or purchases could hinder further improvements.

Table 4: School Rankings by Composite WASH Scores (Out of 10)

District	Block	Name of School	Composite Score (MM=10)	Rank
Kushinagar	Padrauna	Composite School Bangal Patti	10	1
Deoria	Deoriasadar	Composite School Ijarah	9	2
Kushinagar	Sukrauli	Composite School Naumunda	9	2
Kushinagar	Motichak	Composite School Satbhariya	9	2
Kushinagar	Vishnupura	Composite School Padari peeparpatti	8	5

District	Block	Name of School	Composite Score (MM=10)	Rank
Kushinagar	Vishnupura	Composite School Manikaura	8	5
Kushinagar	Padrauna	Composite School Sidhuwa sthan	7	7
Deoria	Baitalpur	Composite School Suryapur	6	8
Kushinagar	Padrauna	Composite School jungle Hanuman ganj	6	8
Deoria	Bhagalpur	Composite School Padari Gurraw	6	8
Deoria	Gauribazar	Composite School Parsotima	5	11
Deoria	Deoriasadar	Composite School Jungal thakurahi	5	11
Deoria	Baitalpur	Composite School Aora chauri	4	13
Kushinagar	Sukrauli	Composite School Jagdishpur	4	13
Kushinagar	Motichak	Composite School Atharaha	4	13
Kushinagar	Vishnupura	Composite School Pachkheda	4	13
Deoria	Bhatani	Composite School Motipur Tikait	3	17
Deoria	Bhatani	Composite School Kurmauta Ghoori	3	17
Deoria	Bhagalpur	Composite School Kundaval Hari	3	17
Deoria	Gauribazar	Composite School Lovkani	1	20

3.5 Library

During physical verification, it was found that all schools (100%) in Kushinagar and Deoria have functional libraries. This demonstrates a strong commitment to providing library facilities across these schools. In terms of staffing, 10 schools (100%) in Kushinagar and eight schools (80%) in Deoria have dedicated teachers or librarians, resulting in an overall availability of 18 schools (90%). All of these dedicated staff members performed their role of librarian exclusively.

For library infrastructure, five schools (50%) in Kushinagar and nine schools (90%) in Deoria have racks, stacks, or bookshelves available, with an overall availability of 14 schools (70%). So there exists a gap in 6 schools, mostly in Kushinagar (5), where there were no bookshelves/racks. Perhaps this gap has been mitigated by providing steel almirahs in all 20 schools (100%) with higher usability and durability.

Regarding sitting arrangements or reading corners, 10 schools (100%) in Kushinagar and eight schools (80%) in Deoria have these facilities. However, only eight schools (80%) in Kushinagar and four schools (40%) in Deoria have reading desks, chairs, or other furniture, indicating an overall availability of 12 schools (60%), though all available furniture is functional.

The availability of academic books varies significantly by grade level. For grades 6 to 8, 17 schools (85%) have books. However, for grades 9 to 12, the availability drops significantly, with only four schools (20%) having books for grades 9 and 10 and 3 schools (15%) for grades 11 and 12. Both districts have book issuance facilities/registers and catalogue/stock registers in 20 schools (100%).

Summary

While the basic library infrastructure is present and functional in most schools, there are areas requiring improvement, particularly in the availability of academic books for higher grades and the provision of reading furniture in Deoria. The schools have a good foundation for library resources, but additional efforts are needed to ensure comprehensive library infrastructure and resources.

Table 5: School Rankings by Composite Library Scores (Out of 15)

District	Block	Name of School	Composite Score (MM=15)	Rank
Kushinagar	Motichak	Composite School Satbhariya	15	1
Kushinagar	Vishnupura	Composite School Manikaura	14	2
Kushinagar	Padrauna	Composite School Bangal Patti	13	3
Kushinagar	Sukrauli	Composite School Jagdishpur	13	3
Kushinagar	Padrauna	Composite School Sidhuwa sthan	11	5
Kushinagar	Motichak	Composite School Atharaha	11	5
Deoria	Deoriasadar	Composite School Jungal thakurahi	11	5
Kushinagar	Padrauna	Composite School jungle Hanuman ganj	10	8
Deoria	Gauribazar	Composite School Lovkani	10	8
Deoria	Bhatani	Composite School Motipur Tikait	10	8
Deoria	Bhatani	Composite School Kurmauta Ghouri	10	8
Deoria	Gauribazar	Composite School Parsotima	10	8
Deoria	Bhagalpur	Composite School Padari Gurraw	10	8
Kushinagar	Vishnupura	Composite School Pachkheda	10	8
Deoria	Baitalpur	Composite School Suryapur	9	15
Kushinagar	Sukrauli	Composite School Naumunda	9	15
Deoria	Deoriasadar	Composite School Ijarah	8	17
Kushinagar	Vishnupura	Composite School Padari peeparpatti	7	18
Deoria	Baitalpur	Composite School Aora chauri	6	19
Deoria	Bhagalpur	Composite School Kundaval Hari	6	19

Study Findings

This chapter explores the findings obtained from in-depth discussions with a diverse group of stakeholders, including school principals, educators, members of the School Management Committees (SMCs), and students from the project schools located in the districts of Kushinagar and Deoria in Uttar Pradesh. The insights gained from these conversations illuminate the valuable support provided by HDFC Bank across various domains. These domains include the enhancement of hard infrastructure (new construction/renovation), the development of essential communication facilities (smart classes, libraries, labs, etc.), and ongoing capacity-building initiatives designed to empower teachers in their professional growth.

4.1 Sample coverage

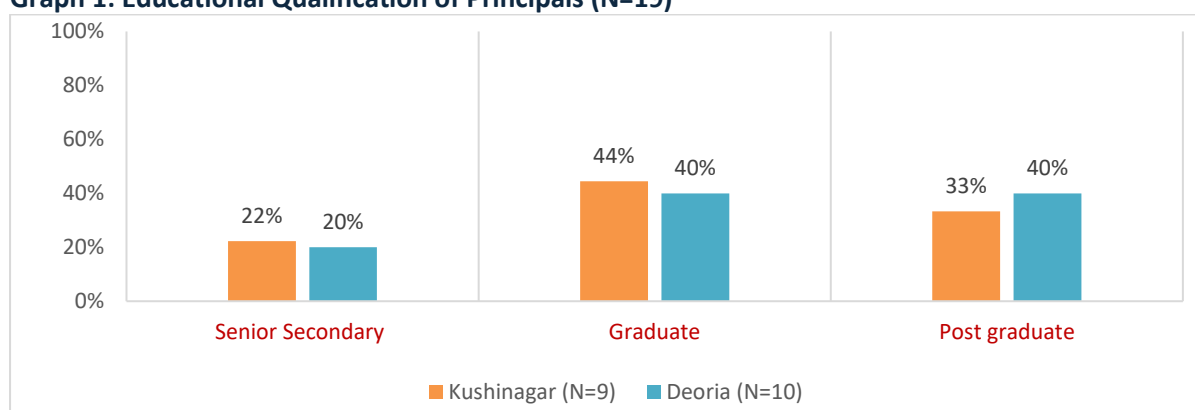
Survey Participants	Kushinagar	Deoria	Total
Schools	10	10	20
Principals	9	10	19
Teachers	20	20	40
Students (in FGDs)	200	200	400

4.2 Profile of the Target Respondents

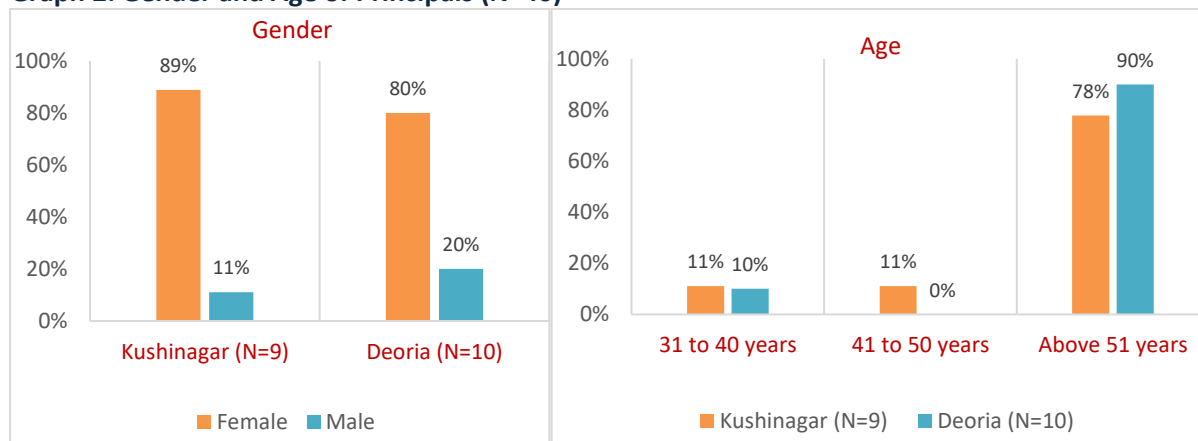
4.2.1 Principals

Nineteen (19) principals participated in the survey, offering valuable insights into hard infrastructure, critical infrastructure, and the capacity building of teachers.

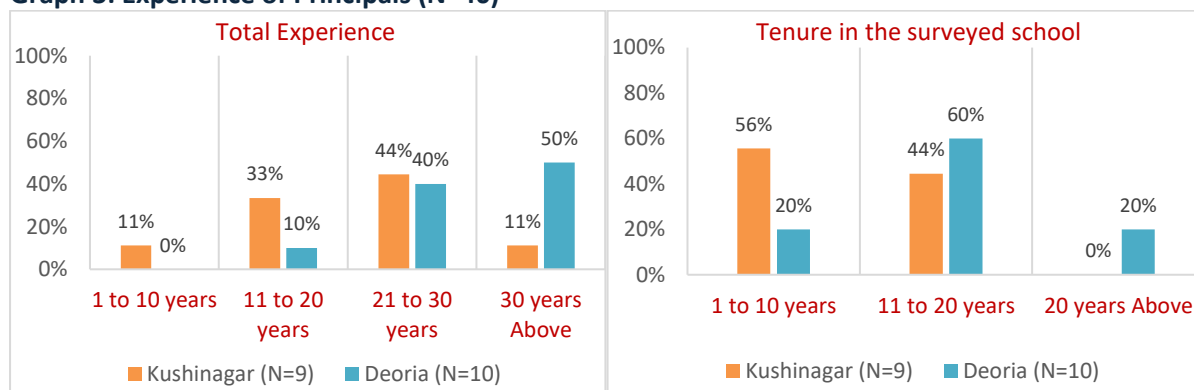
Graph 1: Educational Qualification of Principals (N=19)



Most principals (79%) have qualifications above graduation, with a majority being graduates (42%) or postgraduates (37%). This indicates a strong educational background of the principals across both districts.

Graph 2: Gender and Age of Principals (N=40)

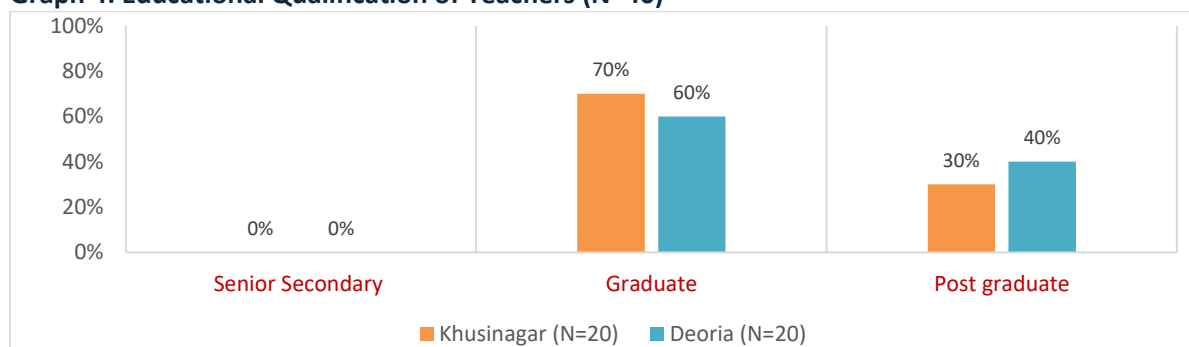
The principal demographic is predominantly older, with 84% above 51 years of age. This suggests extensive experience but potentially less young leadership. Female leadership is prominent, with 84% of principals being women.

Graph 3: Experience of Principals (N=40)

In terms of teaching experience, 42% of principals have 21 to 30 years of experience. Deoria has more experienced principals. Additionally, 53% of principals have served at their current schools for 11 to 20 years. This reflects stability and sustained leadership in Deoria.

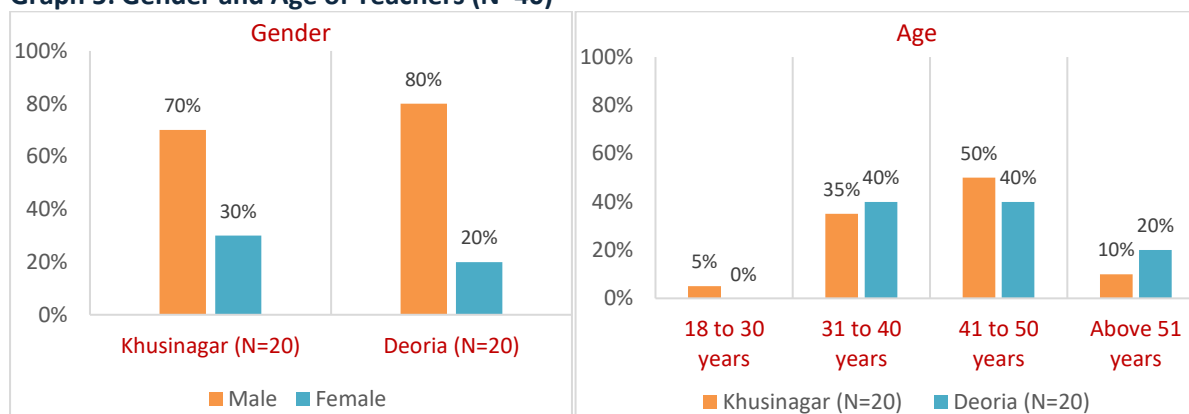
4.2.2 Teachers

Forty (40) teachers participated in the survey, providing their responses regarding the critical infrastructure and capacity-building aspects relevant to their roles.

Graph 4: Educational Qualification of Teachers (N=40)

Most teachers (65%) are graduates, with an additional 35% holding postgraduate degrees and none at senior secondary level. This indicates that the teaching staff has a strong educational foundation.

