Initial Environmental Examination

September 2022

52106-002-TAJ: National Disaster Risk Management Project (Additional Financing)

Prepared by Committee of Emergency Situations and Civil Defense (CESCD) for the Asian Development Bank.

CURRENCY EQUIVALENTS

(as of 06 July 2022)

Currency unit	–	Tajikistan Somoni (TJS)
TJS1.00	=	$0.095
$1.00	=	TJS10.49

ABBREVIATIONS

ACM	–	Asbestos-containing material
AKDN	–	Aga Khan Development Network
AMP	–	Asbestos Management Plan
CEP	–	Committee on Environmental Protection
CESCD	–	Committee of Emergency Situations and Civil Defense
CESCD-ES	–	CESCD's Environmental Specialist
CIMNE	–	Centre for Numerical Methods in Engineering
CIS	–	Commonwealth of Independent States
CLO	–	Community Liaison Officer
CS/KGTP	–	Communal Service Unit of district
DEP	–	Department of Environmental Protection
DRM	–	Disaster risk management
EASC	–	Euro-Asian Council for Standardization, Meteorology, and Certification
EHS Guidelines	–	World Bank Group's Environmental, Health and Safety Guidelines
EIA	–	Environmental impact assessment
EMP	–	Environmental Management Plan
GBV	–	Gender-based violence
GRM	–	Grievance Redress Mechanism
GRT	–	Government of the Republic of Tajikistan
HSO	–	Health and Safety Officer
IBA	–	Important bird area
IBAT	–	Integrated Biodiversity Assessment Tool
IEE	–	Initial Environmental Examination
IFC	–	International Finance Corporation
ILO	–	International Labor Organization
KBA	–	Key biodiversity area
M&E	–	Monitoring and Evaluation
MOC	–	Ministry of Culture
NOx	–	Nitrogen oxides
PAH	–	Poly-aromatic hydrocarbons
PGA	–	Peak ground acceleration

PIC	–	Project Implementation Consultant
PIG	–	Project Implementation Group of CESCD
SEE	–	State Environmental Expertise
SAEMR	–	Semi-annual environmental monitoring report
SPS	–	Safeguard Policy Statement, 2009 of ADB
SSEMP	–	Site-specific Environmental Management Plan
UNESCO	–	United Nations Educational, Scientific and Cultural Organization
UNHCR	–	United Nations High Commissioner for Refugees
UNICEF	–	United Nations International Children's Fund
VOC	–	Volatile organic compounds
WHO	–	World Health Organization
WPI	–	Water Pollution Index

WEIGHTS AND MEASURES

masl	–	meters above mean sea level
^{o}C	–	Degree Centigrade
m	–	Meters
km	–	Kilometer
kV	–	Kilovolt
Ha	–	Hectare
Km^2	–	Square kilometer
m/s	–	Meter per second
m^3/s	–	Cubic meter per second
dBA	–	decibels

GLOSSARY

Baksh Mejraionni Kanal	Referred as VMK which is the water supply system
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 at SNiP, which means the construction codes and regulations

NOTE

1. In this report, "$" refers to US dollars.

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EXECUTIVE SUMMARY

1. The government of the Republic of Tajikistan has requested for additional financing to expand the scope of the ongoing National Disaster Risk Management Project[1] which is being implemented by the Committee of Emergency Situations and Civil Defense (CESCD).

A. Project Scope

2. The proposed additional financing will establish resilient accommodation for displaced people, training and support infrastructure at the existing anti-hail center of CESCD in Jalolidin Balkhi district. The improvement works will include construction of shelter buildings and associated facilities such as kitchen and dining place, laundry area, warehouse, shops, sauna, etc., septic tanks, training and administrative buildings, internal roads, reliable water and power supply, sports area and playground, and procurement of meteorological radars.

3. The project will also involve the improvement of social service infrastructure facilities in surrounding villages of jamoat Zoli Zar in Jalolidin Balkhi district such as restoration of damaged bridge, access road to anti-hail center, power distribution lines, sanitation facilities in schools and health center in Sanoat village, and procurement of essential medical equipment for the health center. Figure 1 presents the location map.

4. The preparation of the Initial Environmental Examination (IEE) is guided by the requirements outlined in ADB Safeguard Policy Statement (SPS, 2009), Access to Information Policy (2019), and the World Bank Group's Environmental, Health, and Safety Guidelines (EHS Guidelines).[2]

B. Environmental Condition

5. The site of the anti-hail center is located in jamoat Zoli Zar in Jalolidin Balkhi district in Khatlon region. The district is located about 135 km south of Dushanbe, the country's capital. The settlement facility, health facility, and primary and secondary schools are located in Sanoat village while the damaged bridge is in Mehnatobod village. The power distribution line improvements are along existing roads that will traverse the villages of Sanoat and Urtabuz until the existing power substation in Chapaeva along Bakhrat-Balkhi Highway. Road improvements leading to the settlement facility in Sanoat village will be along existing village roads from the jamoat center to Mehnatobod and Sanoat villages which then connects to the Bakhrat-Balkhi Highway.

6. The area is characterized with a generally low elevation, with low ridges and vast basins. The project site is located in the valleys between the numerous ranges, with significant flat and moderately sloping plains. The lowest elevation in the project area can be found in Mehnatobod village at 372 meters above mean sea level (masl). The highest elevation is at Urtabuz village with 410 masl. Elevation at the settlement site in Sanoat village is 397 masl at the eastern section; slopes towards the southwest at 383 masl and at 392 masl on the north.

7. The climate in the region is continental and arid. The climate in the district is characterized by moderately cold winters and hot summers. Summer temperatures can reach up to 45°C and winter temperatures can drop as low as -20°C.

[1] https://www.adb.org/projects/52106-001/main
[2] Environmental, Health, and Safety Guidelines (ifc.org)

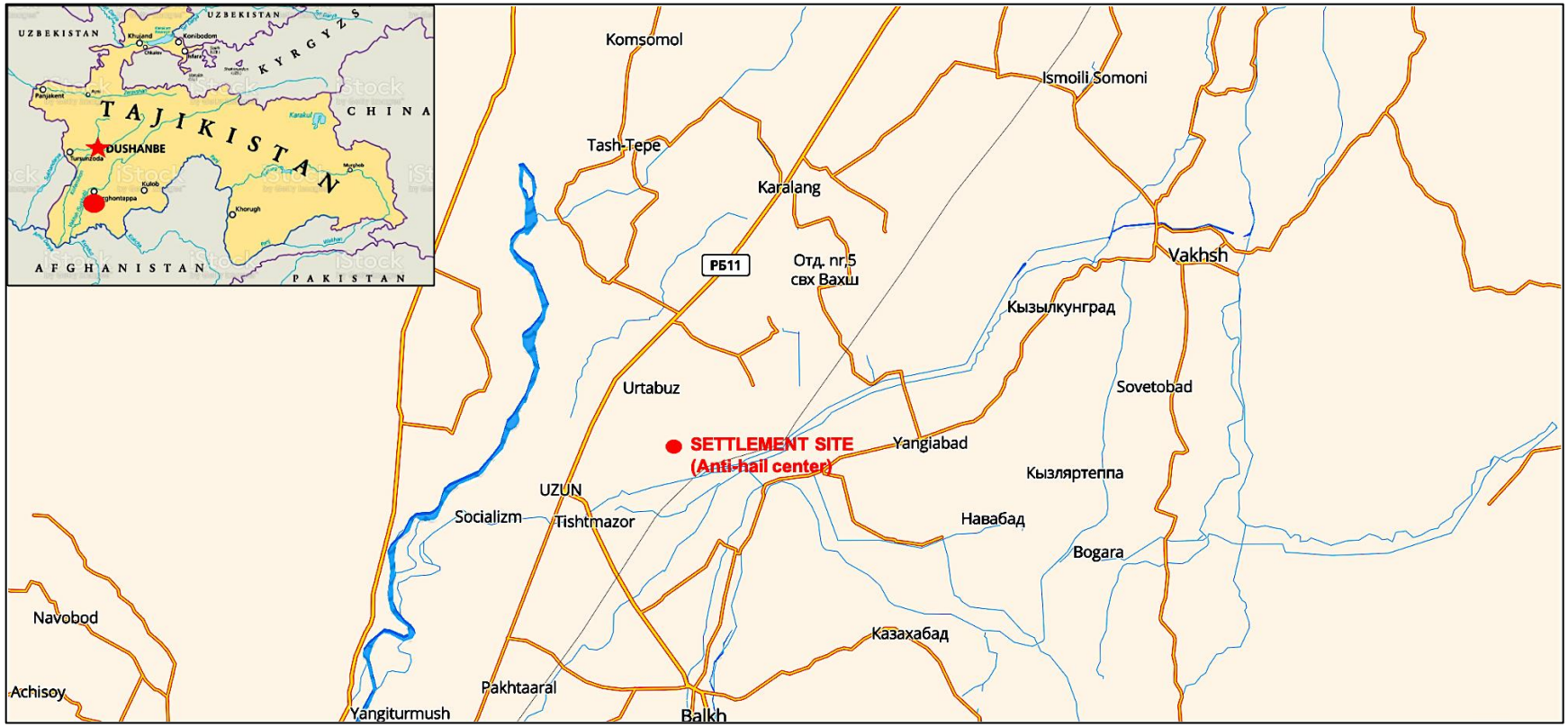

Figure 1: Location Map

8. The air quality in the project area is exceptionally good due to the absence of industrial pollutants and the low level of vehicle movement. However, seasonal dust storms are a problem, especially where vegetation has been cleared for the next cropping.

9. In low-lying areas in Mehnatabod, the villagers said that groundwater can be encountered at 2 m below ground surface while in the village of Urtabuz, the groundwater level is too deep at about 120–160 m. This makes it difficult for the villagers in Urtabuz to drill deep boreholes to abstract water.

10. Khatlon region experienced about 200 natural hazards between 2010–2020, including extreme rain and snowfall (hail) followed by major flooding. Hail, which usually occurs in February–March, causes damage to crops. Land subsidence coupled by extreme rainfall intensity cause flooding and soil erosion issues. Villagers reported land subsidence in Urtabuz resulting from frequent movement of heavy trucks and other vehicles along the access road in the village. During the village consultations and interviews, residents reported that the recurring natural hazards experienced in the area are flooding and strong winds. The residents of jamoat Zoli Zar noted that strong winds, especially in winter, lead to cutting of power lines in villages.

11. The project area is located in an agroecosystem that is characterized by agricultural systems with irrigated arable land, rainfed arable land, gardens, woodlands, and homesteads. The area has no forest. There are no known rare or endangered species of flora and fauna or protected areas that may be affected by the project based on examination of secondary data, observation of the project sites and information generated from the Integrated Biodiversity Assessment Tool (IBAT).[3] All project sites are located in existing, highly modified agricultural landscape. The most important protected area nearest to the site is the Tigrovaya Balka nature reserve, located at the mouth of the Vaksh river, which is approximately 20 km away from the project area.

12. According to the January 2020 statistics, the population of Jalolidin Balkhi district was 210,300 while the population in jamoat Zoli Zar (Uzun) was 22,555 people. Household population in Zoli Zar was reported as 4,166 households. In the project area, the population was reported as 9,214 people. The main occupation or source of income of the local people in Zoli Zar is farming/agriculture, primarily consisting of cotton, wheat, maize, carrots, and vegetables. Their produce from cropping is sold in the market or along road stalls. There are families who also have relatives (mostly heads of households) who work in Russia and send remittances for the family. The women are left to tend to the agricultural farm.

13. All the villages and jamoats in Jalolidin Balkhi district are covered by existing power supply system that is provided through a 35kV substation situated in Uzun-2 through 10kV distribution lines. The distribution line connects to the settlement site of the CESCD. The line suffers from seasonal power interruption particularly during winter.

14. In Sanoat and adjoining villages of Mehnatobod, Urtabuz, and Furmanov, water is accessible through the main pipeline "*Baksh Mejraionni Kanal*" (VMK). Water is supplied through a booster pump station. The World Bank will be developing the Rural Water Supply and Sanitation project in the area by the second half of 2022. The World Bank project is expected to improve the water supply availability for the villages and the entire district.

15. The leading illnesses and complaints of villagers are high blood pressure, diabetes, colds, diarrhea, and gastrointestinal diseases. There is a health center in Sanoat village where people from the villages go for emergency medical treatment. The health center has one

[3] Integrated Biodiversity Assessment Tool (IBAT) (ibat-alliance.org)

doctor/midwife and 11 nurses. The center provides first-aid treatment, vaccination services, medical check-up of pregnant women, and offers free medicines to villagers. In Pravda village, there is also a small health center with two rooms for first-aid only. In both health centers, there is very limited medical equipment that is available. Vaccines are only refrigerated in ordinary home refrigerators inside the health centers. There are no ambulance or vehicles in the health centers to bring patients to the hospital in the town center which is located about 20–24 km away. In terms of medical waste management, the health centers burn wastes (used syringes, cotton, etc.) and then bury the residues in a pit.

16. The toilets in houses, schools, and health centers in the villages are designed with pit latrines. There are areas in Pravda with shared or common toilets. The district has special Communal Service Unit (CS/KGTP) which provides services related to the collection and disposal of solid waste, as well as utilization of wastewater. The sewer lines cover the center of Jalolidin Balkhi district but not the areas in Zoli Zar. The communal sewage treatment facility of the district is located in jamoat Halevard but the facility no longer functions (no pumps and equipment) and sewer lines have been cut off. An emergency / temporary cesspool located about 300 m from the communal sewage treatment facility is being used by the city. The district started the improvement and replacement of sewer lines in 2018 which is expected to be completed by 2022. There is a plan by the district to construct a new sewage treatment facility at the site of the old facility using district funds within the year.

17. Currently, there is no system for the collection of solid waste in the villages in Zoli Zar. Households in the villages practice composting by digging waste pits in their gardens. Food waste is collected separately and is fed to cattle while plastics, paint cans, and other containers are sold to junk shops. Remaining wastes are burned in pits in the backyard of villagers.

18. There are no physical cultural sites such as temples that will be affected by the project. Along the road leading to the settlement site at the anti-hail center, there is a cemetery. The cemetery is situated about 250 m away from the gate of the anti-hail center.

C. Environmental Impacts and Environmental Management Plan

19. The project is expected to result in benefits because of the improvement of social services for displaced settler families who are affected by natural hazards and disasters. The project is also designed to address the improvement of health services, sanitation and waste management, electricity, and road access to the settlement facility and surrounding villages. The environmental impacts are largely positive due to more efficient management of domestic sewage, solid wastes, and healthcare wastes as a result of support to be provided through the project. The interventions would result in prevention of water and air pollution, groundwater contamination, and improved health and sanitation.

20. Proposed mitigation measures have been outlined in the IEE to address impacts of the project components specifically on (i) solid waste management at the settlement facility and villages; (ii) sanitation at the settlement facility; (iii) sanitation in schools and in the health center; (iv) healthcare waste; and (v) potential of the power distribution line to affect agricultural land, drainage and irrigation canals, private and public land, and crops and trees.

21. The construction activities will be limited and confined to existing settlement compound, schools and health center. The setting up of large-scale construction materials extraction will not be necessary since there are no large-scale construction works, and most materials are available from commercial sources locally. Civil works for the repair of the damaged bridge, construction of access roads and installation of distribution lines may result in nuisances such as noise, dust, and soil erosion, and temporary restriction of access. There may also be

possible damage to other alternate village roads that may be used by construction trucks while the damaged bridge, distribution line and section of access roads are being improved.

22. It is likely that the construction camp will be located inside the anti-hail center. The compound is fenced and manned by security personnel and located far from residential houses. It is expected that there will be minimal noise nuisance to the local community from the operation of the construction camp. Issues related to peace and order may arise due to the presence and interaction of workers from other areas with the local people. The contractors will be required to give priority to local people in the hiring of workers and to appoint a Community Liaison Officer (CLO) who will coordinate with the local Hukumat authorities, villagers, and the Project Implementation Group (PIG) of CESCD.

23. Asbestos roofing sheets were observed on the existing toilets and canteen of schools and at buildings to be demolished at the CESCD anti-hail site. These asbestos sheets will be removed when new facilities are constructed. The asbestos roofing sheets are bound in concrete, but existing condition indicates chipping and disintegration which could release asbestos fibers during the removal process. Although the quantity is not substantial, the mishandling may cause high risk of inhalation of asbestos fibers which could expose workers and people in the surrounding areas. To mitigate the health risk due to asbestos roof removal, an Asbestos Management Plan (AMP) will be necessary as part of the Site-Specific Environmental Management Plan (SSEMP).

24. Construction activities in schools could disrupt classes, hence, all works near schools must be scheduled during school breaks or holidays.

25. At the site of the settlement facility, runoff will drain to surrounding open areas outside of the anti-hail compound, leading to an irrigation canal. At the access roads and damaged bridge, there is a network of irrigation canals that may be affected by soil runoff. This may result in short-term impacts in terms of increased turbidity, runoff of construction-related wastewater, and contamination due to improper handling of materials. Measures to prevent soil erosion are included in the EMP.

26. In accordance with ADB Safeguard Policy Statement (SPS, 2009) and based on screening of the project components and activities, the project is classified as Category B for environment. An IEE and EMP have been prepared for the proposed additional financing project. The EMP outlines the mitigation measures to avoid or minimize adverse impacts during the pre-construction phase, construction phase, and during operation of the facilities, the monitoring and reporting requirements, the responsible unit that will implement and supervise the mitigation measures, and the source of funds. As part of good engineering practice, several measures are included in the EMP such as health and safety, materials management, waste and spoil management, safety, signage, dust prevention, noise mitigation, etc. The EMP will be included in the bidding documents and civil works contracts.

27. The PIG of CESCD will require the contractors to develop the SSEMP for each contract package based on the EMP prior to commencement of any construction activities. The SSEMPs will present the methods on how the contractors will implement the mitigation measures in the EMP, including the specific guidelines on (i) spill response plan (ii) dust management and control plan; (iii) noise management plan; (iv) waste and spoil management plan, including hazardous waste/materials management plan; (v) asbestos management plan, (vi) construction camp site management plan; (vii) traffic management plan; (viii) prevention and control measures for biodiversity management; (ix) chance find procedure; and (x) COVID-19 health and safety management plan and emergency response plan. Site-specific information in the SSEMPs will identify the legitimate sources of materials, methods for the management of

asbestos-containing materials (ACM), location, responsibilities, schedule/timeframe and budget for the implementation of mitigation measures specified in the EMP. The SSEMPs will be updated as necessary as the project is implemented.

28. During the operational phase, the impacts will be associated with the vegetation management on the distribution line, solid waste management, wastewater management, healthcare waste management, and community health and safety due to potential hazards of the distribution line, i.e., electrocution. Mitigation measures are outlined in the EMP.

D. Stakeholder Consultations

29. Village consultations were conducted on 23-24 June 2022 in jamoat Zoli Zar, Jalolidin Balkhi district to disseminate information on the project and its expected impacts and to gather information on environmental issues in the community. Random interviews with local people and meetings with the district office were also undertaken to gather further information on community concerns. A meeting was also conducted with the Committee on Environmental Protection to discuss the environmental assessment requirements of the proposed additional financing. In general, there was no objection to the proposed project. The stakeholders provided suggestions for possible inclusion in the project such as rehabilitation of schools, street lighting, fencing of schools, stadium or playground, among others. CESCD explained that the suggestions will be further evaluated to determine which can be funded under the project.

E. Grievance Redress Mechanism

30. A Grievance Redress Mechanism (GRM) for the project was designed to facilitate the resolution of affected people's concerns and complaints about the environmental aspects of the project. The usual entry point of complaints in the villages is through the village heads who can then call the attention of the CESCD/PIG about the complaint. Under the existing complaints management system of CESCD, an affected person or the village head may elevate a complaint by either (i) directly calling the CESCD hotline number (+992 37 227-95-09; +992 37 223-13-11; or +992 37 236-94-74); (ii) visiting the CESCD office in Dushanbe; (iii) through the CESCD facebook page and telegram page; or (iv) through the CESCD district representative. The GRM of the project will apply the existing complaints system of CESCD but will also provide a time-bound and transparent mechanism to voice and resolve project-related or social and environmental concerns.

31. Aside from the existing CESCD complaints system, an affected person can also make a complaint directly to the PIG and to the contractors through the CLO. Arrangements to resolve complaints with the involvement of the village or *Hukumat* will be introduced in the GRM. This route will be available to honor the administrative remedies in the local community. Names and contact numbers of representatives from jamoats and villages to the project GRM committee were identified. The community will be briefed by the PIG on the GRM and the means of reporting of community concerns and complaints to CESCD and the GRM committee. The contact phone number of the PIG/CESCD and CLOs of the contractors will serve as a hotline for complaints and will be placed on notice boards at project construction sites.

F. Institutional Capacity for Environmental Management

32. The Executing Agency of the project is the CESCD. The project management and general supervision will be carried out by the PIG. The CESCD designated Mr. Yusupov Muhammadusuf, head of Department of Construction of CESCD as an Environment Specialist (CESCD-ES). Mr Muhammadusuf attended the orientation training on ADB SPS (2009, Environment Safeguard Requirements) held in June 2022 by an international consultant recruited by ADB for the preparation of this IEE (Ms. Cherry Rivera).

33. The CESCD-ES will be supported by a Monitoring and Evaluation (M&E) Specialist (Mr. Atajon Salbaev) of CESCD/PIG who will monitor project performance and prepare the quarterly project progress reports. The CESCD-ES will prepare the Semi-Annual Environmental Monitoring Reports (SAEMRs) and provide inputs to the M&E Specialist on the status of environment safeguard implementation for the quarterly reporting.

34. A firm will be recruited as Project Implementation Consultants (PIC) to support the CESCD and PIG with project administration and management, procurement, and monitoring and reporting. The PIC will have an international environmental specialist (PIC-IES, 4 person-months) and a national environmental specialist (PIC-NES, 12 person-months).

35. The contractors will also be required to develop the SSEMP of each contract package. Each contractor will appoint a full-time Environmental Officer (EO) and a full-time Health and Safety Officer (HSO) to monitor and ensure that the mitigation measures in the SSEMPs are implemented during the construction phase.

G. Conclusion

36. The proposed additional financing will contribute to the improvement of shelters for displaced families as well as improve the social services infrastructure in surrounding villages. The project is expected to improve reliability of electricity, sanitation in schools and health center, health center services, and access roads. Based on this assessment, it is concluded that the project will result in significant positive socio-economic benefits.

37. The project will not cause significant negative environmental impacts. Any potential negative environmental impacts are small-scale and localized and can be mitigated through good design and implementation of mitigation measures.

38. Based on the assessment of the project components and activities, the project is classified as category B for environment in accordance with ADB SPS (2009). There are no components that will traverse environmentally or culturally sensitive areas. The footprint of impact of the infrastructures is small and confined to a very limited area. Adverse impacts can be reduced to acceptable levels through the implementation of practical mitigation measures associated with internationally accepted good engineering and construction practices.

39. This IEE together with the EMP is prepared in compliance with ADB SPS (2009) for category B projects. The summary of the IEE will be translated into Russian and Tajik languages and published at the ADB and CESCD websites together with the full report in English. This IEE will be updated if unanticipated environmental impacts become apparent.

I. INTRODUCTION

40. The National Disaster Risk Management Project is an ongoing project that is being implemented by the Committee of Emergency Situations and Civil Defense (CESCD). The project is financed by the Asian Development Bank (ADB) to support efforts of the government in reducing economic losses due to natural hazards and to mainstream disaster risk management (DRM) in development planning, in line with the National Development Strategy (2016-2030) and the Midterm Development Program (2016-2020).

41. The government, through the CESCD, has requested for additional financing to expand the scope of the ongoing project through the development of several infrastructure facilities, training on livelihood restoration and upgrading of capacity of search and rescue teams. CESCD will be supported to establish resilient accommodation for displaced people, training and support infrastructure for improved disaster response in the region. This will be established on the existing anti-hail unit site of CESCD in the Jalolidin Balkhi district. Site development for better disaster management and response will include shelters, septic tanks, training and administrative buildings, internal roads, and reliable water and electricity supply.

42. To build additional resilience of local communities, social infrastructure support will also be provided to surrounding villages of the CESCD site. This will include climate-resilient (access) roads and improvement of electricity distribution lines, among others. To further support rural employability and foster resilience, skill trainings, social integration, and livelihoods enhancement activities will also be sought under this additional financing. These will focus on women and other marginalized groups.

A. Scope and Methodology of Environmental Assessment

43. ADB SPS (2009) sets out the environmental safeguard requirements that apply to all ADB-financed projects. The project is categorized as Category B, requiring an IEE and EMP. The potential adverse environmental impacts are site-specific, reversible, and mitigation measures can be designed to address the impacts.

44. Due diligence and stakeholder consultations were carried out on 22 June–01 July 2022 to collect primary data relevant to the project location and environmental baseline conditions, identify potential impacts, and develop environmental mitigation measures to address adverse environmental impacts. The site surveys and consultations were carried out to gather opinions and views of the local communities related to their level of awareness of the proposed project; availability of water supply and status of water quality; common illnesses experienced by households; power supply issues; road access issues; sanitation; their perceived positive and negative impacts of the proposed project; and suggestions and recommendations. The consultation meetings were participated by a total of 122 people, consisting of 75 men and 47 women. The documentation of the public consultations is enclosed as Appendix A and the issues and concerns that were discussed during these meetings are presented in Section VII of this IEE.

