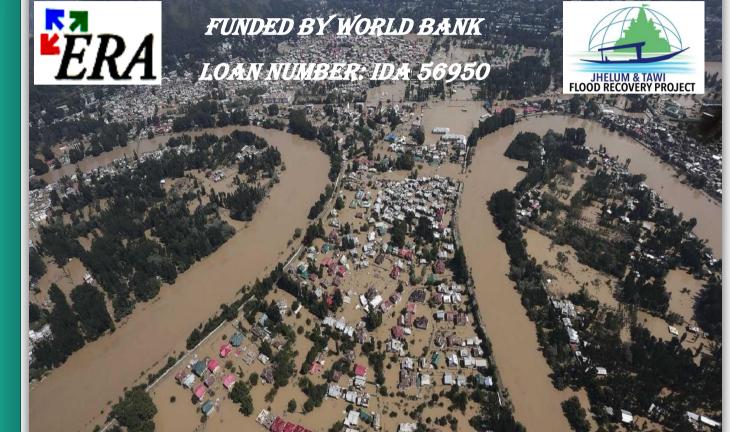




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SUB-PROJECT COMPLETION REPORT

"JHELUM TAWI FLOOD RECOVERY PROJECT"



<u>COMPONENT – I</u>

RECONSTRUCTION INFRASTRUCTURE

STRENGTHENING

OF CRITICAL

VOLUME – I

Prepared By: Lea Associates South Asia Pvt. Ltd.

&

Technical Assistance & Quality Audit Consultants

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VOLUME-I

RECONSTRUCTION/ RESTORATION OF SCHOOL BUILDING IN KASHMIR DIVISION







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SUB-PROJECT COMPLETION REPORT JTFRP KASHMIR DIVISION PMU JTFRP KASHMIR

1. Introduction

1.1 Project Background

In September 2014, Jammu & Kashmir experienced torrential monsoon rains in the region causing major flooding & landslides. The continuous spell of rains from September 2-6, 2014 caused Jhelum and Chenab Rivers as well as many other streams/tributaries to flow above the danger mark. The Jhelum River also breached its banks flooding many low-lying areas in Kashmir, including

g the capital. In many districts, the rainfall exceeded the normal by over 600%. The Indian Meteorological Department (IMD) records precipitation above 244.4 mm as extremely heavy rainfall and J&K received 558mm of rain in the June – September period as against the normal 477.4 mm. For example, the district of Qazigund recorded over 550 mm of rainfall in 6 days as against a historic normal of 6.2 mm over the same period.

Due to unprecedented heavy rainfall the catchment areas particularly the low lying areas were flooded for more than two weeks. Some areas in urban Srinagar stayed flooded for 28 days. Water levels were as high as 27 feet in many parts of Srinagar. The areas from the main tributaries of river Jhelum vis-à-vis Brenginallah, Vishavnallah, Lidernallah and Sandrannallah started overflowing due to the heavy rainfall causing water levels in Jhelum to rise. Subsequently, the discharge of the river Suran was 200 thousand cusecs as against an average of 50 thousand cusecs. With the excessive discharge of water, the river Suran affected the basin areas and also took a different course at various locations causing damages to the surrounding villages in the catchment area. Water levels also increased in the rivers of Chenab and Tawi, both of which were flowing above normal levels. Due to the rivers overflowing nearly 20 districts of the State were impacted.

A Joint team led by the Department of Economic Affairs (DEA), Gol, with representation from the World Bank visited J&K on October 21, 2014. Subsequently, Gol has sent a request to the World Bank on January 5, 2015 to field a joint Rapid Damage and needs Assessment (RDNA) Mission within the State. In response, a mission of the World Bank visited the State during February 1-6, 2015 in order to produce a rapid multi-sectored assessment report of the damages and needs. The RDNA estimates the total damages and loss caused by floods at about INR 211.975 Million, most of it to housing, livelihoods; roads and bridges which combined represented more than 70% of the damages in terms of value. Public service infrastructure and equipment of hospitals and education centers were also severely damaged and were still not fully operational.





