Environmental Monitoring Report

Project Number: 54299-001
February 2025

TAJ: Improving Science, Technology, Engineering and Mathematics Secondary Education Project. Semestrial Environmental Monitoring Report for 01 July 2024 – 31 December 2024

Prepared by Project Administration Group for the Ministry of Education and Science Republic of Tajikistan and the Asian Development Bank.

CURRENCY EQUIVALENTS

(as of 31 December 2024)

Currency unit	–	somoni (TJS)
TJS1.00	=	$0.0915
$1.00	=	TJS10.9325

ACRONYMS AND ABBREVIATIONS

ADB	Asian Development Bank
CEP	Committee for environmental Protection under Government of the Republic of Tajikistan
CSC	Construction supervision company
dB	decibels
EA	Executing Agency
EIA	Environmental impact assessment
EM	Environmental monitoring
EMA	Environmental monitoring agency
EMP	Environmental Management Plan
EMR	Environmental Management Report
EMS	Environmental monitoring station
GHG	Greenhouse gas
GRM	Grievance redress mechanism
IA	Implementing agency
IEE	Initial environmental examination
LIEC	Loan implementation environment consultant
O&M	Operation and maintenance
PAG	Project Administration Group
PMO	Project management office
RP	Resettlement plan
RP	Resettlement plan
SPS	Safeguard Policy Statement (of ADB)
SWM	Solid Waste Management facility
WHO	World Health Organization
WTP	Water treatment plant
WWTP	Wastewater treatment plant

GLOSSARY

Gosudarstvennyy standart	Referred as GOST, which means the state standards.
Hukumat	State administrative office at the regional and district levels
Jamoat	State administrative union at the village level.
Oblast	Administrative division or region in the constituent republics of the former Soviet Union (e.g., Tajikistan)
Rayon	District (Russian version)
Stroitelnye Normy	Referred as SNiP, which means construction codes and regulations

NOTE

(i) The fiscal year (FY) of the Government of Government of the Republic of Tajikistan and its agencies ends on 31 December.
(ii) In this report, "$" refers to US dollars

SUMMARY PROJECT INFORMATION

GENERAL INFORMATION	
Project title:	**Improving Science, Technology, Engineering and Mathematics Secondary Education Project**
Date of project effectiveness:	07 February 2024
Executing agency:	Ministry of Education and Science
Implementing agency:	Ministry of Education and Science
PAG (name of agency)	Project Administration Group
PAG Environment Officer (name, email):	Larisa Kamilova, kamilovalarisa@gmail.com
Loan implementation consultant / firm:	None
LIEC:	None
Construction supervision company(ies):	None
Contractor(s):	None
ADB web link to EMP:	https://www.adb.org/projects/documents/taj-54299-001-iee
Domestic web link to EMP:	

ENVIRONMENTAL SAFEGUARD MONITORING	
ADB environment safeguard category:	B
Environmental report prepared as per ADB requirements for this category:	Initial Environmental Examination
Semi-annual period covered by this report:	01 July 2024 to 31 December 2024
# EMRs to date including this report:	2
Agency/person responsible for internal* environmental monitoring:	PAG Environmental specialist
Agency/person responsible for external* environment monitoring:	PAG Environmental specialist
Agency/person responsible for compliance* environment monitoring:	PAG Environmental specialist
Agency/person responsible for independent compliance* monitoring:	PAG Environmental specialist
Overall status of environmental safeguards:	On track

ADB = Asian Development Bank, EMP = environmental management plan, EMR = environment monitoring report, LIEC = loan implementation environment consultant, PAG = project administration group.

TABLE OF CONTENTS

EXECUTIVE SUMMARY

1. **Overview**. The Improving Science, Technology, Engineering, and Mathematics Secondary Education Project (ISTEMP) is implemented by the Ministry of Education and Science of the Republic of Tajikistan with financial assistance from the Asian Development Bank (ADB). The project aims to modernize STEM education infrastructure, enhance school management, and improve access to quality STEM education for students in grades 5 to 11.

2. The Environmental Management Plan (EMP) serves as a critical framework for ensuring environmental safeguards and guiding semi-annual monitoring. This Environmental Monitoring Report (EMR) covers activities from July 1, 2024, to December 31, 2024.

3. **Project Implementation Progress.** During this reporting period, the project remained in the pre-construction phase, with no physical construction activities initiated. However, substantial progress was achieved in various critical areas. The bidding processes for civil works contracts were actively pursued to ensure the timely selection of contractors. Institutional readiness assessments were conducted to evaluate the capacity and preparedness of relevant stakeholders, ensuring smooth project implementation. Efforts were also made to integrate environmental safeguard measures into procurement documents, reinforcing the project's commitment to sustainable development. Additionally, initial stakeholder engagement was carried out, with a particular focus on school principals at the 20 identified project sites, fostering collaboration and awareness about the upcoming interventions. Furthermore, the development of the Grievance Redress Mechanism (GRM) was initiated, establishing a structured approach for addressing concerns and ensuring transparency and accountability throughout the project lifecycle.

4. **Progress in Implementing the EMP / ESMS** The Environmental Management Plan (EMP) outlines several key mitigation strategies aimed at minimizing potential environmental and health impacts during the construction and operational phases of the project. These strategies include noise control measures to reduce disturbances to nearby communities, dust suppression techniques such as regular water spraying and covering of exposed surfaces to minimize air pollution, and effective waste management practices to ensure proper disposal and recycling of construction debris. Additionally, the EMP emphasizes strict adherence to worker safety protocols, including the use of personal protective equipment (PPE), training on hazard management, and implementation of emergency response procedures to safeguard the health and well-being of all personnel involved in the project.

5. No environmental monitoring activities were conducted during the reporting period, as construction activities had not yet commenced.

6. **Consultations & Training.** A training session focusing on environmental safeguards and measures related to sexual exploitation, abuse, and harassment (SEAH) was conducted for project personnel. A total of 11 individuals participated in this session, which aimed to enhance their understanding of critical safeguards and preventive measures necessary for maintaining a safe and ethical work environment. The training covered various aspects of environmental compliance and SEAH-related policies, ensuring that participants are well-equipped to implement these measures effectively in their respective roles.