45. The following methodologies and activities were undertaken in the conduct of the environmental assessment:

1. Site visit to the settlement site at the anti-hail center, schools, health centers, access roads, alignment of power distribution line and damaged bridge in Jalolidin Balkhi district to assess the areas of influence and identify any environmental and social issues.

2. Village consultations which were attended by villagers from Sanoat, Pravda, Urtabuz, Mehnatobod, and Uzun to present the proposed project and gather their views and comments about the project.
3. Conduct random interviews to gather information on the condition of basic social services such as water supply and power supply, health services and common illnesses, waste management practices, natural hazards experienced in the villages, their perceived positive and negative impacts of the project, and suggestions on project implementation.
4. Meetings with Committee on Environmental Protection (CEP) and Jalolidin Balkhi district to determine the environmental requirements to be considered in the design and implementation of the project.
5. Site visit to the communal solid waste dump site and sewage treatment facility of the district to check status and condition.
6. Screening of project site using the Integrated Biodiversity Assessment Tool (IBAT) to determine presence of environmentally sensitive areas and species.
7. Conduct of AWARE screening to determine climate change risks in the project area.
8. Discussions with CESCD on project impacts, mitigation measures, and institutional arrangements.
9. Preparation of the Environmental Management Plan (EMP) and Environmental Monitoring Plan.

B. **Structure of the IEE Report**

46. This IEE report follows the format prescribed in ADB SPS (2009) and contains the following sections:

1. Section 2 - Policy, Legal and Administrative Framework
2. Section 3 - Description of the Project
3. Section 4 - Description of the Baseline Environment
4. Section 5 - Anticipated Environmental Impacts and Mitigation Measures
5. Section 6 - Information Disclosure, Consultation and Participation
6. Section 7 - Grievance Redress Mechanism
7. Section 8 - Environmental Management Plan
8. Section 9 - Conclusions and Recommendations.

II. POLICY, LEGAL, AND ADMINISTRATIVE FRAMEWORK

A. ADB Safeguard Policy Statement

47. ADB SPS (2009) sets out the environmental safeguard requirements for all projects funded by the ADB. ADB SPS (2009) prescribes the environmental review process to ensure that projects undertaken through ADB loans are environmentally sound; are designed to operate in compliance with applicable regulatory requirements; and are not likely to cause significant environmental, health or safety hazards. ADB SPS (2009) is underpinned by the ADB Operations Manual, Bank Policy (OM Section F1/BP, October 2013). The policy also promotes adoption of international good practices as reflected in the World Bank Group's Environmental, Health and Safety Guidelines (EHS Guidelines).[4]

48. ADB SPS (2009) environmental assessment requirements specify that:

1. At an early stage of project preparation, the borrower/client will identify potential direct, indirect, cumulative, and induced environmental impacts on and risks to physical, biological, socioeconomic, and cultural resources and determine their significance and scope, in consultation with stakeholders, including affected persons. If potentially adverse environmental impacts and risks are identified, the borrower/client will undertake an environmental assessment as early as possible in the project cycle.
2. The assessment process will be based on current information, including an accurate project description and appropriate environmental and social baseline data.
3. Impacts and risks will be analyzed in the context of the project's area of influence.
4. Environmental impacts and risks will be analyzed for all relevant stages of the project cycle, including preconstruction, construction, operation, decommissioning, and post-closure activities such as rehabilitation or restoration.
5. The assessment will identify potential transboundary effects as well as global impacts.
6. Assessment encompasses associated facilities that are not funded as part of the project (funding may be provided separately by the borrower or by third parties), and whose viability and existence depend exclusively on the project and whose goods or services are essential for successful operation of the project.
7. Assessment encompasses existing facilities and/or business activities that already exist, for which the borrower will undertake an environment and/or social compliance audit, including on-site assessment to identify past or present concerns related to impacts on the environment, involuntary resettlement and indigenous peoples. The objective of the audit is to determine if actions were in accordance with ADB SPS (2009) and to identify and address outstanding compliance issues.

49. Other requirements of ADB SPS (2009) included in this IEE are:

1. **Consultation and participation.** The borrower/client will carry out meaningful consultation with affected persons and other concerned stakeholders, including civil society and facilitate their informed participation.

2. **Information disclosure.** Environmental information on the project will be translated into Tajik and Russian languages and made available in accessible locations (e.g., project construction field offices, commune councils, local government offices, etc.) in

[4] Environmental, Health, and Safety Guidelines (ifc.org)

accordance with ADB's Access to Information Policy (2019) and ADB SPS (2009). The IEE and the safeguard monitoring reports will be disclosed on ADB's and CESCD's project website[5] in English, Russian and Tajik languages in a timely manner. The IEE will also be disclosed to affected people through coordination and consultation meetings.

3. **Grievance redress mechanism.** The borrower/client will establish a mechanism to receive and facilitate resolution of project affected persons' concerns, complaints, and grievances about the project's environmental and social performance.

4. **Monitoring and Reporting.** The borrower/client will monitor, measure the progress of implementation of the EMP and monitoring plan as required by ADB SPS (2009).

50. Following the requirements of ADB SPS (2009), CESCD/PIG will apply pollution prevention and control technologies and practices consistent with international good practice as reflected in internationally recognized standards such as EHS Guidelines. When Government regulations differ from these levels and measures, CESCD/PIG will achieve whichever is more stringent. If less stringent levels or measures are appropriate in view of specific project circumstances, CESCD/PIG will provide full and detailed justification for any proposed alternatives that are consistent with the requirements presented in ADB SPS (2009).

B. Environmental Regulatory Framework in the Republic of Tajikistan

51. The Constitution of the Government of the Republic of Tajikistan embodies the principles on environmental protection. The environmental regulatory framework for the protection of the environment and the use and conservation of natural resources in the country are covered by laws on environmental protection, environmental auditing and monitoring, protection of flora and fauna, environmental information and education, quality of soils, water and air, biological safety, human health and safety, and waste and chemicals management.

1. Environmental Impact Assessment

52. The most significant laws related to environmental impact assessment are the Environmental Protection Law (2011) and the Environmental Expertise Law (2012).

53. **Environmental Protection Law (2011).** The law enforces Tajikistan's environmental policy to prioritize conservation measures based on scientific principles, to conserve nature and support the sustainable use of resources. The law provides for measures to ensure the rights of the public to a safe and healthy environment.

54. The law also defines the powers and functions of the CEP as the responsible authority on issuing clearance of environmental assessments. The CEP is the national environmental authority in charge of development and implementation of government policies on environmental protection, biological diversity, persistent organic pollutants, climate change, control over the rational use of natural resources, hydrometeorology, and prevention of the causes of emergencies with negative environmental impacts.

55. The law regulates the environmental impact assessment (EIA) requirements and introduced the concept of the state exercising power to examine environmental impacts of planned projects through the conduct of State Environmental Expertise (SEE) process. The CEP at the national, regional, and other subordinate levels is responsible to review the environmental assessment of projects. The SEE process must be scientific, comprehensive, and objective and must lead to conclusions in accordance with the law. The SEE precedes

[5] https://kchs.tj

decisions about activities that may have a negative impact on the environment. It is the responsibility of officials and enterprises to prevent and eliminate environmental impacts and to establish procedures to address environmental emergencies and avoid damage to the environment.

56. The SEE is a prerequisite for the initiation of any activity that may have an adverse impact on the environment. Funding for programs and projects is allowed only after the publication of a positive result or conclusion from the SEE process. Conducting the EIA is the responsibility of the project proponent. The EIA is a component of the SEE, as set out in the Environmental Protection Law (2011) and in the SEE Law (2012). The approval must be issued by the CEP within 30 days after submission by the project proponent of the environmental assessment report. The SEE may be carried out at the state level of the Government and its regional branches of the CEP, depending on the complexity of the project. The CEP has divisions at *oblast* (region), city and *rayon* (district) level, in the form of Departments of Environmental Protection (DEP), within the *Hukumat* (local administration) at each city or rayon. For this particular project, the CESCD/PIG will submit the project documentation including the environmental assessment and mitigation measures to the CEP at the central level (the central CEP) and financing of programs and projects is allowed only after a positive SEE finding or conclusion has been issued.

57. The most recent regulations on EIA are: (i) Resolution No. 1448 of 2017 which determines the procedures for EIA; and (ii) Resolution No. 235 of 2013 and Resolution No. 532 of 2018 (Appendices 2 and 3) which prescribe which projects are subject to EIA. In order to meet the standards of the EIA, the project documentation must contain information of: (i) purpose of implementation of the planned project; (ii) alternative options of implementation; (iii) data on state of environment in the territory; (iv) possible negative effects of project implementation to health and safety of the population; (v) impacts on the environment and natural resources; and (vi) measures for the reduction and prevention of impacts.

58. The following projects and activities are required to undergo the EIA/SEE process:

1. Drafts of state programs, pre-planning, pre-design, and design documentation for economic development;
2. Regional and sectoral development programs;
3. Spatial and urban planning, development, and design;
4. Environmental programs and projects;
5. Construction and reconstruction of objects of various types, regardless of their ownership rights;
6. Draft environmental quality standards and other regulatory, technological, and methodological documentation regulating economic activities; and
7. Existing enterprises and economic entities.

59. Resolution No. 532 of 2018 contains 180 types of activities, grouped according to environmental impact categories (from (A) “high risk” to (D) “local impact”). The current system of EIA does not provide for any preliminary assessment or screening of the project to decide on the need for an EIA, nor to define the scope of the issues covered and the content of EIA materials as specific procedural steps.

60. The proposed project falls under local impact (D) due to the small scale of impacts of the project, however, SEE approval needs to be obtained from the central CEP before the bids are invited from civil works contractors. The SEE procedure will involve the submission of the project documentation to the central CEP by the CESCD. The project documentation includes

proposed mitigation measures to address any identified environmental impacts. The CEP will initiate the SEE process and review the impacts and proposed mitigation measures. The CESCD will prepare an environmental assessment report (in Russian language) as soon as this IEE is cleared by ADB, submit to the central CEP, and obtain the SEE approval (Positive conclusion of the SEE) prior to the bidding process. The SEE approval must be issued by the CEP within 30 days after submission by the project proponent of the environmental assessment report.

61. **Environmental Expertise Law (2012).** The Environmental Expertise Law is intended to prevent negative impacts on the environment as a result of planned activities; predict impacts from activities that are considered to be harmful to the environment; and create databases on the state of the environment to increase awareness of the people on the impacts to the environment.

62. **Specially Protected Natural Areas Law (2011).** This law replaced the Specially Protected Natural Areas and Objects Law (1996) and adds one new category, i.e., state zoological parks to the categories of specially protected natural areas. It also includes the notions of protection (buffer) zones and ecological corridors, including recognition of those included in the World Network of Biosphere Reserves, wetlands of international importance and interstate natural parks and reserves.

2. Public Consultation and Participation

63. The Environmental Protection Law requires compulsory disclosure and consultation of the EIA report. The public has the right to receive environmental information (Article 13), as well as to participate in the development, adoption and implementation of decisions related to the project's environmental impact. This is achieved through public presentation during consultations of projects including environmental mitigation. The comments and suggestions from the public are to be taken into account. The project proponent and the entity that prepared the EIA is obliged to undertake public consultation with the local government and affected communities before submission of the EIA to the CEP.

64. Further details and procedures of public consultation are outlined in Decree No. 532 (2017). At different stages of the EIA, the public or affected communities must be consulted in the form of meetings and surveys to reflect their views on the direct and indirect environmental impacts of the project. The EIA report must be presented during the local public meeting after completion of the report.

3. Environmental Monitoring

65. The project will be monitored in accordance with the following laws:

66. **Environmental Monitoring Law (No. 707, 25 March 2011).** This Law defines the legal framework of the state policy in the field of environmental protection and is aimed at ensuring sustainable socio-economic development, guarantees human rights to a healthy and favorable environment, strengthening the rule of law, preventing the negative impact of economic and other activities on the environment, organization of rational use of natural resources and ensuring environmental safety. Monitoring of this project will be carried out by the CESCD PIG, the consultant firm, the CEP at the district level (district CEP), as well as the public, through the GRM. The Environmental Monitoring Law outlines the organizational, legal, economic, and social basis of ensuring environmental monitoring in the country and governs the relation between public authorities, self-government institutions of settlements and village, public associations, and citizens in the area.

67. Environmental monitoring is performed for the purpose of: (i) observations on the state of the environment and sources of anthropogenic impacts on the environment; (ii) forecasting changes of the state of the environment; and (iii) ensuring reliable information about adverse environmental effects. Regular environmental monitoring and data collection is carried out to assess the condition and functional integrity of natural ecosystems and public health. Changes in conditions and programs are developed to mitigate the consequences of adverse environmental impacts. The state of the environment should be disclosed to the public.

68. **Environmental Audit Law (No. 785, 26 December 2011).** This law outlines the principles and procedures for carrying out environmental audit to prevent harmful effects on the environment, life, and health of the population. The concepts are based on sustainability to provide a balance between social and economic requirements and preserve a favorable natural environment. The environmental audit is required to analyze compliance of activities with current legislation and regulations in the field of environmental protection and natural resources conservation.

69. An ecological auditor is required to hold a certification for competency (following qualifying examination) from an authorized state body. An environmental auditing organization can also hold a license to carry out an environmental audit.

70. The purpose of environmental audit is: (i) assist businesses to develop environmental policy; (ii) prioritize strategy and action plans that support implementation of established environmental laws and regulations; and (iii) create a mechanism to monitor and enforce effective regulation on environmental management.

4. **Environmental Permits**

71. The Permitting Law (2011) defines the general rules for issuance of various permits and permitting competences of various authorities. According to the law, the CEP issues the permits for the following:

1. Permits for emissions of air pollutants;
2. Use of flora and fauna;
3. Forest use;
4. Import and export of waste for reuse;
5. Waste generation, use, destruction, and disposal;
6. Exploration, collection, or extraction of minerals (borrowed areas) or for the construction of underground structures not related to extraction of minerals; and
7. Permit for use of natural resources within a specific area and time period (i.e., extraction of ground or surface water).

72. Permits on emissions or discharges are usually issued for one year and indicate the maximum permissible concentration and maximum allowable volume of pollutants in the emitted substances.

73. The following are list of permits and licenses that are required during project implementation:

Table 1: List of Required Permits and Licenses

Permits / Licenses	Schedule	Issuing authority
Design stage: project feasibility study and environmental impact assessment		

Permits / Licenses	Schedule	Issuing authority
Positive conclusion of the SEE process for the project	Prior to issuing invitation to bids, and prior to construction	CEP central level
Permit for disposal of asbestos-containing materials at a local landfill	Prior to construction	Local authorities (Hukumat)
License to conduct the type of activity	Prior to construction	Ministry of Industry and New Technologies of the Republic of Tajikistan
Construction stage:contractors of construction and reconstruction		
Permission for land use for the construction of the camp, asphalt and concrete plants and the development of quarries for the extraction of soil for the preparation of building materials (gravel, sand, crushed stone) and excavation for road pavement.	Prior to construction	Local authorities (Hukumat)
Permission for special water use	Before and during construction	The central CEP, Tajik geology (technical water), Ministry of Health and Social Protection of the population (drinking water)
Permission to cut down trees and shrubs	Prior to construction	the district CEP, Local authorities (Hukumat)
Permission for emissions of harmful substances into the atmosphere from stationary and mobile sources	At the construction stage	the district CEP, Local authorities (Hukumat)
Permission for discharge of hazardous substances into water bodies	At the construction stage	the district CEP, Local authorities (Hukumat)
Permission for land acquisition for temporary storage of construction waste (substandard soil, old asphalt, dismantled concrete products, etc.)	At the construction stage	the district CEP, Local authorities (Hukumat)
Permission to remove construction and household waste for storage in specially designated areas (disposal areas)	As required	Local authorities (*Hukumat*)

5. **Sanitation**

74. The 2011 amendments to the Ensuring the Sanitary-Epidemiological Safety of the Population Law (2003) introduced the notion of sanitary and epidemiological expertise, which checks the compliance of project documentation and economic facilities to state sanitary and epidemiological rules and standards, and also enhanced the provisions on sanitary-hygienic, anti-epidemic and information measures.

75. The Ministry of Health and Social Protection of the Population (2014 Resolution of the Government No. 148) is the central executive authority in-charge of governmental policy on public health and social protection. The ministry issues sanitary standards, rules, and hygiene standards.

76. The project involves reconstruction of school toilets and the disposal of medical waste. Therefore, the work must be carried out in compliance with sanitary and hygienic, anti-epidemic standards.

6. Environmental Standards

77. Standards cover air, water quality, noise, vibration, magnetic fields and other physical factors, and residual traces of chemicals and biologically harmful microbes in food. If limits are exceeded, there are administrative and financial penalties. Several ministries define the environmental quality standards, each with its own area of responsibility. For instance, the Ministry of Health has established acceptable levels of noise, vibration, magnetic fields, and other physical factors.

78. The environmental quality standards are based on *gosudarstvennyy standart* (GOST)[6], *Stroitelnye Normy* (SNiP)[7] and SanPiN[8]. The GOST refers to a set of technical standards maintained by the Euro-Asian Council for Standardization, Meteorology and Certification (EASC), a regional standards organization operating under the auspices of the Commonwealth of Independent States (CIS). SNiP covers construction codes for buildings and other structures while the SanPiN are the sanitation standards.

79. The Drinking Water and Drinking Water Supply Law (2010) covers public and private centralized and non-centralized drinking water supply systems and provides for state support for the development and functioning of drinking water supply systems through tax incentives, credits and other incentives. Local authorities and owners of water supply systems are obliged to undertake measures in case of water service interruption to ensure provision of drinking water through the use of standby sources and systems or delivery of water in tanks. The law includes the requirements for sanitary protection zones for all sources and systems of drinking water supply.

80. The standards for drinking water, discharges to water, noise, and air quality that are applicable to the project are presented in Appendix B.

7. Health and Safety

81. **Community Health and Safety.** The Health Care Code (30 May 2017, No. 1413) replaced the Public Sanitation and Epidemiological Welfare Law (2003), the Counteracting the Human Immunodeficit Virus and Acquired Immunodeficit Syndrome (HIV) Law (2017), and the Health Protection of the Population Law (2003). The Health Care Code regulates public health and is aimed at implementation of constitutional rights and health protection of citizens. Chapter 17 of the Code is about sanitary and epidemiological safety which outlines the requirements for water supply sources, drinking water supply, residential buildings and atmospheric air of residential areas, industrial facilities, soils, housekeeping, collection, usage, transport, storage, and disposal of industrial and domestic wastes. These requirements are to be followed by the project during the construction of the shelter buildings and other facilities.

82. **Workforce and Labor Conditions.** Tajikistan is a member of the International Labor Organization (ILO) since 1993 and has ratified 49 conventions related to the protection of workers' rights. Under the Constitution of the Republic of Tajikistan, everyone has the right to safe labor (Article 35), right to rest (Article 37), health protection (Article 38), and social security

6 GOST refers to the international technical standards maintained by Tajikistan, Armenia, the Kyrgyz Republic, Uzbekistan, Georgia, and Turkmenistan.
7 SNiP refers to the rules and regulations for carrying out construction and building codes.
8 SanPiN refers to the sanitary rules and regulations.

in old age or in the event of disease, disability, loss of breadwinner and other cases stipulated under the law (Article 39).

83. The Labor Code (adopted on 12 May 1997) sets the main principles of the government policy in the field of labor management, provides guarantees to the rights of citizens, and is aimed at ensuring the legitimate interests of employees, employers, and the state. The occupational health and safety (OSH) principles include a working environment that meets safety and health requirements and access to information on OSH.

84. The Labor Protection Law (Occupational Safety) (No. 517 dated 19 May 2009, edited on 1 August 2012) prescribes the rights of employees on protection of labor while performing work, compulsory social insurance against industrial accidents and occupational illnesses or any other injuries connected to the performance of work, benefits and compensations to employees working in hazardous or harmful conditions. It also promotes the development and introduction of occupational safety technology and protective means. The technical standards, norms, and rules on OHS are outlined in the GOSTs: Systems of Occupational Health and Safety Standards which includes Sanitary rules and norms (SanPiNs); Construction norms and rules (SNiPs); State standards of occupational safety and health systems (GOST OHS); Norms of harmful substances content (maximum allowable concentrations and levels); and Environmental Management, performance assessment (ST RT GOST R 14031-2010).

85. Under Article 8 of the Labor Code, forced labor is prohibited. The Labor Code also sets the minimum age of employment at 15 years old. In certain cases, such as vocational training and mild work, 14-year-olds may be allowed (Article 174 of Labor Code). There are also restrictions on the type of work and hours of work which are permissible for workers under the age of 18. Examples of labor restrictions include: (i) those between 14 and 15 cannot work more than 24 hours per week while those under 18 cannot work more than 35 hours per week; and (ii) during the academic year, the maximum number of hours is half of this, 12 and 17.5 hours, respectively. These limitations are consistent with the ILO Convention on Minimum Age. In addition, the Parents Responsibility for Children's Upbringing and Education Law (2011), makes parents responsible for ensuring their children are not involved in heavy and hazardous work and that they are attending school.

C. International Treaties and Conventions on Environment

86. The Republic of Tajikistan is a party to many international environmental conventions and treaties such as:

1. Vienna Convention for the Protection of the Ozone Layer (1996)
2. Montreal Protocol on substances that deplete the ozone layer (1998)
3. United Nations (UN) Convention to Combat Desertification (1997)
4. UN Convention on Biological Diversity (1997)
5. Ramsar Convention (2000)
6. Bonn Convention on the conservation of migratory species of wild animals (2001)
7. UN Framework Convention on Climate Change (1998)
8. Convention on International Trade of Endangered Species, Wild Flora and Fauna (2016)
9. United Nations Educational Scientific and Cultural Organization (UNESCO) Convention on Protection of World Cultural and Natural Heritage (1992)

10. Basel Convention on the Control of Transboundary Movement of Hazardous Wastes and their Disposal (2016).

III. DESCRIPTION OF THE PROJECT

A. Background and Rationale

87. The ADB loan amounting to $10 million for the National Disaster Risk Management Project was approved on 28 September 2018. The grant agreement was signed on 9 October 2018 and the project was declared effective on 25 January 2019, with a scheduled grant closing date on 30 June 2024. The project aims to: (i) support efforts of the government in reducing economic losses due to natural hazards and mainstreaming disaster risk management in development planning, and (ii) lay the foundation for establishing a sustainable institutional and financial mechanism that enables Tajikistan to effectively deal with disasters in the long term.

88. The Khatlon region, bordering Afghanistan, has experienced about 200 natural hazards from 2010-2020, including extreme rain and snowfall that caused major flooding incidents. Extreme weather events and rising temperatures have caused temporary and permanent displacement of people. There is also increasing likelihood of displaced people crossing into Tajikistan. The United Nations High Commissioner for Refugees (UNHCR) estimates around 6,000–12,000 new arrivals in 2022.[9]

89. The country is currently not equipped to absorb additional displaced people and to manage impacts of an increasing number of disasters. Public services in the rural areas are minimal. Unemployment and poverty rates are getting worse due to a major reduction of remittances from Russia which puts additional stress on poorer households. The lack of appropriate disaster risk management (DRM), facilities, and services to provide support for displaced people and host communities will likely result in even higher levels of vulnerability, poverty, and food insecurity that will disproportionately affect the rural poor.

90. The CESCD has requested ADB's support under the ongoing National Disaster Risk Management Project to further enhance the agency's capacity to better respond to and manage disasters, as well as to enable CESCD to respond to the increased number of displaced people.

91. A CESCD anti-hail site in the Jalolidin Balkhi district has been selected by the CESCD to establish more permanent facilities for disaster response and management. It will also accommodate displaced persons and support surrounding local communities in their disaster preparedness.

B. Project Outputs

92. The ongoing project has three outputs: (i) DRM will be mainstreamed in the government's development planning process, including the social sector; (ii) the capacity of the government and vulnerable communities to manage hazards and minimize losses will be strengthened; and (iii) a road map for investments and sustainable financing will be developed. The additional financing will expand the scope of the on-going outputs 1 and 2 by strengthening the CESCD capacity for DRM and providing training and equipment.

93. One additional output is added on "Resilience and livelihoods of displaced people and local communities improved" as Output 4. CESCD will establish resilient accommodation for displaced persons, provide capacity building for increased disaster risk resilience and improve infrastructure for disaster response in the region. This will be established on the existing anti-hail unit site of CESCD in the Jalolidin Balkhi district. It will respond to a critical gap by developing: (i) disaster-resilient shelters with suitable water supply and separate male and

9 UNHCR. 2022. Refugee Population Figure Update. Tajikistan.

female toilet facilities and washing areas; (ii) septic tanks for safe waste management, (iii) climate-resilient buildings for training and administrative purposes; (iv) improved and climate-resilient internal roads/paths; and (v) reliable and safe drinking water and internal electricity supplies.[10] The facilities will improve disaster management and provide suitable facilities for displaced persons.

C. Project Components and Location

94. Figure 2 presents the location of the project components. The project components are located on the east of the Bokthar-J. Balkhi highway in Jalolidin Balkhi district. Discussed in the succeeding sections are the components that were identified by the CESCD for additional financing.