The primary focus of the project "Jhelum & Tawi Flood Recovery Project" is on restoring critical infrastructure using international best practice of resilient infrastructure. Given the region's vulnerability to both flood and earthquakes, the infrastructure will be designed with upgraded resilient feature, and will include contingency planning for future disaster events. Therefore, a study followed by detailed reports on flood management aims at both restoring essential services disrupted by the floods and improving the design standards and practices resilience.

The Government of India has received a loan from the World Bank towards the cost of Jhelum &Tawi Flood Recovery Project (JTFRP) for Government of Jammu and Kashmir. The Disaster Management, Relief & Rehabilitation Department, Government of J&K has been appointed as the implementing agency. One Project Management Unit (PMU) has been set up under this implementing agency which is responsible for overall project management, coordination and reporting.

Based on the Rapid Damage Needs Assessment (RDNA): Results, restoration works underway and discussion with the GOJ&K, the project will focus on resorting critical infrastructure using international best practice on resilient infrastructure. Given the state's vulnerability to both floods and earthquakes, the infrastructure will be designed with upgraded resilient features and will include contingency planning for further disaster events. Therefore, the project aims at both restoring essential services disrupted by the floods and improving the design standard and practices in the state to increase resilience.

1.2 <u>Project Development Objective:</u> The Project Development Objective (PDO) is to support the recovery and increase disaster resilience in targeted areas of the state and increase the capacity of the state entities to respond promptly and effectively to an eligible crisis or emergency.

1.3 Project Components:

The project is comprised of the following seven components:

- 1. Reconstruction and strengthening of critical infrastructure (US\$50 million)
- 2. Reconstruction of roads and bridges (US\$55 million)
- 3. Restoration of urban flood management infrastructure (US\$40 million)
- 4. Restoration and strengthening of livelihoods (US\$15 million)
- 5. Strengthening disaster risk management capacity (US\$25 million)
- 6. Contingent Emergency Response (US\$45 million)
- 7. Implementation Support (US\$20 million). Total Amount is US\$ 250 Million.





<u>Component 1 – Reconstruction and strengthening of critical infrastructure, US\$60</u> million

The objective of this component is to support the reconstruction/restoration of damaged public buildings, such as hospitals, schools, higher and technical education buildings, fire stations, and selected block and district offices, and other important public buildings. It will include the restoration of partially damaged structures and the reconstruction of fully damaged structures, including equipment and furniture.

The component will finance infrastructure and equipment damaged by the disaster, and improvements to current structures to increase resilience. Assessments will be carried out to determine the extent of structural integrity and retrofitting/reconstruction needs. For hospitals, the reconstruction will be focused on replacement of damaged specialized medical equipment, setting up specialized equipment on higher levels which will entail strengthening the structural integrity of buildings in order to be able to sustain the heavy load. For some hospitals, special diagnostics and pathology sections/extensions will be built since existing structures will be unable to sustain the load of heavy equipment on higher levels. Some older hospitals will also require retrofitting in order to ensure seismic resistance. The component will also finance the repair and reconstruction of damaged higher education and technical buildings, fire station, and other public buildings, including the procurement of equipment/furniture, etc.

VOLUME -I: SCHOOLS under Execution by PWD R&B (Kashmir) & JKPCC.

Under this Components 34 no's School buildings for Primary Schools, Middle Schools, High Schools and Higher Secondary Schools were constructed under the Supervision of PWD (R&B) Kashmir as PIU and one School under force account by JKPCC. All the Schools were identified by the PWD (R&B) authority and approved by the World Bank under JTFRP (J&K). Out of 34 no's School Buildings only 25 no's (including JKPCC School) completed and following 9 no's School Buildings cannot be taken up for construction due to different reason (Land and other Local Issues).

- (A) Construction of 2 no's Class Room with Verandah, Toilet block and allied infrastructure at GMS Shivpora and Batwara Srinagar Kashmir.
- (B)Construction of 4 no's Class rooms and 2 no's Class rooms with Verandah, Toilet block and allied infrastructure at GHSS Samboora and Dogripora, GMS Rakhi Litter, GMS Batpora Naina and GPS Aghanjipora Pulwama Kashmir.
- **(C)**Construction of 2 no's Class rooms with Verandah, Toilet block and allied infrastructure at GBHS Nazneenpora ,GBMS Melhura and GBMS Reban Shopain Kashmir.
- (D)Construction of 4 no's Class rooms with Verandah, Toilet block and allied infrastructure at GMS Gund-i- Kilam Kulgam Kashmir.