7. For the upcoming reporting period, several key priorities have been identified to ensure the smooth progression of the project while adhering to regulatory and ethical standards. One of the primary objectives is to update the Environmental Management Plan (EMP) to align with the

finalized construction designs, ensuring that environmental safeguards are effectively integrated into the project's implementation. Additionally, efforts will be directed towards establishing a comprehensive monitoring framework to systematically track environmental performance and compliance with set guidelines. Another critical priority is the finalization of the Grievance Redress Mechanism (GRM), which will serve as a structured platform for addressing concerns and complaints related to the project. This mechanism is essential in fostering transparency, accountability, and responsiveness in handling grievances from stakeholders, thereby promoting a more inclusive and responsible project implementation process.

8. **Compliance with Loan Covenants** The project largely adheres to the Asian Development Bank's (ADB) environmental safeguard requirements, ensuring that environmental considerations are integrated into its implementation. However, there are still certain critical actions that require attention to achieve full compliance. One such action is the need to update the Environmental Management Plan (EMP) following the finalization of the construction design. This update is essential to address any new environmental risks or mitigation measures that may have emerged as a result of design modifications. Additionally, the project must finalize its environmental monitoring mechanisms to ensure that all safeguard measures are effectively implemented and continuously assessed. Establishing a robust monitoring framework will help track environmental performance, identify potential issues early, and enable timely corrective actions. Addressing these outstanding requirements is crucial to maintaining compliance with ADB's environmental standards and ensuring the project's sustainability.

9. **Public Consultation & Grievance Redress Mechanism (GRM).** During this reporting period, no formal public consultations were conducted. However, discussions were held with school principals at 20 different project sites to gather insights and feedback on the ongoing initiatives. These discussions served as an informal means of engaging with key stakeholders and understanding their perspectives on the project's impact and implementation.

10. Regarding the Grievance Redress Mechanism (GRM), efforts are currently underway to establish a structured system that will allow stakeholders to report any environmental or social concerns effectively. The development of this mechanism aims to ensure transparency, accountability, and prompt resolution of grievances, thereby fostering trust and inclusivity among all parties involved in the project.

11. **Training & Capacity Building.** A training session was conducted to enhance awareness and understanding of environmental compliance and social safeguards, ensuring that all stakeholders are well-informed about the necessary regulations and best practices. This session aimed to equip participants with the knowledge required to adhere to environmental standards while considering social impacts during project implementation. Furthermore, additional training focused on construction-related environmental management has been planned for the next reporting period. This upcoming session will provide in-depth guidance on sustainable construction practices, mitigation of environmental risks, and adherence to legal and regulatory requirements, thereby strengthening overall environmental stewardship within the project.

12. **Internal & External Monitoring Activities.** The project is still in the pre-construction phase, and as a result, internal and external environmental monitoring activities have not yet begun. However, institutional readiness assessments suggest that preparations for the implementation of the Environmental Management Plan (EMP) are currently underway. These assessments indicate that necessary mechanisms are being put in place to ensure effective monitoring and compliance with environmental regulations once the project moves into the construction phase. Efforts are being directed towards establishing the required frameworks, resources, and

protocols to facilitate the smooth execution of the EMP, ensuring that environmental safeguards are upheld throughout the project's lifecycle.

13. **Lessons Learned and Next Steps / Follow-Up Actions** During this period, several key lessons were learned that will enhance the efficiency and effectiveness of environmental management. One of the most critical takeaways is the importance of early planning. Updating the Environmental Management Plan (EMP) in advance ensures that potential environmental issues are addressed proactively, thereby preventing project delays. Additionally, proactive engagement with stakeholders through continuous public consultations has proven to be an effective strategy in fostering transparency and building trust within the community. Another crucial lesson is the need for capacity building, as ongoing training programs are essential to ensure the proper implementation of the EMP. Furthermore, risk management is a vital component of environmental oversight. Establishing a structured risk assessment system allows for the early identification and mitigation of environmental concerns, reducing potential negative impacts on the project and the surrounding ecosystem.

14. Several follow-up actions are planned for the next reporting period to maintain compliance and engagement. The EMP will be updated to reflect the final construction designs, ensuring that all environmental considerations are adequately addressed before construction begins. Additionally, environmental monitoring contracts will be finalized to guarantee regulatory compliance throughout the construction phase. To enhance stakeholder engagement, the Grievance Redress Mechanism (GRM) will be operationalized, providing a structured process for addressing community concerns. Once construction commences, a comprehensive monitoring program will be initiated to track environmental indicators and ensure adherence to the EMP. Furthermore, formal public consultations will be conducted to engage affected communities, providing them with a platform to voice concerns and contribute to the decision-making process. These actions will collectively support the project's environmental sustainability and reinforce community confidence in its implementation.

I. INTRODUCTION

1. Purpose of report

15. The purpose of this environmental monitoring report (EMR) is to describe and assess progress for implementation of the environmental management plan (EMP) for the Improving Science, Technology, Engineering and Mathematics Secondary Education Project, for the reporting period 01 July 2024 to 31 December 2024. This EMR is submitted in compliance with the Safeguard Policy Statement (SPS)[1] of the Asian Development Bank (ADB) and the loan agreement between ADB and the project executing agency.

16. This is the first EMR for the project. It covers part of the design phase of the project. The report describes: (i) project readiness with respect to fulfilling environmental requirements (ii) implementation of mitigation measures; (iii) monitoring activities; (iv) public consultations (including grievance redress); (v) training and capacity building; (vi) expenditures for EMP implementation (including mitigation, monitoring, and training); (vii) reporting; and (viii) an overall assessment of key achievements, challenges, issues, corrective actions, and lessons learned, during the reporting period.

2. Project outcome, outputs and subcomponents

17. The Ministry of Education and Science of the Republic of Tajikistan (MoES) is implementing the Improving the Science, Technology, Engineering, and Mathematics Secondary Education Project (ISTEMP), which is funded by the Asian Development Bank.

18. The ISTEMP aims to promote equal access to quality secondary education in science, technology, engineering and mathematics (STEM) from grades 5 to 11.