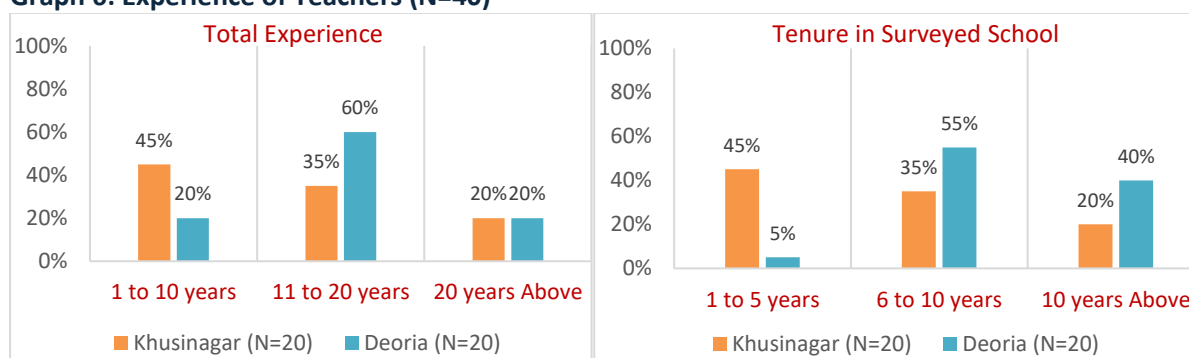
Graph 5: Gender and Age of Teachers (N=40)



Male teachers comprise the majority at 75%, with female teachers constituting 25%. This indicates a higher representation of male teachers in both districts.

The age distribution shows that 45% of teachers are between 41 and 50 years old, and 38% are between 31 and 40 years old. Only 15% are above 51 years, and a small percentage (3%) are between 18-30 years.

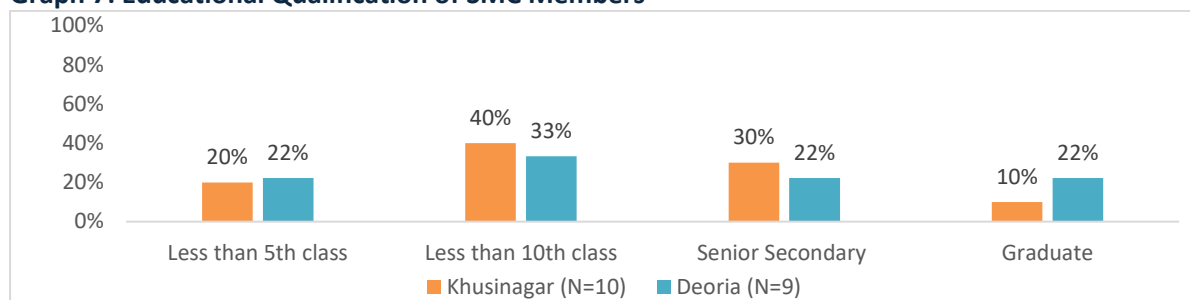
Graph 6: Experience of Teachers (N=40)



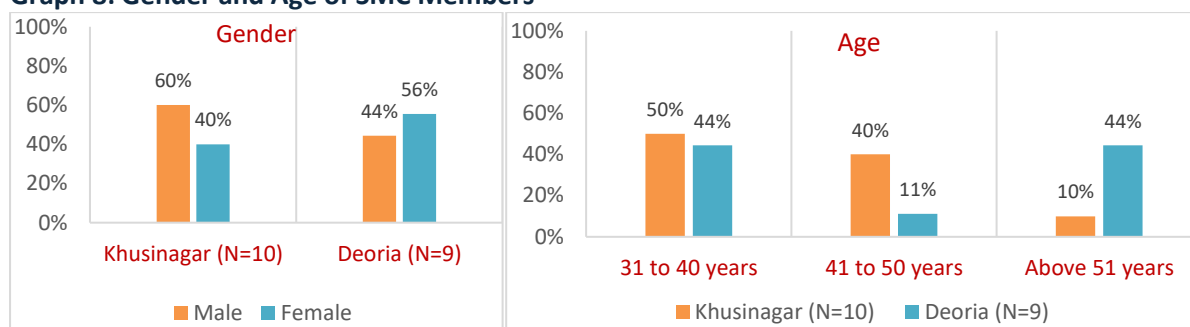
Regarding teaching experience, 48% of teachers have 11 to 20 years of experience, and 20% have over 20 years. This highlights a significant portion of experienced teachers. Regarding their tenure at the current school, 45% of teachers have been there for 6 to 10 years, 30% for over 10 years, and 25% for 1 to 5 years. This indicates a considerable length of service at their current school.

4.2.3 SMC

Nineteen School Management Committees (SMCs) were also interviewed to understand the project's interventions in areas such as forming and reviving SMCs, training programs, community engagement initiatives, and developing monitoring and evaluation mechanisms.

Graph 7: Educational Qualification of SMC Members

SMC members generally have varied educational backgrounds, with the majority having basic education levels with (37%) have an education level of less than 10th class

Graph 8: Gender and Age of SMC Members

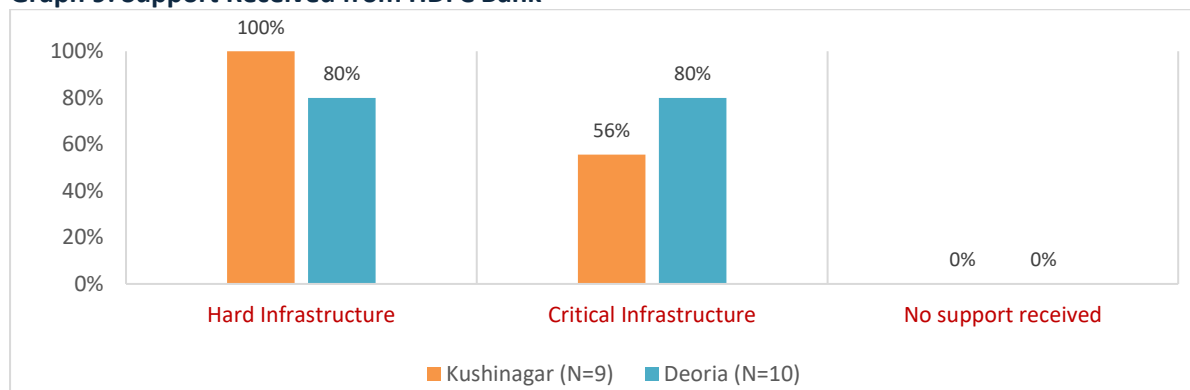
There is almost equal representation of genders among SMC members, with males constituting 53%, while female members make up 47% with district-wise variation. Many SMC members are relatively young, with a balanced mix of middle-aged and older members.

4.3 Support Received from HDFC Bank

This section presents the responses from principals/Headmasters (HMs), teachers, and School Management Committees (SMCs) regarding the support they received from HDFC. The insights highlight the various forms of assistance provided and their impact on educational infrastructure and capacity building.

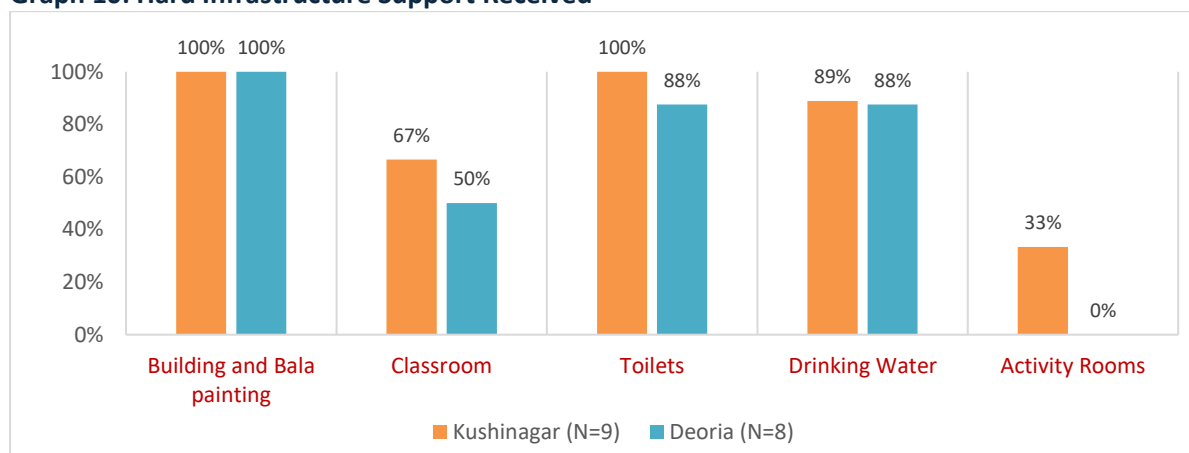
4.3.1 Principals/Head Master

Nineteen school principals reported the various development supports their schools received, as illustrated in the following graphs.

Graph 9: Support Received from HDFC Bank

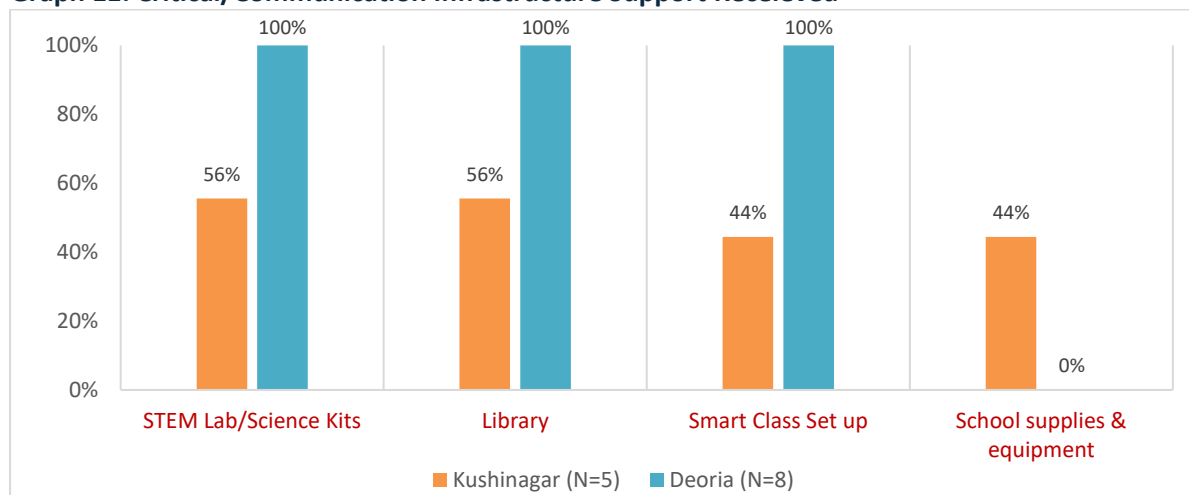
HDFC Bank's contribution to school infrastructure was widespread. All schools in Kushinagar and 80% in Deoria received Hard Infrastructure² support, and critical Infrastructure³ assistance reached 56% of schools in Kushinagar and 80% in Deoria. Notably, no school reported any gaps in support.

Graph 10: Hard Infrastructure Support Received



HDFC Bank provided extensive support for essential infrastructure like buildings, toilets, and drinking water. Building and BaLA painting were universal, while classrooms benefited 67% of Kushinagar schools and 50% of Deoria. Toilets had near-total coverage, and drinking water reached 88–89%. However, activity rooms were limited to 33% in Kushinagar and none in Deoria.

Graph 11: Critical/Communication Infrastructure Support Received



HDFC Bank has made substantial contributions towards enhancing Critical Infrastructure, particularly in the realm of education. Deoria has seen significant advancements, with the establishment of smart class setups and the introduction of STEM (Science, Technology, Engineering, and Mathematics) labs making a notable impact. The outreach of STEM labs and science kits has been impressive, reaching 56% of schools in Kushinagar, while Deoria boasts a remarkable 100% accessibility in this regard.

In addition to STEM initiatives, the installation of libraries and smart classrooms mirrors this positive trend, further enriching the educational landscape. However, it's worth noting that the provision of school supplies has not been as extensive, with only 44% of schools in Kushinagar receiving the

² New construction or renovation of infrastructure (walls, floors, roof, or all three etc.)

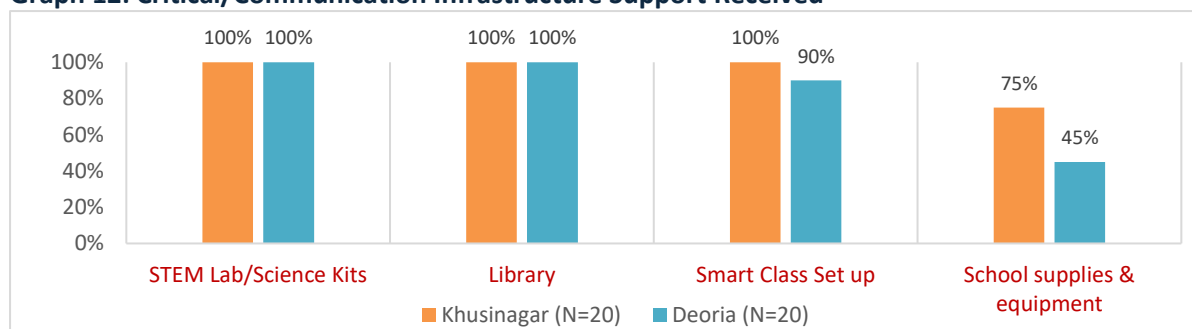
³ Smart class, Library, Laboratory, School Supplies, etc.

necessary materials. Overall, these efforts illustrate a commitment to improving educational resources and opportunities in the region.

4.3.2 Teachers

As reported by teachers, HDFC Bank has provided robust critical infrastructure support. All schools in Khusinagar and Deoria received STEM Labs, science kits, and library resources (100%). Smart Class setups reached 100% in Khusinagar and 90% in Deoria. The following graph illustrates the status of support intimated by the teachers.

Graph 12: Critical/Communication Infrastructure Support Received

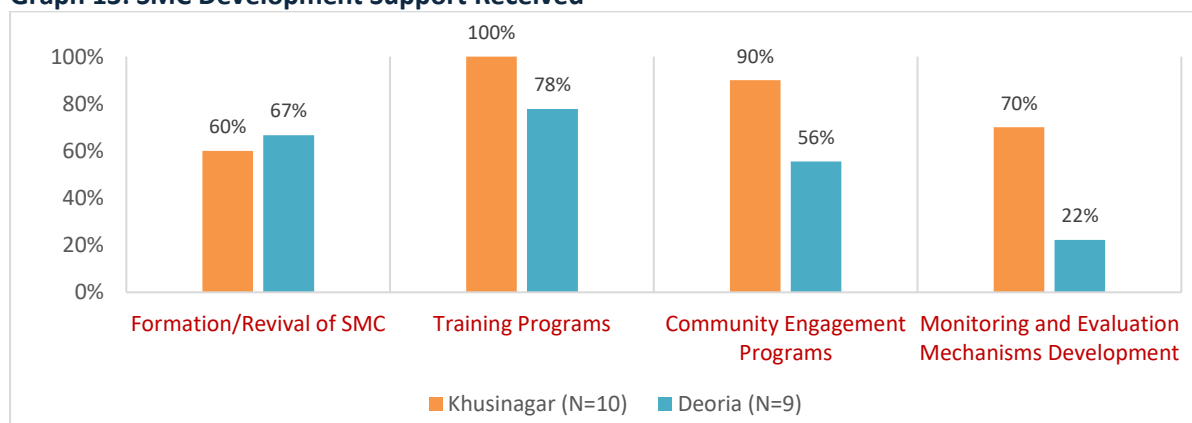


School supplies were provided to 75% of schools in Khusinagar but only 45% in Deoria. However, there are gaps in smart class setups and school supplies in Deoria.