1. Resilient settlement for temporary housing at CESCD site

95. The settlement site in Jalolidin Balkhi district (Khatlon region) is a 6.5-hectare government-owned land that was established in the 1970s as an anti-hail center. Tent-like accommodation was provided at the site for 100 households through support by UNHCR, United Nations International Children's Emergency Fund (UNICEF) and the Aga Khan Development Network (AKDN). The ADB-financing will involve the construction of permanent housing facilities at the settlement site, including improvement of facilities such as access roads, power supply lines, water supply and sanitation facilities, kitchen, sports area, and training and learning facilities.

96. Given the uncertainties with regards to the number of displaced people, the additional financing follows an agile and adaptive approach. Infrastructure to be developed at the CESCD site will serve multiple purposes. In the unlikely case of no displaced people arriving, or in a period of lower numbers, the site and facilities will be used for training, learning and development purposes. CESCD will be able to train its staff and teams to better respond to and manage disasters in the region. There is also the opportunity to undertake residential training courses to further build the disaster preparedness and resilience of the communities.

97. The proposed facilities to be implemented under the additional financing project from ADB are listed in Table 2.

Table 2: Indicative list of facilities for the various project phases

Phase 2		Phase 3	
1.	Six (6) two-storey shelter buildings	12.	Six (6) two-storey shelter buildings
2.	Kitchen and dining place	13.	Support buildings and structures (warehouse, shops, laundry, sauna, etc.)
3.	New administration building		
4.	Learning facilities/classrooms	14.	0.4 km internal access roads and drainage
5.	Support building and structures (warehouse, shops, laundry, sauna, etc.)	15.	One well and pump station for water supply
6.	1.4 km internal and external access roads and drainage	16.	Sport area and playground.
7.	New power distribution line (10kV) with length of 5.8 km from substation to the settlement site and replacement of 400kVA		

[10] The CESCD site is already operational with existing infrastructure. Depending on the structural state, the infrastructure will either be rehabilitated or reconstructed.

Phase 2	Phase 3
transformer 8. One well and pump station for water supply 9. Sport area and playground 10. Procurement of meteorological radars 11. New office rooms	

98. Figure 3 and Figure 4 present the indicative site development plan of Phase 2 and Phase 3. The development of Phase 3 will entail the removal of the temporary tents that were built under Phase 1 (see para. 94). CESCD has informed UNHCR and other donors on this matter. The temporary tents will not be removed until Phase 2 buildings have been built.

Figure 2: Location of Project Components

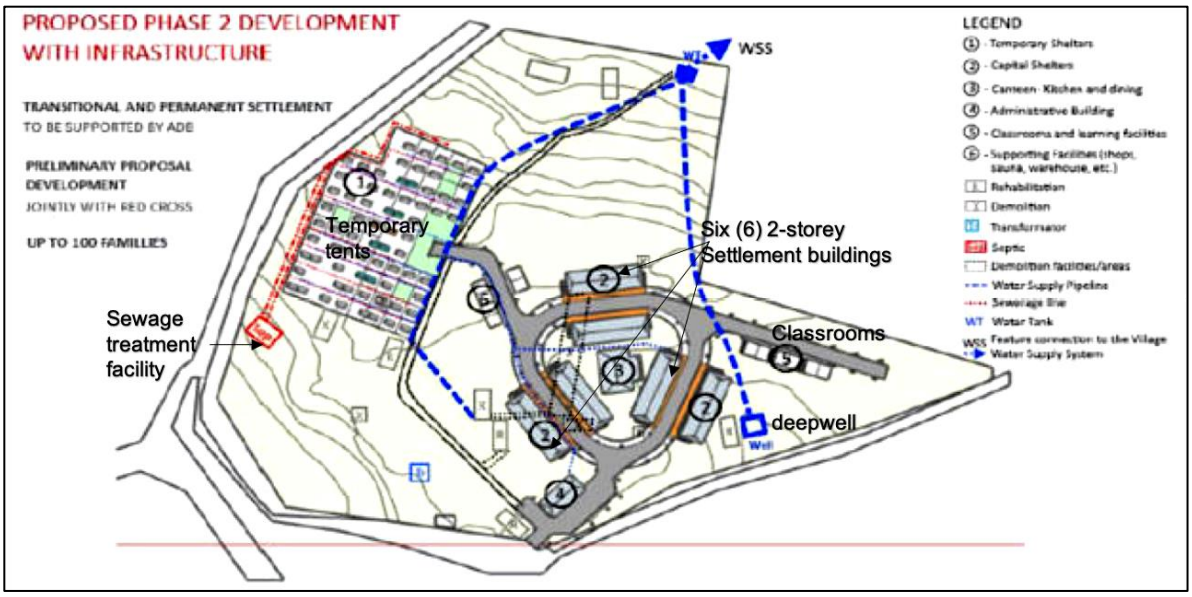

Figure 3: Preliminary site development plan of Phase 2

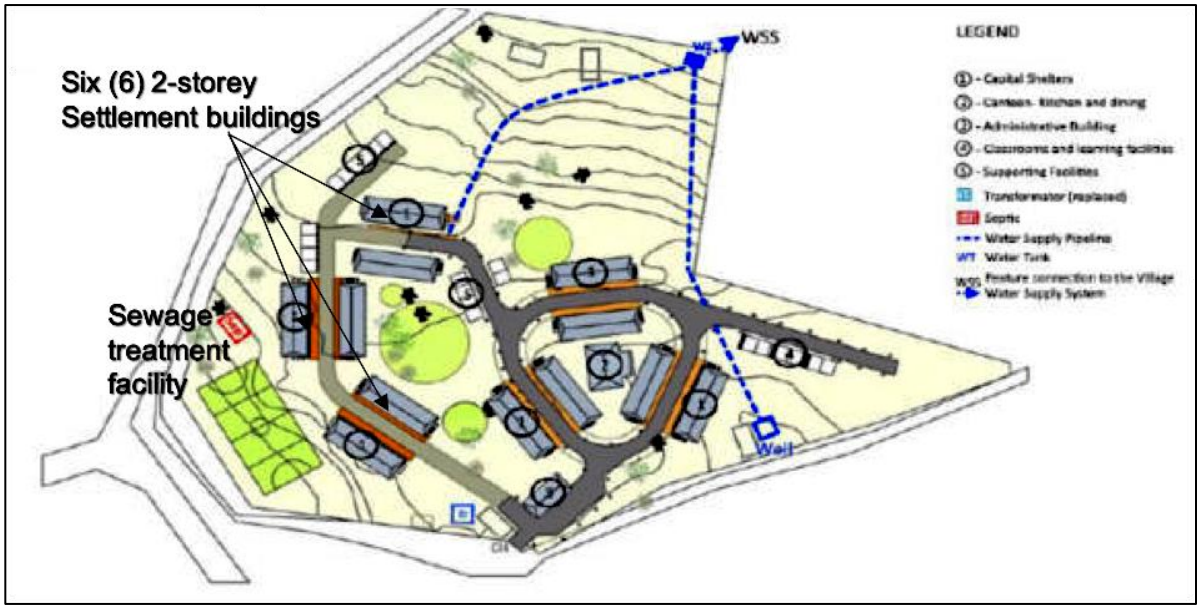

Figure 4: Preliminary site development plan of Phase 3

8. Offsite Facilities

99. The offsite facilities will cover improvement of social service infrastructure facilities in surrounding villages of jamoat Zoli Zar in Jalolidin Balkhi district. These offsite facilities include access roads, restoration of damaged bridge, power distribution lines, sanitation facilities in schools and health center, and procurement of essential medical support equipment such as autoclave, refrigeration unit for vaccines, standby generator, solar panel, air-conditioning, thermometers, weighing scale and other related medical support equipment. The indicative specifications and location of these facilities are shown in Table 3.

Table 3: Offsite facilities

Offsite Component	Village Location	Specifications
Access roads	From Bakhrat-Balkhi Highway leading to Sanoat village and anti-hail center	940 m/0.9 km long 6 m width
Restoration of damaged bridge	Mehnatobod village	12 m long 5 m width
Power supply	Chapaeva-Sanoat	5.8 km length of distribution line
Sanitation facilities (pit latrines) at the primary and secondary schools and (1) medical center	Sanoat village, jamoat Zoli Zar Pravda village, jamoat Zoli Zar	
Procurement of equipment for health center	Sanoat village, jamoat Zoli Zar	Autoclave Thermometer and other diagnostic equipment Weighing scale Refrigeration for vaccines Air-conditioning Standby diesel generator Solar panel

IV. DESCRIPTION OF THE ENVIRONMENT (BASELINE DATA)

A. Project Area of Influence

100. The project area of influence includes localized impacts arising from construction-related activities such as noise, dust, soil runoff, and closure of access roads due to road improvement activities. For purposes of establishing the environmental baseline and assessing the potential environmental impacts, the area of influence for local impacts on the access roads and power distribution line is taken as 100 m distance from the center line, while the area of influence for impacts on the settlement site is taken as 1 km radius. A total area of 100 ha, i.e., larger than the actual area (6.5 ha) of the settlement site, has been screened to capture the potential impacts, particularly in terms of the following:

1. Sensitive natural environmental receptors such as water bodies, biodiversity, and wildlife habitats;
2. Sensitive human receptors such as households, schools, and health centers;
3. Cultural and heritage sites such as temples, cemetery; and
4. Potential health and safety issues.

101. According to ADB SPS (2009), the area of influence encompasses:

1. The primary project sites and related facilities that the Borrower/Client develops of controls. The primary project site for this project includes the construction sites for the settlement site, access roads, damaged bridge, health centers, schools, and right-of-way (ROW) of the distribution line.

2. Associated facilities are defined as activities that are not funded as part of the project but whose viability and existence depends exclusively on the project. There are no associated facilities identified in this project. The existing substation line where the proposed distribution line will connect already serves other villages in the district.

3. Existing facilities are defined as activities that already exist, for which the Borrower will undertake an environmental audit, including an on-site assessment to identify past or present concerns related to impacts on the environment. All project components are existing facilities where improvement is necessary.

4. Effects from cumulative impacts from further planned development of the project, other sources of similar impacts. Cumulative impacts in this regard are anticipated as a result of this or similar projects in the area.

5. Effects from unplanned but predictable developments caused by the project that may occur later or at a different location. As a result of this project, it is anticipated that the construction and development of the settlement site and support facilities in the villages will lead to further developments around the project area.

B. Geographical Location

102. The project site is geographically situated between 37^{o} 38’ 59.20” and 37^{o} 39’ 35.54” north latitudes and 68^{o} 36’ 41.11” and 68^{o} 39’01.68” east longitudes, in Jalolidin Balkhi district in the Khatlon region of the Republic of Tajikistan. Jalolidin Balkhi district is located about 135 km south of Dushanbe. The district covers a land area of 1,142 km^2 and is divided administratively

into two town jamoats: (i) Balk and (ii) Guliston, and six jamoats[11] namely: (i) Uzun/Zoli Zar, (ii) Halevard, (iii) Kalinin, (iv) Madaniyat, (v) Navobod, (vii) Mehnatobod. Figure 5 presents the project site and Jalolidin Balkhi district.

103. All the project components are located in jamoat Uzun, now referred to as jamoat Zoli Zar. The settlement facility, health facility, and primary and secondary schools are located in Sanoat and Pravda villages while the damaged bridge is in jamoat Mehnatobod. The power distribution line improvements are along existing roads that will traverse the villages of Sanoat and Urtabuz until the power substation in Chapaeva along Bakhrat-Balkhi Highway. Road improvements leading to the settlement facility in Sanoat will be along existing village roads from jamoat center to Mehnatobod and Sanoat villages which then connect to the Bakhrat-Balkhi Highway.

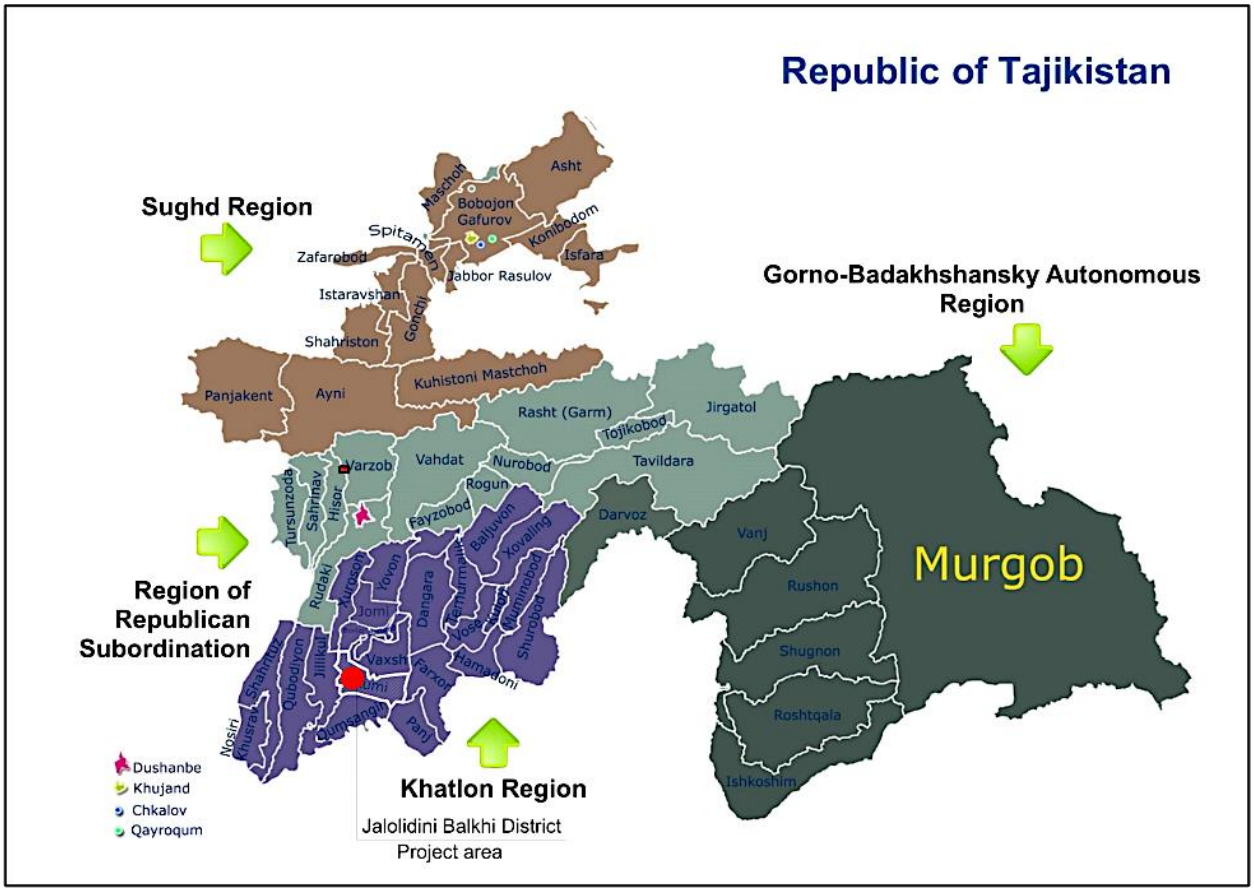

Figure 5: Map showing the project site and Jalolidin Balkhi District

C. Physical Resources

1. Topography, Geology and Soils

104. **Topography.** The project site is located in the Tajik depression in the southwestern section of Tajikistan which is south of the highlands of Gissar-Alay and west of the Pamirs. The area is characterized with a generally low elevation, with low ridges and vast basins. Highest

[11] *Jamoats* are third-level administrative divisions, similar to communes or municipalities.

elevation is on the northeast which then fans out in the southwestern direction, gradually decreasing towards the right bank of Pyanj and Amu Darya.

105. The project site is located in the valleys between the numerous ranges, with significant flat and moderately sloping plains. The lowest elevation in the project area can be found in Mehnatobod village at 372 meters above mean sea level (masl). The highest elevation is at Urtabuz village with 410 masl. Elevation at the settlement site in Sanoat village is 397 masl at the eastern section; slopes towards the southwest at 383 masl and at 392 masl on the north.

106. **Geology.** The Tajik Depression is the northern part of the Afghan-Tajik depression that developed since the Late Paleozoic. In geomorphological terms, the area is relatively low (600–2300 m), fan-shaped series of mountains, composed of Cretaceous, Neogene and Quaternary sediments. These are indented by rocky outcrops with widespread red sandstones and limestone and gypsum outcrops along ridges.

107. The project area is on the foothills which is characterized with lowlands and oases. These are typical hilly plains, into which riverbeds are cut to a depth of 400–500 m.

108. **Soils.** The area is occupied by loess rocks, which have subsidence properties and when wet, give deformations of up to 8 m (maximum). In some areas, saline fine-earth rocks or quicksand soils are developed. The foothill areas are often composed of gypsum-bearing and salt-bearing karst rocks. Mudflows and erosion of riverbanks during heavy rains occur in the project area. In general, the area is underlain by alluvial pebbles, sands, sandy loams, and loams.

2. Climate

109. The climate in the region is continental and arid. The climate is characterized by moderately cold winters and hot summers. Summer temperatures can reach up to 45 °C and winter temperatures can drop as low as -20 °C.

110. Summers in the region are hot and dry. Average temperatures in July range from 31 °C to 33 °C. The abundance of sun and heat allows the cultivation of heat-loving crops. Activities related to agriculture are carried out on irrigated lands. Hot summer periods are followed by warm and long autumn where there is gradual decrease in temperatures. The region receives up to 250 mm of precipitation per year.

111. Precipitation consists mainly of rain and sleet. Snow cover is rarely more than 10 cm thick, melts very quickly and does not accumulate. The period from June to October is the driest. Snowfall occurs mainly from mid-December to mid-February, and rainfall from March to mid-May.

3. Ambient Air Quality

112. The air quality in the project area is exceptionally good due to the absence of industrial pollutants and the low level of vehicle movement. However, seasonal dust storms are a problem, especially where vegetation has been cleared to expose soil for the next cropping. Dust will be a concern in summer during the project construction activities.

113. There are no regular instrumental air quality data for the Jalolidin Balkhi district. Emission sources are: (i) vehicle engine emissions; and (ii) dust, including from vehicle traffic. The main emissions from fuel combustion in vehicle engines include nitrogen oxides (NOx), carbon monoxide (CO), volatile organic compounds (VOCs), carbon dioxide (CO_2) and particulate matter (PM).

4. Surface and Groundwater

114. **Surface Water.** The project area is part of the catchment area of the Vakhsh river basin in the western section of the district. The river eventually drains towards the Pyanj river, whose confluence covers the entire territory of the river of Central Asia. The Vakhsh river is 524 km long and is considered as second only to the two main Central Asian rivers of Amu Darya and Syr Darya. The average annual discharge in the river exceeds 600 m^3/s, and its peak may exceed 1,400 m^3/s. The Vakhsh river carries sufficient water for irrigation because it is fed by glacial snow melt and from heavy rains in the foothills and mountains during the months of May to September.[12]

115. During periods of high water, coinciding with intense snowmelt and precipitation, large amounts of suspended particles are received in the river (Amu Darya and Kyzylsu). The observed annual fluctuations in the water level in the rivers range from 0.6–2.0 m. The water level can rise significantly during floods on the Vakhsh and Pyanj rivers.

116. The sources of irrigation in the Khatlon region are mainly the Vaksh, Kafirnigan, Kyzylsu, and other shallow rivers. About 220,000 ha of irrigated land has been developed in the Vakhsh river basin, mainly in the lower part, and about 85% of the water withdrawn from the river is used for irrigation.

117. The quality of surface runoff water in the upper reaches of the Vakhsh river and its tributaries is determined by minerals entrained in the surface runoff and ice cover, wind transport of dust, and atmospheric contaminants into water as well as from sediments formed during mudflows and any other polluting components that are entrained in the water.

118. According to the Water Pollution Index (WPI), water quality at the upstream of Vakhsh river in all monitoring points generally corresponds to Class I (very clean water) while in the downstream is Class II (clean). Maximum concentration of pollutants in the river is reported in April–August, when irrigation is intensive.

119. **Groundwater.** In low-lying areas in Mehnatabod, the villagers said that groundwater can be encountered at 2 m below ground surface while in the village of Urtabuz, the groundwater level is too deep at about 120–160 m. This makes it difficult for the villagers in Urtabuz to drill deep boreholes to abstract water.

120. Poor drainage and sustained water logging in soil causes salt levels to build up. Groundwater in many areas is mainly brackish (with high sulphate composition). The villagers in Sanoat and Mehnatobod disclosed that they use boreholes with hand pumps in houses. There are some areas in Mehnatobod where groundwater can be encountered at 2 m deep, characteristic of poorly drained soils or those with shallow water tables.

5. Natural Hazards

121. Reported disasters in Tajikistan in 2021 included 153 avalanches, 42 rockfalls, 40 windstorms, 33 earthquakes, 19 inundation/water level rises in reservoirs, 8 cases of torrential rains, 7 landslides, and 1 case of soil erosion with collapse.[13] The number of disasters in 2021 was 68.5% greater than those reported in 2020. The reported events are related to the country's vulnerability to climate change.

[12] https://www.tgpu.tj/images/stores/25.00.24/NavievG/Disser_NabievG.pdf
[13] Overview of Emergency Situations in the Republic of Tajikistan. Committee of Emergency Situations and Civil Defense (CESCD). 2021

122. Khatlon region experienced about 200 natural hazards between 2010–2020, including extreme rain and snowfall (hail) followed by major flooding. Total economic losses from natural hazards amount to $1.8 billion in a 15-year period, affecting more than 7 million people.[14] With rising temperatures and more frequent extreme weather events, the trend is projected to worsen in the coming years, with more people temporarily or permanently displaced due to natural hazards.

123. **Earthquakes.** Tajikistan is located in an active seismic zone. According to the current map of seismic zoning (Figure 6), 50% of the entire territory of Tajikistan is located in a 9-point seismic zone; 38% in an 8-point seismic zone; and 12% in a 7-point seismic zone. Villagers in the project site said that they seldom feel the intensity of an earthquake. In the north and east of Khatlon region, there are fault lines which makes the project area prone to potential 5.8–6.6 magnitude earthquakes on the Richter scale. Such intensity of earthquakes can cause additional stress on structures and a serious seismic event can lead to the failure of critical structures. Data from AWARE that is based on processed data from International Centre for Numerical Methods in Engineering (CIMNE) and INGENIAR Ltda (GAR15) suggests that the project is located in a region that is high risk in terms of earthquake hazards with peak ground acceleration (PGA) of >31 cm/s from a 250-yr return period event.[15] This would potentially lead to moderate to heavy damage. The villagers, however, disclosed that they rarely experience earthquakes.

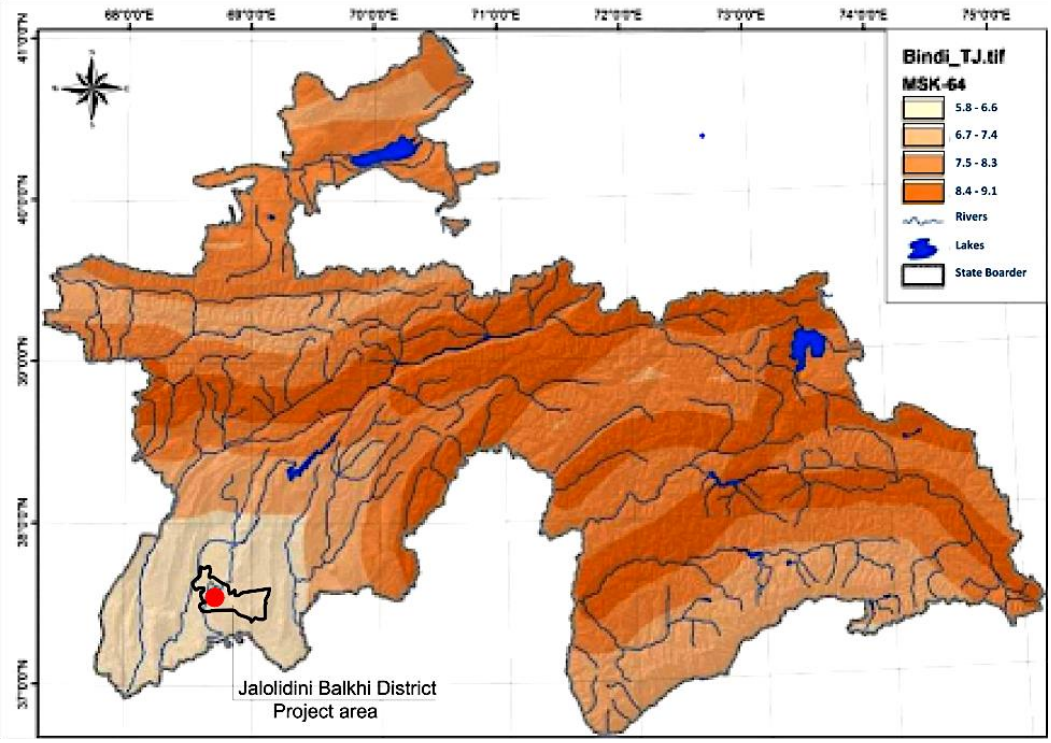

Figure 6: Earthquake map of Tajikistan

Source: General seismic zoning of the territory of Tajikistan.
Scientific editor S.Kh. Negmatulloev, Authors: A.M. Babaev, V.B. Koshlaov, K.M. Mirzoev. Released in 1979. New share of TISS.2004

[14] World Bank. 2021. Assessment of economic impacts from disasters along key corridors.
[15] AWARE project report generated on 27.06.2022 03:44

124. **Land Subsidence and Soil Erosion.** The areas which are occupied by loess rocks are prone to land subsidence. During heavy rains, high mudflow activity may occur due to floods which causes damage to cropland and houses. Villagers reported land subsidence in Urtabuz resulting from frequent movement of heavy trucks and other vehicles along the access road in the village.