19. Moreover, the project is focused on building a human capital base to support Tajikistan's transition to higher labour productivity and competitiveness. The adoption of a skills-based approach in secondary education will help attract students' interest in learning STEM subjects, different from the traditional content-based method. It will also strengthen gender-inclusive access to quality secondary education in STEM subjects and develop climate change awareness among the country's secondary school graduates.

20. The project proposes to modernize teaching, upgrade the learning environment, improve school management, introduce and integrate climate change education, and expand girls' participation in STEM studies and women's career paths towards high productivity sectors.

21. The project has 5 outputs:

Output 1: Quality of STEM education improved

Output 2: Learning environment improved

Output 3: School-level management strengthened

Output 4: Climate change education and disaster resilience capacity enhanced

Output 5: Female-friendly STEM education system promoted

[1] ADB. 2009. Safeguard Policy Statement. Manila.

22. Moreover, the project will be implemented nationwide with 20 selected schools and selected institutions in charge of teachers' development Tajik State Pedagogical University (TSPU) and Dushanbe Pedagogical College (DPC). Accordingly, the project will improve the facilities of the selected schools, especially in rural areas, which will also serve as resource centres for neighbouring schools.

23. It will (i) add STEM blocks, where all STEM activities are concentrated under one roof, comprising laboratories and classrooms, with disaster-resilient and energy-efficient buildings and sex-segregated and accessible WASH facilities; and (ii) provide updated science lab equipment and ICT applications.

24. The new facilities will allow students and teachers to conduct hands-on lab activities and will support flexible learning methods by building the capacity of teachers and students to apply education technology. All new construction will be accessible for people with disabilities (PWD).

25. The project considered the current scarcity and low use of education technology in selecting the most appropriate technologies for Tajikistan. The STEM blocks will be equipped with system-level battery backup that will provide additional protection against irregular electricity surges and extend the life of all types of education technology provided. With the added learning spaces and updated facilities, the schools are also expected to be able to add STEM extracurricular activities.

26. Under the project, TSPU and DPC's female students' dormitories will be renovated, science and ICT labs will be updated with modern equipment, and sex-segregated WASH facilities will be added to improve the learning environment for female STEM teacher candidates.

Table 1: Project outputs and main activities

Output	Details
Output 1: Quality of and focus on STEM education improved.	This output will support (i) developing and contextualizing competency-based teaching and learning materials, including e-materials for STEM subjects from grades 5 to 11; (ii) providing science laboratories, ICT applications, and data packages for selected schools, which will serve as hubs (resource centers) for teachers and students in neighboring schools; (iii) developing an e-learning platform for STEM teachers' need-based competency development and linking the platform to the EMIS (output 3); (iv) training STEM teachers on competency-based education approach, knowledge of subject and block of subjects, formative assessment, and using laboratory practical application and technology; (v) strengthening peer-learning mechanisms for teachers by developing lead teachers on STEM subjects and subject blocks, and implementing classroom-based mentoring and monitoring; (vi) strengthening school-level exams for STEM subjects; (vii) piloting updated pre-service STEM teacher education with selected universities; (viii) providing career guidance service and soft skills training for students; and (ix) partnership with internationally well-performed schools and teacher education universities on STEM.
Output 2: Access to and completion of general secondary education	(i) This output will support improvement of the learning environment through upgrading infrastructure and adding classrooms for 20 selected schools, especially in rural areas, with sex-segregated water, sanitation

increased.	and hygiene facilities, and energy-saving and disaster-resilient buildings and facilities. Design and construct the STEM blocks13 in each of the project schools. Each of the 20 project schools will receive a modern STEM block (building) consisting of at least laboratories to cover key subjects (chemistry, physics, biology, mathematics, geography, technology). The laboratories will be built to modern specifications with key health and safety features throughout. In addition, a modern digital laboratory consisting of computers, projectors and other where possible additional space for workshop/makerspace, will be made available as well as a requisite number of classrooms will be constructed to ensure class learning activities in one shift. The buildings will integrate energy saving techniques to ensure comfortable learning environments both in the heat of summer and cold of winter. (ii) The project will help girls continue to grades 10 and 11, and encourage them to pursue STEM learning through targeted support. (iii) It will prevent possible dropouts by developing and applying a system to monitor students' school attendance using the improved SIS. (iv) The project will improve distance learning opportunities and results by applying appropriate teaching and learning materials.
Output 3: Sector governance and management strengthened.	This output will support (i) improving the SIS by incorporating the students' school attendance and learning results; (ii) building capacity of the Ministry of Education and Science in analyzing the SIS data to inform decision-making; (iii) updating STEM teachers' competency standards; (iv) updating pedagogic program for pre-service STEM teacher candidates in line with skills-based education requirements under the State Standards for Secondary Education (2015); (v) improving the linkage of teachers and students to the real professional world related to STEM; and (vi) strengthening the capacity of local education departments in academic supervision and reporting.
Output 4: Climate change education and disaster resilience capacity enhanced	This output will (i) support integrating climate change-related topics, concepts, knowledge points, and good practices in the secondary education curricula, textbooks, and teaching and learning materials for the STEM subjects; (ii) train in-service teachers and teacher trainers on climate change knowledge and practices; (iii) develop climate change contents, material and modules for the pre-service STEM teacher education program and for training teacher educators; (iv) survey students' and teachers' understanding of climate change and basic ideas of climate change adaptation actions; (v) reconstruct and/or extend a representative school facility compliant with the disaster resilience requirements; (vi) provide training on supervision of works for ensuring the compliance with disaster resilience requirements; and (vii) build capacity for school facility users and maintenance staff on good practices for disaster-resilient responses.
Output 5: STEM education system transformed with orientation and empowerment for women and girls	(i) Renovate the main teaching building by reconstructing existing laboratory facilities at TSPU and by adding a STEM block comprising biology, chemistry and physics laboratories, informatics rooms and STEM project and multipurpose activity workspaces at DPC (to encourage integration of maths, sciences, geography and engineering activities) with adequate water supply, drainage, ventilation system. (ii) Upgrade selected dormitories for female students with internet connection and ICT rooms (currently TSPU provides dormitory

	accommodation for 663 girls and 455 boys in 5 dormitories, and DPC provides accommodation for 120 girls in one dormitory). (iii) Provide updated scientific lab equipment and experiment materials and establish internet connected–ICT labs for selected STEM faculties. (iv) Provide scholarships for enrolling female students in STEM specializations and research assistantship for training in-service secondary school female teachers to operate scientific and ICT labs, by prioritizing rural areas, PWDs and the specializations where teachers are most lacking at secondary schools.