4.3.3 SMC Members

SMC members were interacted to understand the type of support received by the sample schools. The type of support received for SMC development has been shown in the following graph.

Graph 13: SMC Development Support Received



HDFC Bank has exclusively supported the formation of School Management Committees (SMCs) in the sample schools and provided training to SMC members on community engagement practices and district-wise monitoring and evaluation mechanisms. However, it is evident that schools in Deoria require a stronger focus.

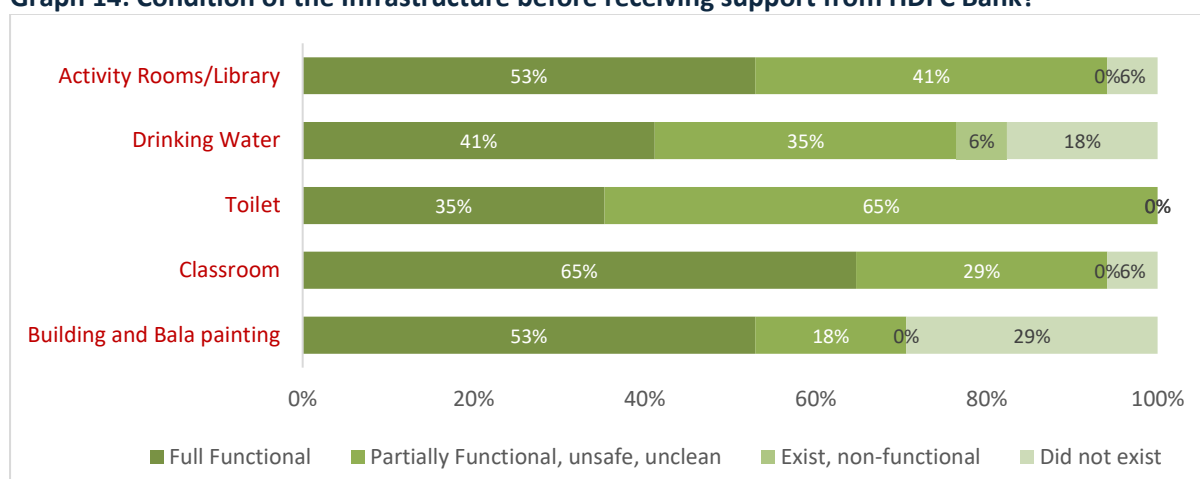
4.4 Hard/Civil Infrastructure (New Construction and Renovation)

Both school principals and teachers offered valuable perspectives on the enhancements made to critical hard or civil infrastructure. Their insights highlighted the specific improvements implemented and the significant benefits these changes have brought to the school community, fostering a more connected and efficient environment for both teachers and students.

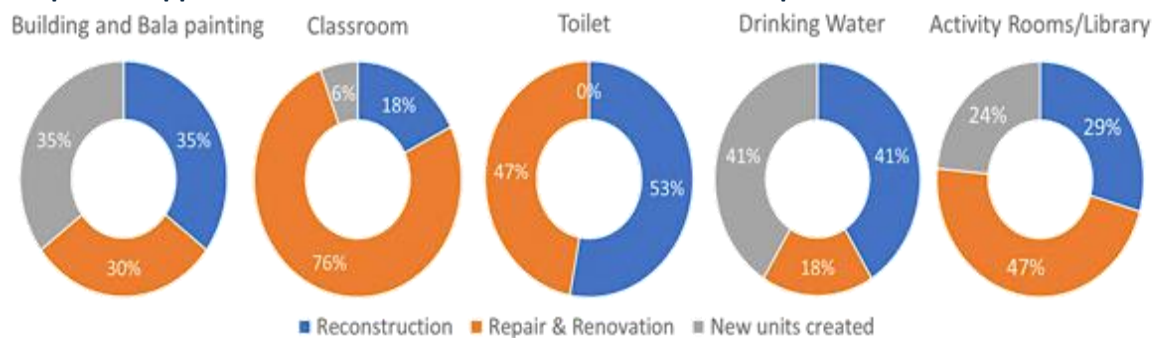
4.4.1 Principals' Opinion of Hard/Civil Infrastructure

This section examines the viewpoints of principals regarding the hard and civil infrastructure available at their schools. It offers a detailed look at their experiences, highlighting how the quality and condition of the facilities influence the overall educational environment and the learning experiences of both students and teachers. Through their insights, we can better understand the significant impact that infrastructure has on fostering an effective and nurturing atmosphere for education.

Graph 14: Condition of the Infrastructure before receiving support from HDFC Bank?



- **Building and Bala Painting:** Before HDFC's support, 53% of the buildings were fully functional, 18% were partially functional (unsafe or unclean), and 29% were non-existent.
- **Classroom:** 65% of the classrooms were fully operational, 29% were partially operational, and 6% did not exist.
- **Toilets:** 35% of the toilets were fully functional, while 65% were only partially functional. Most of them required significant renovations to become fully operational, highlighting a key area for improvement.
- **Drinking Water:** 41% of the drinking water facilities were fully functional, 35% were partially functional, 6% were non-functional, and 18% did not exist. Upgrading and creating new drinking water facilities required effort.
- **Activity Rooms/Library:** 53% of the activity rooms and libraries were fully functional, 41% were partially functional, and 6% did not exist. There was a notable need for both improvement and new constructions in these areas to enhance educational resources.

Graph 15: Support Provided Within the New Construction or Repairs of Civil Infrastructure

- **Building and Bala Painting:** The Building and Bala painting initiatives significantly enhanced school aesthetics and learning environments, with 35% of the work focusing on reconstruction, 29% on repair and renovation, and 35% on creating new units.
- **Classroom:** Classroom infrastructure improvements focused predominantly on repair and renovation (76%), addressing existing deficiencies. Reconstruction accounted for 18%, and new units constituted 6%.
- **Toilet:** The comprehensive reconstruction (53%) and renovation (47%) of toilet facilities have addressed crucial hygiene and sanitation needs, with no new units created. These improvements ensure students access clean and safe restrooms, promoting health and well-being.
- **Drinking Water:** Efforts to upgrade and expand drinking water facilities were divided into reconstruction (41%), repair and renovation (18%), and the creation of new units (41%). This dual approach ensured that all students had access to clean and safe drinking water.
- **Activity Rooms/Library:** Upgrades to activity rooms and libraries focused on renovation (47%), reconstruction (29%), and new construction (24%), fostering well-rounded educational opportunities and experiences.

Table 6: Interpretation of Hard/Civil Infrastructure on OECD Framework (On the scale of 1-5)

Overall Results	Relevance	Efficiency	Effectiveness	Impact	Sustainability	Overall
BaLA Painting	4.4	4.8	4.9	4.2	3.6	4.4
Classroom	4.0	4.8	4.6	3.5	3.5	4.1
Toilet	4.6	4.9	5.0	3.6	4.1	4.4
Drinking Water	4.7	4.8	4.8	4.4	4.1	4.6
Library	4.2	4.6	4.6	3.8	4.1	4.3

Building and Bala Painting: The Building and Bala painting project has proven highly effective, particularly in terms of relevance, efficiency, and overall satisfaction. The timely completion and high usage rates indicate that the project met immediate needs successfully. However, the lower sustainability score points to challenges in maintaining this infrastructure in the long term. Future efforts should ensure the durability and the continued impact of the building and painting work.

Classroom: The Classroom infrastructure projects have shown significant efficiency and effectiveness, especially regarding satisfaction and current status. While the relevance score is commendable, the lower impact and sustainability scores suggest that the benefits may diminish over time. To ensure

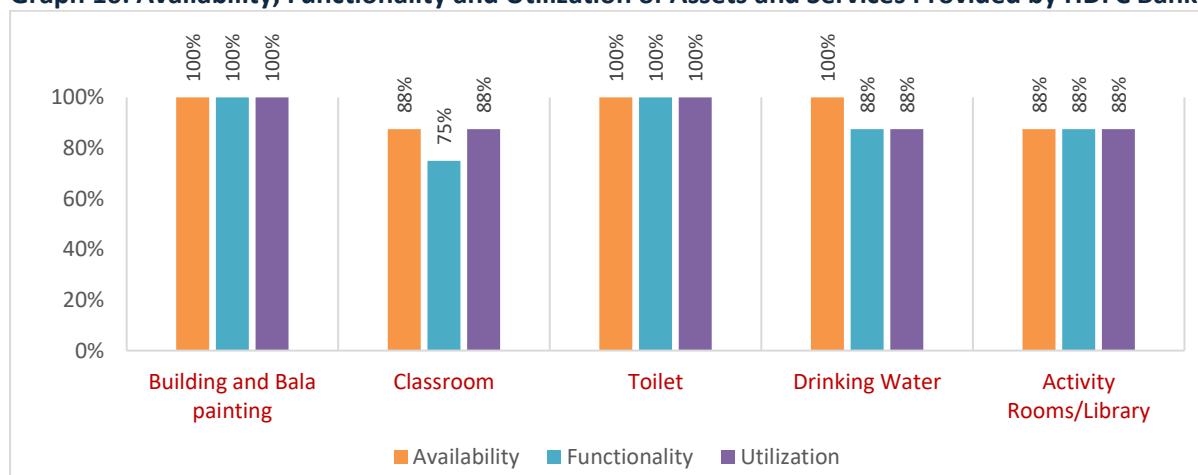
continued educational support, the long-term sustainability and overall impact of the classroom infrastructure need to be enhanced.

Toilets: The Toilet infrastructure stands out with exceptionally high scores across all metrics. The project was completed on time, with high satisfaction and usage rates. The relatively high sustainability score indicates that the toilet facilities are effective and likely to remain beneficial in the long term. This infrastructure element serves as a model for future projects regarding comprehensive effectiveness and sustainability.

Drinking Water: The Drinking Water infrastructure has been highly effective and efficient, receiving perfect scores in timeliness and usage. The relevance and satisfaction scores are also high, demonstrating that the drinking water facilities meet user needs effectively. The high sustainability and impact scores make this infrastructure element one of the most successful in terms of long-term benefits and overall effectiveness.

Activity Rooms/Library: The Activity Rooms/Library infrastructure has shown good relevance, efficiency, and effectiveness, particularly in sufficiency and satisfaction. However, the lower impact and sustainability scores indicate a need to focus on their long-term benefits and maintenance. Future efforts should aim at enhancing the sustainability and overall impact of the activity rooms and library to ensure they continue to support educational activities effectively.

Graph 16: Availability, Functionality and Utilization of Assets and Services Provided by HDFC Bank



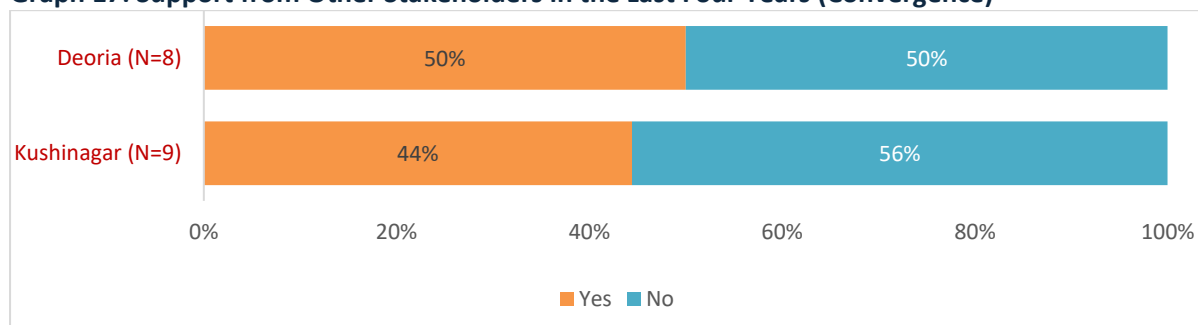
School infrastructure is highly functional and well-utilized, especially in Building and BaLA painting, as well as in Toilets, which boast perfect scores of 100%. Classrooms, drinking water, and activity rooms/libraries also demonstrate strong availability and usage, reflecting significant overall improvements and maintenance across these facilities. Kushinagar particularly excels in these areas.

Kushinagar is better placed than Deoria regarding the availability, functionality, and utilization of library and classroom facilities.

Some schools reported limited or no functionality. In Kushinagar, the issue was the incomplete provision of components under the project, while in Deoria, maintenance difficulties and the interventions becoming less useful were significant. Unspecified reasons were common in both regions.

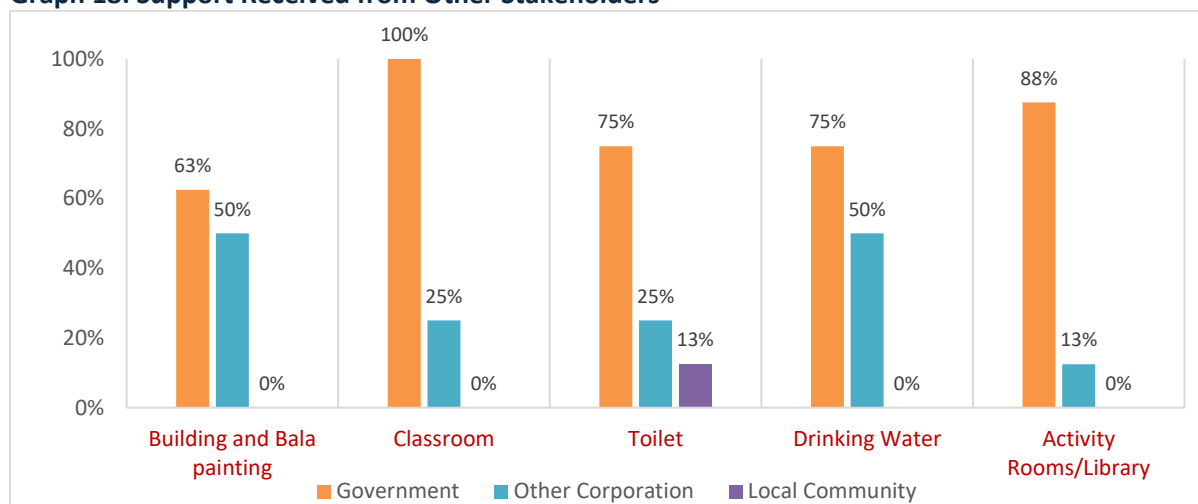
Kushinagar schools have formal maintenance measures, with 100% signing annual maintenance contracts and having teachers trained to operate the facilities. In Deoria, the School Management Committee and trained teachers play a key role, with 60% handling maintenance and operations.