- (E) Construction of 4 no's Class rooms with Verandah, Toilet block and allied infrastructure at GMS Kulhama Bandipora Kashmir.
- (F) Construction of 2 no's Class rooms and 4 no's Class rooms with Verandah, Toilet block and allied infrastructure at GMS Naikpora, GGHSS Yaripora Kulgam.
- **(G)**Construction of 4 no's Class rooms and 2 no's Class rooms with Verandah, Toilet block and allied infrastructure at GMS Arwani,GHSS Arwani,GMS Hafizabad,Subhanpora and GBMS Tawella Anantnag Kashmir.
- (H) Construction of 4 no's Class rooms and 2 no's Class rooms with Verandah, Toilet block and allied infrastructure at GHS Jablipora,GHSSWanpoh,GMS Katriteng,GBHSS Bijbehara and GHSS Blijbehara Anantnag Kashmir.
- (I) Construction of Govt Boys Higher Secondary School Jawahar Nagar.

All these buildings have been designed as Frame structure based on the individual bearing capacity of the Soil. The Infrastructure has been designed to with stand Earthquake as per the latest design guideline.

2. Executive Summary:

- Objective: The objective of this subproject is to effectively restore and reconstruct damaged schools while integrating the Building as Learning Aids (BALA) technique. This approach not only focuses on repairing and rebuilding facilities to ensure safety and resilience against future disasters but also enhances existing structures to create engaging educational environments. The project aims to foster activity-based and inclusive education for all children, addressing diverse learning needs and promoting a supportive atmosphere. By transforming traditional classrooms into dynamic spaces, we strive to encourage active participation, creativity, and collaboration among students. Ultimately, the goal is to establish child-friendly learning environments that empower every student to thrive academically and socially, ensuring that education is accessible and enriching for all.
- <u>Summary of Achievement:</u> The subprojects have successfully achieved its goal of restoring and reconstructing 25 schools, organized into 8 distinct packages completed by the Public Works Department (R&B) of Kashmir as the Project Implementation Unit (PIU). Additionally, 1 package was completed by the Jammu and Kashmir Projects Construction Corporation (JKPCC) under the Force Account contracts.

All construction activities were carried out in accordance with the allotted budget and within the framework of the approved extension of time. Each school has been carefully restored to meet safety standards and is now equipped to provide a conductive learning environment for students. The completion of these schools marks a significant step towards enhancing educational infrastructure and resilience in the region, ensuring that all children have access to safe and inclusive learning spaces.





This achievement reflects effective collaboration among various stakeholders and adherence to quality standards, ultimately fostering a supportive educational atmosphere that caters to the diverse needs of the student population.

• <u>2.1 Introduction & Background</u>

This subproject focused on the construction of 34 school buildings across various educational levels—Primary, Middle, High, and Higher Secondary. The initiative was managed by the Public Works Department (R&B) of Kashmir, acting as the Project Implementation Unit (PIU). In addition to the 34 buildings, one school was constructed by the Jammu and Kashmir Projects Construction Corporation (JKPCC) using the Force Account method.

The selection of these schools was carried out by the PWD (R&B), with subsequent approval from the World Bank as part of the Jammu and Kashmir Urban Flood Recovery Project (JTFRP). Among the originally planned 34 school buildings, 25 have been successfully completed, while the construction of the remaining 9 schools has faced challenges, preventing their advancement, which were finally dropped under this developmental package.

This subproject represents a significant step towards enhancing educational infrastructure in the region, addressing the urgent need for safe and accessible learning environments following recent flood events.

• <u>2.2 Sub-Project Detail</u>

The design of all school buildings followed a frame structure, tailored to the individual safe bearing capacity of the soil, ensuring resilience against seismic activity. The buildings incorporated the Building as Learning Aids (BALA) technique, promoting activity-based learning and fostering child-friendly and inclusive educational environments for all students.