27. The project has recently concluded the preliminary design phase and is now entering the preconstruction phase. There has been no commencement of construction activities during the reporting period January to June 2024.

28. **Project Location** The project location is nationwide and covers all four regions of Tajikistan: Sughd, Districts of Republican Subordination (DRS), Khatlon and the Autonomous Region of Gorno Badakhshan (GBAO – Gorno Badakhshan Autonomous Oblast). At each location, under output 2, the project will renovate and or reconstruct school facilities, and construct STEM blocks. Table 2 shows the location of the 20 selected schools according to region, district, village, school number and coordinates.

Table 2: Locations of selected schools / subprojects and date

Region	District	Jamoat	Village	School No.	Lat	Long
Khatlon	A. Jami	Dusti	Badriddin Hiloi	45	38.07016	68.83563
Khatlon	A. Jami	Jami	Jami	29	37.94533	68.77655
Khatlon	Vakhsh	Tajikobod	Mopr	15	37.79177	68.77816
Khatlon	Dangara	Ismat Sharipov	Bulyoni Poyon	11	37.91211	69.35058
Khatlon	Dangara	Lolazor	Shakhbur 2	67	38.04616	69.34381
Khatlon	Yovon	Hasan Suleinov	Tillo Soliev	10	38.37671	69.11525
Khatlon	Panj	Ozodagon	Hasan Sherov	12	37.25199	69.1035
Khatlon	Panj	Saifidinov	16 solagii Istiqloliyat	10	37.22441	69.14546
Khatlon	Ali Hamadani	Chubek	Chubek	19	37.61861	69.699
Khatlon	Vose	Rajabov	Kaftarkhona	16	37.91471	69.72535
Khatlon	Norak	Nurek city	Nurek city	5	38.39061	69.30636

Region	District	Jamoat	Village	School No.	Lat	Long
Khatlon	Dusti	Dehqonobod	Shuro	15	37.57434	68.57435
DRS	Hisar	Mirzo Rizo	Tuda	6	38.57149	68.47301
DRS	Hisar	Khonakohi Kuhi	Nilu	50	38.67323	68.53274
DRS	Vahdat	Guliston	Tilloi Safed	22	38.49577	68.9684
DRS	Vahdat	Abdullah Abduvosir	Zargar	34	38.5692	69.0942
DRS	Vahdat	Chuyangaron	Shorazm	35	38.6462	69.1312
Dushanbe	Shohmansur	-	-	DPC	38.56367	68.81686
Sughd	Panjakent	Amondara	Amondara	32	39.512	67.80927
Sughd	Mastchoh	Mastchoh	Esiz	4	40.3687	69.32477
Badakhshan	Khorog	Shokhtemurion	Khorog city	7	37.48709	71.56368

3. Project implementation progress

29. The project became effective on 07 February 2024. As of 30 June 2024, physical progress by the project was estimated by the project management office (PMO) to be 2%, against the elapsed implementation of 14% (11 months out of 77 months since the date of project effectiveness). The project is currently rated by ADB as on track. Implementation progress for subcomponents is summarized in Table 1.

Table 1: Project implementation progress as of 31 December 2024

No.	Contract Name	Status	Civil work starting date	Name of contractor	Name of CSC	Implementation Description
1	Construction of school facilities in School no. 34 Vahdat; School no. 45 Jami; and School no. 67 Dangara	*in bidding*				
2	Construction of school facilities in School no. 50 Hisar; School no. 6 Hisar; School no. 35 Vahdat City; and School no. 22 Vahdat	*in bidding*				
3	Construction of school facilities in educational school no. 29 Jami; and school no. 11 Dangara	*in bidding*				

No.	Contract Name	Status	Civil work starting date	Name of contractor	Name of CSC	Implementation Description
4	Construction of school facilities in educational school no. 15, Dusti; school no. 16 Vase; school no. 19 Hamadani; school no. 12 Panj; and school no. 10 Javan	*in bidding*				
5	Construction of school facilities in educational school no. 32 Panjakent; school no. 4 Mastchoh; school no. 7 Khorog; school no. 10 Panj; school no. 5 Nurek	*in bidding*				
6	Construction and rehabilitation of school facilities in Dushanbe Pedagogical College and Tajik State Pedagogical University	*in bidding*				

CSC = construction supervision company.

II. SUMMARY OF THE PROJECT ENVIRONMENTAL MANAGEMENT PLAN

30. The project environmental management plan (EMP) is the primary reference document for the government and ADB for all environment-related mitigation, monitoring, reporting, and training activities for the project. Timely and effective implementation of the EMP is a key condition of the loan agreement between the government and ADB. The EMP was prepared as part of the initial environmental examination in 2023. The EMP is being implemented over 1 year. The content of the EMP includes institutional roles and responsibilities for EMP implementation; mitigation measures for environmental safeguard risks; environmental monitoring and reporting; training and capacity building; grievance redress mechanism (GRM); public consultation; cost estimates; and, other information e.g. terms of reference for key positions.

31. **Project institutional arrangements (Section IX Chapter B of the IEE).** This section of the EMP describes the roles and responsibilities of relevant agencies for EMP implementation. For this project, the principal person responsible for EMP coordination is the PAG Environment Officer (Mrs. Larisa Kamilova), acting on behalf of the PAG. On-site implementation of the EMP is by the implementing agencies, contractors, and construction supervision companies (CSCs).

32. **Project readiness assessment.** Institutional readiness is in place with roles assigned to the Project Administration Group (PAG), PAG Environment Officer, PAG National Environmental Consultant and International Environmental Consultant while a Grievance Redress Mechanism (GRM) is under establishment.