Graph 17: Support from Other Stakeholders in the Last Four Years (Convergence)



In the past four years, 44% of schools in Kushinagar and 50% in Deoria have received additional support for the given interventions from stakeholders other than HDFC Bank support.

Graph 18: Support Received from Other Stakeholders



Government support played a significant role in various infrastructure projects, providing full funding for classrooms, 88% for activity rooms and libraries, 75% each for toilets and drinking water, and 63% for building and Bala painting. Other corporations also contributed, though less extensively, with notable support for drinking water (50%), building and Bala painting (50%), toilets (25%), and classrooms (25%). Local community involvement was limited, with only 13% support for toilet facilities in Deoria.

This data highlights the crucial role of government and other corporations in supplementing school infrastructure development, especially in essential facilities like classrooms and activity rooms/libraries.

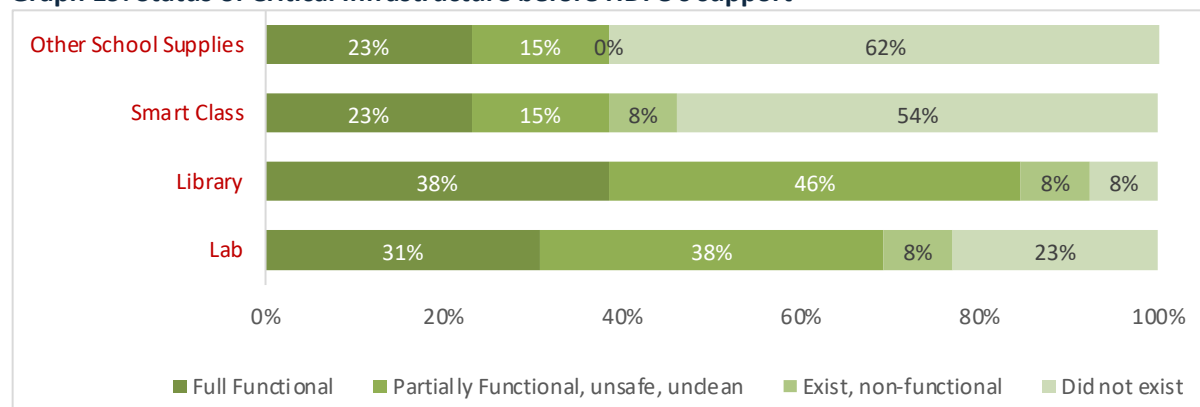
4.5 Critical/Communication Infrastructure (Smart Class/Lab/Library)

In this section, we present insights from both principals and teachers on the critical and communication infrastructure improvements in their schools.

4.5.1 Principals' Opinion of Critical/Communication Infrastructure

This subsection explores the principals' views on their schools' critical and communication infrastructure improvements, highlighting their experiences and insights.

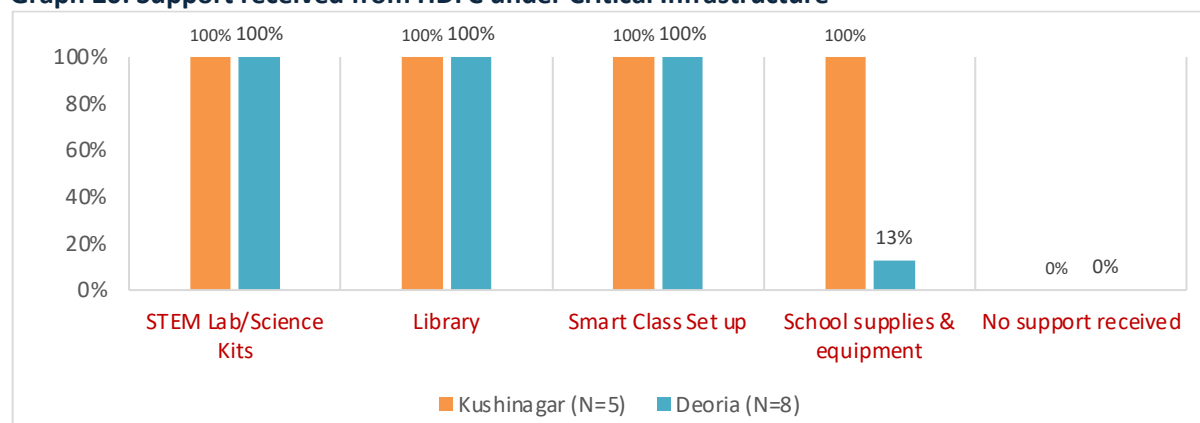
Graph 19: Status of Critical Infrastructure before HDFC's support



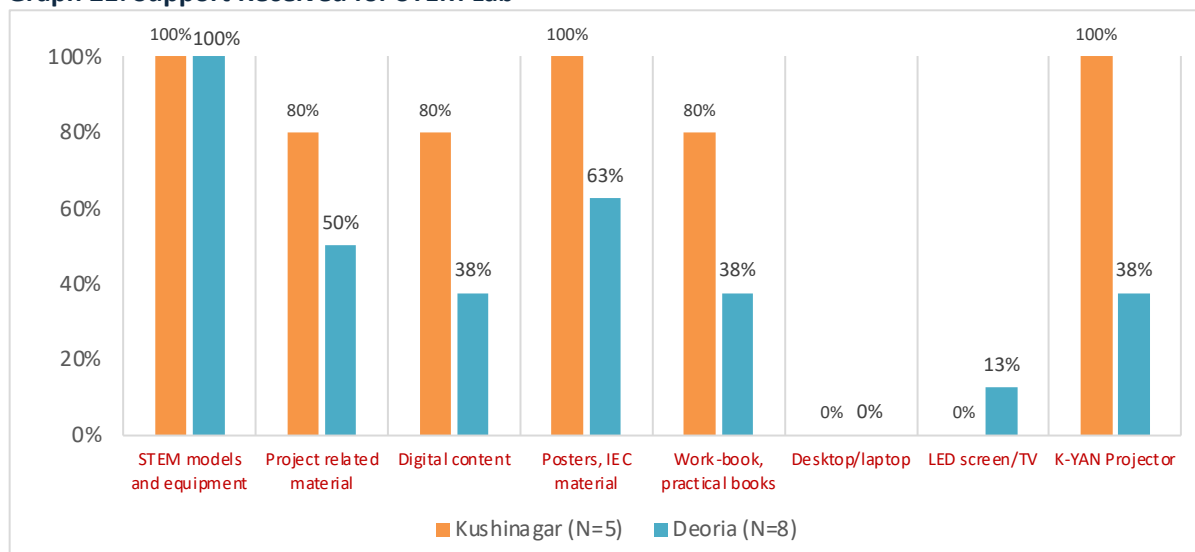
- **STEM Lab:** Only 31% of labs were fully functional, 38% were partial and 31% were either non-functional or did not exist.
- **Library:** Of the libraries, 38% were fully operational, 46% were partially operational, 8% were non-operational, and 8% did not exist.
- **Smart Class:** Smart classes were limited, with just 23% fully functional, 15% partially functional, 8% non-functional, and 54% not existing.
- **Other School Supplies:** Other school supplies were scarce, with 23% fully functional, 15% partially functional, no non-functional supplies, and 62% not existing.

The above points underscore significant gaps in critical infrastructure that need support.

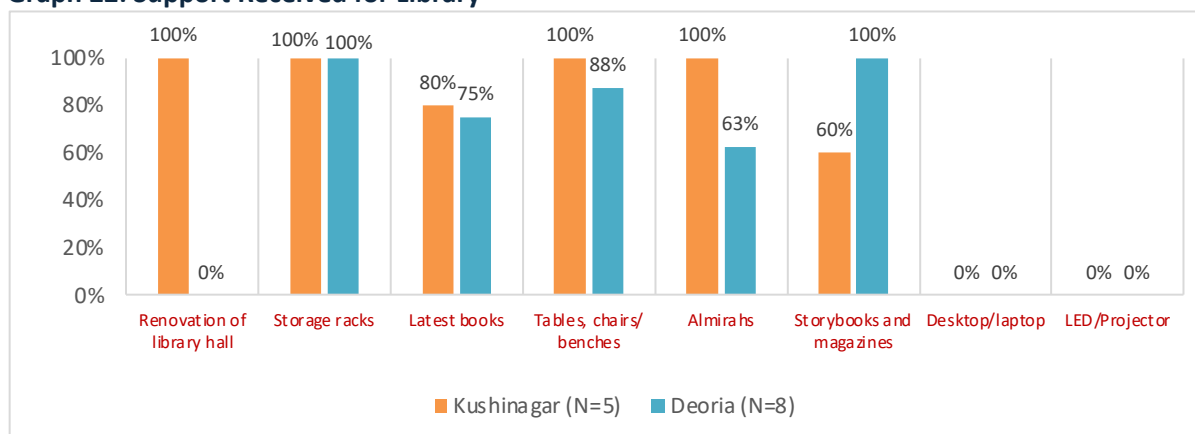
Graph 20: Support received from HDFC under Critical Infrastructure



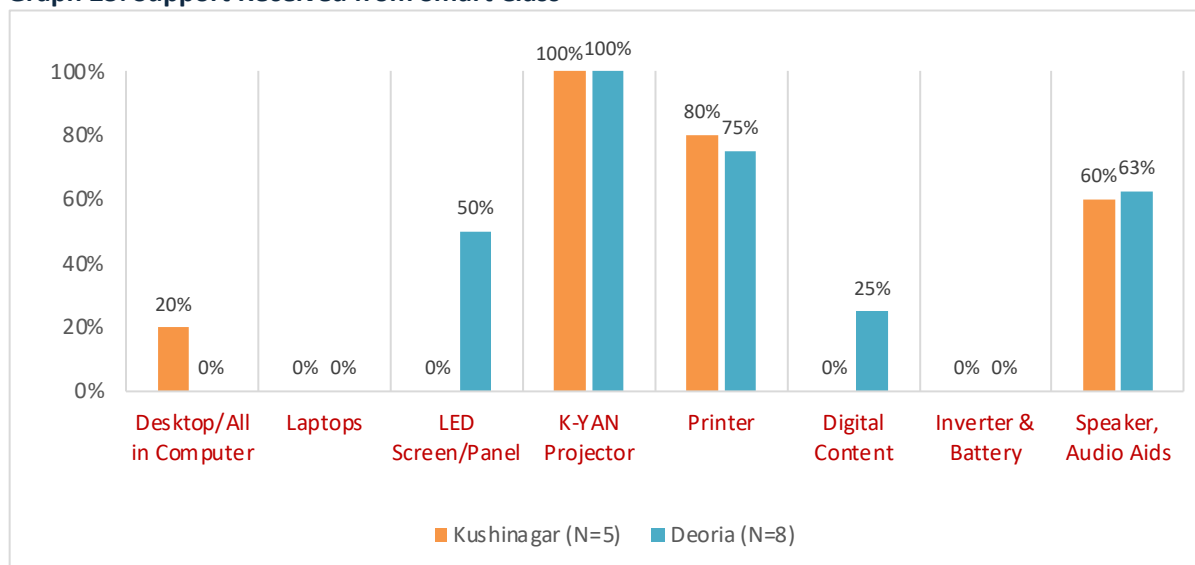
In both Kushinagar and Deoria, all schools received comprehensive support for STEM labs, science kits, libraries, and smart class setups, demonstrating a strong commitment to enhancing critical communication infrastructure. In Kushinagar, all schools received supplies and equipment, compared to only 13% in Deoria, highlighting a notable disparity. All schools acknowledged HDFC Bank's support, reflecting strong engagement in infrastructure development.

Graph 21: Support Received for STEM Lab

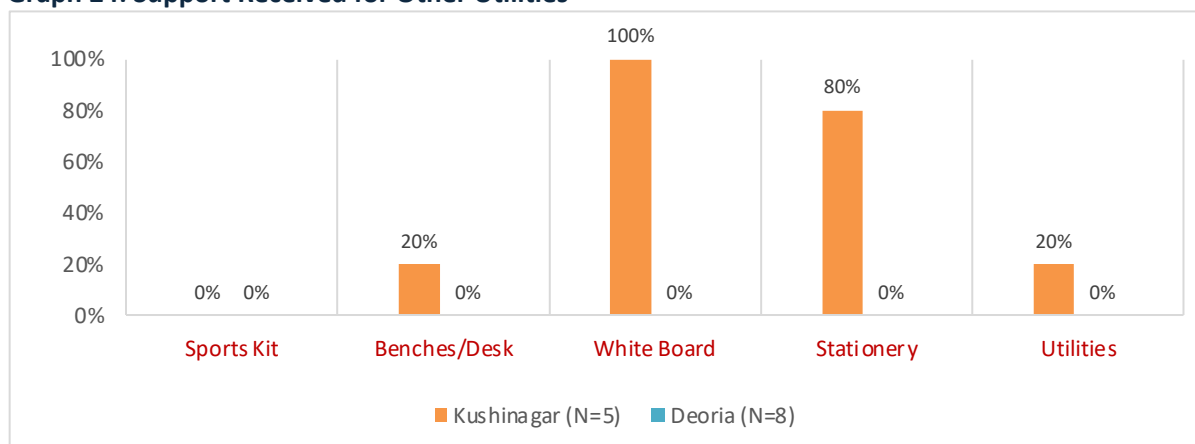
In both Kushinagar and Deoria, 100% of schools received STEM models and equipment, as well as posters and IEC materials, highlighting the comprehensiveness of these provisions. However, 80% of Kushinagar schools received digital content and project-related materials, compared to 38% and 50% in Deoria, respectively, suggesting a gap in digital infrastructure. The absence of desktops/laptops in both districts indicates a critical area for improvement.

Graph 22: Support Received for Library

Library infrastructure varied significantly between the districts. In Kushinagar, 100% of schools experienced full renovation of library halls and received comprehensive support, including storage racks, tables, chairs, and almira hs. Conversely, Deoria schools received storage racks (100%) and tables, chairs, and benches (88%) but lacked renovation support (0%). A notable gap is the absence of digital tools like desktops and projectors in both districts.

Graph 23: Support Received from Smart Class

Support for smart classes included 100% availability of K-YAN projectors provided to all schools, but other elements such as LED screens (0% in Kushinagar, 50% in Deoria) and desktops (20% in Kushinagar, 0% in Deoria) were limited. Deoria exhibited better provision of digital content (25%), indicating stronger technology integration. Additionally, the absence of laptops and inverters in both districts highlights potential areas for further improvement.