125. Land subsidence is also coupled with extreme rainfall intensity and frequency of flooding that cause soil erosion issues.

126. **Landslides.** Landslide conditions within the region are highly diverse. Landslides can occur depending on the mechanism and character of rock destruction, the form for slides of significant volumes of material (slips/streams, stepwise slides and complex slides) or minor slides (superficial or localized slips). Debris flows, superficial slips and slides/streams occur in basins, where the valley slopes are composed of loess-type rocks, which are moistened in an intensive way by atmospheric precipitation. This usually occurs in steep slopes (30 degrees or more) and results in movement of a rock layer up to 1 m thick. Rock slips occur on slopes of less than 30 degrees and result in movement of masses up to 3–5 m thick. In a number of cases, landslides were associated with earthquakes and also with intensive precipitation.

127. The project area is basically flat but elevated sections in Urtabuz and the soil formation may constitute a risk for potential landslide movements. The AWARE screening indicated that the project is high risk from seismic landslide.

128. **Flooding.** The project is located in a region which has experienced recurring major flood events in recent past. Between 1985 and 2016, there has been at least one significant large-scale flood event in the region based on AWARE and post-processed data from the Dartmouth Flood Observatory at the University of Colorado.[16] Mudflow is facilitated by factors such as extremely complex terrain conditions, steep slopes, torrential rains in the mountains and presence of detrital material on mountain slopes. The project area has low to moderate susceptibility to disastrous mudflows, but flash mud streams caused by torrential rains are common in the valleys of watercourses.

129. Flood events were disclosed by villagers during the stakeholder consultations. A resident in Urtabuz commented that flood waters reach up to one meter high on the road on an annual basis during the rainy months which cause damage to his fence and property. The resident said that this is due to insufficient surface runoff being received by the road culvert near his house.

130. **Snow (Hail).** The project is located in a region where snow is commonly observed, and future precipitation may also increase.[17] Hail usually occurs in February–March and causes damage to crops.

131. **Strong Winds.** In summer, mountain-valley circulation is pronounced throughout almost the entire territory of Tajikistan. Mountain or katabatic winds predominate only in the highest regions.

132. From November to April, sandstorms are observed in the mountains due to the aridity of the region.[18] These winds can last for a week or more. Strong winds also occur in winter, as -2 °C feel like 10 °C. Due to strong winds, dust storms occur on the territory of Tajikistan. These are unevenly distributed and are mainly observed in the southern deserts and semi-deserts,

[16] AWARE project report generated on 27.06.2022 03:44
[17] AWARE project report generated on 27.06.2022 03:44
[18] Abdullaev and Sokolik. Main Characteristics of Dust Storms and Their Radiative Impacts: With a Focus on Tajikistan. 2019

especially in Shaartuz. The greatest frequency of occurrence with haze is observed in the dry summer-autumn period. Many residents of jamoat Zoli Zar noted that strong winds, especially in winter, lead to cutting of power lines in villages.

D. Ecological Resources

133. The territory of Tajikistan has rich biodiversity composed of around 23,000 flora and fauna species, 1,900 of which are endemic.[19] There are about 348 species of resident and migratory birds in the country, although this number has declined sharply over the past half-century due to habitat changes and environmental pollution. The peak of northern migration occurs in April, and southern migration occurs in October and November.

134. The project area is located in an agroecosystem that is characterized by agricultural systems with irrigated arable land, rainfed arable land, gardens, woodlands, and homesteads. The area has no forest. The main varieties of agricultural crops grow in the open ground. In recent years, the area of agricultural ecosystems has expanded, particularly due to the development of rainfed and irrigated lands, which together with the pastures make up more than 4 million ha., which is 3.5% of the country's territory.

135. The territory of Jalolidin Balkhi district can be described as semi-desert on typical serozems. It is mostly flat land that has already been plowed. Vegetation is sparse, represented by *Solyanka*, eaten by cattle in winter, and partly by *polonias*. Local natural forage lands in the balance of regional pastures play a modest role; many areas still retain natural grass, which is represented mainly by perennial grasses and some *ephemera* and *ephemeroids*.

136. There are no known rare or endangered species of flora and fauna or protected areas that may be affected by the project based on observation of the project sites, examination of secondary data and information from the Integrated Biodiversity Assessment Tool (IBAT). All project sites are located in existing, highly modified agricultural landscape. The most important protected area nearest to the site is the Tigrovaya Balka nature reserve, located at the mouth of the Vakhsh river, which is approximately 20 km away from the project area.

137. The Tigrovaya Balka Nature Reserve is a 40-km long alluvial plain where unique ecosystems grow on the river sediments of the Vakhsh River. The nature reserve is a key biodiversity area that covers an area of 68,092 ha. and includes part of the Vakhsh valley north from the junction of the Vakhsh and Pyanj rivers. It is an important bird area (IBA) particularly in the Vakhsh valley portion situated at an altitude of about 325 masl. There are several habitats in the IBA: floodland forest, freshwater bodies and marshes, semi-deserts, takirs and solonchaks.[20] Figure 7 presents the map of the project site and the nearest protected areas.

138. Conservation programs are being implemented in Tigrovaya Balka in order to preserve inland water bodies and oxbow lakes. The nature reserve is habitat of the remaining Turanian tigers (*Panthera tigris virgata*). The nature reserve also supports populations of the snow leopard (*Pathera uncia*) and brown bear (*Ursus arctos)*.

139. Another protected area to the east of the project area is the Dangara massif which is located about 63 km away. The Dangara massif is an IBA centered on Dangara mountain and covers 40,000 ha. of gentle hills, richly vegetated in spring. There are no trees. The massif has

[19] Fifth National Report on Preservation of Biodiversity of the Republic of Tajikistan. Dushanbe. 2014

[20] Key Biodiversity Areas Partnership (2022) Key Biodiversity Areas factsheet: Tigrovaya Balka Nature Reserve. Extracted from the World Database of Key Biodiversity Areas. Downloaded from http://www.keybiodiversityareas.org/ on 26/06/2022

been used as autumn-winter pastures. The Saker Falcon (*Flaco cherrug*), an endangered bird species was reported in this IBA.[21]

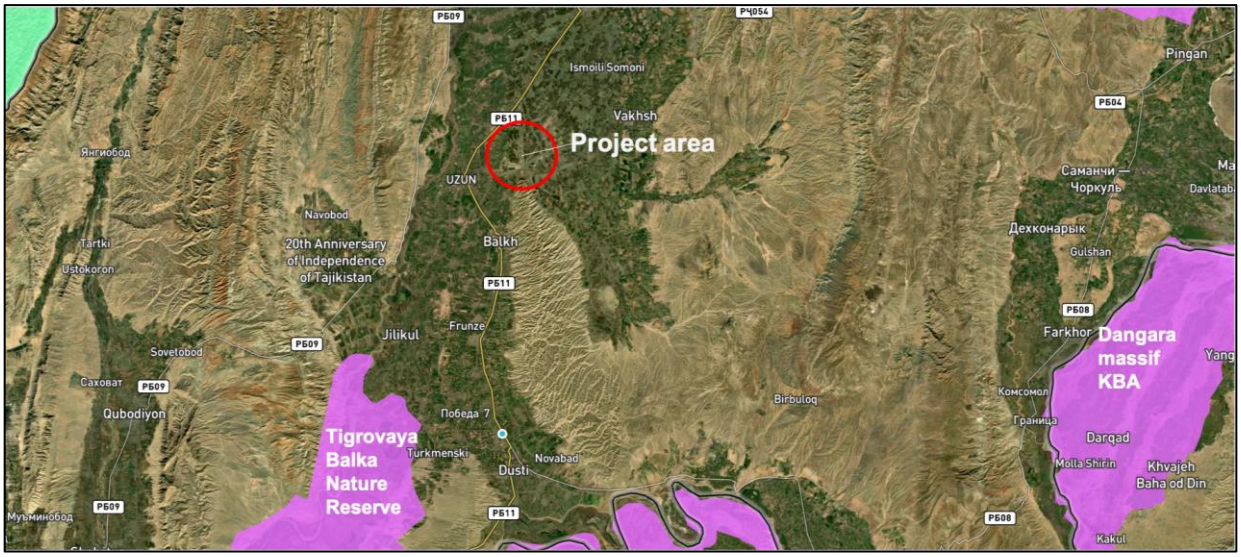

Figure 7: Protected areas

Base map source: the Integrated Biodiversity Assessment Tool (IBAT)[22]

E. Socio-Economic Profile

1. Population

140. The Khatlon region, which borders Afghanistan, is the most populated region in Tajikistan. According to the January 2020 statistics, the population of Jalolidin Balkhi district was 210,300 while the population in jamoat Zoli Zar (Uzun) was 22,555 people. Household population in Zoli Zar was reported as 4,166 households. The average yearly population growth during the last ten years (2010-2020) is 2.5%. In the project area, the population was reported as 9,214 people based on information taken from the national statistics/village passports[23] as outlined in Table 4.

Table 4: Population in the Villages

Villages	Population	Male	Female	No. of Households	Person per HH (average)
Mehnatobod	1,181	645	536	203	5.8
Sanoat	2,949	1,338	1,611	532	5.5
Furmanova	1,144	519	625	203	5.6
Urtabuz	1,719	750	969	278	6.2
Pravda	2,221	1,007	1,214	361	6.2
Total	9,214	4,259	4,955	1,577	5.8

Source: National statistics / village passports

[21] Key Biodiversity Areas Partnership (2022) Key Biodiversity Areas factsheet: Dangara massif. Extracted from the World Database of Key Biodiversity Areas. Downloaded from http://www.keybiodiversityareas.org/ on 26/06/2022

[22] Integrated Biodiversity Assessment Tool (IBAT) (ibat-alliance.org)

[23] Village passports present the brief information about the district, geographical location, jamoats, population, cultural facilities, and school.

2. Education

141. There is a primary and secondary school No. 29 in Sanoat village and No. 28 in Pravda village. School No. 29 building includes 22 classrooms and one storage building that was constructed in 1984. The buildings are characterized by concrete slabs with some burnt brick walls, wooden floors, and asbestos roof. Since 1984, the school building has not undergone any reconstruction or repair works. School No. 28 in Pravda village was constructed in 1961. It has 13 classrooms with some additional classrooms being constructed with support from a local businessman. The toilets in both schools are in poor condition and physically outdated. The food preparation area in the schools is not sanitary and prone to vector infestation.

3. Occupation and Sources of Income

142. The main occupation or source of income of the local people in Zoli Zar is farming/agriculture, primarily cotton, onion, carrots, wheat, maize, vegetables, and alfalfa. Their produce from cropping is sold in the market or along road stalls. There are families who also have relatives (mostly heads of households) who work in Russia and send remittances for the family. The women are left to tend to the agricultural farm.

4. Power Supply and Water Supply

143. **Power Supply.** All the villages and jamoats in Jalolidin Balkhi district are covered by existing power supply system that is provided through a 35kV substation situated in Uzun-2 through 10kV distribution lines. The distribution line connects to the settlement site of the CESCD. The line suffers from seasonal power interruption particularly during winter.

144. The proposed 10kV distribution line will be from the existing 110/10kV substation in Chapaev village to the anti-hail center, covering a length of about 5.8 km. The line will pass along the side of the village access roads leading to the anti-hail center. This will allow permanent and more stable electricity supply to schools and health centers in the villages.

145. **Water Supply.** The settlement facility has a well with booster pump that is installed at a depth of 120 m. There is a plan by CESCD to install additional two boreholes to supplement the existing newly built well.

146. In general, the water supply system for the Vakhsh valley districts was constructed according to the projects developed by the design institutes of the Dushanbe branch "*Kazvodokanalproekt*", "*Tajikgiproselkhozstroy*" and "*Tajikgiprostroy*" during the 1970s–1990s. The main part was built in the 1970s. Water supply for a part of Jalolidin Baklhi district for the jamoats of Uzun and Navobod was provided by the group of water supply system for the Vakhsh valley regions while the district center and other remaining jamoats were supplied by underground water intake at Uzun-1 through additional stage lift station at pumping station in Uzun-2. Water comes from the water pipe supplied from the *Vakhsh Mejraionni Kanal (VMK*) with starting point in Bokhtar surface water intake and from underground water.

147. In Sanoat and adjoining villages of Mehnatobod, Urtabuz, and Furmanov, water is accessible through the main pipeline VMK. Water is supplied through a booster pump station. The distance from the water intake at Uzun-1 to the second pump station at Uzun-2 is about 3 km. and from Uzun-2 to the shelter site (anti-hail center) is about 3.8 km.

148. The World Bank will be developing the Rural Water Supply and Sanitation project in the area by the second half of 2022. The proposed project is expected to improve the water supply availability for the villages and the entire district.

5. Public Health

149. There is a health center in Sanoat village (Photo 1) where people from the villages go for emergency medical treatment. The health center has one doctor/midwife and 11 nurses. The center provides first-aid treatment, vaccination services, medical check-up of pregnant women, and offers free medicines to villagers. In Pravda village, there is also a small health center with two rooms for first-aid only.

150. In both health centers, there is very limited medical equipment that includes weighing scale, refrigerator, and thermometer. Vaccines are only refrigerated in ordinary home refrigerators inside the health centers. There are no ambulance or vehicles in the health centers to bring patients to the hospital in the town center which is located about 20–24 km. away. Villagers said that they bring patients to the hospital by donating money for transport while some use bicycles.

151. In terms of medical waste management, the health centers burn wastes (used syringes, cotton, etc.) and then bury the residues in a pit. The villagers requested for support on the acquisition of an emergency vehicle/ambulance, blood pressure gauge and other equipment, autoclave for disinfection/sterilization, refrigerator appropriate for vaccine storage, air-conditioning for the rooms, and other support equipment to improve the health facilities.

152. According to the nurse and staff at the health centers, the leading illnesses and complaints of villagers are high blood pressure, diabetes, colds, diarrhea, and gastrointestinal diseases.

Health center in Sanoat

Incinerator for wastes

Pit for burned residues

Photo 1: Condition of Health Center in Sanoat

Note: All photos were taken on 23 June 2022

6. Sewage Disposal

153. **Settlement Facility.** The settlement facility has a functioning sewage treatment facility or septic tank with a capacity of 200 m^3. This is built on the northern section of the compound, near the fence and access road to the settlement facility. The facility can accommodate sewage from the toilets from the temporary tents.

154. **Villages.** The toilets in houses, schools, and health centers in the villages are designed with pit latrines. There are areas in Pravda with shared or common toilets. Every house in Sanoat has a toilet with cesspool that flows out into the agricultural land or garden of the households. In Pravda, there are households with pumps to siphon the contents of the cesspool or pit latrine which they drain into their garden for soil conditioning.

155. **Communal Services.** The district has special Communal Service Unit (CS/KGTP) which provides services related to the collection and disposal of solid waste, as well as utilization of wastewater for the district center but does not cover the areas in Zoli Zar jamoat. The communal

sewage treatment facility of the district is located in jamoat Halevard in a government land with an area of about 20 ha. The facility no longer functions (no pumps and equipment) and sewer lines have been cut off. It was disclosed that the facility was built in the 1950s during the Soviet era. Sewage from the city center flows by gravity to an emergency / temporary cesspool located about 300 m from the communal sewage treatment facility. Photo 2 shows the condition of the communal sewage treatment facility.

156. The district has started the sewer line improvement and replacement for the district center in 2018. This is expected to be completed by 2022. There is a plan by the district to construct a new sewage treatment facility at the site of the old facility in 2022 with a budget of 9 million somoni from district funds.

Communal sewage disposal facility Built during Soviet era

Temporary cesspool being used by the district

Photo 2: Communal sewage treatment facility of Jalolidin Balkhi District
Note: All photos were taken on 23 June 2022

157. In terms of septage collection, there are available septage haulers who siphon wastes from septic tanks when full and then bring the septage to the communal sewage treatment facility in jamoat Halevard.

7. Solid Waste Management

158. The settlement facility at the CESCD anti-hail center has a designated waste segregation area that is provided with seven (7) metal waste receptacles. Currently, there is no system for the collection of solid waste in the villages in jamoat Zoli Zar. Households in the villages practice composting by digging waste pits in their gardens. Food waste is collected separately and is fed to cattle while plastics, paint cans, and other containers are sold to junk shops. Remaining wastes are burned. Photo 3 shows the condition of the waste bins at the anti-hail center and at surrounding villages.

159. The district has two garbage collection trucks that collect solid wastes from the city center only. The district operates a 4 ha. dump site in jamoat Halevard which is about 18–21 km away from jamoat Zoli Zar. The dump site receives all types of wastes such as residential, commercial, construction wastes, and industrial wastes. Photo 4 presents the condition of the solid waste dump site at jamoat Halevard.

Waste bins at the anti-hail center

Waste bins in villages

Photo 3: Waste bins at the anti-hail center and at surrounding villages
Note: Photos were taken on 23 June 2022

Photo 4: Open dump site in jamoat Halevard

Note: Photos were taken on 29 June 2022

8. Physical Cultural Resources

160. There are no physical cultural sites such as temples that will be affected by the project. Along the road leading to the settlement site at the anti-hail center there is a cemetery. The cemetery is situated about 250 m away from the gate of the settlement site.

V. ANTICIPATED ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

A. Project Environmental Benefits

161. The project is expected to result in benefits because of the improvement of social services for displaced settler families who are affected by natural hazards and disasters. The project is also designed to address the improvement of health services, sanitation and waste management, electricity, and road access to the settlement facility and surrounding villages. The environmental impacts are largely positive due to more efficient management of domestic sewage, solid wastes, and healthcare wastes as a result of support to be provided through the project. The interventions would result in prevention of water and air pollution, groundwater contamination, and improved health and sanitation.

B. Environmental Impacts

162. The environmental impacts were assessed across all stages of project implementation. Potential cumulative and induced impacts from planned development of the project and the site conditions were considered in the assessment.

163. The proposed development of facilities at the settlement site and on the schools and health centers will be implemented within the premises of existing government-owned sites. Direct impacts may result from the use of land for the distribution line pole. Planned activities on the access roads and restoration of damaged bridge will be done within existing road ROW but access by local people may be temporarily restricted during the construction period.

164. There are no protected areas or key biodiversity areas within the project area that may be affected by the project. The impacts will primarily occur during construction and are envisaged to be short-term, localized, and manageable. Adverse impacts can be managed through proper planning and management.

165. The environmental impacts and proposed mitigation measures discussed in the succeeding sections are divided into those that may occur during: (i) design and planning phase, (ii) construction phase, and (iii) operation phase.

1. Design and Planning Phase

166. The potential adverse environmental impacts during the design and planning phase are associated with the evaluation of the current environmental condition at the sites, access roads, and damaged bridge, sanitation and waste management at the existing settlement facility, schools, and health center, and on selection of locations of poles for the power distribution lines.

167. Potential adverse impacts of the project will be avoided or minimized by planning for: (i) development of waste disposal system for the settlement facility, health center, and schools; (ii) careful selection of the route alignment of the power distribution line; (iii) integrating key measures such as provision of garbage collection truck, healthcare waste management system, handwashing facilities, and pit latrines in school toilets that will permanently become part of the infrastructure and will be included in the project detailed engineering design; (iv) implementation of environmental mitigation measures for identified impacts; and (v) ensuring project readiness in terms of environmental management and compliance.

*a) **Solid waste management at settlement facility and surrounding villages***

168. Currently, the district solid waste collection system does not include Zoli Zar jamoat and villages. Although there are waste segregation bins at the settlement site, the solid waste collection system will need to be addressed during the planning of the project to avoid potential

accumulation of wastes at the settlement facility that could lead to sanitation problems later on. The proposed mitigation measures for consideration in the planning phase are:

- ✓ Include procurement of garbage collection truck that will collect segregated solid wastes from the settlement facility as well as from surrounding villages going to the communal solid waste disposal area in jamoat Halevard.
- ✓ Include provision of waste bins for the villages to be positioned at garbage pick-up points in project design.
- ✓ Conduct training for villagers on solid waste segregation and management.

b) ***Sanitation at Settlement Facility***

169. The existing sewage treatment facility or septic tank at the settlement facility with a capacity of about 200 m^3 may be enough to treat the domestic sewage from the temporary tents (Phase 1). However, with the proposed Phase 2 and Phase 3 buildings, the capacity of the existing sewage treatment facility may not be enough. In addition, the sloping topography at the proposed site of Phase 2 would require a lift station or the construction of a sewer line to channel sewage to the northern section of the compound where the existing sewage treatment facility is located. During detailed design, the following measures are proposed:

- ✓ Evaluate the sewage generation rate for Phase 2 and Phase 3 and check if the existing septic tank is enough to accommodate the domestic sewage from the settlement buildings and common areas like kitchen, dining, administration, and laundry areas.
- ✓ Design separate sewage treatment facility for Phase 2 if evaluation shows inadequate capacity of existing facility.

c) ***Sanitation in Schools and Health Center***

170. The primary and secondary schools No. 29 and health center in Sanoat village and school No. 28 in Pravda village are the education and health systems that are accessible to the settlement facility at the anti-hail center. There are also health centers in Pravda village, but most villagers go to Sanoat for emergency medical attention because of the presence of medical staff. The toilets in the schools and health center are in poor condition and lack proper access to adequate water and handwashing facilities and properly designed pit latrines. Students at the secondary school No. 29 in Sanoat have to cross the road to reach the toilet. The food preparation, canteen and dining areas in the schools are also unsanitary. The lack of proper toilets, handwashing facilities, and sewage management in the villages would result in water pollution, contamination of groundwater, and spread of diseases. During detailed design, the following mitigation measures are proposed:

- ✓ Ensure that the following facilities are included in the Project scope (i) new toilets for the schools and health center; (ii) proper and sanitary food preparation area, canteen, and dining areas in schools; (iii) handwashing facilities; (iv) septic tanks for toilets and for the food preparation, canteen, and dining areas.

d) ***Healthcare Waste***

171. The practice of burning and then burying residues of healthcare wastes (i.e., syringes, vials, cottons, and contaminated liquid and solid wastes) in health centers would result in negative impacts to the environment due to air emission, contamination of groundwater, and health issues to residents in the surrounding areas. Healthcare wastes are considered as hazardous wastes that can pose unreasonable risk or injury to the health of the people who are in contact or handle the wastes and live near the incinerator and waste disposal pit. The provision of the autoclave in the health centers by the project would help disinfect the infectious

wastes and sharps. The following are proposed mitigation measures to address the current healthcare waste management in the health centers:

- ✓ Design of waste segregation strategies to separate non-hazardous waste from infectious/ contaminated wastes at the health center.
- ✓ Evaluation and procurement of autoclave, microwave, or other related equipment for disinfection.
- ✓ Improve the current condition of the incinerators to control air emission during burning of wastes, i.e., using low-cost double-chamber incinerators.[24]
- ✓ Evaluation of other practical methods of healthcare waste management such as encapsulation of sharps and small quantities of pharmaceutical wastes followed by onsite burial in special cells properly lined and protected to prevent leaching into the groundwater.
- ✓ Conduct training of staff at the health centers on healthcare waste management.

e) ***Route Alignment of Power Distribution Line***

172. The route of the power distribution line alignment will be on the side of existing access roads along Bakhrat-Balkhi Highway and in the villages. There is potential for the power distribution poles to affect productive agricultural land, drainage and irrigation canals, private and public land, and crops and trees of economic value. Potential climate risk impacts on the distribution line would need to be taken into consideration during detailed design to avoid areas prone to flooding, soil erosion, and strong winds. These natural hazards were mentioned by villagers during the consultations and interviews as common hazards occurring in the villages on an annual and seasonal basis that cause power interruption. Key mitigation measures to be considered during detailed design of the power distribution line are:

- ✓ Evaluate possible use and upgrade of the existing distribution poles for the power distribution line to avoid any land take.
- ✓ In case of new location of the poles, coordinate with landowners and village heads during selection of site for the poles and undertake appropriate and timely compensation for any land take or for any damage to crops and other assets.
- ✓ Minimize the cutting of trees on the ROW of the distribution line.
- ✓ Incorporate flood resilience, wind intensity, and other climatic factors in the design of the distribution lines and poles.
- ✓ Minimize impacts on local drainage canals.
- ✓ Ensure compliance with the height and vertical distance requirements from structures and trees for safety of the community and reliability of the line.

f) ***Bidding, contracting***

173. Prior to construction, the EMP, any conditions specified in the national SEE clearance and other safeguard requirements should be made known to the PIC, contractors and engineering supervisors. Therefore, it is necessary that these requirements are included in the bidding and contract documents.