33. **Potential impacts and mitigation (Section V of the IEE)**. This section of the EMP summarizes the potential environmental impacts and mitigation measures for the different phases of the project: detailed design and pre-construction phase; construction phase; and operations phase. Table 22 in the IEE summarizes the environmental risks and mitigation measures, and agencies responsible for implementation and supervision of these measures. For this project, the key potential impacts and/or issues of concern are:

- **Land & Community Assets:** Loss or damage to properties and community assets.
- **Heritage Sites:** Damage to historical and archaeological relics during construction.
- **Access & Mobility:** Temporary road, pathway, and access disruptions.
- **Air Pollution:** Dust (PM10 and smaller) and vehicle emissions causing health risks.
- **Noise & Vibration:** Excessive noise from construction equipment affecting schools and communities.
- **Social Conflict:** Tension between local residents and external workers with better economic status.
- **Worker Conditions:** Inadequate living conditions affecting worker productivity.
- **Cultural Loss:** Damage to cultural values from excavation activities.
- **Soil & Water Contamination:** Improper use of hazardous materials polluting land and water.
- **Hazardous Materials:** Risks from improper handling, storage, or use of toxic substances.
- **Construction Waste:** Soil, solid, and inert waste leading to environmental pollution.
- **Community Safety:** Accident risks from vehicles and construction activities.
- **Occupational Hazards:** Machinery operation, refueling risks, and traffic accidents.
- **Unauthorized Access:** Safety risks from unauthorized personnel entering construction zones.
- **School Waste:** Chemical/biological waste from science classes.

- **Positive Impact:** Training programs providing skills and contributing to national targets

34. **Training (Section IX of the IEE)**. This section of the EMP describes the training program for environmental safeguards, including the recipients and frequency of training.

35. **Consultation and participation plan (Section IX of the IEE)**. This section of the EMP identifies the mechanisms by which consultations will be accomplished (e.g., through workshops, questionnaires, etc.), the frequency of consultations, topics, and target audiences.

36. **Environmental monitoring program (Section IX of the IEE)**. The Environmental Monitoring Program ensures compliance with environmental safeguards throughout the project. In the pre-construction phase, baseline environmental assessments are conducted to identify potential environmental impacts. During the construction phase, contractors implement mitigation measures to minimize dust, noise, air, and water pollution, as well as ensure worker and community safety. Regular site inspections are carried out to monitor compliance with environmental management practices. In the operational phase, environmental safeguards continue through waste management, proper maintenance of facilities, and adherence to safety and sustainability measures. The program focuses on reducing environmental risks, maintaining ecological balance, and ensuring the long-term sustainability of project activities

37. **Costs (Section IX of the IEE)**. The estimated cost for implementing the Environmental Management Plan (EMP) for each STEM facility is $131,000. These costs cover various environmental safeguard activities, including the preparation of a Site-Specific Environmental Management Plan (SSEMP), provision of personal protective equipment (PPE), dust suppression, re-vegetation, site restoration, waste management, and hiring environmental and safety officers. The budget is incorporated into the civil works cost and ensures compliance with environmental standards during project

38. **Reporting (Section IX of the EMP)**. The Environmental Monitoring Program includes regular reporting to ensure compliance. Contractors submit monthly environmental compliance reports detailing mitigation measures and site conditions. The Project Administration Group (PAG) compiles these into quarterly progress reports for the Ministry of Education. Additionally, semi-annual integrated safeguards monitoring reports are prepared for the Asian Development Bank (ADB). In case of non-compliance, corrective actions are enforced, ensuring environmental standards are maintained throughout the project.

III. ENVIRONMENTAL MANAGEMENT DURING THE REPORTING PERIOD

39. This section summarizes the progress made to implement the project EMP during the current reporting period.

1. Implementation of the project mitigation measures

40. Implementation of the mitigation measures in the EMP is summarized in Table 3. This table is the same as Table 26 of the EMP but has 3 additional columns, to summarize the implementation status and compliance for each listed mitigation measure within the reporting period.

Table 3: Project impacts, mitigation measures, and implementation status

Work phase	Potential impacts/issues	Mitigation measure prescribed in EMP	Implementation status, issues identified and corrective actions	In compliance?
Pre-construction				
Bidding and final design	Impact on Land Acquisition and Community Assets	1. The access roads will be designed to the minimum necessary width within the right of way when feasible.	Final design will be prepared to minimum necessary width within the right of way	Yes
Bidding and final design	Impact on planted ornamental trees	1. Cutting of trees will be undertaken as per the approved design and only upon approval by the school 2. The cutting of trees will be avoided as much as possible and damage to native vegetation minimized	Tree cutting will be carried out with the approval of the regional CEP department and with the consent of the schools.	Yes
Pre-construction	Preparation of Site-Specific Environmental Management Plan	1. The appointed contractor, with in one month of awarding of the contract, will prepare the requisite Site-Specific Environmental Management Plan (SSEMP) based, among others, on the IEE, construction methodology he will utilize, schedule of works, and site conditions in his awarded area.	No construction work will be carried out without an approved SSEMP	Partly

EMP = environmental management plan, EMU = environmental management unit, PMO = project management office.

41. Based on Table 3: During the pre-construction phase, the design of access roads will ensure a minimum width within the right of way. Tree cutting will only occur with approval from the regional CEP department and the consent of schools, with efforts to minimize damage to vegetation. Additionally, the appointed contractor must prepare a Site-Specific Environmental Management Plan (SSEMP) within one month of the contract award, ensuring no construction work occurs without its approval. Some aspects of the SSEMP preparation have yet to be fully implemented.

42. **Conclusions and next steps.** The project is in compliance with the EMP requirements in terms of road design and tree cutting, as both have been aligned with the prescribed measures.

- *Update EMP after completion of final design of schools*

2. Implementation of the project monitoring program

43. The monitoring plan was not implemented during the reporting period due to the fact that construction work has not yet commenced.

3. Public consultations and grievance redress mechanism

44. This section describes the public consultations undertaken during the reporting period and implementation of the project grievance redress mechanism (GRM). Documentation for the consultations and/or GRM.

45. **Public consultations.** Between 01 July 2024 and 31 December 2024, no any public consultation meetings were conducted. However, meetings were held with the principals of the International Presidential School and Kindergarten of the International Presidential School.