Graph 24: Support Received for Other Utilities

There was a disparity in the provision of other school supplies. In Kushinagar, 100% of schools received whiteboards, and 80% received stationery, which was not provided in Deoria (0%). However, benches and desks were minimally provided in Kushinagar (20%), suggesting that while some essential supplies were addressed, others were overlooked. This inconsistency highlights the need for a more balanced distribution of resources.

The trends show that while essential infrastructural support has been robust in certain areas like labs (100% for STEM models and IEC materials) and libraries (100% for renovation in Kushinagar), there are notable gaps in digital tools and specific school supplies. Both districts have unique strengths and deficiencies, indicating the need for tailored interventions to address these disparities and ensure holistic support for all schools.

Table 7: Interpretation of Critical Infrastructure on OECD Framework (On the scale of 1-5)

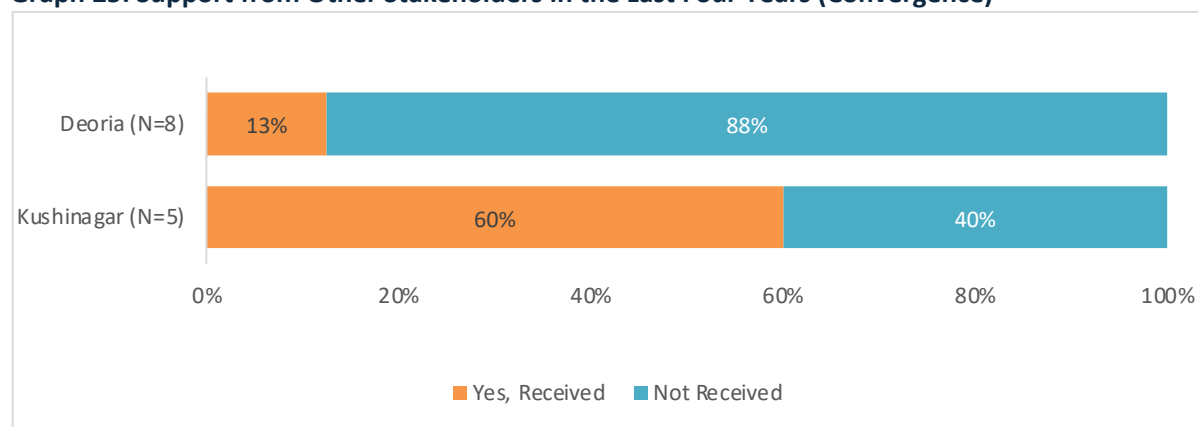
Overall Results	Relevance	Efficiency	Effectiveness	Impact	Sustainability	Overall
Lab	4.7	4.9	4.6	3.5	3.6	4.3
Library	4.7	4.9	4.8	3.8	3.6	4.4
Smart Class	4.4	4.8	4.2	4.0	3.5	4.2
Other School Supplies	3.8	4.1	3.9	3.4	3.8	3.8

Lab: The Lab infrastructure has proven highly relevant and efficient, with scores of 4.7 and 4.9, respectively. Overall satisfaction and usage are high, indicating the labs successfully met immediate needs. However, the impact (3.5) and sustainability (3.6) scores suggest a need for ongoing support to ensure long-term functionality and benefits.

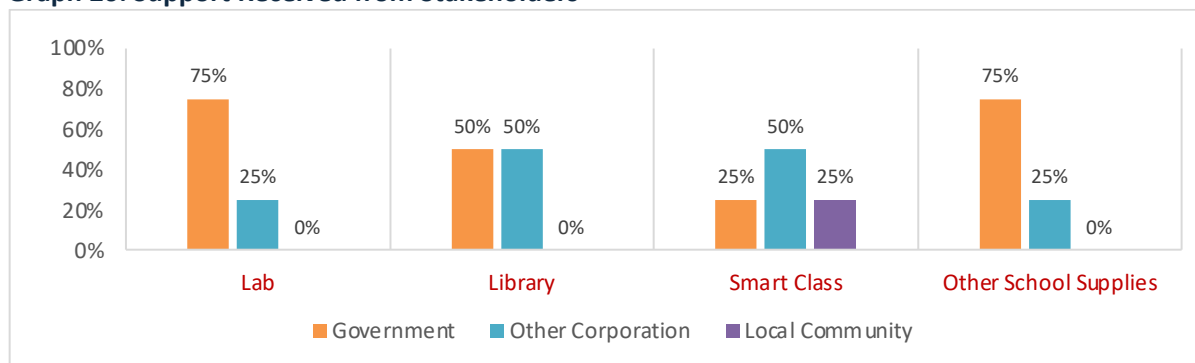
Library: The Library infrastructure scores high in relevance (4.7), efficiency (4.9), and effectiveness (4.8). These high scores reflect a well-utilized resource that significantly supports educational goals. The impact (3.8) and sustainability (3.6) scores are strong but indicate that continuous investment is needed to maintain and enhance these benefits over time.

Smart Class: The Smart Class infrastructure is highly relevant (4.4) and efficient (4.8), significantly improving educational experiences. While the effectiveness (4.2) and impact (4.0) scores are positive, they highlight areas for enhancement. The sustainability score (3.5) suggests a need for regular updates and maintenance to ensure long-term utility.

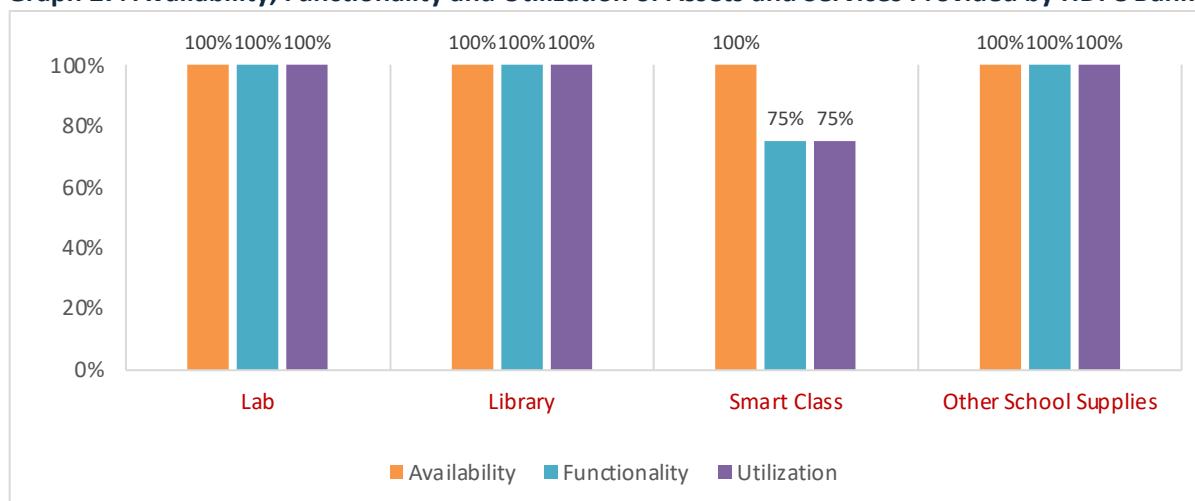
Other School Supplies: Other School Supplies support is moderately relevant (3.8) and efficient (4.1). These supplies effectively aid classroom activities (3.9) but have a limited impact (3.4) on overall educational outcomes. The sustainability score (3.8) indicates that maintaining an adequate supply of these materials is achievable with proper planning. These supplies are important yet less central to the school's infrastructure needs.

Graph 25: Support from Other Stakeholders in the Last Four Years (Convergence)

In the past four years, 60% of Kushinagar schools and only 13% of Deoria schools received additional support from stakeholders other than HDFC Bank.

Graph 26: Support Received from Stakeholders

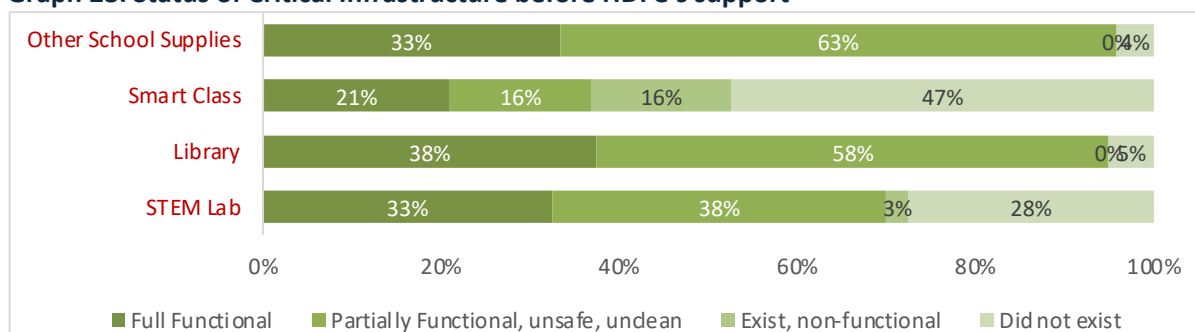
The limited convergence support for labs, libraries, smart classes, and school supplies primarily came from the government and other corporations, with minimal involvement from the local community.

Graph 27: Availability, Functionality and Utilization of Assets and Services Provided by HDFC Bank

The data suggests that while most infrastructures are effectively utilized, Smart Classes require improvements to reach their full potential. **Recommendations include training on how to operate equipment, adequate digital content and training on how to use it, and support, such as internet connectivity and a power supply.**

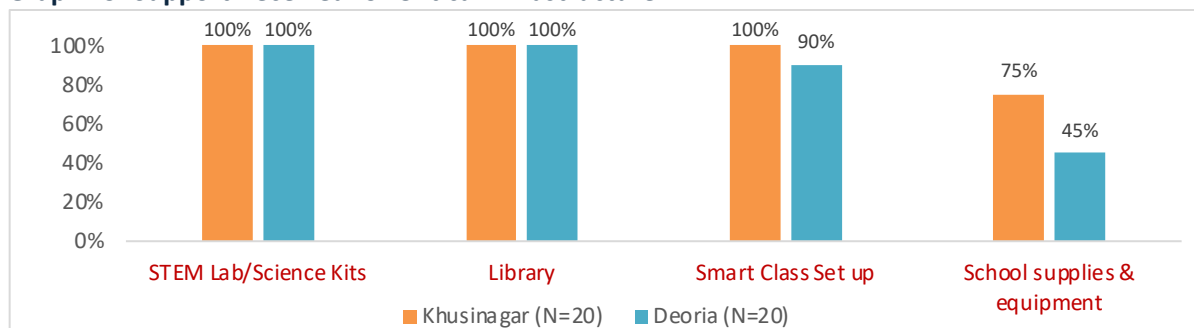
4.5.2 Teachers' Opinion of Critical/Communication Infrastructure

In this section, teachers share their perspectives on critical and communication infrastructure, providing valuable feedback on its impact and functionality.

Graph 28: Status of Critical Infrastructure before HDFC's support

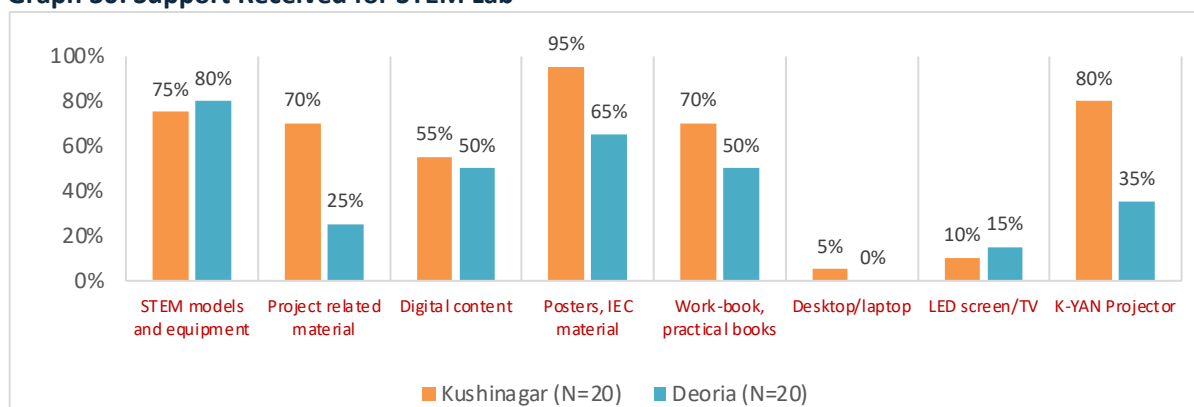
The pre-support status of infrastructure revealed a few gaps: 33% of STEM labs were fully operational, while 28% did not exist. Libraries showed better availability, with 38% fully functional; however, 5% were absent. Smart classes were the most lacking, with 47% missing. Other school supplies were largely available but often only partially functional (63%).

Graph 29: Support Received for Critical Infrastructure



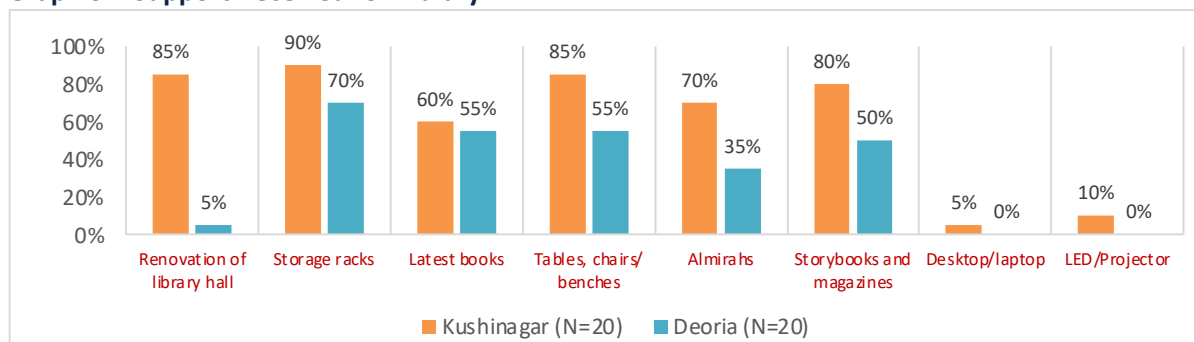
Support for school infrastructure sponsored by HDFC Bank is robust, with every school receiving STEM labs, science kits, and libraries. Smart class setups achieved 100% in Kushinagar and 90% in Deoria. However, school supplies and equipment were provided to 75% of schools in Kushinagar, while only 45% received them in Deoria.