[24] World Bank Group's EHS Guidelines state that controlled-air incineration (also referred to as pyrolytic, starved-air, two-stage incineration, or modular combustion) is the most widely used hazardous waste incineration technology. Single-chamber and drum / brick incinerators should be used only as a last resort option.

g) ***Training and resources on EMP implementation***

174. At least one month before construction starts, the contractors will be required to demonstrate to the PIG that there are sufficient funds and resources including qualified and full-time environmental officers (EOs) and qualified and full-time health and safety officers (HSOs), to effectively implement and monitor the EMP of assigned contract package. The PIC-IES and PIC-NES will conduct training on SSEMP preparation to enable the contractors to detail how they propose to implement the construction works to comply with the EMP. Each contractor will also hire a full-time Community Liaison Officer (CLO) to be the liaison with the Hukumat, villagers, and PIG.

h) ***Pre-Construction Requirements***

175. The PIC and the PIG of CESCD will ensure that clearances/permits and environmental safeguard requirements are prepared prior to the start of construction activities. These readiness requirements on environmental safeguards are outlined in Table 5.

Table 5: Readiness Requirements on Environmental Safeguards Prior to Construction

Activity/Requirement	Responsible Entity
1. IEE is updated if unanticipated environmental impacts become apparent	PIC/PIG
2. SEE approval (Positive conclusion of the SEE) has been secured from the central CEP prior to issuance of bids	PIC/PIG
3. IEE and EMP and any conditions specified in the national SEE clearance are included in the bidding documents and contracts	PIC/PIG
4. Environment safeguard focal person(s) are appointed by the PIG	PIG
5. Training of contractors, engineers and workers on the EMP	PIC/PIG
6. Sufficient staffing and budget for the implementation of the EMP	Contractors
7. SSEMPs for construction stage has been prepared by contractors and cleared by PIG	Contractors
8. AMP has been prepared as part of the SSEMP	Contractors
9. Check sources of raw materials (i.e., aggregates) are from legitimate sources as proposed in the SSEMPs	PIC/PIG
10. Appoint Community Liaison Officers	Contractors
11. Set-up a Grievance Redress Mechanism	PIC/PIG

i) ***Contractors' Site-Specific Environmental Management Plans (SSEMPs) Prepared***

176. The PIG of CESCD will require the contractors to develop the SSEMP of each assigned civil works contract package based on the EMP prior to commencement of any construction activities. The SSEMPs will present the methods on how the contractors will implement the mitigation measures in the EMP, including the AMP. The AMP will follow "Good Practice Guidance for the Management and Control of Asbestos: Protecting Workplaces and Communities from Asbestos Exposure Risks"[25]

[25] Good Practice Guidance for the Management and Control of Asbestos: Protecting Workplaces and Communities from Asbestos Exposure Risks | Asian Development Bank (adb.org)

177. The SSEMPs will include guidelines to manage construction impacts; water supply for construction, connections to drainage, wastewater and recycling and reuse of wastewater; AMP for removal and handling of asbestos materials; solid waste management; hazardous waste management; control of dust and noise; temporary and permanent drainage; construction materials and waste management; excavation and rehabilitation of land; traffic management; worker health and safety; community health and safety; COVID-19 prevention; vegetation removal; emergency response plan; and communications plan. Site-specific information in the SSEMPs will identify the legitimate sources of materials, methods for the management of ACM, location, responsibilities, schedule/timeframe and budget for the implementation of mitigation measures specified in the EMP. The SSEMPs will be updated as necessary as the project is implemented.

178. The SSEMPs will be agreed in advance with the PIG during the project pre-construction phase. Any conditions stipulated in the SEE approval (Positive conclusion of the SEE) will be included in the construction contract agreement and in the SSEMPs. The PIG will require each selected contractor to engage a qualified and experienced full-time EO with experience on environmental management and monitoring and trained staff to take responsibility in the routine monitoring of each assigned civil works contract package in terms of implementation of environmental, health, and safety measures. A qualified and full-time HSO will also be hired by each contractor to cover occupational health and safety matters. Each contractor will also be required to appoint a CLO who will coordinate with the local Hukumat authorities and PIG and establish communication protocols between the project and the communities.

179. The SSEMPs of the contract packages including the appointment of qualified EOs, HSOs, and CLOs will be presented to and approved by PIG prior to the start of construction. The PIG, through CESCD-ES, will conduct inspection and monitoring on the effectiveness of the implementation of the SSEMPs at least once a week during the construction phase. The PIC-IES will provide support in monitoring and reporting. The PIC-IES and/or PIC-NES should have experience in ACM assessment, removal, management and disposal. He/she will provide trainings to CESCD/PIG and contractors on EMP implementation, including asbestos management.

2. Construction Phase

180. The construction activities will be limited and confined to existing settlement compound, schools, and health centers. Civil works for the repair of the damaged bridge, construction of access roads and installation of distribution lines may result in temporary restriction of access as well as possible damage to alternate village roads that may be used by construction trucks. Based on preliminary information, the installation of the power lines will run parallel to existing power line alignment or will use the existing pole locations to upgrade the line. There may be a need for small areas for cement mixing or stockpiling of construction materials in the premises of schools or the health center.

181. The setting up of large-scale construction materials extraction will not be necessary since most materials are available from commercial sources locally. A holding area for the ACM waste may be required when the asbestos roofs in existing school toilets and canteen facilities and buildings to be demolished at the CESCD anti-hail unit site are removed, prior to its disposal at the location approved by the authorities.

182. There are likely some concerns relating to inconveniences or nuisances to surrounding areas during construction that will require careful planning and management which will be integrated in the EMP. The anticipated impacts of proposed civil works include:

- ✓ Impacts from construction camp such as noise nuisance, peace and order, and generation of domestic sewage and solid wastes.
- ✓ Dust and air pollution from excavation works on settlement buildings, from road construction, and from movement of vehicles.
- ✓ Release of asbestos fibers from removal of asbestos roofing sheets.
- ✓ Noise that may cause nuisance to residents living adjacent to the road construction, including disruption of classes in schools.
- ✓ Soil erosion from stockpiled materials and excavation works.
- ✓ Generation of construction debris and wastes.
- ✓ Restriction of access for residents during bridge and road construction and installation of power distribution lines.
- ✓ Damage to alternate roads that may be used by construction vehicles.
- ✓ Occupational health and safety risks to construction workers.
- ✓ Community health and safety impacts from exposure to noise and dangerous excavated work areas.
- ✓ Encroachment into physical cultural resources.

a) Establishment of construction camp

183. There is available land within the compound of the settlement facility at the anti-hail center where the contractors of civil works packages 1, 3, and 5 can conveniently establish a construction camp, materials yard, and office. The compound is enclosed, fenced, and manned by security personnel and located far from residential houses. It is expected that there will be minimal noise nuisance to the local community from the operation of the construction camp. Issues related to peace and order may arise due to the presence and interaction of workers from other areas with the local people. For the civil works at off-site facilities under packages 2 and 4, the labor camp of contractors should be planned in suitable areas or open spaces approved by the community and landowner where minimal community disturbance will occur. The contractors will be required to closely coordinate with the communities regarding the planning and implementation of the project works.

184. To mitigate the potential peace and order issues that may occur with the operation of the construction camp, the contractors will be required to give priority to qualified local people in the hiring of workers during construction. In addition, each contractor will be required to appoint a CLO who will coordinate with the local Hukumat authorities, villagers, and the PIG to ensure open communication with the communities on the work schedule and construction activities.

185. The management of the construction camps based on World Bank Group's Workers' Accommodation: Processes and Standards will include procedures and practices to ensure sanitation and proper management of sewage, solid wastes, fuels, materials, and construction wastes. There is available water supply, toilets with septic tanks and waste management system at the compound of the anti-hail site that could be utilized for the construction camp. Prior approval of the PIG will be secured when such existing systems will be tapped by the contractors.

b) Construction activities generating wastewater

186. Construction wastewater such as surface runoff, wastewater from vehicle washing and wastewater from fueling and vehicle/equipment washing, and maintenance will be generated. Domestic sewage will also be generated at the construction camp and construction sites.

Clogging of existing drainage canals and contamination of receiving water streams may occur if construction wastewater is discharged without any form of treatment. Appropriate mitigation measures are required to prevent such disturbance and pollution.

187. The following mitigation measures will be implemented to minimize the impact on water resources:

- ✓ There will be no direct discharge of wastewater to canals.
- ✓ Construction camp at the anti-hail site should be more than 500 m away from drainage canal. Construction camp (without workshops, fuel, and chemical storage facilities) should be more than 50 m from any canal.
- ✓ Toilets (equipped with handwashing facilities) with septic tank will be provided by the contractors at the construction camps. At offsite construction areas, the contractors will be required to provide portable toilets for workers.
- ✓ Construction wastewater (surface runoff, wastewater from vehicle washing) will be collected into several low points of the sites and treated in plain sedimentation tanks. After that, water could be re-used for watering of the construction site.
- ✓ Channel all sewage (including from handwashing facilities, kitchen, shower facilities, if any) at construction camp and construction sites into septic tank that will be emptied through hired septic trucks and transported to the municipal wastewater treatment facility. Contractors will make agreements with the district for the timely disposal of sewage. Transportation company's licenses and waste transfer manifests/records will be made available at the camp site for routine inspection.
- ✓ No vehicle/equipment washing is allowed near any surface water or drainage canal.
- ✓ Disposal of lubricating oil and other potentially hazardous liquids onto ground or to canals will be prohibited.
- ✓ Storage of fuel, waste oil, and other hazardous waste will be in accordance with the EHS General Guidelines on Hazardous Materials Management which includes use of secondary containment structure capable of containing 110% of the largest tank or 25% of the combined tank volumes for above-ground tanks with total storage volume equal or greater than 1,000 liters.
- ✓ Fueling operations and equipment maintenance is prohibited within 50 m from water streams and will only occur with in areas with containment structure and provided with impermeable lining to contain spillage and prevent soil and water contamination.
- ✓ Provide spill cleanup equipment onsite in case of accident spills or leak. Disposal of contaminated soil will be undertaken through a licensed waste company contracted by the Contractors. Ensure waste transfer manifests are available at the camp site for routine inspection.

c) ***Construction activities generating dust and air pollution***

188. The construction activities may generate dust and fine materials from excavation and from movement of vehicles along roads. Air quality issues may arise from stockpile of excavated soil and aggregates where, during windy conditions, may be carried by wind and cause dust nuisance and respiratory irritations to sensitive receptors. Movement of hauling vehicles to the site during delivery of materials may also cause emissions. Building access roads to project site

(asphalt road pavement) will produce fumes containing small quantities of toxic and hazardous chemicals such as volatile organic compounds (VOC) and poly-aromatic hydrocarbons (PAH).

189. Mitigation measures for dust and emissions include:

- ✓ Dust suppression will be undertaken during road construction to minimize discomfort to nearby residents particularly during dry and windy conditions.
- ✓ Keep stockpile of aggregate and sand materials covered with plastic sheeting, tarpaulins, or other materials to avoid suspension or dispersal of fine particles.
- ✓ Conduct daily clean-up of debris.
- ✓ Prohibit idling of construction vehicles while unloading materials at the site.
- ✓ Asphalt making process will be located at least 300 m downwind from the nearest dwellings in order to minimize impacts of fumes.

d) ***Asbestos sheet removal***

190. Asbestos roofing sheets were observed on the existing toilets of schools, canteen and at buildings to be demolished at the anti-hail site of CESCD. The country manufactures and roofing sheets containing asbestos are the chrysotile which in combination with cement contains about 11–15% asbestos. Photo 5 shows the condition of asbestos roofing sheets.

Schools

CESCD anti-hail site

Photo 5: Asbestos-containing materials in roof and wall of school toilet and kitchen and at buildings to be demolished at CESCD anti-hail site

Note: Photos in school were taken on 23 June 2022. Photos at CESCD anti-hail site were taken by ADB on 18 August 2022

191. During construction of the new facilities, the asbestos roofs will be removed. Although the quantity is not substantial, the mishandling may cause high risk of inhalation of asbestos fibers which could expose workers and people in the surrounding areas. Hazardous dust containing asbestos fibers may be generated from the removal of asbestos roofing sheets on the existing school toilets and canteen facilities and buildings to be demolished at the CESCD anti-hail unit site. The asbestos roofing sheets are bound in concrete, but existing condition indicates chipping and disintegration which could release asbestos fibers during the removal process. Currently, ACM waste is not yet classified as hazardous waste in Tajikistan and these materials are disposed in regular municipal dump sites. The nearest dump site to the Project site is in jamoat Halevard.

192. To mitigate health risk due to asbestos roof removal, an Asbestos Management Plan (AMP) will be necessary as part of the SSEMP. The template of the asbestos management plan

is presented in Appendix C. The PIG will engage qualified contractors with experience in working with ACM.

193. The following describes the procedures to be undertaken prior to, during, and after ACM removal.

- **Prior to Removal of ACM**

194. The Contractor will:

- ✓ Ensure district approval on construction of concrete-lined pit(s) and disposal of ACM at the dump site in jamoat Halevard;
- ✓ Construct the ACM pit at the dump site, once formal clearance has been granted by the Commission of Jalolidin Balkhi District;
- ✓ Provide warning signages and barricades at the ACM waste pit;
- ✓ Conduct consultation, with support of the PIG and PIC, to inform the workers and neighboring communities about the potential hazards and risks of asbestos and the safety measures when working in and around ACM. The schedule of activities and measures to be implemented to prevent the release of airborne asbestos fibers will also be discussed during the consultation meeting.

195. CESCD with support from PIC will:

- ✓ Assess the quantity and condition of the ACM roofing sheets to be removed from the toilets and kitchens of schools and at the buildings to be demolished at the CESCD anti-hail unit site;
- ✓ Issue an official letter to the Hukumat of Jalolidin Balkhi district about the proposal to construct a pit for disposal of ACM at the solid waste dump site in jamoat Halevard. The proposal will describe the problem of ACM disposal, the amount of ACM waste, size of the ACM pit, and the procedures to be implemented for ACM disposal.

196. The Jalolidin Balkhi district will:

- ✓ Within a week after the receipt of CESCD's official letter, initiate the creation of the Commission that includes representatives from district departments such as CEP, sanitary service, housing and communal service, etc.
- ✓ Conduct, together with the PIG, an assessment of the proposed location of the ACM pit within the dump site in jamoat Halevard.
- ✓ Once the site has been identified and determined as appropriate by the Commission, issue a permit to CESCD for the construction of the ACM pit.

- **During ACM Removal**

197. The Contractor will:

- ✓ Remove any ACM prior to demolition of buildings/structures to minimize asbestos contamination to the rest of the materials to be demolished.
- ✓ Provide the necessary equipment such as warning tape/barricade, sturdy fence and warning notices at the site, bucket of water and rags, sacks of clear, strong polyethylene sheets that can be tied to close, and clearly labelled as containing ACM.
- ✓ Contain or segregate the work area by placing barricades and warning signs.
- ✓ Ensure the workers wear masks while working on the removal of the ACM.

- ✓ Implement dust suppression through wetting of the ACM before and during removal.
- ✓ Once the ACM is damp, pick up all visible ACM and ACM debris immediately in two layers of heavy-duty polyethylene plastic sheeting.
- ✓ Keep asbestos waste separate from other waste and the handling will be under trained workers supervised by the contractor;
- ✓ Insert a large label inside each plastic sheet, clearly stating that the material contains asbestos which is dangerous to human health.
- ✓ Tie the plastic sheets securely and place into labelled asbestos waste containers (clean metal drums) and seal each drum.
- ✓ Follow tracking systems to ensure that the delivery to the final disposal site by burial is safe and sound. The district and its CEP staff will be notified of the removal and transport of the asbestos wastes.
- ✓ At the end of the operation, clean and decontaminate the work area by wet wiping before leaving the work area. In addition, clean all equipment with wet rags and place the rags into plastic disposal bags inside asbestos waste containers.

198. The PIC will:

- ✓ Supervise the decontamination activity.
- ✓ Conduct inspection to check if the site has been cleaned satisfactorily.

- **<u>During ACM Disposal</u>**

199. Once the ACM wastes have been securely placed in plastic sheets with proper labels, the contractor will:

- ✓ Arrange for the immediate disposal of the ACM wastes to the approved ACM pit at jamoat Halevard.
- ✓ Bury all ACM containers in the suitably sized pit and then cover with layer of clay that is at least 250 mm deep. The pit will be provided with label indicating that ACM wastes is buried therein.
- ✓ At the end of landfill life, provide a final cover of at least 2m at the ACM pit based on International Labor Organization (ILO) recommendation.
- ✓ Prepare a report and submitted to PIG and PIC indicating the disposal of the ACM at the pit. The report will include photo documentation of all activities from pit construction, ACM removal, and up to the ACM burial and pit covering.

200. The PIC will:

- ✓ Monitor the implementation of the mitigation measures to be undertaken by the contractor (prior to Removal of ACM, during ACM removal and ACM disposal), both at the Project site and at the ACM disposal site.

201. The PIG will:

- ✓ Submit the report prepared by the contractor to the CEP district.

202. The district will:

- ✓ Monitor the disposal site to ensure that the ACM pit remains intact.

e) ***Noise***

203. Noise during construction may occur during operation of equipment and movement of delivery vehicles at the site. Noise caused by operation of machinery coupled with haulage

vehicles can cause nuisance. Construction activities in schools could disrupt classes in schools. Households / communities residing within 250 m of work sites along the roads and distribution line alignment are likely to be subject to intermittent noise impacts above the World Health Organization (WHO) limit of One Hour Equivalent Continuous Level 'A weighting' (LAeq)[26] 55 dBA.

204. In order to avoid the risks and impacts of noise, the following measures are recommended as set out in the EMP:

- ✓ Undertake the construction activities near schools during school breaks and holidays.
- ✓ Strictly prohibit noisy works such as chipping and drilling activities beyond 6:00 PM, particularly in areas near sensitive receptors and residential areas.
- ✓ Deliver fabricated steel plates and cut/bend reinforcing steel to the desired size to minimize cutting activities onsite.
- ✓ Construction activities utilizing heavy machinery will be restricted between 8:00 AM – 6:00 PM.
- ✓ Give advance warning to communities with respect to the timing of noisy activities.
- ✓ Require workers to wear ear plugs.

f) ***Soil Erosion and Soil/Water Pollution***

205. Excavated soil may cause soil erosion during rainfall events. Storm water runoff may carry soil into canals and reduce the water-carrying capacity of the canals and thereafter contribute to flooding during heavy rains. Excessive soil runoff may also lead to sedimentation of canals and creeks. Another potential risk of soil runoff is from the residues from cement mixers and washing of equipment which could likewise clog canals.

206. At the site of the settlement facility, runoff will drain to surrounding open areas outside of the anti-hail compound, leading to an irrigation canal. At the access roads and damaged bridge, there is a network of irrigation canals that may be affected by soil runoff. This may result in short-term impacts in terms of increased turbidity, runoff of construction-related wastewater, and contamination due to improper handling of materials. Runoff of construction-related wastewater containing sediments will be channeled into silt traps while domestic wastewater will be disposed in septic tank. Toilets (equipped with handwashing facilities) with septic tank will be provided by the contractors. Mobile toilets for workers will be provided at offsite construction sites, as applicable.

207. In order to avoid impacts in existing canals and creeks, the following measures will be implemented:

- ✓ The placement of distribution poles on water bodies will be avoided.
- ✓ Avoid earthworks during rainy months.
- ✓ No washing or repair of equipment / machinery will take place within 400 m of any waterbody.
- ✓ Stockpile excavated soil (including aggregates and sand) away from drainage canals and water courses and provided with sediment control measures such as silt traps, barriers, and trenches.

[26] 'A'-weighting = correction by factors that weight sound to correlate with the sensitivity of the human ear to sounds at different frequencies.

- ✓ Provide sediment control measures such as silt traps, barriers, and trenches on stockpiles of excavated soil and aggregates/sand.
- ✓ Prohibit washing of cement mixers and other construction vehicles at the site.
- ✓ Conduct daily cleaning and sweeping of the construction site and periodically remove soils, stones and wastes from gutters, drainage canals and ditches.
- ✓ During rain events, check the drainage system to see if these are blocked with silt; remove materials and wastes that have been swept away by stormwater.

g) ***Construction Debris and Wastes***

208. Impacts associated with waste generated during site preparation and civil works includes generation of inert wastes e.g., spoil, biodegradable wastes, cleared vegetation, construction debris, packaging waste, metal scrap, domestic waste, empty paint containers, and used oil. Accumulation of construction wastes may cause contamination of land and groundwater. The potential impacts will be mitigated through the following measures as set out in the EMP:

- ✓ Establish a covered onsite waste segregation area, away from existing water sources, drainage/irrigation canals.
- ✓ Transport recyclables, scrap materials in the storage yard at the construction camp for resale to junk shops.
- ✓ Coordinate with the district authorities in the collection, transport, and disposal of wastes at the dump site in jamoat Halevard.
- ✓ Prohibit burning of wastes.
- ✓ As mentioned in measures to manage wastewater, the management and storage of fuel, waste oil, hazardous waste will be planned in accordance with EHS Guidelines on Hazardous Materials Management.[27] This includes the use of appropriate secondary containment structures capable of containing the larger of 110 % of the largest tank or 25% of the combined tank volumes in areas with above-ground tanks with a total storage volume equal or greater than 1,000 liters.
- ✓ Spill cleanup equipment will be maintained on-site. Should any accidental spills occur, the immediate cleanup will be undertaken, and all cleanup materials will be stored in a secure area for further disposal. Disposal of such will be undertaken by a waste management company contracted by the Contractors. The waste management company must have the required licenses to transport and dispose any hazardous waste before any such waste is removed from the site. The Contractors will keep copies of the company's licenses and provide waste transfer manifests at their camp site for routine inspection by the engineer.

h) ***Road and bridge construction and installation of distribution lines***

209. The rehabilitation of the damaged bridge in Mehnatobod may restrict access of local people during the construction phase. The village access roads from the Bakhrat-Balkhi Highway are characterized as narrow, earth roads. There are road sections near the highway with asphalt pavement, but these are also in poor condition. There is the possibility that large construction trucks could use alternate village roads to deliver materials to the anti-hail center which may cause damage to these village roads. Figure 8 shows the potential alternate roads that may be used from the Bakhrat-Balkhi Highway.

[27] https://www.ifc.org/wps/wcm/connect/90231ba8-5bb3-40f4-9255-eaf723d89c32/1-5%2BHazardous%2BMaterials%2BManagement.pdf?MOD=AJPERES&CVID=nPtgwmI

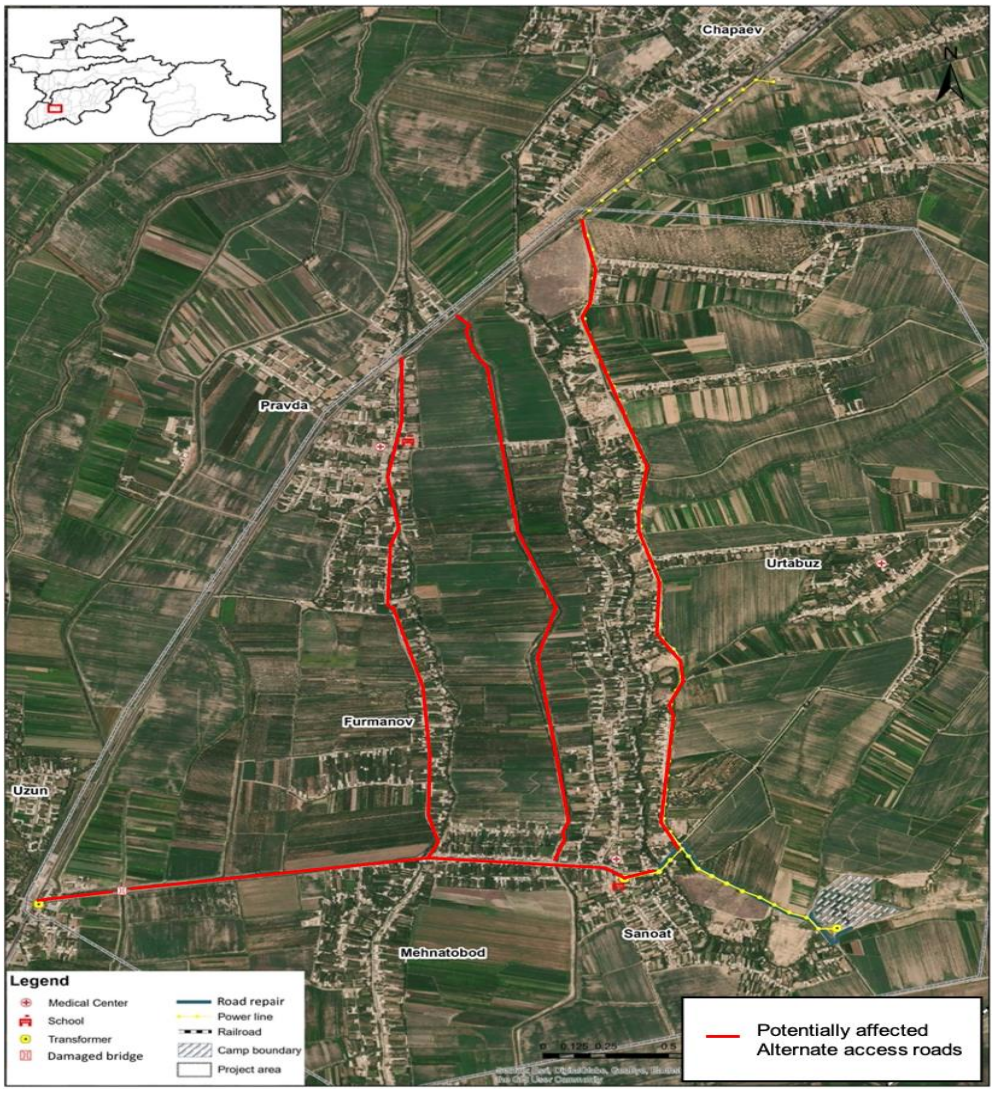

Figure 8: Potentially affected alternate access roads to the anti-hail center

210. During the consultations, the local people disclosed that the village roads were damaged by the movement of large trucks when the temporary settlement facility was still being developed under Phase 1. A road culvert in Urtabuz collapsed as a result of frequent heavy vehicle movement, which is now causing flooding in the surrounding areas during heavy rainfall. The local people are apprehensive that the condition of the existing village roads will worsen due to movement of construction vehicles. The local people requested if it is possible to include the improvement of the village roads in the project.