The school constructed by JKPCC featured an auditorium on the ground floor, a library and classrooms on the first floor, and examination halls and additional classrooms on the second floor. This thoughtful design emphasizes both functionality and safety, providing a robust foundation for effective learning while withstanding the intensity of earthquake waves. Overall, the project not only addresses immediate educational needs but also prioritizes long-term safety and resilience in the face of natural disasters.



The complete Detail of the Schools completed in Kashmir Division is as Follows:

<u>S</u> .No.	District	No. of School	Primary school	Middle School	High School	Higher Secondary School	Type of Structure	Roofing	Status of Building
1	Srinagar	3 no's		2		1	Frame with R.C.C Ramp.	Slab and Steel Truss CGI Sheets Roofing.	Completed & Handed over to School Education Deptt. And Functioning.
2	Pulwama	5 no's	1	2	1	1	Frame with R.C.C Ramp.	Slab and Steel Truss CGI Sheets Roofing.	Completed & Handed over to School Education Deptt. And Functioning.
3	Shopain	3 no's		2		1	Frame with R.C.C Ramp.	Slab and Steel Truss CGI Sheets Roofing	Completed & Handed over to School Education Deptt. And Functioning.
4	Kulgam	3 no's		2		1	Frame with R.C.C Ramp.	Slab and Steel Truss CGI Sheets Roofing	Completed & Handed over to School Education Deptt. And Functioning.
5	Bandipora	1no		1			Frame with R.C.C Ramp.	Slab and Steel Truss CGI Sheets Roofing.Slab	Completed & Handed over to School Education Deptt. And Functioning.
6	Anantnag	10 no's		5	2	3	Frame with R.C.C Ramp.	Slab and Steel Truss CGI Sheets Roofing.Slab	Completed & Handed over to School Education Deptt. And Functioning.



2.3 CONTRACT DETAIL (District Wise):

(A) District Srinagar

S.No.	Name of Sub-project	Name of Contractor	Contract Amount (Cr)	Date of Start (NTP)	DOC within extended period.	Completion Period (Months)	Status of Work
1(a)	(a)Const of 2 classrooms at MS Shivpora, Srinagar. (b) Const of 2 Class rooms at Batwara, Srinagar.	M/s Tarmac Road & Roof Builder	1.631	27.12.2019	27.12.2020	12	Completed & Handed over to School Education Deptt Kashmir.
	(c) Const of Govt Boys Higher Secondary School Jawahar Nagar	JKPCC (Under Force Account)	2.506	01-02-2018	31-12-2020	18	Completed & Handed over to School Education Deptt Kashmir.



(B) District Pulwama

S.No.	Name of Sub-project	Name of Contractor	Contract Amount (Cr)	Date of Start (NTP)	DOC within extended period.	Completion Period (Months)	Status of Work
1.	 (a) Construction of 4 classrooms at HSS Samoora, Pulwama. (b) Construction of 4 classrooms at HS Dogripora, Pulwama. (c) Construction of 2 classrooms at GMS Rakhi Litter, Pulwama. (d)Construction of 2 classrooms at GMS Batpora Naina, Pulwama. (e)Construction of 2 classrooms at GPS Aghanjipora, Pulwama. 	M/s Tarmac Road & Roof Builder	4.755.	20.04.19	20.04.20	12	Completed & Handed over to School Education Deptt Kashmir.



(C) <u>District Shopain</u>

S.No.	Name of Sub-project	Name of Contractor	Contract Amount	Date of Start (NTP)	DOC within extended period.	Completion Period (Months)	Status of Work
1	 (a) Consttruction of 2 classrooms at GBHS Nazneenpora, Shopian. (b) Consttruction of 2 classrooms at GUPS Melhura, Shopian. (c) Construction of 2 classrooms at GUPS Reban, Shopian. 	M/s Tarmac Road & Roof Builder	2.425 Cr.	09.09.19	09.04.20	12	Completed & Handed over to School Education Deptt. And Functioning

(D) <u>District Bandipora</u>

S.No.	Name of Sub-Project	Name of Contractor	Contract Amount (Cr.)	D.O.S (NTP)	D.O.C within extended period	Completion Period (Months)	Status of Work
1	Construction of 4 classrooms in GMS Kulhama, Bandipora, with allied works.	Ashiq Hussain Bhat	1.147	7-02-2020	31.12.2022	22	Handed over to School Education Deptt. & Functioning.