Graph 30: Support Received for STEM Lab



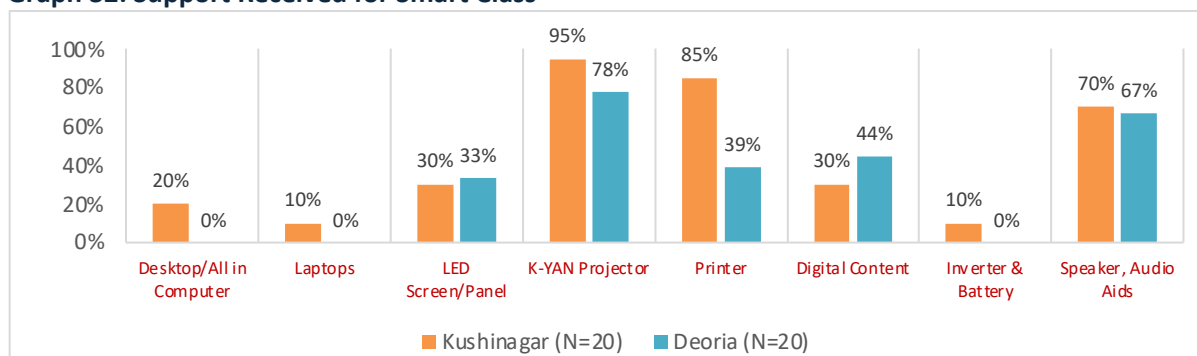
STEM models (75-80%), poster IEC (65-95%), and workbooks (50-70%) are widely available, along with K-YAN projectors (35-80%). However, desktops/laptops and LED TVs are scarce, likely due to reliance on K-YAN projectors for digital content display. Digital infrastructure remains insufficient, with only 50% of schools equipped. District-level variations are significant, with Deoria generally lagging across materials and equipment.

Graph 31: Support Received for Library



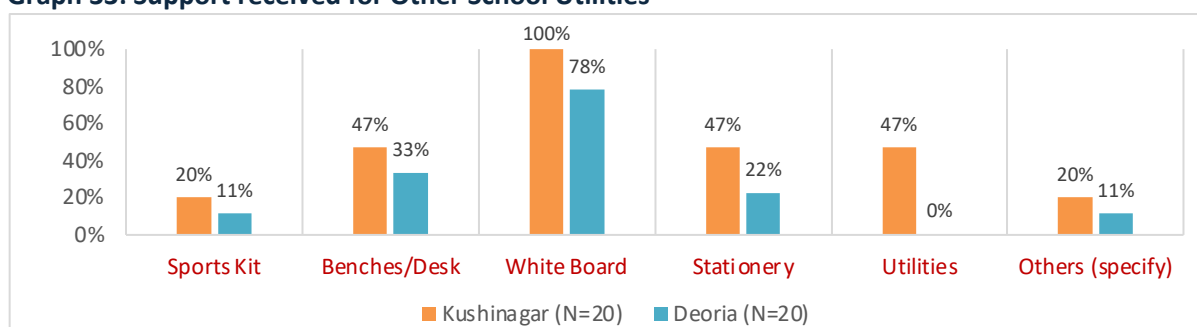
Library resources show notable disparities between districts. In Kushinagar, renovation of library halls (85%), storage racks (90%), and storybooks/magazines (80%) are widely available, whereas in Deoria, these figures drop significantly to 5%, 70%, and 50%, respectively. Availability of desktops/laptops and LED projectors is minimal, with no provision in Deoria, highlighting significant gaps in digital library infrastructure.

Graph 32: Support Received for Smart Class



Smart class infrastructure is partially adequate, with K-YAN projectors (95% in Kushinagar, 78% in Deoria) and audio aids (70%-67%) being widely available. However, critical digital tools like desktops, laptops, and inverters remain scarce, especially in Deoria, indicating significant gaps in supporting a fully functional smart class setup.

Graph 33: Support received for Other School Utilities



Other school supplies show mixed adequacy. Whiteboards are widely available (100% in Kushinagar, 78% in Deoria), but sports kits, benches/desks, and stationery remain limited, especially in Deoria. Utilities are completely absent in Deoria, reflecting significant disparities in basic school supplies between the two districts.

Table 8: Interpretation of Critical Infrastructure on OECD Framework (On the scale of 1-5)

Overall Results	Relevance	Efficiency	Effectiveness	Impact	Sustainability	Overall
STEM Lab	4.7	4.8	4.8	2.5	4.0	4.1
Library	4.7	4.8	4.8	3.5	4.1	4.4
Smart Class	4.5	4.6	4.2	3.6	3.7	4.1
Other School Supplies	4.1	4.3	4.2	4.1	3.8	4.1

STEM Lab: The STEM Lab scores highly in relevance (4.7), efficiency (4.8), and effectiveness (4.8), indicating that it effectively meets educational needs and utilizes resources well. However, the impact score (2.5) is low, suggesting a limited influence on broader educational outcomes. Sustainability (4.0) is moderate, indicating a need for ongoing support to maintain its benefits. Overall, it achieves a score of 4.1.

Library: The library infrastructure is also highly relevant (4.7), efficient (4.8), and effective (4.8), with strong performance in supporting educational goals. The impact score (3.5) is better than the STEM Lab's but still shows room for improvement. Sustainability (4.1) suggests a good potential for maintaining its benefits over time. Overall, it scores 4.4.

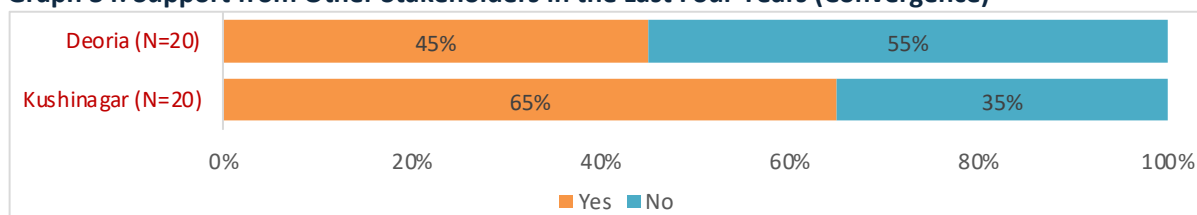
Smart Class: Smart Classes score highly in relevance (4.5) and efficiency (4.6), while their effectiveness is moderate (4.2). The impact score (3.6) indicates a positive influence on education, though it is not as high as that of other infrastructures. Sustainability (3.7) is lower, suggesting a need for ongoing updates and maintenance. Overall, it achieves a score of 4.1.

Other School Supplies demonstrate good relevance (4.1), efficiency (4.3), and effectiveness (4.2). The impact score (4.1) is higher, indicating significant benefits for education. However, sustainability (3.8) is moderate, suggesting a need for improved long-term planning. Overall, it scores 4.1.

These interpretations demonstrate that while most infrastructures are relevant, efficient, and effective, there are different levels of impact and sustainability, highlighting areas for further development and ongoing support.

Some delays were reported in Deoria, attributed to the NGO partner and other unspecified reasons, while no delays were reported in Kushinagar.

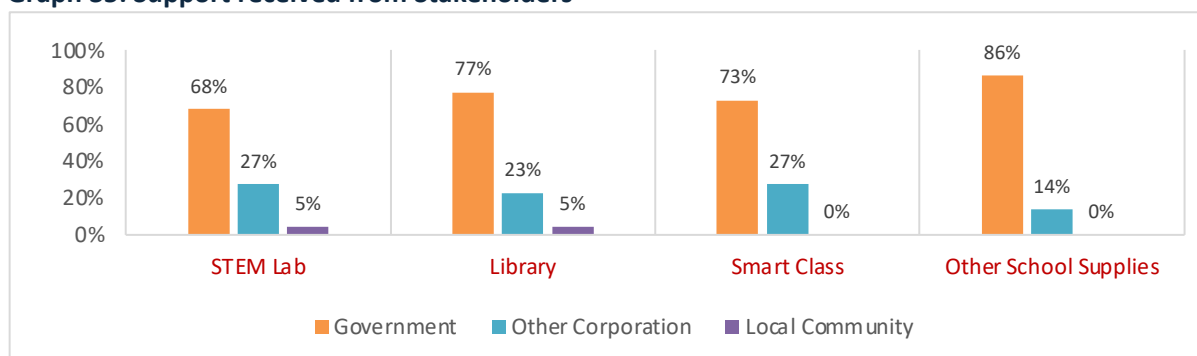
Graph 34: Support from Other Stakeholders in the Last Four Years (Convergence)

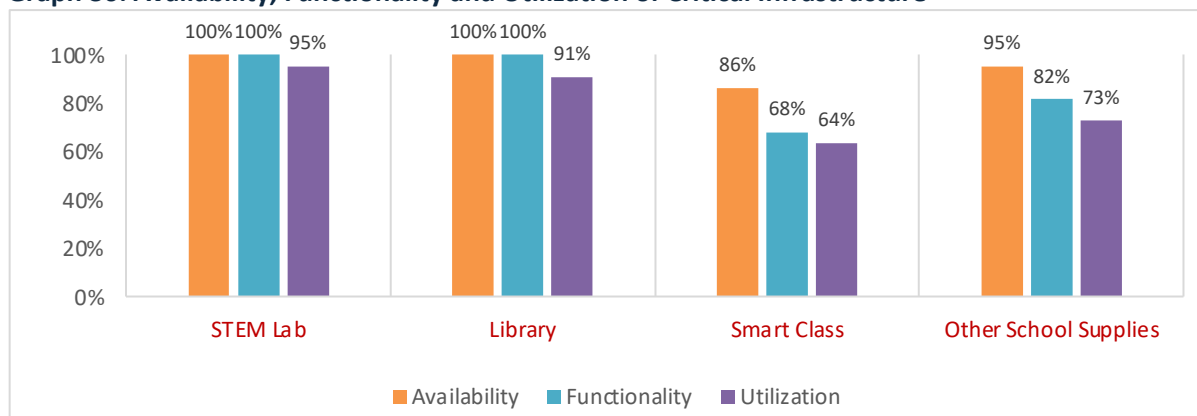
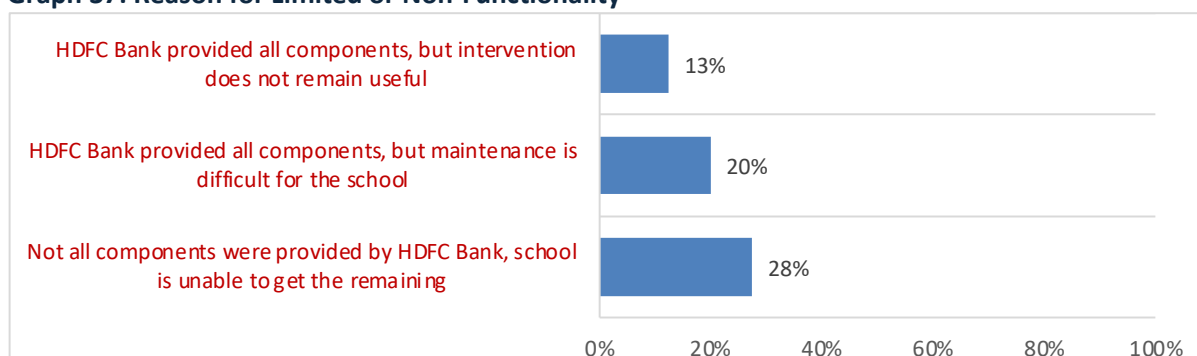


In the last four years, 65% of schools in Kushinagar and 45% in Deoria received support from stakeholders other than HDFC Bank to improve Critical Infrastructure.

The government emerged as the primary stakeholder, with limited contributions from other corporations and minimal involvement from the local community.

Graph 35: Support received from Stakeholders



Graph 36: Availability, Functionality and Utilization of Critical Infrastructure**Graph 37: Reason for Limited or Non-Functionality**

As illustrated above, the issues and drawbacks reported by teachers highlight several concerns. These points highlight the significant infrastructure gaps and challenges in the provided support's functionality, maintenance, and utility.

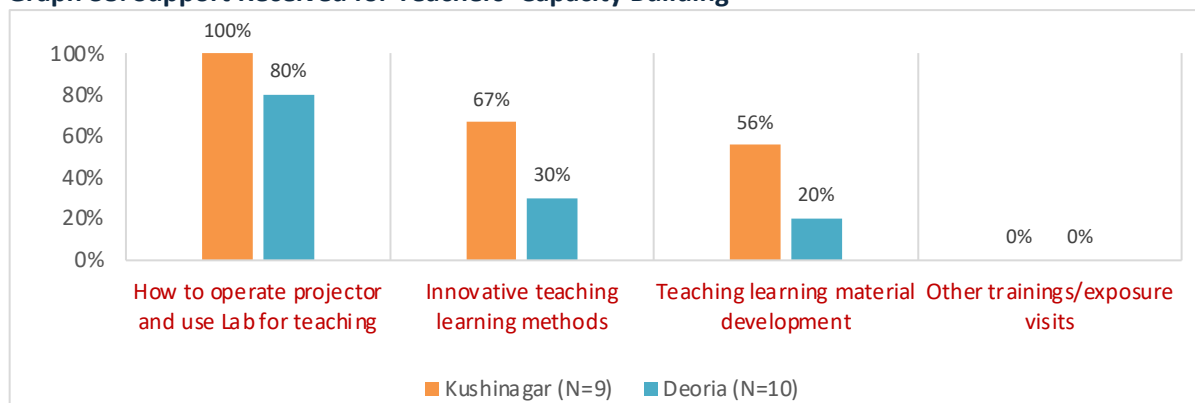
Limited measures to ensure functionality and utilisation remain challenging and hinder sustainability, with only 12% signing annual maintenance contracts and having a designated staff. Teacher training is the most common measure, but it remains.

4.6 Capacity Building of the Teachers

This section highlights the efforts made to enhance teachers' professional skills. Principals and teachers shared their views on the training programs and workshops aimed at improving teaching effectiveness.

4.6.1 Principals' Opinion of Teachers' Capacity Building

This subsection delves into the principals' opinions on the capacity-building initiatives for teachers, showcasing their observations and assessments of these programs.

Graph 38: Support Received for Teachers' Capacity Building

Teachers in Kushinagar and Deoria received support on operating projectors/labs (100% Kushinagar, 80% Deoria), innovative methods (67% Kushinagar, 30% Deoria), and material development (56% Kushinagar, 20% Deoria), with no exposure visits.