211. During the wrap-up meeting with CESCD, it was discussed that a possible by-pass road can be developed near the damaged bridge to avoid vehicles from using the narrow village roads and that a phased-in implementation will be planned to properly sequence construction activities. Signs will be posted at the entrance from Bakhrat-Balkhi Highway prohibiting large and heavy vehicles from using the narrow village roads in Urtabuz.

212. In addition, prolonged parking of construction vehicles on roads being used by villagers will be prohibited to avoid blocking of the narrow village roads as shown in Photo 6. Schedule of

construction activities will be coordinated with the local people to consider cropping and harvesting activities and school holidays.

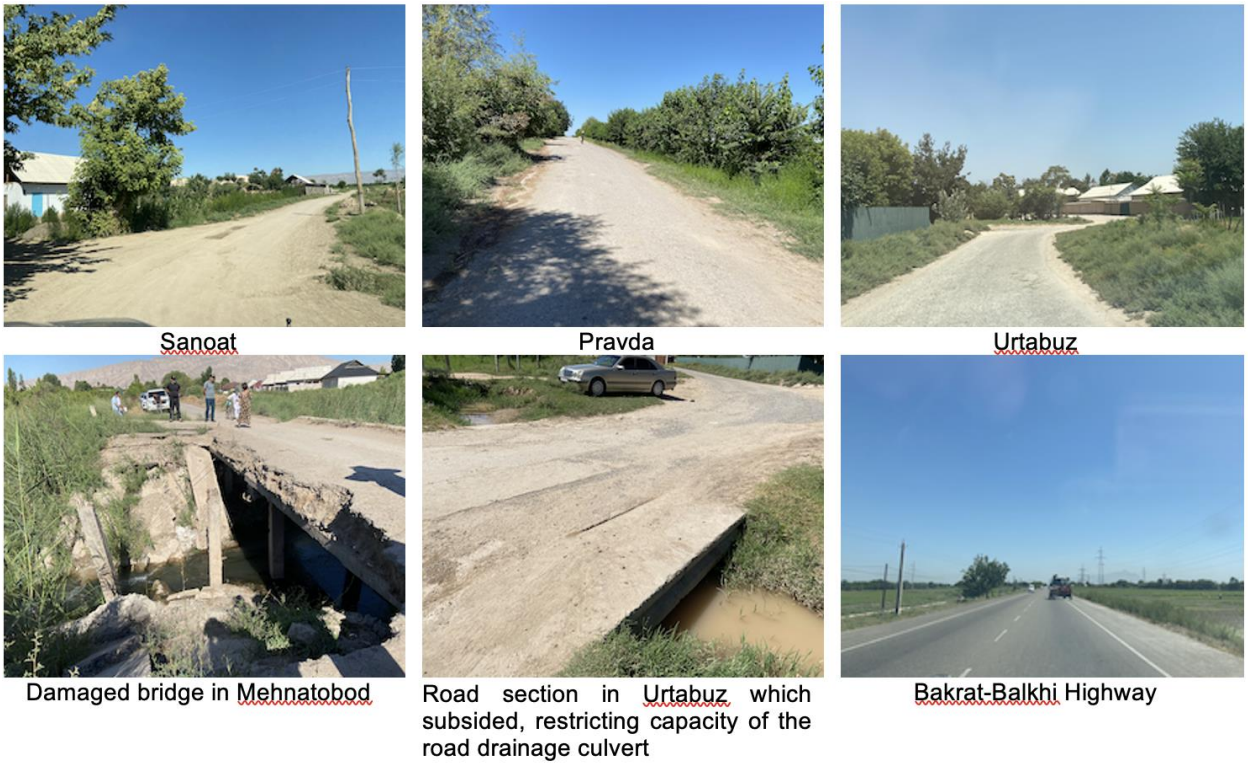

Photo 6: Condition of access roads

Note: Photos were taken on 29 June 2022

i) ***Occupational health and safety risks during construction***

213. Hazards of construction activities may cause adverse effects to health and safety of construction workers. Occupational hazards include ergonomic hazards from carrying/lifting heavy materials and equipment, exposure to excessive and continuous noise, exposure to hazardous materials, hotworks (i.e., welding), working in height and use of scaffoldings, and spread of communicable diseases such as COVID-19. The contractors will be required to undertake the following:

- ✓ Comply with the Labor Code of Tajikistan.
- ✓ Provide training on Occupational Health and Safety (OHS) and raise awareness on prevention of communicable diseases.
- ✓ Implement the SSEMPs in compliance with OHS guidelines.
- ✓ Designate onsite full-time HSOs.
- ✓ Assign CLOs as contact persons onsite to receive/respond to complaints from the community; provide the name/contact number of the responsible person to the local authorities.
- ✓ Require workers to wear personal protective equipment such as hard hats, gloves, safety belts, rubber boots, and googles, as appropriate to the task.

- ✓ Post safety signs/reminders to workers at the construction area.
- ✓ Provide sufficient lighting at the construction camp at night.
- ✓ Provide lighting, barricades / safety barriers particularly at excavations and stockpiles of aggregates.
- ✓ Provide appropriate covers, warning signs and lighting on open excavations during non-working hours.
- ✓ Provide toilets for workers at each construction sites and ensure timely disposal of wastewater.
- ✓ Provide first-aid kit at the construction camp to ensure immediate medical attention in case of accidents.
- ✓ Comply with the COVID-19 health and safety protocols.
- ✓ If a suspected incidence of COVID-19 is reported of any member of the project team during implementation of the project-related activity (including consultation and public participation), the activity will stop immediately for a review of the adequacy of the safety system of work and a corrective action will be implemented to address any identified gaps in the safety system of work prior to recommencement of the activities.

j) ***Community Health and Safety***

214. The potential risks to health and safety of community associated with the project activities include nuisance from noise, airborne dust, debris, and congestion of roads adjacent to the construction sites. Although labor influx is not expected, social issues related to harassment or gender-based violence (GBV) and spread of sexually transmitted infections (HIV/AIDS) and COVID-19 may be encountered within project sites and in the communities. In order to manage community and health issues, the following mitigation measures will be implemented:

- ✓ Conduct consultations with communities about the project and the schedule of works.
- ✓ Abide by the labor management procedures.
- ✓ Conduct awareness trainings on sexual harassment and gender-based violence among contractors, project workers, and the community.
- ✓ Conduct training on prevention of spread of sexually transmitted infections (HIV/AIDS) and COVID-19.
- ✓ Install effective GRM including those dealing with instances of GBV.

k) ***Road construction near the cemetery and excavation activities for buildings and distribution poles***

215. There are no known sites of physical and cultural resources in the project, except for a cemetery along the road located about 250 m from the settlement site. The project will provide fence in the cemetery to protect the area from any damage that may occur during road construction in response to the request from the community.

216. In the event of accidental discovery of physical cultural resources such as artifacts and relics during construction, a chance find procedure will be implemented that includes the following:

- ✓ Civil works will be stopped immediately at the site.
- ✓ The PIG will be informed immediately of the chance find; PIG will then pass the information to the Ministry of Culture (MOC).
- ✓ MOC will conduct inspection at the site to determine the significance of the item.

- ✓ MOC and PIG will agree on any required mitigation measures which may include structured excavation.
- ✓ Destroying, damaging, defacing, or concealing of the physical cultural resources will be strictly prohibited.
- ✓ Civil works will resume only after thorough investigation and with permission of the MOC.

3. Operation Phase

217. The operation phase impacts from routine maintenance are assessed for all components and discussed as follows:

a) Clogging of road culverts

218. To ensure that road culverts and drainage canals are free from sediments, regular cleaning of the culverts and canals will be undertaken through the District Committee on Construction.

b) Waste generation and disposal

219. The settlement facility, when occupied, will generate solid wastes such as biodegradable wastes and non-biodegradable or recyclable materials. Wastes will also include hazardous waste materials such as busted lamps, used batteries, and other waste electrical equipment. The generation of solid and hazardous wastes is also applicable to the surrounding villages. With the implementation of waste segregation and collection system, it is expected that non-biodegradable wastes and hazardous wastes will no longer accumulate at individual houses. There will be daily collection of wastes and disposal at jamoat Halevard dump site.

c) Vegetation management on distribution line

220. There will be periodic vegetation maintenance at the distribution line ROW. This is done to ensure that vertical and horizontal clearances meet the safety requirements, i.e., at least 3 m along the line. The following measures will be implemented:

- ✓ Regular maintenance of the distribution line through line clearance checks and trimming of trees that will compromise the safety clearance requirements
- ✓ Employ manual vegetation maintenance methods such as manual trimming of trees.
- ✓ Prohibit the use of chemicals (herbicides / pesticides) during vegetation trimming.

221. All vegetation management activities along the distribution line will be undertaken by the district through the state-owned power utility. CESCD-ES will continue to monitor the vegetation management and report to ADB until Project Completion Report is submitted to ADB.

d) Wastewater management

222. The proposal to put up sewage treatment facility / septic tanks of adequate capacity at the settlement facility will help prevent the discharge of polluted water into the environment. The properly designed pit latrines in schools and health center will likewise prevent the discharge of contaminated water into the drainage canals. The following measures will be implemented:

- ✓ Maintenance of the septic tank (at the settlement facility, pit latrines, and health center) through regular desludging to ensure that overflow will not affect adjacent areas and drainage canals.
- ✓ Collection of septage (in coordination with the district) from the sewage treatment facilities and pit latrines when full for disposal to the communal sewage treatment facility of the district.

e) ***Healthcare waste management***

223. The proposal to improve the current healthcare waste management system of the health center will help minimize air emission from the incinerator that could affect surrounding areas and reduce leaching of hazardous healthcare wastes into the groundwater through the provision of properly lined pits. The following measures will be implemented:

- ✓ Regular monitoring and maintenance of the incinerator, autoclave, and healthcare waste pits

f) ***Community health and safety***

224. The presence of distribution line may pose potential hazards such as electrocution due to accidental failure of the line. Information and consultation with local residents through community awareness program will be conducted intermittently during the operation stage. These activities will be conducted in and around the villages situated along the distribution line alignment. The potential impacts will be mitigated through the following measures:

- ✓ Distribution of project information on potential health and safety risks of electricity.
- ✓ Security and inspection personnel will be deployed to avoid pilferage of the lines and cables that may cause accident and/or electrocution.
- ✓ Record accidents associated with the distribution line.
- ✓ Record issues from the community in accordance with the project GRM.

VI. INFORMATION DISCLOSURE, CONSULTATION AND PARTICIPATION

A. Consultation

225. Stakeholder consultations were conducted during 23–24 June 2022 to disseminate information on the project and its expected impacts, and to gather information on relevant environmental issues in the community. The consultations were held through village consultation meetings in jamoat Zoli Zar, random interviews, and meetings with the district office and CEP.

226. **Consultation Meetings.** Village consultations were held in jamoat Zoli Zar, Jalolidin Balkhi District on 23–24 June 2022. The meetings were participated by local people from the villages in Sanoat, Mehnatobod, Furmanov, Pravda, and Urtabuz. Meetings were held at the secondary school in Sanoat village, social hall in Pravda village, and at the primary school in Urtabuz village.

227. Overall, the consultation meetings were attended by a total of 122 people, consisting of 75 men and 47 women. The proposed project and components were presented and an orientation of the purpose of the meeting and rationale of the safeguard requirements on environment, land acquisition and resettlement, and gender were explained to the participants. This was followed by an open discussion of concerns and suggestions from the people.

228. In general, there was no objection to the proposed project of CESCD. There were several suggestions and recommendations that were raised by the participants as outlined in Table 6.

Table 6: Comments and Suggestions from the Village Consultations

Sanoat village	**CESCD Response**
1. Fencing of the primary and secondary schools for the safety of children. 2. Rehabilitation of the schools not only construction of toilets; provision of additional classrooms. 3. Street lighting because the roads are dark at night and it is not safe. 4. Fix the heating system in schools. 5. The old transformer at the corner of the secondary school becomes overloaded and result in power interruption. The people suggested having a separate transformer for the community and separate for the school and health center. 6. Provide ambulance or vehicle to bring patients to hospitals for the health centers. People use their own money for gasoline to bring patients to hospital or sometimes use bicycle only. 7. Provide fence for the cemetery that is along the road leading to the anti-hail center.	The suggestions and recommendations will be taken into consideration during detailed design. CESCD will deliberate on the priority needs of the villages as it relates to the project objectives. CESCD cannot commit to the implementation of all suggestions but will evaluate these recommendations and see which can be funded under the project. Follow-up consultations will be conducted by CESCD/PIG with the communities to discuss the final project design. Consultations will continue throughout project implementation.
Pravda village	**CESCD Response**

8. Stadium or playground in Pravda. 9. Support for persons with disabilities. 10. Procurement of equipment for the health center because only basic thermometer, weighing scale and household refrigerator is in the center. There is no proper refrigeration storage for vaccines.	The suggestions and recommendations will be taken into consideration during detailed design. CESCD will deliberate on the priority needs of the villages as it relates to the project objectives on disaster management and resiliency. CESCD will appreciate learning about the support needed for persons with disabilities in the village.
Urtabuz village	**CESCD Response**
• Repair of culvert on the road that was damaged during the construction at the anti-hail center from passing vehicles. The damaged culvert resulted to insufficient capacity to drain runoff and causes flooding in the area. • Provision of water supply because the area in Urtabuz is elevated and wells have to be dug >80m; lack of water causes water-related illnesses. • More classrooms for the new school. • Procurement of equipment for the health center.	The suggestions and recommendations will be taken into consideration during detailed design. CESCD will deliberate on the priority needs of the villages as it relates to the project objectives. The World Bank is in the advance stage of implementation of the water supply project that will cover the entire district. The water supply component was taken out of the ADB project to avoid duplication.

229. **Meeting with CEP.** A meeting was held on 28 June 2022 with the CEP to discuss the requirements for environmental assessment of the proposed additional financing, procedures, and other environmental and construction permits needed prior to project implementation.

230. The CEP representative, Ms. Sodatsayrova Shahlo, informed that there are responsible staff under the CEP in the Hukumats. It is necessary for CESCD to secure the SEE approval (Positive conclusion of the SEE) from the central CEP for the project as well as permits for the ACM disposal at the communal solid waste disposal site in jamoat Halevard and construction activities such as land use for construction of camp, excavation of road pavement, removal of trees, discharge of wastes, temporary storage of construction wastes, removal of construction wastes, among others. Once the SEE approval (Positive conclusion of the SEE) has been obtained from the central CEP, CESCD will write or inform the Hukumat about the project activities, schedule of implementation, and other details. Each district has staff of relevant committees such as CEP, sanitation, health, construction, education, transport, and other line committees. The issues about the project are discussed by staff of these different committees at the Hukumat. The detailed information about the project and the summary of the IEE report in Tajik language are submitted to the Hukumat who will review it and require any additional information if necessary. It will take a maximum of one month to secure the approval for the planned construction activities. Once approval is obtained, only then can the project proceed with the civil works.

231. In terms of monitoring, the Hukumat will conduct the monitoring usually on a monthly basis and prepare a report using a template of the Hukumat. There is no requirement for CESCD to submit monitoring reports to the CEP Hukumat.

232. The CEP representative said that the country prohibits the import of asbestos from the United States and/or the European Union. The cement-bonded asbestos in corrugated roofing material that is available in Tajikistan is manufactured locally. The contractors to be commissioned by CESCD are required to have a plan for asbestos waste management.

233. **Meeting in the Hukumat of Jalolidin Balkhi District.** A meeting was held at the Hukumat Jalolidin Balkhi District on 29 June 2022. In attendance during the meeting were the Deputy Chairman of the district, Chief of Civil Defense, Deputy Chief of Civil Defense and CESCD representatives. The following points were discussed during the meeting:

1. It would be good if the project can provide containers for solid waste for the villages.
2. The district has a dump site in jamoat Halevard where municipal solid waste is disposed. The site is about 12 km from the center of the district and about 18-21 km from jamoat Zoli Zar and the anti-hail center.
3. The dump site is about 4 ha.
4. In terms of equipment, the district maintains two (2) garbage collection trucks, one (1) septage collection truck, one (1) truck crane, one (1) sprinkler, one (1) bulldozer, four (4) trucks, and one (1) crane loader.
5. There is an old sewage treatment facility built in the 1950s which practically does not function anymore. Sewage from the city center flows by gravity through an emergency discharge cesspool.
6. The deputy chairman of the district is planning a project with budget of 9 million somoni for the construction of the new sewage treatment facility with a capacity of 4,000 m^3/day. The district has started with the laying and replacement of the sewer network since 2018 which is targeted for completion at end of 2022.
7. Natural hazards typically experienced in the district and villages are hail and flooding. Hail damages crop. This occurs usually in February–March and sometimes extend until July. Flooding happens because of insufficient capacity of the drainage canals. Earthquakes are very rare in the district.
8. When applying for approval from the district which includes the approval from the CEP representative from the Hukumat, the CESCD will need to submit the project proposal per contract package based on detailed design. The application will be evaluated by members of the various committees through site inspection. Approval of the project can be secured usually within a period of one week. The approval will cover all aspects including environmental assessment since CEP is a member of the committee.

B. Interviews

Random informal interviews were also conducted to gather views of the local people related to the state of the environment and project concerns and issues. The responses made by the respondents were considered in the assessment of environmental impacts and in the development of the EMP.

234. Questions were asked from the local people on the following:

1. What is your source of water? Can you comment on the water quality and water pressure? Is water pressure available 24/7? (Have there been cases of diseases associated with poor-quality water in your family?)
2. What is your source of electricity? Can you comment on the electricity for your village?
3. Do you have toilet per household? Or shared toilet?

4. Is there pit latrine to manage wastewater from toilets? How do you manage wastewater from cooking and washing?
5. How do you manage garbage / solid wastes?
6. What is the source of livelihood of families?
7. What are the means of livelihood of the people in the village?
8. What issues and concerns do you encounter in the community in terms of environmental disasters like climate, landslides, soil erosion, flooding, etc.?
9. When was the last major environmental disaster?
10. Are you aware of the proposed project in your settlement area or your village?
11. What do you think are the benefits of the project to your household? To your community?
12. What do you think are the negative effects of the project?

235. Those who participated in the interviews included: 9 from Sanoat; 8 from Pravda; and 5 for Urtabuz. The list of participants and results of the individual interviews are in Appendix A. In general, there was overall approval of the proposed project of CESCD because of the positive benefits to the community. Suggestions and requests for support for other community services were also raised by the respondents. The anticipated negative impacts of the project are mostly due to temporary disturbances during construction which they said are manageable. Summarized below are the responses of those interviewed:

1. Houses have wells (6–12 m deep) in their property; water is sometimes cloudy; people boil the water to avoid diseases while others buy drinking water (100 m^3 of water for 120 somoni). In Urtabuz, water from well is difficult to get and people use water from the canal and buy water for drinking. Diarrhea is common in Urtabuz.
2. Strong winds affect the power lines and cause power interruption in Sanoat and Pravda. In Urtabuz, people have shared powerline, and they rarely experience power interruption.
3. Every house in Sanoat has a toilet with cesspool that flows out into the agricultural land or garden. In Pravda, the respondents said that sewage in the cesspool or pit latrine is siphoned and drained into their garden for soil conditioning. There are areas in Pravda with shared or common toilets. In interviews, the villagers said that they pour water from washing and cooking into the pit latrine or in the garden. To pump out septage from the pit latrines, special pumps are often ordered.
4. Composting is being practiced by digging waste pits in gardens; food waste is fed to cattle; remaining wastes are burned. Plastics, paint cans, and other containers are sold to junk shops. There is no garbage collection system in the villages.
5. Source of livelihood and income are mainly from farming and selling vegetables while others from remittances from relative(s) working in Russia.
6. Natural hazards usually encountered are heavy rains, mudflow/landslide which washout portions of roads.

C. Information Disclosure

236. This IEE report will be disclosed on ADB website. CESCD will translate the summary of this IEE into Tajik and Russian languages and post them on CESCD website together with the

full report in English,[28] within two weeks after ADB's clearance of the document. The information will also be made available at the district office of Jalolidin Balkhi.

237. The PIG will be responsible for notifying and informing the public on construction work prior to implementation, publishing an emergency response plan, disclosing the measures to manage accidents and emergencies, including environmental and public health emergencies related to spills of hazardous wastes like oil, fuels, etc., and similar events.

238. Follow-up consultation meetings will be organized by PIG in the event of major changes in the project components.

239. The PIG will prepare semi-annual environmental monitoring reports (SAEMRs) and submit them to CESCD and ADB for review and disclosure within 30 days after completion of each monitoring period, starting after the project becomes effective until ADB's Project Completion Report (PCR) is issued. The summary of the SAEMRs will be translated into Tajik and Russian languages and disclosed on CESCD website with the full reports (in English), within two weeks after ADB's clearance of each document. Within three months after completion of all civil works, a report on the project's environmental compliance performance will also be prepared. This report will be part of the input to the overall PCR.

[28] Footnote 5.

VII. GRIEVANCE REDRESS MECHANISM

240. A Grievance Redress Mechanism (GRM) is a systematic process of receiving, validating, and facilitating the resolution of affected people's concerns, complaints, and grievances about any aspect of project implementation, including its environmental and social performance. A GRM is developed to address concerns of the community and stakeholders about the project in a transparent and timely manner. The GRM was discussed during consultation meetings with the communities. CESCD sent a formal letter to Jalolidin Balkhi District about the GRM and on the creation of the GRM committee. The names and contact numbers of representatives from the jamoats and villages to the GRM were identified. The GRM committee will be presented again during follow-up consultations with the communities.

241. Complaints about the implementation of the project may occur during site preparation, construction, and equipment installation, and during operation. Any affected person may present a complaint if the project activity has detrimental impact on the environment, the community, or the quality of life of the people. Grievances about the project may include the following:

1. Hazards to community health and safety due to noise, dust, wastes, electrocution, fires, damage to roads due to frequent vehicle movement, and health and safety issues.
2. Construction-related nuisances and improper restoration of disturbed areas by the contractors.
3. Adverse changes on the way of life and livelihood of a person or a community such as loss of land, crops, trees, drainage, and irrigation.
4. Peace and order problems in the community due to the presence of migrant construction workers.
5. Failure of the project to comply with environmental policies and other legal obligations.

242. The usual entry point of complaints in the villages is through the village heads who can then call the attention of the CESCD/PIG about the complaint. Under the existing complaints management system of CESCD, an affected person or the village head may elevate a complaint by either (i) directly calling the CESCD hotline number (+992 37 227-95-09; +992 37 223-13-11; or +992 37 236-94-74); (ii) visiting the CESCD office in Dushanbe; (iii) through the CESCD facebook page and telegram page; or (iv) through the CESCD district representative. The GRM of the project will apply the existing complaints system of CESCD but will also provide a time-bound and transparent mechanism through which to voice and resolve project-related or social and environmental concerns.

243. CESCD will maintain an open-door policy to accept complaints at all levels. Aside from the existing CESCD complaints system, an affected person can also make a complaint directly to the PIG and to the contractors through the CLOs. Arrangements to resolve complaints with the involvement of the village or Hukumat will be introduced in the GRM. This route will be available to honor the administrative remedies in the local community. The local leaders will be briefed by PIG on the GRM and the means of reporting of community concerns and complaints to CESCD.

244. The GRM will be established in the pre-construction phase and well before construction commences. The system will be initiated by CESCD/PIG with the assistance of the PIC and will be explained to contractors who will be required to maintain a grievance registry or record. All grievances received, and the actions taken to resolve the complaints will need to be duly reported / included in the SAEMRs to be submitted to ADB.

245. The relevant elements of the GRM will be integrated into the EMP. The PIG and the contractors will be required to liaise with the village chiefs to check on presence of complaints

and to determine immediate resolution of complaints. The contact phone number of the PIG/CESCD and CLO of each contractor will serve as a hotline for complaints and will be placed on notice boards at project construction sites.