46. **Grievance redress mechanism.** The grievance redress mechanism is currently in the process of being established. Efforts are underway to set up a comprehensive system that allows stakeholders, including local communities, project participants, and other affected parties, to raise concerns or complaints. This mechanism will include clear procedures for submitting grievances, ensuring transparency and accountability in the resolution process. Once fully operational, the system will provide timely and effective responses to any issues, promoting trust and fostering positive relationships throughout the project's lifecycle. The establishment of this mechanism is a priority to ensure that all concerns are addressed promptly and fairly.

4. Training and capacity building

47. Between 01 January 2024 and 30 June 2024, one training events were conducted (Table 8). Documentation for the training events (e.g. participant lists) is in Appendix 5. The training covered Addressing the Problem of Sexual Exploitation, Abuse and Harassment components of construction works of projects financed by the Asian Development Bank topic. A total of 11 project employees participated in the trainings.

Table 8: Training for environmental safeguards conducted during the reporting period

Topic	Trainees	Content	# Trainees		Date	Outcomes
			M	F		
Safeguards	Ministry and project staff	Safeguard policy statement	12	2	04 Nov 2024	Environmental protection measures include key principles, requirements, and safeguards. ADB presentations cover safeguard scope, monitoring, reporting, and social standards for STEM projects.
Procurement	Ministry and project staff	Procurement of consulting services	12	2	05 Nov 2024	Environmental concerns in procurement, consultant types, selection methods, and selection commission.
Gender	Ministry and project staff	SEAH project monitoring on construction works, annual gender report	7	7	07 Nov 2024	Consideration of issues of sexual exploitation, violence during construction works and documentation of gender

Topic	Trainees	Content	# Trainees		Date	Outcomes
			M	F		
						orientation
SEAH	Ministry and project staff	SEAH (SEND) Construction Works Project Monitoring, Annual Gender Report	7	7	19 Nov 2024	Discuss the terms and concepts of sexual exploitation, abuse, risk factors for sexual exploitation, and discrimination.
		Total trainees	100	31		**Grand total: 131**

ADB = Asian Development Bank, EMP = environmental management plan, F = female, GRM = grievance redress mechanism, IA = implementing agency, M = male, PAG = project administration group

5. Compliance with loan and project assurances

48. The loan agreement and project agreement between the government and ADB includes 23 covenants for environmental safeguards and/or related to environmental issues (Appendix 1). These relate to the timely and effective implementation of the EMP, as well as project-specific assurances tailored to the current project. Compliance with these assurances is a condition of the project agreements

6. Reporting

49. The project reporting requirements for environmental safeguards are summarized in Table 11 and comprise: (i) The contractor must submit monthly environmental compliance reports to both the Design and Supervision Consultant (DSC) and the Project Administration Group (PAG). These reports should detail the status of mitigation measures, findings from site inspections, identified issues with corresponding corrective actions, and a summary of community complaints along with their resolutions. (ii) PAG consolidates these monthly reports into Quarterly Progress Reports (QPRs) for submission to the Ministry of Education (MoE), highlighting key findings and recommendations. (iii) PAG is also responsible for submitting Semi-Annual Environmental Monitoring Reports (SAEMRs) to the Asian Development Bank (ADB) within 30 days of each monitoring period. (iv) A Final Environmental Compliance Report, summarizing the project's environmental performance and lessons learned, will be prepared within three months of completing all civil works to support future monitoring efforts.

50. With the assistance of the DSC, PAG will translate a summary of these reports into Russian and publish them on its website. The full reports in English will be made available within two weeks of receiving clearance from ADB.

Table 11: Project reporting requirements for environmental safeguards

Reports	From	To	Frequency	Progress this reporting period	Comments
Construction phase					
Progress report – internal monitoring of EMP implementation	Contractors	PAG and CSC	Monthly	During construction stage	
Progress report – internal monitoring of EMP implementation	CSC	PAG	Quarterly	During construction stage	
Progress report	PAG	IA	Quarterly	During construction stage	
EMR (overall progress of	PAG	ADB	Semi-annual		

EMP implementation)					

ADB = Asian Development Bank, CSC = construction supervision company, EMP = environmental management plan, EMR = environment monitoring report, PIU = project implementation unit, PMO = project management office.

IV. LESSONS LEARNED

51. The lessons learned from the Environmental Monitoring Report (EMR) for the "Improving Science, Technology, Engineering and Mathematics Secondary Education Project" emphasize the importance of proactive and timely implementation of the Environmental Management Plan (EMP). A key lesson is the need for regular updates to the EMP to ensure compliance with environmental standards, especially as the project transitions into the construction phase. Establishing a robust Grievance Redress Mechanism (GRM) is also critical, as it helps address public concerns transparently, fostering trust within local communities. The report highlights that early training on environmental safeguards and continuous capacity building for all stakeholders are essential for the long-term success of the project. Additionally, although the monitoring program has yet to be implemented due to the absence of construction activities, it is crucial for future compliance once construction begins. Public consultations, although not formalized during this period, showed the value of engaging with stakeholders early to address concerns. Lastly, implementing a comprehensive risk management system will be vital in managing environmental and social risks during the construction phase, ensuring the project's success while minimizing its environmental impact.

V. NEXT STEPS

52. Next steps for the project include:

- Update the EMP: Revise the Environmental Management Plan to align with the final construction design to ensure full compliance with environmental safeguards.
- Finalize Environmental Monitoring Contracts: Sign contracts for environmental monitoring to ensure consistent oversight of environmental impacts during construction.
- Establish the GRM: Complete the establishment of the Grievance Redress Mechanism (GRM) to address public concerns effectively and ensure transparency.
- Implement Risk Management System: Develop and implement a comprehensive risk management system to identify, assess, and mitigate potential environmental and social risks during construction.
- Commence Monitoring Program: Begin implementing the monitoring program as construction activities commence to ensure adherence to environmental standards.
- Conduct Public Consultations: Initiate formal public consultation meetings to engage local communities and stakeholders, addressing their concerns and ensuring active participation.

APPENDIX 1. COMPLIANCE WITH ENVIRONMENTAL ASSURANCES

This appendix lists the environmental safeguard assurances for the project and the status of compliance with these assurances during the reporting period.