(E) <u>District Kulgam</u>

S.No.	Name of Sub-Project	Name of Contractor	Contract Amount (Cr.)	D.O.S (NTP)	D.O.C within extended period	Completion Period (Months)	Status of Work
1	Const. of 4 classrooms in GMS Gund-i-kilam, Kulgam, with allied works	Mohd Anwar Bhat.	0.942	16.10.201 9	16.10.2020	12	Completed Handed over to School Education Deptt. & Functioning
2	 (a) Construction of 2 classrooms in GMS Naikpora, Kulgam, with allied works (b) Construction of 4 classrooms, GGHSS Yaripora, Kulgam, with allied works 	M/s Tarmac Road and Roof Builders	1.865	26.3.2019	26.3.2020	12	Completed Handed over to School Education Deptt. & Functioning



(F) District Anantnag

S.No.	Name of Sub-Project	Name of Contractor	Contract Amount (Cr.)	D.O.S (NTP)	D.O.C within extended period	Completion Period (Months)	Status of Work
1	 (a) Construction of 2 classrooms GMS Arwani, Anantnag. (b)Construction of 4 class room in GHSS Arwani, Anantnag. (c)Construction of 2 classrooms in GMS Hafizabad, Anantnag. (d)Construction of 2 classrooms in GMS Subhanpora , Anantnag. (e) Construction of 4 classrooms in GBMS Tawella, Anantnag. 	M/s Construction Engineers	3.968	02.04.2019	02.04.2020	12	Completed Handed over to School Education Deptt. & Functioning
2	 (a)Construction of 2 classrooms in GHS Jablipora, Anantnag. (b)Construction of 2 classrooms in GHSS Wanpoh, Anantnag. (c)Construction of 2 classrooms in GMS Katriteng, Anantnag. 	M/s Tarmac Road and Roof Builders	4.297	02.04.2019	02.4.2020	12	Completed Handed over to School Education Deptt. & Functioning



 (d)Construction of 4 classrooms in GBHSS Bijbehara, Anantnag. (e)Construction of 4 classrooms in GHSS, Bijbehara, Anantnag. 						
DETAILS OF THE STAKEHOLDERS						
1	Project Implementation Unit (PWD (R&B) Deptt. Kashmir./JKPCC (under force account)				
2	Project Management Unit (PM	JHELUM PROJECT (LOOD	RECOVERY	
3	Quality Audit Consultants	LEA ASSOCIATES SOUTH ASIA PVT LTD (TAQAC)				
4	Funding Agency	World Bank				
5	Contract Price		23.536 cr.			





3. <u>RESULTS</u>

• Deliverables:

Construction of Schools: Successfully completed the restoration and reconstruction of 25 school buildings across Primary, Middle, High, and Higher Secondary levels. Also completed one additional school building for Govt boy's higher secondary school at Jawahar Nagar through JKPCC under the Force Account.

Implementation of the BALA Technique: Integrated the Building as Learning Aids (BALA) methodology in all school designs to promote activity-based and inclusive education.

Safety and Resilience Standards: All completed school buildings met established safety standards, including requirements for seismic resilience. Schools were equipped with essential facilities, including classrooms, libraries, and auditoriums.

Stakeholder Collaboration: Effectively engaged with various stakeholders, including the Public Works Department, local communities, and educational authorities, ensuring a participatory approach to school design and construction.

Enhanced Learning Environments: Developed child-friendly and inclusive educational spaces that cater to the diverse needs of students, promoting engagement and effective learning.

• Performance Metrics:

Completion Rate: Approximately 73.5% of planned schools successfully restored or reconstructed (25 out of 34).

Safety Compliance: 100% of completed schools met established safety standards.

BALA Integration: All 25 completed schools incorporated the BALA technique.

Quality Assurance:

The quality assurance process for the subproject involved:

Compliance Checks: Regular inspections ensured that all construction adhered to safety and design standards.