246. The following presents the steps in the GRM:

1. Once a complaint is received through the CESCD complaints management system, the complaint will be recorded and immediately brought to the attention of the PIG. Within the day, the PIG will contact the CLO of the contractor and the affected person to inquire on the nature of the complaint and the means to resolve the complaint. A record of the complaint and the contractor's commitment to resolve the complaint will be made in order for the PIG and CESCD to track down the progress of action. The contractor will be given a period of seven days to resolve on the complaint.
2. When the complainant is not satisfied with the actions made by the contractor, it is customary for grievances to be brought to the attention of the village chief and other local leaders. At this level, the leaders will try to resolve grievances reported to them, with the presence of the complainant, contractor/CLO, PIG, and the CESCD-ES.
3. Investigation of grievances will involve site visits and consultations with relevant parties (e.g., affected persons, contractor, traffic police, etc.). Grievances will be documented and personal details (name, address, date of complaint, etc.) will be included unless anonymity is requested. Resolution of complaints will be done within ten working days.
4. If the complaint is not resolved at the village level, the complainant can elevate the unresolved issue (with written documentation) to the Hukumat of Jalolidin Balkhi district. The Hukumat will conduct its investigation of the complaint and will contact the affected person to get details of the complaint and may also call the contractor/CLO and CESCD/PIG to a meeting. The process will facilitate resolution through mediation. The resolution of complaint will be done within ten working days.
5. If a grievance cannot be resolved by the contractor or CESCD/PIG, the complainant can seek alternative redress through the higher authority or court of law. The affected person having complaints or grievances will not be responsible for paying any administrative and legal fees in filing their complaints.

247. Figure 9 presents the GRM structure.

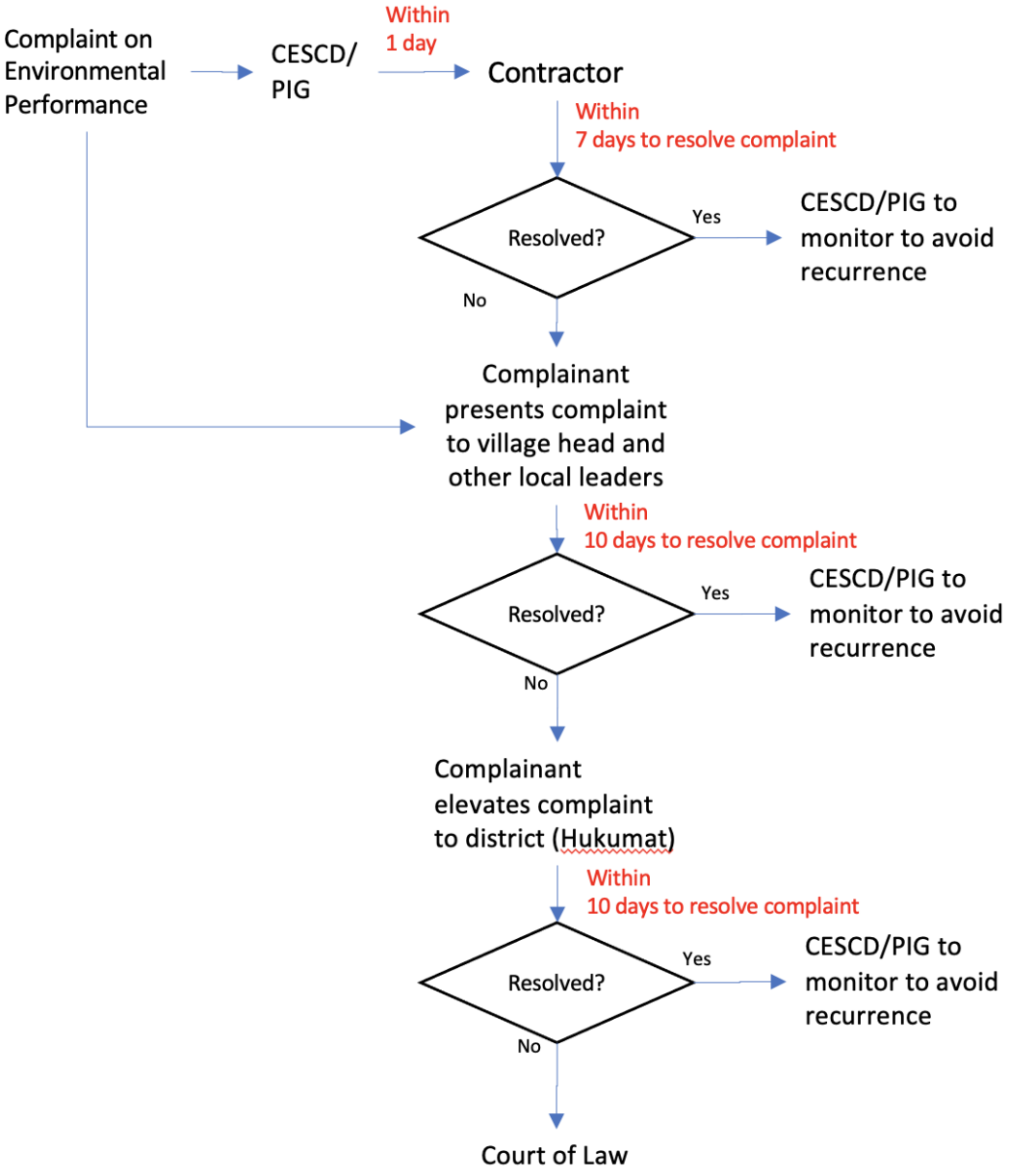

Figure 9: Structure of Grievance Redress Mechanism

VIII. ENVIRONMENTAL MANAGEMENT PLAN

248. The EMP (Table 7) describes the organizational responsibilities for implementation of the mitigation measures during pre-construction, construction, and operation, costs, information disclosure and GRM, and the monitoring and reporting requirements.

A. Environmental Management

249. The CESCD/PIG will ensure that the PIC and contractors are aware of the EMP responsibilities by including the IEE and EMP in the bidding and contract documents.

B. Contractors' Site-specific EMPs (SSEMPs)

250. An SSEMP will be prepared by each contractor and submitted to the CESCD/PIG for review and approval prior to commencement of works. Sections of the EMP in this IEE such as the pre-construction and construction measures will be used following completion of the detailed design, as basis for the assessment of environmental impacts and mitigation measures and requirements of the construction. The implementation of the mitigation measures during construction phase will be responsibility of the contractors who will be required to identify the most practical and suitable means of managing impacts. Costs of the implementation of the EMP during the construction phase shall be shouldered by the contractors as part of the construction cost.

251. The SSEMPs will include method statement or site-specific environmental management methods on how the contractors will implement the EMP and demonstrate the manner (location, responsibilities, schedule/timeframe, budget) in which the contractors will implement the mitigation measures specified in the SSEMPs.

252. The SSEMPs will be agreed in advance with the PIG in the project pre-construction phase. The requirements in the contract will include full implementation of the agreed SSEMPs based on the EMP in this IEE. CESCD/PIG will require the contractors to engage qualified, capable, and trained full-time EO and full-time HSO for each assigned civil works contract package. One month before the construction commences, the contractors will demonstrate to the PIG that the SSEMPs will be properly resourced and that a qualified/experienced EO and HSO with qualifications on safety, health and environmental management have been identified by each contractor based on the tender.

253. The CESCD/PIG through CESCD-ES will monitor the effectiveness of the implementation of the SSEMPs by the contractors and review measures as the project proceeds. The CESCD-ES will work in coordination with the M&E Specialist of CESCD/PIG.

Table 7: Environmental Management and Monitoring Plan

Impact Mitigation					Impact Monitoring		
Project activities	Impact / Risk	Mitigation Measures	Mitigation Responsibility	Mitigation Cost	Parameter to be monitored	Frequency and means of verification	Monitoring responsibility
Pre-Construction/Design Phase							
Solid waste management at settlement facility and surrounding villages	Potential accumulation of wastes leading to sanitation problems	1. Include as part of project the procurement of garbage collection truck that will collect segregated solid wastes from the settlement facility as well as from surrounding villages going to the communal solid waste disposal area in jamoat Halevard. 2. Include provision of waste bins for the villages to be positioned at garbage pick-up points in project design. 3. Conduct training for villagers on solid waste segregation and management.	CESCD/PIG and PIC	Included in contract of PIC; cost of garbage truck and bins will be part of project cost.	Design completed. Training on solid waste management implemented.	Check design specifications.	CESCD/PIG
Sanitation at settlement facility	Generation of domestic sewage that may cause water and groundwater pollution	4. Evaluate the sewage generation rate for Phase 2 and Phase 3 and check if the	CESCD/PIG and PIC	Included in contract of PIC; cost of sewage treatment facility will be part of project cost.	Design and evaluation completed.	Check design specifications.	CESCD/PIG

Impact Mitigation					Impact Monitoring		
Project activities	Impact / Risk	Mitigation Measures	Mitigation Responsibility	Mitigation Cost	Parameter to be monitored	Frequency and means of verification	Monitoring responsibility
		existing septic tank is enough to accommodate the domestic sewage from the settlement buildings and common areas like kitchen, dining, administration, and laundry areas. 5. Design separate sewage treatment facility for Phase 2 if evaluation shows inadequate capacity of existing facility.					
Sanitation in schools and health center	Water pollution, contamination of groundwater and spread of diseases	6. Ensure that the following facilities are included in the Project scope (i) new toilets for the schools and health center; (ii) proper and sanitary food preparation area, canteen, and dining areas in schools; (iii) handwashing facilities; (iv) septic tanks for toilets and for the food preparation, canteen, and	CESCD/PIG and PIC	Included in contract of PIC.	Design completed.	Check design specifications.	CESCD/PIG

Impact Mitigation					Impact Monitoring		
Project activities	Impact / Risk	Mitigation Measures	Mitigation Responsibility	Mitigation Cost	Parameter to be monitored	Frequency and means of verification	Monitoring responsibility
		dining areas.					
Healthcare waste	Risk or injury to people handling the wastes Air pollution from emission of incinerator Contamination of groundwater from leaching of waste disposal pit	7. Design of waste segregation strategies to separate non-hazardous waste from infectious/ contaminated wastes at the health center. 8. Evaluation and procurement of autoclave, microwave, or other related equipment for disinfection. 9. Improve the current condition of the incinerators to control air emission during burning of wastes, i.e., using low-cost double-chamber incinerators.[29] 10. Evaluation of other practical methods of healthcare waste management	CESCD/PIG and PIC	Included in contract of PIC.	Design and evaluation completed. Training on healthcare waste management conducted.	Check design specifications.	CESCD/PIG

[29] World Bank Group's EHS Guidelines state that controlled-air incineration (also referred to as pyrolytic, starved-air, two-stage incineration, or modular combustion) is the most widely used hazardous waste incineration technology. Single-chamber and drum / brick incinerators should be used only as a last resort option.

Impact Mitigation					Impact Monitoring		
Project activities	Impact / Risk	Mitigation Measures	Mitigation Responsibility	Mitigation Cost	Parameter to be monitored	Frequency and means of verification	Monitoring responsibility
		such as encapsulation of sharps and small quantities of pharmaceutical wastes followed by onsite burial in special cells properly lined and protected to prevent leaching into the groundwater. 11. Conduct training of staff at the health centers on healthcare waste management.					
Route alignment of power distribution line	Impact on productive land, drainage and irrigation canals, private and public land, crops, and trees. Climate risk impacts on the power line.	12. Evaluate possible use and upgrade of the existing distribution poles for the power distribution line to avoid any land take. 13. In case of new location of the poles, coordinate with landowners and village heads during selection of site for the poles and undertake appropriate and timely compensation for	CESCD/PIG and PIC	Included in contract of PIC.	Design completed.	Check design specifications.	CESCD/PIG

Impact Mitigation					Impact Monitoring		
Project activities	Impact / Risk	Mitigation Measures	Mitigation Responsibility	Mitigation Cost	Parameter to be monitored	Frequency and means of verification	Monitoring responsibility
		any land take or for any damage to crops and other assets. 14. Minimize the cutting of trees on the ROW of the distribution line. 15. Incorporate flood resilience, wind intensity, and other climatic factors in the design of the distribution lines and poles. 16. Minimize impacts on local drainage canals. 17. Ensure compliance with the height and vertical distance requirements from structures and trees for safety of the community and reliability of the line.					
Bidding, contracting	EMP and other safeguard requirements are not included in the contract and therefore not implemented.	18. Integrate all environmental measures, any conditions of the SEE clearance, opinions from the stakeholders (Table 6) and	CESCD/PIG and PIC	Included in contract of PIC	Bidding documents and contracts.	Check contract specifications.	CESCD/PIG

Impact Mitigation					Impact Monitoring		
Project activities	Impact / Risk	Mitigation Measures	Mitigation Responsibility	Mitigation Cost	Parameter to be monitored	Frequency and means of verification	Monitoring responsibility
		other government requirements into the detailed design. 19. Include EMP, including mitigation measures related to asbestos management, in bidding document and contracts with PIC, contractors, engineering supervisors.					
Training and resources on EMP implementation	Contractors do not implement the EMP because it is not in the contract and/or there are no resources duly allocated for its implementation	20. At least one month before construction starts, the contractors will demonstrate to PIG that there are resources and budget to implement the EMP. 21. Each contractor will hire a qualified and full-time Environmental Officer (EO) and full-time Health and Safety Officer (HSO) 22. Each contractor will identify a full-	PIG and PIC/contractors	Included in contract of contractors	Qualified environment safeguard staff appointed.	Before start of construction.	CESCD/PIG PIC

Impact Mitigation					Impact Monitoring		
Project activities	Impact / Risk	Mitigation Measures	Mitigation Responsibility	Mitigation Cost	Parameter to be monitored	Frequency and means of verification	Monitoring responsibility
		time Community Liaison Officer (CLO) to be the liaison with the local village authorities and PIG.					
Pre-construction Requirements	Safeguard requirements are not complied	23. Ensure that clearances/ permits and environmental safeguard requirements (Table 5) are met prior to the start of construction activities	CESCD/PIG, PIC and contractors	Included in the contracts of PIC and contractors.	Items 1-11 in Table 5.	Records verification.	CESCD/PIG
SSEMP preparation by contractors	Contractors failed to prepare the SSEMPs	24. PIG will require the contractors to develop the SSEMPs. The SSEMPs will include specific guidelines on (i) spill response plan (ii) dust management and control plan; (iii) noise management plan; (iv) waste and spoil management plan, including hazardous waste/materials management plan; (v) asbestos management	PIG and PIC/contractors	Included in contracts of contractors.	Qualified environment safeguard staff appointed. SSEMPs prepared.	Before start of construction.	CESCD/PIG PIC

Impact Mitigation					Impact Monitoring		
Project activities	Impact / Risk	Mitigation Measures	Mitigation Responsibility	Mitigation Cost	Parameter to be monitored	Frequency and means of verification	Monitoring responsibility
		plan[30], (iv) construction camp site management plan; (vi) traffic management plan; (vii) prevention and control measures for biodiversity management; (viii) chance find procedure; (ix) COVID-19 health and safety management plan and emergency response plan. Site-specific information in the SSEMPs will identify the legitimate sources of materials, methods for the management of ACM, location, responsibilities, schedule/timeframe and budget for the implementation of mitigation measures specified in the					

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Impact Mitigation					Impact Monitoring		
Project activities	Impact / Risk	Mitigation Measures	Mitigation Responsibility	Mitigation Cost	Parameter to be monitored	Frequency and means of verification	Monitoring responsibility
		EMP. The AMP will follow "Good Practice Guidance for the Management and Control of Asbestos: Protecting Workplaces and Communities from Asbestos Exposure Risks"[31] 25. PIC-IES and PIC-NES conduct training for construction contractors on SSEMP preparation.					
Construction Phase							
Establishment of construction camp	Issues on peace and order in the community due to presence of migrant workers	26. Give priority to qualified local people in hiring workers during construction. 27. Management of construction camps based on World Bank Group's Workers' Accommodation: Processes and Standards as part of SSEMPs.	Contractors	Included in contracts of contractors.	Approval of PIG on construction camps. Compliance of incidents between workers and villagers. No children entering the	During activities – checking records of complaints. Consultation with workers about protocols.	PIG/PIC

[31] Good Practice Guidance for the Management and Control of Asbestos: Protecting Workplaces and Communities from Asbestos Exposure Risks | Asian Development Bank (adb.org)

Impact Mitigation					Impact Monitoring		
Project activities	Impact / Risk	Mitigation Measures	Mitigation Responsibility	Mitigation Cost	Parameter to be monitored	Frequency and means of verification	Monitoring responsibility
		Measures include sanitation and proper management of sewage, solid wastes, fuels, materials and construction wastes. 28. Secure approval of PIG on construction camp and facilities.			camp. Number of safety warning signs.		
Construction activities generating wastewater	Impact on surface and groundwater	29. There will be no direct discharge of wastewater to canals. 30. Construction camp at the anti-hail site should be more than 500 m away from drainage canal. 31. Toilets (equipped with handwashing facilities) with septic tank will be provided by the contractors at the construction camps. At offsite construction areas, the contractors will be required to provide portable toilets for	Contractor	Included in contract of contractor	Location of construction camp away from drainage canal. Sedimentation tanks for construction wastewater Condition of septic tank Condition of oil storage tanks and secondary containment; presence of any	Site inspection . Daily by contractors . Weekly by PIC/PIG	PIG/PIC

Impact Mitigation					Impact Monitoring		
Project activities	Impact / Risk	Mitigation Measures	Mitigation Responsibility	Mitigation Cost	Parameter to be monitored	Frequency and means of verification	Monitoring responsibility
		workers. 32. Construction camp (without workshops, fuel and chemical storage facilities) should be more than 50 m from any canal. 33. Construction wastewater (surface runoff, wastewater from vehicle washing) will be collected into several low points of the sites and treated in plain sedimentation tanks. After that, water could be re-used for watering of the construction site. 34. Channel all sewage (including from handwashing facilities, kitchen, shower facilities, if any) at construction camp and construction sites into septic tank that will be emptied through hired septic trucks and			oil leak onto ground or canal		

Impact Mitigation					Impact Monitoring		
Project activities	Impact / Risk	Mitigation Measures	Mitigation Responsibility	Mitigation Cost	Parameter to be monitored	Frequency and means of verification	Monitoring responsibility
		transported to the municipal wastewater treatment facility. Contractors will make agreements with the district for the timely disposal of sewage. Transportation company's licenses and waste transfer manifests/records will be made available at the camp site for routine inspection. 35. No vehicle/equipment washing is allowed near any surface water or drainage canal. 36. Disposal of lubricating oil and other potentially hazardous liquids onto ground or to canals will be prohibited. 37. Storage of fuel, waste oil, and other hazardous waste will be in accordance with the EHS General					

Impact Mitigation					Impact Monitoring		
Project activities	Impact / Risk	Mitigation Measures	Mitigation Responsibility	Mitigation Cost	Parameter to be monitored	Frequency and means of verification	Monitoring responsibility
		Guidelines on Hazardous Materials Management which includes use of secondary containment structure capable of containing 110% of the largest tank or 25% of the combined tank volumes for above-ground tanks with total storage volume equal or greater than 1,000 liters. 38. Fueling operations and equipment maintenance is prohibited within 50 m from water streams and will only occur with in areas with containment structure and provided with impermeable lining to contain spillage and prevent soil and water contamination. 39. Provide spill cleanup equipment onsite					

Impact Mitigation					Impact Monitoring		
Project activities	Impact / Risk	Mitigation Measures	Mitigation Responsibility	Mitigation Cost	Parameter to be monitored	Frequency and means of verification	Monitoring responsibility
		in case of accident spills or leak. Disposal of contaminated soil will be undertaken through a licensed waste company contracted by the Contractors. Ensure waste transfer manifests are available at the camp site for routine inspection.					
Construction activities generating dust and air pollution	Excessive dust and emission from construction activities and movement of vehicles	40. Dust suppression will be undertaken during road construction to minimize discomfort to nearby residents particularly during dry and windy conditions. 41. Keep stockpile of aggregate and sand materials covered with plastic sheeting, tarpaulins, or other materials to avoid suspension or dispersal of fine particles.	Contractors	Included in contracts of contractors	Air quality, emissions, dust, particulate matter	Monthly or after complaint. Daily visual inspection.	Contractors; PIG/PIC

Impact Mitigation					Impact Monitoring		
Project activities	Impact / Risk	Mitigation Measures	Mitigation Responsibility	Mitigation Cost	Parameter to be monitored	Frequency and means of verification	Monitoring responsibility
		42. Conduct daily clean-up of debris. 43. Prohibit idling of construction vehicles while unloading materials at the site. 44. Asphalt making process will be located at least 300 m downwind from the nearest dwellings in order to minimize impacts of fumes.					
Asbestos sheet removal	Potential inhalation of asbestos fibers, endangering health and safety of workers and people in surrounding area	**Prior to Removal of ACM** 45. Ensure district approval on construction of concrete-lined pit and disposal of ACM at the dump site in jamoat Halevard; 46. Construct the ACM pit at the dump site, once formal clearance has been granted by the Commission of Jalolidin Balkhi District; 47. Provide warning	Contractor	Included in contract of contractor	Asbestos sheets safely placed in sealed container. ACM covered pit constructed at the dump site in jamoat Halevard. AMP implemented properly. Barricades, signages available at worksite and at disposal pit.	Site inspection • Daily by contractors • Weekly by PIC/PIG	Contractor

Impact Mitigation					Impact Monitoring		
Project activities	Impact / Risk	Mitigation Measures	Mitigation Responsibility	Mitigation Cost	Parameter to be monitored	Frequency and means of verification	Monitoring responsibility
		signages and barricades at the ACM waste pit; 48. Conduct consultation, with support of the PIG and PIC, to inform the workers and neighboring communities about the potential hazards and risks of asbestos and the safety measures when working in and around ACM. The schedule of activities and measures to be implemented to prevent the release of airborne asbestos fibers will also be discussed during the consultation meeting. **During ACM Removal** 49. Remove any ACM prior to demolition of buildings/structures to minimize asbestos					

Impact Mitigation					Impact Monitoring		
Project activities	Impact / Risk	Mitigation Measures	Mitigation Responsibility	Mitigation Cost	Parameter to be monitored	Frequency and means of verification	Monitoring responsibility
		contamination to the rest of the materials to be demolished. 50. Provide the necessary equipment such as warning tape/barricade, sturdy fence and warning notices at the site, bucket of water and rags, sacks of clear, strong polyethylene sheets that can be tied to close, and clearly labelled as containing ACM. 51. Contain or segregate the work area by placing barricades and warning signs. 52. Ensure the workers wear masks while working on the removal of the ACM. 53. Implement dust suppression through wetting of the ACM before and during removal.					