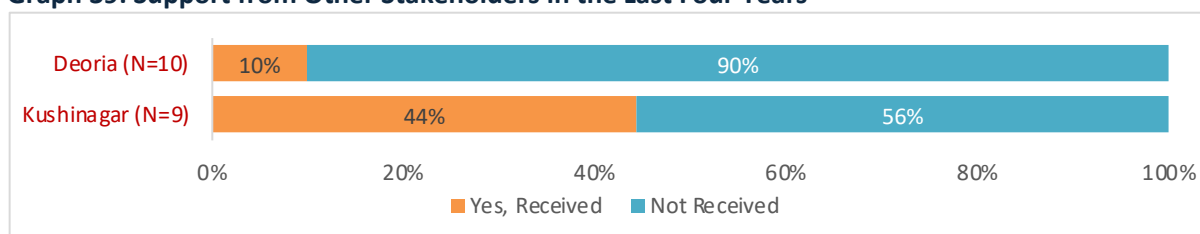
Table 9: Interpretation of Teacher Capacity Building on OECD Framework (On the scale of 1-5)

Overall Results	Relevance	Efficiency	Effectiveness	Impact	Sustainability	Overall
Using Smart Lab & Projector for Teaching	4.4	4.9	4.4	3.5	3.8	4.2
Innovative teaching learning methods	4.4	4.7	4.4	3.8	3.7	4.2
Teaching learning material development	4.7	4.6	4.5	3.7	3.9	4.3

Using Smart Lab & Projector for Teaching: The initiative to use Smart Labs and Projectors has proven highly relevant (4.4) and efficient (4.9) in enhancing the teaching process. The overall high satisfaction and usage rates reflect its effectiveness (4.4). However, the impact (3.5) and sustainability (3.8) scores indicate a need for continuous support and maintenance to ensure long-term benefits.

Innovative Teaching Learning Methods: Innovative teaching methods are highly relevant (4.4) and efficient (4.7) in improving educational practices. These methods have demonstrated effectiveness (4.4), contributing positively to the teaching environment. The impact (3.8) and sustainability (3.7) scores suggest potential for further development to maximize long-term benefits.

Teaching Learning Material Development: Developing teaching and learning materials is highly relevant (4.7) and efficient (4.6); and crucial in enhancing educational content for the students. The initiative is effective (4.5) in supporting teaching practices, though the impact (3.7) and sustainability (3.9) scores highlight areas for improvement. Continuous investment is needed to maintain and enhance these materials' benefits over time.

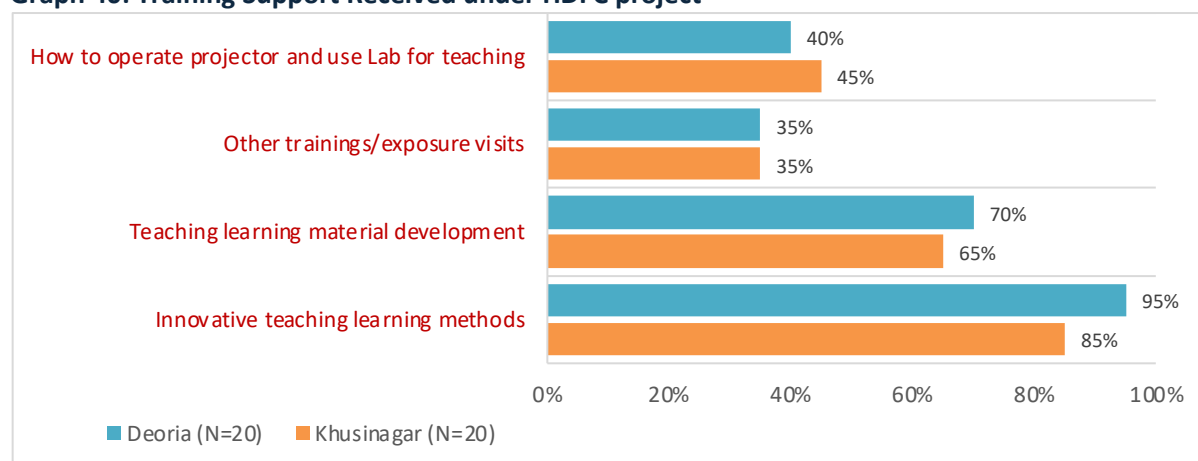
Graph 39: Support from Other Stakeholders in the Last Four Years

In the past four years, 44% of schools in Kushinagar received training support from the government other than HDFC Bank, compared to only 10% in Deoria. Largely, these trainings are based on activities to be undertaken with students to enhance and improve the students' learning outcomes.

4.6.2 Teachers' Opinion of Teachers' Capacity Building

Here, teachers express their views on the capacity-building efforts, discussing the benefits and challenges they have experienced in enhancing their teaching skills and effectiveness.

Graph 40: Training Support Received under HDFC project



Innovative teaching-learning methods received the most focus, with 85% of Kushinagar and 95% of Deoria teachers trained. Teaching material development (65% Kushinagar, 70% Deoria) was also emphasized. Other training and projector/lab usage had lower focus (35% and 45% in Kushinagar, 35% and 40% in Deoria).

Table 10: Interpretation of Teacher Capacity Building on OECD Framework (On the scale of 1-5)

Overall Results	Relevance	Efficiency	Effectiveness	Impact	Sustainability	Overall
Innovative teaching-learning methods	4.6	4.7	4.6	4.2	3.8	4.4
Teaching learning material development	4.4	4.7	4.7	3.2	3.8	4.2
Other training/exposure visits	4.4	4.6	4.2	2.9	3.7	4.0
How to operate projector and use Lab for teaching	4.6	4.8	4.6	2.9	3.9	4.1

Innovative Teaching-Learning Methods: With an overall score of 4.4, innovative teaching-learning methods are highly relevant (4.6) and efficient (4.7). They are also effective (4.6) in enhancing teaching practices and have a significant impact (4.2) on education. However, sustainability (3.8) is moderate, suggesting ongoing support is needed.

Teaching Learning Material Development: This aspect scores 4.2 overall, with high relevance (4.4) and efficiency (4.7). It is very effective (4.7) in supporting teaching, though the impact (3.2) is lower. Sustainability (3.8) indicates that while beneficial, continuous efforts are required to maintain its advantages.

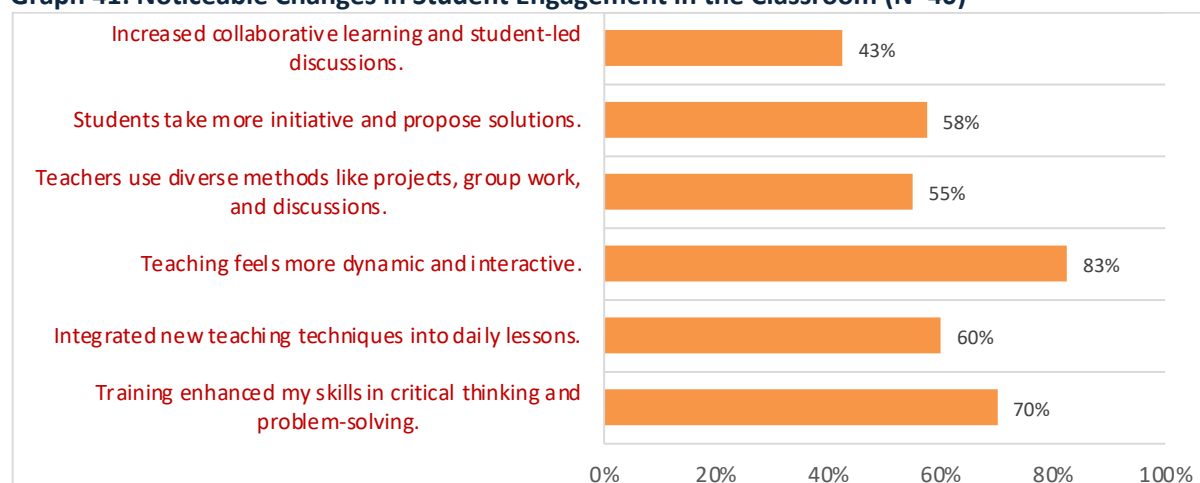
Other Training: With an overall score of 4.0, these programs are relevant (4.4) and efficient (4.6). They are moderately effective (4.2) but have a lower impact (2.9). Sustainability (3.7) remains challenging, highlighting the need for enhanced support and resources.

How to Operate a Projector and Use a Lab for Teaching: Overall, this training scored 4.1, making it highly relevant (4.6) and efficient (4.8). It is effective (4.6) in improving technical skills but has a lower impact (2.9). Sustainability (3.9) suggests the need for regular updates and maintenance to ensure long-term benefits.

These interpretations of the OECD framework indicate that while teacher capacity-building initiatives are generally relevant, efficient, and effective, their impact and sustainability vary, highlighting areas for future development.

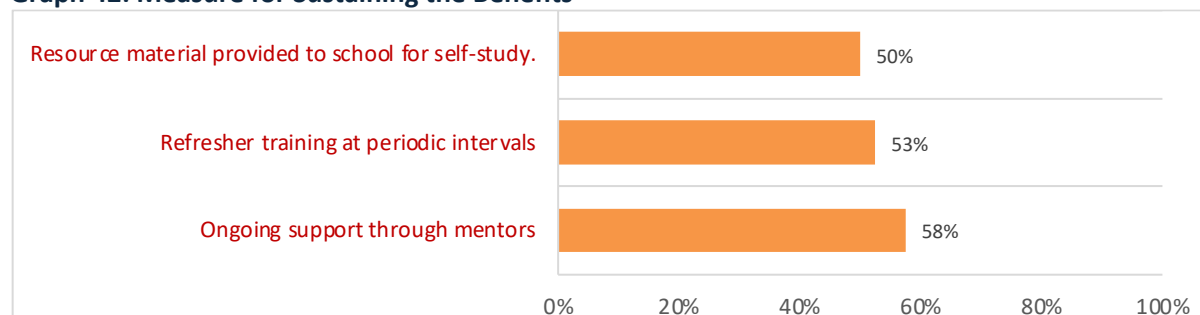
Teachers face challenges with new methods due to rigid curricula, lack of administrative support, fragmented classroom environments, and electricity shortages. These issues hinder effective implementation and learning from the training.

Graph 41: Noticeable Changes in Student Engagement in the Classroom (N=40)

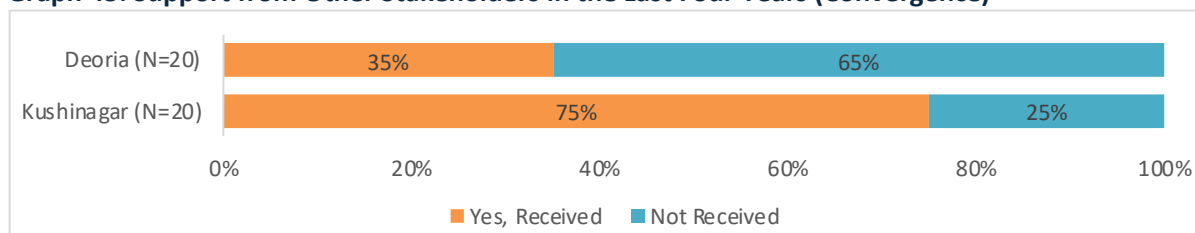


Noticeable changes in student engagement include enhanced skills in critical thinking and problem-solving (70%), integration of new teaching techniques (60%), more dynamic and interactive teaching (83%), diverse teaching methods (55%), increased student initiative (58%), and more collaborative learning and student-led discussions (43%).

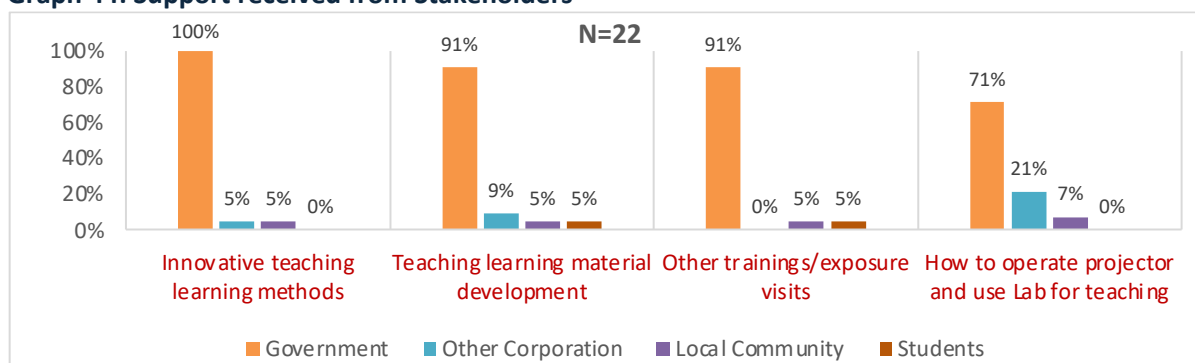
Graph 42: Measure for Sustaining the Benefits



Measures for sustaining benefits include ongoing mentor support (58%), periodic refresher training (53%), and providing resource materials for self-study (50%).

Graph 43: Support from Other Stakeholders in the Last Four Years (Convergence)

In the last four years, 75% of schools in Kushinagar and 35% in Deoria received support from other stakeholders besides HDFC Bank.

Graph 44: Support received from Stakeholders

Convergence data shows government support was high across all activities (100% for innovative teaching methods, 91% for teaching material development and other trainings, and 71% for projector/lab usage). Contributions from other corporations, local communities, and students were minimal.

4.7 Capacity Building of School Management Committees (SMCs)

This section covers the responses from School Management Committee members about the development and effectiveness of SMCs.

Table 11: Interpretation of Capacity Building of SMC on OECD Framework (On the scale of 1-5)

Overall Results	Relevance	Efficiency	Effectiveness	Impact	Sustainability	Overall
Formation/Revival of SMC	4.2	4.5	4.2	4.5	3.4	4.2
Training Programs	4.3	4.5	4.2	4.5	3.3	4.1
Community Engagement Programs	4.1	4.5	4.3	4.5	3.4	4.2
Monitoring and Evaluation Mechanisms Development	4.2	4.5	4.2	4.5	3.5	4.2

Formation and Revival of SMC: HDFC Bank's support has been crucial in establishing and revitalizing School Management Committees (SMCs), which achieved a strong overall score of 4.2 on the OECD framework. The process is highly relevant (4.5) to the schools' needs, efficient (4.2) in its implementation, and effective (4.5) in reaching its goals. However, with a sustainability score of 3.4, ongoing efforts are necessary to maintain and support these committees over the long term.

Training Programs: Training programs for SMCs have also been a key focus, with an overall score of 4.1. These programs are highly relevant (4.3) and efficient (4.5), ensuring that SMC members are well-prepared to manage school affairs effectively (4.2). However, the sustainability of these training

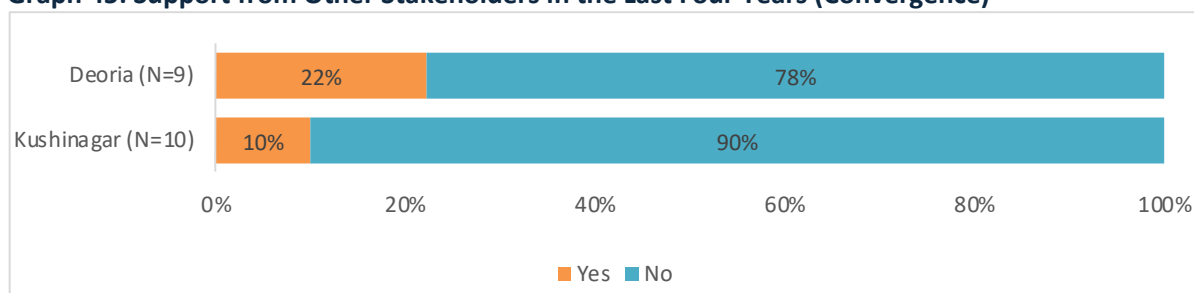
initiatives is slightly lower (3.3), indicating that ongoing training and support are essential to ensure long-term benefits.