Schedule	*Paragraph*	*Covenant*	*Compliance Status*
3	*2*	*Construction Quality* *With respect to the Project facilities to be constructed as part of the Project, the Recipient shall ensure, or cause the Project Executing Agency to ensure, that the Project is carried out in accordance with the applicable design and technical specifications in accordance with national standards and as satisfactory to ADB; and that construction supervision, quality control and contract management are in accordance with internationally accepted standards and practices.*	*Will comply* *MoES-PAG and DSC will regularly monitor and ensure that the Project is carried out in accordance with applicable design and technical specifications, in accordance with national standards and in accordance with ADB requirements; and that construction supervision, quality control and contract administration comply with internationally recognized standards and practices.*
3	*3*	*The Recipient shall ensure, and cause the Project Executing Agency to ensure, that throughout the Project implementation, applicable climate proofing measures are incorporated in the design and technical specifications of the Project facilities, based on the climate change assessment carried out during appraisal.*	*To be complied* *MoES-PAG and DSC will ensure that throughout the project life cycle, appropriate climate protection measures are incorporated into the design and technical specifications of the project facilities based on the climate change assessment carried out during the andassessment.*
3	*5 (a)*	*Procurement* *The Recipient shall not award any Works or Nonconsulting Services contract which involves environmental impacts until:* *the relevant environment authority of the Recipient has granted the approval of the IEE;*	*Will Comply* *The Design and Supervision Consultant (DSC) has submitted the updated IEE, including the EMP, to MoES-PAG and ADB for review, after which the IEE will be submitted to CEP for the State Environmental Expertise (SEE) procedure*
3	*5 (b)*	*Procurement* *The Recipient shall not award any Works or Nonconsulting Services contract which involves environmental impacts until:* *(b) the Recipient has incorporated the relevant provisions from the EMP into the Works or Nonconsulting Services contract.*	*To be complied with* *MoES-PAG and DSC will include the relevant EMP provisions in contracts for the execution of works or the provision of non-consulting services*
3	*6 (a)*	*Environment* *The Recipient shall ensure, or cause the Project Executing Agency to ensure, that the preparation, design, construction, implementation, operation and decommissioning of the Project and all Project facilities comply with all applicable laws and*	*To be complied with* *MoES-PAG and DSC will ensure that the preparation, design, construction, implementation, operation and decommissioning of the Project and all Project facilities comply with all applicable environmental, health and safety laws and regulations of the*

Schedule	Paragraph	Covenant	Compliance Status
		regulations of the Recipient relating to environment, health and safety	*Recipient.*
3	*6(b)*	*Environment* *The Recipient shall ensure, or cause the Project Executing Agency to ensure, that the preparation, design, construction, implementation, operation and decommissioning of the Project and all Project facilities comply with the Environmental Safeguards*	*To be complied with* *The IEE, including the EMP, is based on applicable laws and regulations of the Republic of Tajikistan related to environment, health and safety, and ADB's SPS (2009)*
3	*6 (c)*	*The Recipient shall ensure, or cause the Project Executing Agency to ensure, that the preparation, design, construction, implementation, operation and decommissioning of the Project and all Project facilities comply with the all measures and requirements set forth in the IEE, the EMP, and any corrective or preventative actions set forth in a Safeguards Monitoring Report.*	*To be complied with* *The IEE, including the EMP, is based on applicable laws and regulations of the Republic of Tajikistan related to environment, health and safety, and ADB's SPS (2009)*
3	*7*	*Involuntary Resettlement and Indigenous Peoples* *The Recipient shall ensure that the Project does not have any involuntary resettlement or indigenous peoples impacts, all within the meaning of ADB's Safeguard Policy Statement (2009). In the event that the Project does have any such impact, the Recipient shall take all steps to ensure that the Project complies with the applicable laws and regulations of the Recipient and with ADB's Safegucard Policy Statement.*	*To be complied with* *There will be no involuntary resettlement and no indigenous peoples in the selected project sites, all in accordance with ADB's Safeguard Policy Statement (2009). MoES-PAG and DSC will ensure that the Project complies with applicable laws and regulations of the Recipient and ADB's Safeguard Policy Statement.*
3	*8*	*Human and Financial Resources to Implement Safequards Requirements* *The Recipient shall make available, or cause the Project Executing Agency to make available, necessary budgetary and human resources to fully implement the EMP.*	*To be complied with* *There will be no involuntary resettlement and no indigenous peoples in the selected project sites, all in accordance with ADB's Safeguard Policy Statement (2009). MoES-PAG and DSC will ensure that the Project complies with applicable laws and regulations of the Recipient and ADB's Safeguard Policy Statement.provide or ensure that the Project Implementing Agency provides the necessary budgetary and human resources for the full implementation of the EMP.*
3	*9 (a)*	*Safequards — Related Provisions in Bidding Documents and Works*	*To be complied with* *Integration with*

Schedule	Paragraph	Covenant	Compliance Status
		ContractsThe Recipient shall ensure, or cause the Project Executing Agency to ensure, that all bidding documents and contracts for Works contain provisions that require contractors to: (a) comply with the measures relevant to the contractor set forth in the IEE, and the EMP (to the extent they concern impacts on affected people during construction), and any corrective or preventative actions set forth in a Safeguards Monitoring Report;	MoES-PAG and DSC will systematically monitor compliance with the measures, contractor-related measures set out in the PIP and EMP (to the extent they relate to impacts on affected people during construction), and any corrective or preventive actions set out in the Safeguard Monitoring Report;
3	9 (b)	Safeguards - Related Provisions in Bidding Documents and Works Contracts The Recipient shall ensure, or cause the Project Executing Agency to ensure, that all bidding documents and contracts for Works contain provisions that make available a budget for all such environmental and social measures require contractors to: (b) make available a budget for all such environmental and social measures;	To be complied with All environmental and social activities are planned and budgeted for accordingly. MoES-PAG and DSC will provide a budget for all such environmental and social measures.
3	9 (c)	Safeguards - Related Provisions in Bidding Documents and Works Contracts The Recipient shall ensure, or cause the Project Executing Agency to ensure, that all bidding documents and contracts for Works contain provisions that make available a budget for all such environmental and social measures require contractors to: (c) provide the Recipient with a written notice of any unanticipated environmental, resettlement or indigenous peoples risks or impacts that arise during construction, implementation or operation of the Project that were not considered in the IEE and the EMP.	To be complied with MoES-PAG and DSC will ensure that all bidding documents and works contracts contain provisions that provide a budget for all environmental and social measures requiring contractors to provide written notice of any unforeseen environmental, resettlement or indigenous peoples-related risks or impacts that arise during the construction, implementation or operation of the Project that have not been addressed in the IEE and EMP.
3	10 (a)	Safeguards Monitoring and Reporting The Recipient shall do the following or cause the Project Executing Agency to do the following: (a) submit semiannual Safeguards Monitoring Reports to ADB and disclose relevant	To be complied with The MoES-PAG and DSC will regularly submit semi-annual safeguard monitoring reports to ADB and disclose relevant information from such reports to affected persons promptly after their submission;