Material Quality: Stringent testing and approval of materials used in construction to guarantee durability and safety.





Stakeholder Involvement: Continuous feedback from stakeholders, including educators and community members, was incorporated to align project outcomes with educational needs.

Documentation and Reporting: Detailed documentation of construction activities, inspections, and compliance reports was maintained to ensure transparency and accountability.

Final Assessments: Comprehensive evaluations of completed schools confirmed that facilities met established quality benchmarks before handover.

4. LESSONS LEARNT:

• Successes Summary

The subproject achieved several key successes:

Effective Communication: Strong collaboration between the School Education Authority and the Public Works Department (R&B) facilitated clear communication, leading to efficient project execution.

Timely Completion: All 25 schools were completed within the approved budget and extended timeline, demonstrating effective project management.

High-Quality Construction: Rigorous quality assurance processes ensured that all schools met safety and design standards, resulting in durable and resilient educational facilities.

Stakeholder Engagement: Continuous feedback from educators and community members was actively sought and integrated, ensuring that the facilities addressed local educational needs.

Positive Impact on Enrollment: The completion of these schools has significantly increased student enrollment, reflecting the project's success in providing accessible and child-friendly learning environments.

• Area of Improvement:

Future Vertical Expansion: The designs of the school structures should have included provisions for future vertical expansion, allowing for increased capacity as student enrollment grows.

Campus Development: A comprehensive landscaping plan for the entire campus should have been proposed to enhance the aesthetic appeal and functionality of the school environment.





Beautification of Existing Structures: Consideration for the further beautification of older existing structures could have improved the overall learning atmosphere and community integration.

Enhanced Planning: Future projects should focus on more holistic planning that includes not only structural integrity but also the surrounding environment and potential growth needs.

5. <u>CONCLUSION:</u>

• Impact:

Increased Enrollment: The completion of earthquake-resistant school buildings equipped with the BALA technique has significantly boosted student enrollment, demonstrating the project's effectiveness in providing accessible and inclusive educational environments.

Enhanced Learning Experiences: The integration of activity-based learning spaces promotes student engagement and supports diverse learning styles, fostering a more effective educational experience.

Community Resilience: The project contributes to community resilience by ensuring that schools are safe and equipped to withstand natural disasters, thereby enhancing the overall stability of the educational infrastructure in the region.

• <u>Summary:</u> The project successfully completed 25 school buildings in the Kashmir region, utilizing the BALA technique and adhering to modern earthquake-resistant design guidelines. This initiative has significantly improved educational infrastructure, creating safe and child-friendly environments that support diverse learning needs. The project has laid a strong foundation for future educational success in the region.



(A) Pictures of Completed Schools (District Srinagar):

1. Govt. Primary School Shivpora



2. Govt Middle School Batwara







3. Govt Higher Secondary School Jawahar Nagar(JKPCC)



(B) Pictures of Completed Schools (District Pulwama):

1. Govt Higher Secondary School Samboora





2. Govt High School Dogripora



3. Govt Middle School Batpora Naina







4. Govt Primary School Aghanjipora



(C). <u>Pictures of Completed Schools (District Shopain)</u>: 1. <u>Govt Boys High School Nazneenpora</u>



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2. Govt Boys Middle School Melhura



3. Govt Boys Middle School Reban







(D). Pictures of Completed Schools (District Bandipora):

1. Govt Middle School Kulhama



(E). Pictures of Completed Schools (District Kulgam):

1. Govt Middle School Gund-i-Kilam







2. Govt Middle School Naikpora



3. Govt. Girls Higher Secondary School, Yaripora.







(F) Pictures of Completed Schools (District Anantnag)

1. Govt Middle School, Arwani.



2. Govt Higher Secondary School, Arwani







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3. Govt Middle School, Hafizabad



4. Govt Middle School, Subhanpora







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5. Govt Middle School, Tawella



6. Govt Middle School, Jablipora







7. Govt Middle School, Wanpoh



8. Govt Boys Middle School, Katriteng







9. Govt Boys Higher Secondary School, Bijbehara.



10. Govt Girls Higher Secondary School, Bijbehara.



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