Community Engagement Programs: HDFC Bank's support has also extended to community engagement programs, which scored an overall 4.2. These programs are relevant (4.1) and efficient (4.5) and effectively (4.3) foster stronger ties between the schools and their communities. With a sustainability score of 3.4, there is room for improvement to ensure that these engagement efforts have lasting impacts.

Monitoring and Evaluation Mechanisms Development: The development of monitoring and evaluation mechanisms received an overall score of 4.2, highlighting its importance in ensuring accountability and progress tracking. These initiatives are highly relevant (4.2), efficient (4.5), and effective (4.2). The slightly higher sustainability score (3.5) compared to other areas suggests a more solid foundation, although continued effort is still required.

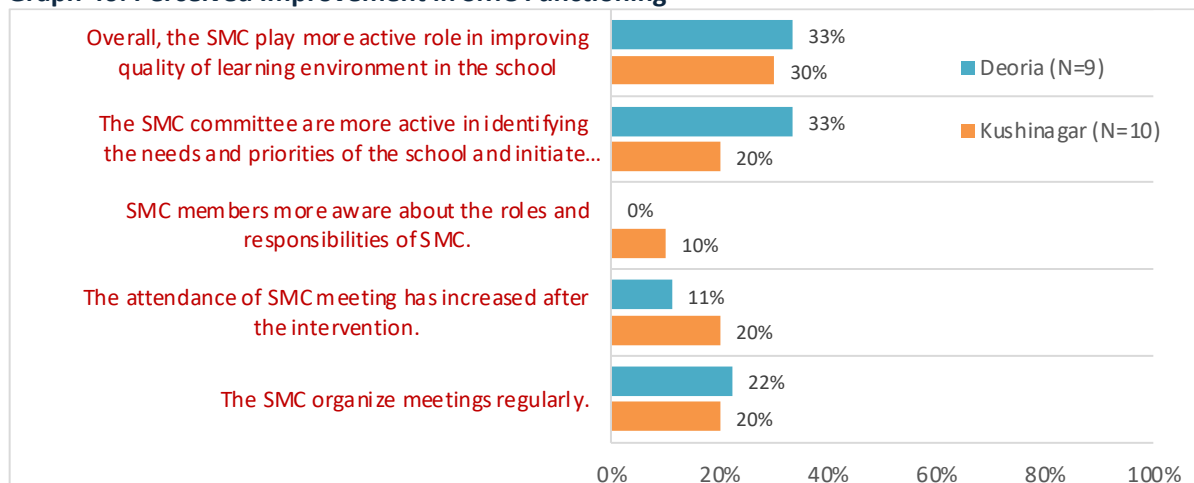
Overall, HDFC Bank's support for SMC empowerment focuses on forming and reviving committees, providing training, fostering community engagement, and developing robust monitoring and evaluation mechanisms. These efforts are crucial for building a strong, effective, and sustainable management system within schools, although continuous support and improvement are necessary to maintain long-term success.

Graph 45: Support from Other Stakeholders in the Last Four Years (Convergence)



Over the past four years, a small number of schools (10% in Kushinagar and 22% in Deoria) received additional stakeholder support for SMC development. This support, covering SMC formation/revival, training programs, community engagement, and monitoring mechanisms, was solely provided by the government.

Graph 46: Perceived Improvement in SMC Functioning



In both Kushinagar and Deoria, the SMCs have become more active and significantly improved the learning environment, with 30% in Kushinagar and 33% in Deoria. Regular meetings and increased attendance have been observed, although awareness of roles is limited in Deoria.

4.8 Students' View on the Development Support

This section presents insights collected from Focus Group Discussions (FGDs) held with students. It highlights their perspectives on the advantages brought about by several educational developments, such as the introduction of smart classrooms, and other innovative enhancements. These discussions reveal how students perceive these initiatives as beneficial for their learning experiences and overall academic growth.

Table 12: Students' Response on the Perceived Changes Due to Smart Class/Digital Class

Statement	Kushinagar (N=40)		Deoria (N=40)		Total (N=80)	
	N	%	N	%	N	%
Students interest in topics and studies has increased.						
Strongly agree	30	75%	26	65%	56	70%
Agree	10	25%	14	35%	24	30%
Cannot say	0	0%	0	0%	0	0%
Disagree	0	0%	0	0%	0	0%
Strongly Disagree	0	0%	0	0%	0	0%
Class environment in smart class becomes joyful for learning concepts and topics.						
Strongly agree	18	45%	23	58%	41	51%
Agree	22	55%	17	43%	39	49%
Cannot say	0	0%	0	0%	0	0%
Disagree	0	0%	0	0%	0	0%
Strongly Disagree	0	0%	0	0%	0	0%
It is easy to learn topics/concepts quickly.						
Strongly agree	29	73%	21	53%	50	63%
Agree	10	25%	19	48%	29	36%
Cannot say	0	0%	0	0%	0	0%
Disagree	1	3%	0	0%	1	1%
Strongly Disagree	0	0%	0	0%	0	0%
Participation of students in the classes has increased.						
Strongly agree	18	45%	19	48%	37	46%
Agree	21	53%	21	53%	42	53%
Cannot say	0	0%	0	0%	0	0%
Disagree	1	3%	0	0%	1	1%
Strongly Disagree	0	0%	0	0%	0	0%
Digital content provides an opportunity of remembering the subject easily and recall the discussion.						
Strongly agree	11	28%	18	45%	29	36%
Agree	29	73%	22	55%	51	64%
Cannot say	0	0%	0	0%	0	0%
Disagree	0	0%	0	0%	0	0%
Strongly Disagree	0	0%	0	0%	0	0%
Students have started securing good marks/grades.						
Strongly agree	5	13%	21	53%	26	33%

Statement	Kushinagar (N=40)		Deoria (N=40)		Total (N=80)	
Agree	34	85%	19	48%	53	66%
Connot say	0	0%	0	0%	0	0%
Disagree	1	3%	0	0%	1	1%
Strongly Disagree	0	0%	0	0%	0	0%

Based on the data in the above table, the majority of the students expressed agreement over the benefits of smart and digital classes. The detailed description for each component has been discussed as follows:

Increased Interest in Topics and Studies: Implementing smart classes has significantly increased students' interest in topics and studies. A total of 100% of students reported positive changes, with 70% strongly agreeing and 30% agreeing. This enthusiastic response indicates that digital classrooms effectively engage students and make learning more enjoyable and interesting.

Joyful Class Environment: Introducing smart classes has created a more joyous and conducive environment for learning. All students expressed positive sentiments, with 51% strongly agreeing and 49% agreeing that the class environment has become more enjoyable. This positive atmosphere likely enhances students' overall learning experiences and encourages active participation.

Ease of Learning Topics/Concepts Quickly: A total of 99% of students found it easier to learn topics and concepts quickly in smart classes. With 63% strongly agreeing and 36% agreeing, the digital tools and resources provided in these classes appear to streamline the learning process, improving understanding and retention of information.

Increased Student Participation: Student participation has seen a significant boost with the introduction of smart classes, as reported by 99% of students. Out of these, 46% strongly agreed and 53% agreed that their participation in classes has increased. The interactive elements of digital classrooms encourage more students to engage actively in lessons.

Enhanced Recall with Digital Content: The digital content used in smart classes has greatly improved students' ability to remember and recall information. All students reported benefits, with 36% strongly agreeing and 64% agreeing. The multimedia approach of smart classes reinforces learning and helps students retain knowledge more effectively.

Improved Grades/Marks: The impact of smart classes on students' academic performance has been notably positive, with 99% of students reporting improved grades and marks. Of these, 33% strongly agreed and 66% agreed that their performance had improved. This indicates that the engaging and effective teaching methods used in digital classrooms contribute significantly to students' academic success.

Students' Perception of Digital/Smart Classes

1. **Ease of Understanding Concepts:** Students find it significantly easier to understand and retain information when concepts are taught through videos and digital content. Visual aids and demonstrations by teachers help in quick comprehension.

2. **Teaching Methods:** Teachers generally use a mix of demonstrations, videos, and discussions. While some actively engage with students during the digital lessons, others may rely more on video content to convey information.
3. **Improvement in Learning:** There is a noticeable improvement in learning outcomes since the introduction of smart classes. Students report better understanding, quicker recall of information, and an overall enhancement in their learning experience.
4. **Challenges:** The primary challenge faced by students is related to power outages, which disrupt the learning process. Other issues include initial difficulties with language changes and occasional technical problems with projectors and connectivity.
5. **High Satisfaction Levels:** Despite some challenges, students express high levels of satisfaction with smart classes. They appreciate the improved learning environment and the ease with which they can grasp and remember new concepts. The overall feedback is very positive, indicating the success of the digital learning initiatives.

Conclusion and Recommendation

After reviewing the study findings, we concluded the support provided to the schools and developed a set of recommendations. The following discussion presents the conclusions drawn from our discussions with principals, teachers, SMC members, and students, along with recommendations for upcoming projects.

4.1 CONCLUSION

The assessment encompassed a comprehensive evaluation of 20 schools, each of which was visited in person to gauge the level of support being provided. During this thorough examination, key stakeholders were engaged in conversations, including principals, teachers, and students—each serving as vital beneficiaries of the support initiatives in place. Their insights were instrumental in understanding the effectiveness and impact of the resources allocated to the schools.

The majority of the principals are seasoned professionals with postgraduate degrees. Their extensive experience and long tenure (53% have been at their current school for 11 to 20 years) provide them with a deep understanding of their schools' needs and challenges, fostering consistent leadership.

The principals have acknowledged that the HDFC Grant has been crucial in improving school facilities and building capacity. All schools received support for SMART classes, library support, and STEM labs. Furthermore, 19 schools improved their drinking water facilities, all schools benefited from Building as Learning Aid (BaLA) initiatives, and all schools underwent toilet construction/repairs or renovation. Moreover, all schools received teacher training for SMART classes and STEM labs.

Smart Class

HDFC's support for Smart Classes has significantly enhanced teaching and learning, with increased student attendance (99%), improved understanding of concepts (100%), and higher enrollment and outcomes (99%). Teachers feel more dynamic and interactive while taking classes. Teachers have an opinion that students' skills in critical thinking and problem-solving have increased.

Key resources provided include KYAN projectors (100%), processing units (100%), and digital content for various subjects. Installation was efficiently handled by suppliers/vendors (100%). Challenges remain in electricity issues, outdated content and equipment maintenance. While most teachers (99%) are satisfied with digital education, the majority of schools (90%) have some funds for maintenance.

HDFC's initiative has positively impacted student engagement and learning outcomes, but ongoing maintenance and resource constraints need attention to ensure lasting success.

STEM Lab

Out of 20 schools, all 20 received support from HDFC for setting up STEM labs. The support included various equipment and materials such as science and math models, whiteboards and materials for science projects. Teachers reported significant improvements due to the STEM labs, including

increased student interest (99%), enhanced engagement through practical demonstrations (99%), and better subject understanding (99%).

Library

HDFC's support for libraries has positively impacted all 20 schools, with all schools receiving new almirahs for storage and benefiting from infrastructure renovation. This assistance has enriched educational content and improved reading habits for 100% of students. All schools have book issuance facility and dedicated teachers for the library.

Toilet Facilities

Principals reported significant improvements in toilet sanitation, with 100% of schools receiving support for toilet construction or refurbishment. All principals are satisfied with the quality.

Drinking Water Facilities

Improvements in drinking water facilities, including new Aqua Guard UV purifiers, were found functional in 18 schools.

BaLA Initiatives

BaLA supports improved learning environments in all 20 schools, with 100% reporting a more colourful and creative space and better sports facilities. This has significantly enhanced student engagement, demonstrating the effectiveness of such initiatives.

Overall, while the HDFC Grant has made substantial contributions, areas such as facility sufficiency and maintenance funding require attention to ensure sustained impact.

4.2 RECOMMENDATIONS

Here is one critical recommendation for each thematic area:

- **Smart Class:** Strengthen technical support and maintenance of smart class equipment, addressing equipment functionality and content update challenges. Teachers should be provided with training on digital content and how to use it.
- **Training and Other Administrative Support:** Teachers face challenges with new methods due to rigid curricula, lack of administrative support, fragmented classroom environments, and electricity shortages. These issues hinder the effective implementation of smart classes.
- **Drinking Water:** Ensure that adequate funds are allocated towards enhancing and upkeeping water filtration and distribution systems to guarantee a consistent and secure drinking water supply for all students.

Findings on the OECD Criteria

This chapter provides the impact assessment findings considering the OECD research framework or criteria to oversee the overall impact of the HDFC Bank-supported project on smart school development.

HARD INFRASTRUCTURE

Overall Results	Relevance	Efficiency	Effectiveness	Impact	Sustainability	Overall
Building and BaLA painting	4.4	4.8	4.9	4.2	3.6	4.4
Classroom	4.0	4.8	4.6	3.5	3.5	4.1
Toilet	4.6	4.9	5.0	3.6	4.1	4.4
Drinking Water	4.7	4.8	4.8	4.4	4.1	4.6
Library	4.2	4.6	4.6	3.8	4.1	4.3
Overall (Hard Infrastructure)						4.3

CRITICAL INFRASTRUCTURE

Overall Results	Relevance	Efficiency	Effectiveness	Impact	Sustainability	Overall
STEM Lab	4.7	4.9	4.6	3.5	3.6	4.3
Library	4.7	4.9	4.8	3.8	3.6	4.4
Smart Class	4.4	4.8	4.2	4.0	3.5	4.2
Other School Supplies	3.8	4.1	3.9	3.4	3.8	3.8
Overall (Critical Infrastructure)						4.2

TEACHERS' CAPACITY BUILDING

Overall Results	Relevance	Efficiency	Effectiveness	Impact	Sustainability	Overall
Using Smart Lab & Projector for Teaching	4.4	4.9	4.4	3.5	3.8	4.2
Innovative teaching learning methods	4.4	4.7	4.4	3.8	3.7	4.2
Teaching learning material development	4.7	4.6	4.5	3.7	3.9	4.3
Overall (Teachers' Capacity Building)						4.2

Overall Average Score – 4.23