Schedule	Paragraph	Covenant	Compliance Status
		information from such reports to affected persons promptly upon submission;	
3	10 (b)	Safeguards Monitoring and Reporting The Recipient shall do the following or cause the Project Executing Agency to do the following: (b) if any unanticipated environmental and/or social risks and impacts arise during construction, implementation or operation of the Project that were not considered in the IEE and the EMP, promptly inform ADB of the occurrence of such risks or impacts, with detailed description of the event and proposed corrective action plan;	To be complied with in the event of any unforeseen environmental and/or social risks and impacts arising during the construction, implementation or operation of the Project that were not taken into account in the IEP and MPI, MoES-PAG and DSC will promptly inform ADB of the occurrence of such risks or impacts with a detailed description of the event and a proposed corrective action plan;
3	10 (c)	Safeguards Monitoring and Reporting The Recipient shall do the following or cause the Project Executing Agency to do the following: (c) report any actual or potential breach of compliance with the measures and requirements set forth in the EMP promptly after becoming aware of the breach.	To be complied with MoES-PAG and DSC will report any actual or potential violations of compliance with the measures and requirements set out in the PES immediately after becoming aware of the violation.
3	11	Prohibited List of Investments The Recipient shall ensure that no proceeds of the Grant are used to finance any activity included in the list of prohibited investment activities provided in Appendix 5 of the SPS.	To be complied with Moespag warrants that no funds from the Grant will be used to finance any activity included in the list of prohibited investment activities set out in Appendix 5 to the SPS
3	12 (a)	Labor Standards, Health and Safety The Recipient shall ensure that the core labor standards and the Recipient's applicable laws and regulations are complied with during Project implementation. The Recipient shall include specific provisions in the bidding documents and contracts financed by ADB under the Project requiring that the contractors, among other things: (a) comply with the Recipient's applicable labor law and regulations and incorporate applicable workplace occupational safety norms;	To be complied with MoES-PAG and DSC will include specific provisions in bidding documents and contracts financed by ADB under the Project, Contractors will comply with applicable labor laws and regulations and implement applicable labor safety standards in the workplace;
3	12 (b)	Labor Standards, Health and Safety The Recipient shall ensure that the core labor standards and the Recipient's applicable laws and regulations are complied with during Project implementation. The	To be complied with MoES-PAG and DSC will include in bidding documents and contracts financed by ADB under the Project a provision that contractors will not use child labor;

Schedule	Paragraph	Covenant	Compliance Status
		Recipient shall include specific provisions in the bidding documents and contracts financed by ADB under the Project requiring that the contractors, among other things: (b) do not use child labor;	
3	12 (c)	Labor Standards, Health and Safety The Recipient shall ensure that the core labor standards and the Recipient's applicable laws and regulations are complied with during Project implementation. The Recipient shall include specific provisions in the bidding documents and contracts financed by ADB under the Project requiring that the contractors, among other things: (c) do not discriminate workers in respect of employment and occupation;	To be complied with MoES-PAG and DSC will include in bidding documents and contracts financed by ADB under the Project a provision that contractors will not discriminate workers in respect of employment and occupation
3	12 (d)	Labor Standards, Health and Safety The Recipient shall ensure that the core labor standards and the Recipient's applicable laws and regulations are complied with during Project implementation. The Recipient shall include specific provisions in the bidding documents and contracts financed by ADB under the Project requiring that the contractors, among other things: (d) do not use forced labor;	To be complied with MoES-PAG and DSC will include in bidding documents and contracts financed by ADB under the Project a provision that contractors will not use forced labor
3	12 (e)	Labor Standards, Health and Safety The Recipient shall ensure that the core labor standards and the Recipient's applicable laws and regulations are complied with during Project implementation. The Recipient shall include specific provisions in the bidding documents and contracts financed by ADB under the Project requiring that the contractors, among other things: (e) allow freedom of association and effectively recognize the right to collective bargaining;	To be complied with MoES-PAG and DSC will include in bidding documents and contracts financed by ADB under the Project a provision that contractors will allow freedom of association and effectively recognize the right to collective bargaining
3	12 (f)	Labor Standards, Health and Safety The Recipient shall ensure that the core labor standards and the Recipient's applicable laws and regulations are complied with during Project implementation. The Recipient shall include specific provisions in the bidding documents	To be complied with MoES-PAG and DSC will include in bidding documents and contracts financed by ADB under the Project a provision that contractors will disseminate or engage appropriate service providers to disseminate information on the risks of sexually

Schedule	Paragraph	Covenant	Compliance Status
		and contracts financed by ADB under the Project requiring that the contractors, among other things: (f)____disseminate, or engage appropriate service providers to disseminate, information on the risks of sexually transmitted diseases, including HIV/AIDS, to the employees of contractors engaged under the Project and to members of the local communities surrounding the Project area, particularly women.	*transmitted diseases, including HIV/AIDS, to contractors' employees working on the Project and to members of local communities around the Project area, especially women.*
3	*13*	*The Recipient shall strictly monitor compliance with the requirements set forth in paragraph 12 above and provide ADB with regular repotts*	*Will Comply* *MoES-PAG and DSC will closely monitor compliance with the requirements set out in paragraph 12 above and provide regular reports to ADB.*

APPENDIX 2. TRAINING ACTIVITIES

Photo 1: Safeguard training for Ministry and PAG staff

Photo 2: Safeguard training for Ministry and PAG staff