Impact Mitigation					Impact Monitoring		
Project activities	Impact / Risk	Mitigation Measures	Mitigation Responsibility	Mitigation Cost	Parameter to be monitored	Frequency and means of verification	Monitoring responsibility
		54. Once the ACM is damp, pick up all visible ACM and ACM debris immediately in two layers of heavy-duty polyethylene plastic sheeting. 55. Keep asbestos waste separate from other waste and the handling will be under trained workers supervised by the contractor; 56. Insert a large label inside each plastic sheet, clearly stating that the material contains asbestos which is dangerous to human health. 57. Tie the plastic sheets securely and place into labelled asbestos waste containers (clean metal drums) and seal each drum. 58. Follow tracking systems to ensure that the delivery to the final disposal site					

Impact Mitigation					Impact Monitoring		
Project activities	Impact / Risk	Mitigation Measures	Mitigation Responsibility	Mitigation Cost	Parameter to be monitored	Frequency and means of verification	Monitoring responsibility
		by burial is safe and sound. The district and its CEP staff will be notified of the removal and transport of the asbestos wastes. 59. At the end of the operation, clean and decontaminate the work area by wet wiping before leaving the work area. In addition, clean all equipment with wet rags and place the rags into plastic disposal bags inside asbestos waste containers. **During ACM Disposal** 60. Arrange for the immediate disposal of the ACM wastes to the approved ACM pit at jamoat Halevard. 61. Bury all ACM containers in the suitably sized pit and then cover with layer of clay that is at least					

Impact Mitigation					Impact Monitoring		
Project activities	Impact / Risk	Mitigation Measures	Mitigation Responsibility	Mitigation Cost	Parameter to be monitored	Frequency and means of verification	Monitoring responsibility
		250 mm deep. The pit will be provided with label indicating that ACM wastes is buried therein. 62. At the end of landfill life, provide a final cover of at least 2 m at the ACM pit based on International Labor Organization (ILO) recommendation. 63. Prepare a report and submitted to PIG and PIC indicating the disposal of the ACM at the pit. The report will include photo documentation of all activities from pit construction, ACM removal, and up to the ACM burial and pit covering.					
		Prior to Removal of ACM 64. Assess the quantity and condition of the ACM roofing sheets to be	CESCD/PIG with support from PIC	Included in project management cost	Assessment report on quantity and condition of ACM to be removed Letter request	During site due diligence As soon as ACM assessment report is completed	PIG/CESCD-ES with support from PIC IES/NES

Impact Mitigation					Impact Monitoring		
Project activities	Impact / Risk	Mitigation Measures	Mitigation Responsibility	Mitigation Cost	Parameter to be monitored	Frequency and means of verification	Monitoring responsibility
		removed from the toilets and kitchens of schools and at the buildings to be demolished at the CESCD anti-hail unit site; 65. Issue an official letter to the Hukumat of Jalolidin Balkhi district about the proposal to construct a pit for disposal of ACM at the solid waste dump site in jamoat Halevard. The proposal will describe the problem of ACM disposal, the amount of ACM waste, size of the ACM pit, and the procedures to be implemented for ACM disposal. **During ACM Disposal** 66. Submit the report prepared by the contractor, to the CEP district.			sent to Jalolidin Balkhi district on ACM disposal at jamoat Halevard		
		Prior to Removal of ACM 67. Within a week after the receipt	Jalolidin Balkhi district	Part of regular budget of district	Creation of Commission composed of representatives	Within one week from receipt of CESCD letter request	Jalolidin Balkhi district

Impact Mitigation					Impact Monitoring		
Project activities	Impact / Risk	Mitigation Measures	Mitigation Responsibility	Mitigation Cost	Parameter to be monitored	Frequency and means of verification	Monitoring responsibility
		of CESCD's official letter, initiate the creation of the Commission that includes representatives from district departments such as CEP, sanitary service, housing and communal service, etc. 68. Conduct, together with the PIG, an assessment of the proposed location of the ACM pit within the dump site in jamoat Halevard. 69. Once the site has been identified and determined as appropriate by the Commission, issue a permit to CESCD for the construction of the ACM pit. **During ACM Disposal** 70. Monitor the disposal site to ensure that the ACM pit remains intact.			of district departments Site assessment of ACM disposal site in jamoat Halevard Permit on ACM disposal at the dump site Monitoring report on ACM disposal	After one week from creation of Commission Within 30 days Monthly or as necessary	

Impact Mitigation					Impact Monitoring		
Project activities	Impact / Risk	Mitigation Measures	Mitigation Responsibility	Mitigation Cost	Parameter to be monitored	Frequency and means of verification	Monitoring responsibility
		71. Supervise the decontamination activity. 72. Conduct inspection to check if the site has been cleaned satisfactorily. 73. Monitor the implementation of the mitigation measures to be undertaken by the contractor (prior to Removal of ACM, during ACM removal and ACM disposal), both at the Project site and at the ACM disposal site.	PIC	Included in PIC budget	PIC inspection and monitoring reports	Daily inspection; monthly progress reporting	PIC
Noise	Nuisance to local people due to noise from machines and vehicles Disruption of classes in schools	74. Undertake the construction activities near schools during school breaks and holidays. 75. Strictly prohibit noisy works such as chipping and drilling activities beyond 6:00 PM, particularly in areas near sensitive receptors and residential areas.	Contractors, Village leaders	Included in contracts of contractors.	Resolution of complaints from communities Resolution of grievances from workers	Site inspection During activities – daily checking records of complaints. Daily toolbox meetings/ consultation with workers about protocols and any grievances. Quarterly meetings with community	Contractors; PIG/PIC

Impact Mitigation					Impact Monitoring		
Project activities	Impact / Risk	Mitigation Measures	Mitigation Responsibility	Mitigation Cost	Parameter to be monitored	Frequency and means of verification	Monitoring responsibility
		76. Deliver fabricated steel plates and cut/bend reinforcing steel to the desired size to minimize cutting activities onsite. 77. Construction activities utilizing heavy machinery will be restricted between 8:00 AM – 6:00 PM. 78. Give advance warning to communities with respect to the timing of noisy activities. 79. Require workers to wear ear plugs.					
Soil Erosion and Soil/Water Pollution	Soil erosion may affect existing drainage system and cause clogging and flooding.	80. The placement of distribution poles on water bodies will be avoided. 81. Avoid earthworks during rainy months. 82. No washing or repair of equipment / machinery will take place within 400 m of any waterbody. 83. Stockpile	Contractors	Included in contracts of contractors.	Provision of material stockpile location, silt traps, drainage system.	Visual inspection • Daily by contractors • Weekly by PIC/PIG	Contractors; PIG/PIC

Impact Mitigation					Impact Monitoring		
Project activities	Impact / Risk	Mitigation Measures	Mitigation Responsibility	Mitigation Cost	Parameter to be monitored	Frequency and means of verification	Monitoring responsibility
		excavated soil (including aggregates and sand) away from drainage canals and water courses and provided with sediment control measures such as silt traps, barriers, and trenches. 84. Provide sediment control measures such as silt traps, barriers, and trenches on stockpiles of excavated soil and aggregates/sand. 85. Prohibit washing of cement mixers and other construction vehicles at the site. 86. Conduct daily cleaning and sweeping of the construction site and periodically remove soils, stones and wastes from gutters, drainage canals and ditches.					

Impact Mitigation					Impact Monitoring		
Project activities	Impact / Risk	Mitigation Measures	Mitigation Responsibility	Mitigation Cost	Parameter to be monitored	Frequency and means of verification	Monitoring responsibility
		87. During rain events, check the drainage system to see if these are blocked. Remove materials and wastes that have been swept away by stormwater. 88. During rain events, check the drainage system to see if these are blocked with silt; remove materials and wastes that have been swept away by stormwater.					
Construction debris and wastes (i.e., inert wastes, spoils, cleared vegetation, debris, packaging wastes, metal scrap, domestic wastes, empty paint containers, used oil, etc.)	Generation of solid and hazardous wastes which could contaminate land and groundwater	89. Establish a covered onsite waste segregation area, away from existing water sources, drainage/irrigation canals. 90. Transport recyclables, scrap materials in the storage yard at the construction camp for resale to junk shops. 91. Coordinate with the district	Contractors, District authorities	Included in contracts of contractors	Proper waste segregation and collection. Approval of district on disposal of residual construction wastes at dump site.	Site inspection of waste segregation area. • Daily by contractor • Weekly by PIC/PIG Checking of records of waste transport and disposal at dump site.	Contractors; PIG/PIC

Impact Mitigation					Impact Monitoring		
Project activities	Impact / Risk	Mitigation Measures	Mitigation Responsibility	Mitigation Cost	Parameter to be monitored	Frequency and means of verification	Monitoring responsibility
		authorities in the collection, transport, and disposal of wastes at the dump site in jamoat Halevard. 92. Prohibit burning of wastes. 93. Management and storage of fuel, waste oil, hazardous waste will be planned in accordance with EHS General Guidelines on Hazardous Materials Management.[32] This includes the use of appropriate secondary containment structures capable of containing the larger of 110 % of the largest tank or 25% of the combined tank volumes in areas with above-ground tanks with a total					

[32] https://www.ifc.org/wps/wcm/connect/90231ba8-5bb3-40f4-9255-eaf723d89c32/1-5%2BHazardous%2BMaterials%2BManagement.pdf?MOD=AJPERES&CVID=nPtgwml

Impact Mitigation					Impact Monitoring		
Project activities	Impact / Risk	Mitigation Measures	Mitigation Responsibility	Mitigation Cost	Parameter to be monitored	Frequency and means of verification	Monitoring responsibility
		storage volume equal or greater than 1,000 liters. 94. Spill cleanup equipment will be maintained on-site. Should any accidental spills occur, the immediate cleanup will be undertaken, and all cleanup materials will be stored in a secure area for further disposal. Disposal of such will be undertaken by a waste management company contracted by the contractors. The waste management company must have the required licenses to transport and dispose any hazardous waste before any such waste is removed from the site. The contractors will keep copies of the company's licenses and					

Impact Mitigation					Impact Monitoring		
Project activities	Impact / Risk	Mitigation Measures	Mitigation Responsibility	Mitigation Cost	Parameter to be monitored	Frequency and means of verification	Monitoring responsibility
		provide waste transfer manifests at their camp site for routine inspection by the engineer.					
Road and bridge construction and installation of distribution lines	Restriction of access by local people. Damage to alternate villages roads that may be used by construction vehicles.	95. Implement the bridge and road construction, and distribution line according to planned sequence to minimize restriction of access by the local people. 96. Provide bypass road to avoid construction vehicles from using the narrow village roads. 97. Provide signs at entrance from Bakhrat-Balkhi Highway prohibiting large and heavy vehicles from using the narrow village roads in Urtabuz. 98. Prohibit prolonged parking of construction vehicles on	Contractor	Included in contract of contractor	Management of traffic and restriction at village roads Provision of bypass/alternate road Provision of signs at entrance to village roads from Bakhrat-Balkhi highway.	Check records of village consultations and disclosure and approval of construction schedule.	Contractor; PIG/PIC

Impact Mitigation					Impact Monitoring		
Project activities	Impact / Risk	Mitigation Measures	Mitigation Responsibility	Mitigation Cost	Parameter to be monitored	Frequency and means of verification	Monitoring responsibility
		roads. 99. Coordinate with the local people on the schedule of construction activities to take into consideration cropping and harvesting activities and school holidays.					
Occupational health and safety risks during construction	Occupational hazards such as carrying/ lifting heavy materials, hotworks, exposure to hazardous materials, working in height, spread of communicable diseases such as COVID19	100. Comply with the Labor Code of Tajikistan. 101. Provide training on Occupational Health and Safety (OHS) and raise awareness on prevention of communicable diseases. 102. Implement the SSEMPs in compliance with OHS guidelines. 103. Designate onsite full-time HSO by each contractor. 104. Assign a CLO from each contractor as contact person	Contractors	Included in contracts of contractors	Compliance to Labor Code and OSH guidelines and SSEMPs Designation of full-time HSOs Designation of CLOs Proper implementation of COVID-19 health prevention procedures	Check monthly records of accidents. Daily consultation with workers about safety protocols.	Contractors; PIG/PIC

Impact Mitigation					Impact Monitoring		
Project activities	Impact / Risk	Mitigation Measures	Mitigation Responsibility	Mitigation Cost	Parameter to be monitored	Frequency and means of verification	Monitoring responsibility
		onsite to receive/respond to complaints from the community; provide the name/contact number of the responsible person to the local authorities. 105. Require workers to wear personal protective equipment such as hard hats, gloves, safety belts, rubber boots, and googles, as appropriate to the task. 106. Post safety signs/reminders to workers at the construction area. 107. Provide sufficient lighting at the construction camp at night. 108. Provide lighting, barricades / safety barriers particularly at excavations and					

Impact Mitigation					Impact Monitoring		
Project activities	Impact / Risk	Mitigation Measures	Mitigation Responsibility	Mitigation Cost	Parameter to be monitored	Frequency and means of verification	Monitoring responsibility
		stockpiles of aggregates. 109. Provide appropriate covers, warning signs and lighting on open excavations during non-working hours. 110. Provide toilets for workers at each construction sites and ensure timely disposal of wastewater. 111. Provide first-aid kit at the construction camp to ensure immediate medical attention in case of accidents. 112. Comply with the COVID-19 health and safety protocols. 113. If a suspected incidence of COVID-19 is reported of any member of the project team during implementation of the project-					

Impact Mitigation					Impact Monitoring		
Project activities	Impact / Risk	Mitigation Measures	Mitigation Responsibility	Mitigation Cost	Parameter to be monitored	Frequency and means of verification	Monitoring responsibility
		related activity (including consultation and public participation), the activity will stop immediately for a review of the adequacy of the safety system of work and a corrective action will be implemented to address any identified gaps in the safety system of work prior to recommencement of the activities.					
Community health and safety	Nuisance to community from noise, airborne dust, debris, and road congestion; unsafe road due to movement of construction vehicles.	114. Conduct consultations with communities about the project and the schedule of works in coordination with village leaders. 115. Abide by the labor management procedures. 116. Conduct awareness trainings on sexual harassment and gender-based violence among	Contractors	Included in contracts of contractors	Resolution of community complaints. No. of accidents involving community. Trainings conducted on prevention of GBV, HIV/AIDs, and COVID-19 and on GRM. Warning signages.	Site inspection • Daily by contractors • Weekly by PIC/PIG Check records of complaints. Consultation with community about protocols.	Contractors; PIG/PIC

Impact Mitigation					Impact Monitoring		
Project activities	Impact / Risk	Mitigation Measures	Mitigation Responsibility	Mitigation Cost	Parameter to be monitored	Frequency and means of verification	Monitoring responsibility
		contractors, project workers, and the community. 117. Conduct training on prevention of spread of sexually transmitted infections (HIV/AIDS) and COVID-19. 118. Install effective GRM including those dealing with instances of GBV.					
Road construction near the cemetery and excavation activities for buildings and distribution poles.	Accidental discovery of physical cultural resources.	119. Fencing of the cemetery to protect from any damage in coordination with village leaders. 120. In case of chance find, stop civil works immediately at the site. 121. PIG will inform the MOC on the chance find. 122. Contractor to follow the protocols set on chance find	Contractor, PIG/PIC, MOC	Included in contract of contractor	Discovery of chance find Permission to resume work granted by MOC after a chance find	Site inspection • Daily by contractors • Weekly by PIC/PIG Consultation with workers about chance find protocols during daily toolbox meetings.	Contractor; PIG/PIC, MOC

Impact Mitigation					Impact Monitoring		
Project activities	Impact / Risk	Mitigation Measures	Mitigation Responsibility	Mitigation Cost	Parameter to be monitored	Frequency and means of verification	Monitoring responsibility
		procedure. 123. Resume civil works only after thorough investigation and with permission granted by MOC.					
Operation Phase							
Routine maintenance	Clogging of road culverts	124. Regular cleaning of culverts to check if clogged with sediments in coordination with village leaders	District	Included in district budget	Culvert condition	Site inspection • Monthly Coordination with village leaders • Prior to start of activity • During actual cleaning	CESCD/PIG
	Waste generation and disposal	125. Daily collection of wastes and disposal at jamoat Halevard dump site.	District	Included in operations and maintenance budget of district	Proper waste segregation and collection	Site inspection • Daily by district • Quarterly by CESCD/PIG District - Checking of records of solid waste collection on daily basis.	District CESCD/PIG
	Vegetation management on the distribution line	126. Regular maintenance of the distribution line through line clearance checks and trimming of trees that will compromise the safety clearance requirements 127. Employ manual	Power utility company	Included in operations and maintenance budget of power utility company	Vegetation clearing along distribution line	Records of tree trimming (annually or as necessary)	CESCD/PIG

Impact Mitigation					Impact Monitoring		
Project activities	Impact / Risk	Mitigation Measures	Mitigation Responsibility	Mitigation Cost	Parameter to be monitored	Frequency and means of verification	Monitoring responsibility
		vegetation maintenance methods such as manual trimming of trees. 128. Prohibit the use of chemicals (herbicides / pesticides) during vegetation trimming.					
	Wastewater management	129. Maintenance of the septic tank (at the settlement facility, pit latrines, and health center) through regular desludging to ensure that overflow will not affect adjacent areas and drainage canals. 130. Collection of septage (in coordination with the district) from the sewage treatment facilities and pit latrines when full for disposal to the communal sewage	District	Included in operations and maintenance budget of district	Quantity of septage collected	Records of septage collection (annual or as necessary)	CESCD/PIG

Impact Mitigation					Impact Monitoring		
Project activities	Impact / Risk	Mitigation Measures	Mitigation Responsibility	Mitigation Cost	Parameter to be monitored	Frequency and means of verification	Monitoring responsibility
		treatment facility of the district.					
	Healthcare waste management	131. Regular monitoring and maintenance of the incinerator, autoclave, and healthcare waste pits	Health center	Included in maintenance budget of health center	Maintenance records and condition of facilities Volume of healthcare wastes disposed	Site inspection (quarterly)	CESCD/PIG
	Community health and safety	132. Distribution of project information on potential health and safety risks of electricity. 133. Security and inspection personnel will be deployed to avoid pilferage of the lines and cables that may cause accident and/or electrocution. 134. Record accidents associated with the distribution line. 135. Record issues from the community in accordance with the project GRM.	Power utility company	Included in maintenance budget of power utility company	Condition of distribution lines Records of accidents, pilferage, and other community issues	Site inspection and consultation (quarterly)	Power utility company CESCD/PIG

C. Institutional Arrangement

1. CESCD/PIG

254. CESCD is the Executing Agency and the existing PIG for the original project will be responsible for implementing activities for the additional financing.

255. The CESCD designed Mr. Yusupov Muhammadusuf, head of Department of Construction of CESCD as an Environment Specialist (CESCD-ES). Mr Muhammadusuf attended the orientation training on ADB SPS (2009, Environment Safeguard Requirements) held in June 2022 by an international consultant recruited by ADB for the preparation of this IEE (Ms. Cherry Rivera).

256. The CESCD-ES will be supported by a M&E Specialist (Mr. Atajon Salbaev) of CESCD/PIG who will monitor project performance and prepare the quarterly project progress report. The CESCD-ES will prepare the SAEMRs and provide inputs to the M&E Specialist on the status of environment safeguard implementation for the quarterly project progress reporting to ADB. Specific responsibility for EMP compliance will rest with the contractors who will be monitored by CESCD-ES.

2. PIC

257. A firm will be recruited as PIC to support the CESCD and PIG with project administration and management, procurement, and monitoring and reporting. The PIC will have a PIC-IES (4 person-months) and a PIC-NES (12 person-months).

3. Contractors

258. According to the Procurement Plan, there will be 5 civil works packages under the Additional Financing.

(i) **Package 1**: Construction of accommodation, administration and supporting buildings

(ii) **Package 2**: Rehabilitation utility infrastructure services for local communities

(iii) **Package 3**: Rehabilitation of community-based disaster risk management offices, anti-hail units, and radar station

(iv) **Package 4**: Access road rehabilitation

(v) **Package 5**: PIG Office repair

259. Each contractor will be required to appoint a full-time EO, HSO and CLO to monitor and ensure that the mitigation measures outlined in the EMP are implemented during the construction phase.

Table 8: Responsibilities on Environment Safeguard

Agency/Unit	Responsibilities
CESCD	1. Assumes the overall responsibility for project planning, management, and implementation.
PIG	1. Responsible for the technical aspects of project design, specifications, bidding, detailed design, safeguard implementation and monitoring, and financial management. 2. Coordinate with other government agencies, departments and units, local governments, district offices, jamoats, and communities 3. Designate CESCD-ES that will work with closely with the PIG and PIC.

Agency/Unit	Responsibilities
	4. Especially on environmental safeguards: 5. Review all relevant documents, particularly the project's IEE report; 6. Ensure proper integration of all environmental measures and plans into the detailed design as stipulated in the IEE/EMP; 7. Ensure that the project design complies with national environmental laws and regulations; 8. Provide all necessary information to CESCD to secure the SEE approval for the project before bids are invited from civil work contractors; 9. Provide all necessary information to CESCD to ensure timely obtention of the required permits and approvals from CEP and local authorities; 10. Ensure that bidding and contract documents for civil works include all environmental safeguards requirements in line with the IEE/EMP and ensure that the environmental management costs are reflected in the BOQ; 11. Review PIG's environmental management capability, and recommend institutional strengthening measures, as necessary. 12. Determine the training needs of contractors' staff, and develop training materials for preparation and effective implementation of the SSEMPs during construction; 13. Review and clear contractors' SSEMPs prior to commencement of civil works. This would include review of the AMP prepared by the contractors. 14. Ensure that the SSEMPs includes COVID-19 health and safety management plan and emergency response plan following international good practice and national requirements; 15. Notify CESCD of changes in project scope / location that may result in any unanticipated environmental impacts and provide all necessary information for updating the IEE/EMP and/or preparing additional environmental assessment as/ when required; 16. Update the existing IEE report if unanticipated environmental impacts become apparent; 17. Ensure that sufficient funds are available to properly implement all agreed measures in the EMP; 18. Set-up and disclose the project's GRM to affected communities in coordination with the PIC and contractors. Monitor and keep relevant records of any complaints, and ensure their effective, timely, and adequate resolution; 19. Conduct environmental monitoring and, especially during construction and operation, ensure that day-to-day activities are carried out following the EMP and SSEMPs (including the AMP) and in an environmentally-sound and sustainable manner; 20. Based on the results of environmental monitoring, evaluate the effectiveness with which the SSEMPs are implemented, identify environmental corrective actions for submission to CESCD and ADB, and ensure corrective actions are implemented when necessary; 21. Prepare SAEMRs (within 30 days after a completion of the monitoring period) and submit to CESCD for onward submission to ADB for disclosure, starting after the Project becomes effective until ADB's PCR is issued; 22. Report on environmental safeguards in the quarterly progress reports;

Agency/Unit	Responsibilities
	23. Report in a timely manner to ADB of any non-compliance or breach of ADB safeguard requirements; 24. In case of in case of any accident related to occupational and community health and safety, report to ADB within 72 hours, and prepare and submit an incident report with action plan within 7 days of the occurrence. 25. Prepare the project's environmental compliance performance report (within three months after completion of all civil works) and submit to CESCD for onward submission to ADB for disclosure; 26. During project operation, conduct site inspections to monitor regular cleaning of road culverts, proper waste segregation and regular collection and disposal, periodic vegetation maintenance on the distribution line ROW, and adequate maintenance of the sewage treatment facilities; 27. Assist the ADB Missions, and provide inputs as required.
PIC	1. Prepare detailed engineering design of infrastructures and design specifications of the civil works, goods and machinery to be procured. 2. Provide technical support to CESCD and PIG with regards to procurement, bid evaluation, safeguards, construction supervision, contract management, project implementation and other technical aspects of the project. 3. Carry out training needs assessment of staff of executing agency and other relevant ministries, design training program and organize/arrange training. 4. Appoint qualified environmental specialists (PIC-IES and PIC-NES) to assist the PIG in complying with the environment safeguard commitments of the additional financing and in monitoring the contractors' implementation of mitigation measures. 5. Support PIG to ensure compliance with environmental and social safeguards as per ADB's SPS (2009), specifically with regards to: - Review the IEE including the EMP to understand the project's environmental safeguards requirement, and assist PIG in updating the IEE in case of unanticipated impacts; - Assist PIG in managing and implementing the project and ensuring compliance with ADB SPS (2009) requirements on environmental safeguards, and the IEE and the EMP of the project; - Ensure that PIG secures the SEE approval of the project prior to contract award; - Conduct trainings, workshops, and other knowledge sharing sessions on requirements, lessons and good practices on safeguards, occupational and community health and safety, asbestos management, etc. to the PIG staff and contractors' staff (especially the contractors' EOs and HSOs) and build capacity of relevant staff to undertake their tasks in EMP implementation and monitoring. One of the trainings should be conducted prior to the start of construction to develop the knowledge and understanding of the environmental, workers' and community's health and safety aspects of the project (including risk of workers and community's interactions); - Provide guidance to contractor on the development of the SSEMPs, and assist PIG in reviewing the SSEMPs prepared by contractors and provide approval; - Ensure that the contractors (and its subcontractors, if any) comply with the

Agency/Unit	Responsibilities
	relevant measures and requirements set forth in the IEE, the EMP, and any corrective or preventative actions set out in the SAEMR; - Assist PIG in supervising and monitoring the EMP/SSEMPs implementation and in preparation of SAEMRs for further submission to ADB; - Support PIG in establishing the GRM and resolving project-related complaints/grievances; - Assist PIG in SAEMRs disclosure in Tajik and Russian language and ensure that the reports submitted to ADB and are uploaded at ADB and CESCD websites; - Assist PIG in organizing and conducting consultations and awareness-raising activities; - Contribute inputs to the PIC's monthly compliance reports, highlighting potential and actual issues and/or problems related to the EMP/SSEMPs and recommending corrective measures for PIG and contractors' actions; - Upon completion of the civil works, prepare a report on the project's environmental compliance performance; including lessons learned that may help PIG in their environmental monitoring of future projects. This report will be part of the input to the overall Project Completion Report.
Contractors	1. Provide sufficient budget and resources for the implementation of the SSEMPs. 2. Assign qualified and full-time EOs and HSOs to ensure EMP implementation. 3. Assign CLOs who will liaise with the local people, district, PIG and PIC and ensure implementation of the GRM. 4. Prepare SSEMPs based on the EMP with specific construction methodologies, guidelines, and work statements. 5. Coordinate with affected community and households prior to start of any construction activities. 6. Promptly act and resolve any complaint raised by the community and keep records of any complaints received from the community. 7. Inform PIG on the construction progress, including complaints and activities that may cause safety risks. 8. Implement any corrective measures, as necessary.
Central CEP	1. Initiate the SEE process 2. Review the project's IEE and proposed mitigation measures to address adverse impacts 3. Issue SEE clearance of the project.
District CEP	1. Creation of the Commission at the Hukumat that will evaluate the project activities such as ACM disposal at solid waste dump site, tree cutting, etc. 2. Monitor the project's implementation particularly of the environmental mitigation measures on a monthly basis or as necessary.
ADB	1. Provide guidance to CESCD and PIG on the environment safeguard requirements and assist in capacity building on environment safeguards. 2. Review the updated IEE/EMP and SAEMRs and issue clearance on the submitted document if found sufficient.

Agency/Unit	Responsibilities
	3. Disclose the IEE/EMP and the SAEMRs at ADB's website. 4. Conduct review missions to check compliance with the environmental conditions of the loan and with the EMP and propose any corrective actions to address any issues found during the mission. 5. Provide guidance to CESCD/PIG as necessary based on progress reports and supervision missions.

AMP = Asbestos Management Plan, BOQ = Bill of Quantities, CEP = Committee on Environmental Protection, COVID-19 = coronavirus diseases, CESCD = Committee of Emergency Situations and Civil Defense, CESCD-ES = CESCD's Environmental Specialist, CLO = Community Liaison Officer, EMP = environmental management plan, EO = environmental officer, GRM = grievance redress mechanism, IEE = initial Environmental Examination, HSO = Health and Safety Officer, PIC = Project Implementation Consultant, PIC-IES = PIC's International Environmental Specialist, PIC-NES = PIC's National Environmental Specialist, PCR = project completion report, PIG = Project Implementation Group, SAEMR = semi-annual environmental monitoring report, SEE = State Environmental Expertise, SPS = ADB Safeguards Policy Statement (2009), SSEMP = Site-specific EMP

D. Environmental Management Costs

260. The estimated costs for environmental management include costs for staffing, mitigation, monitoring during construction and permitting costs. The contractors will be responsible for implementation of mitigation measures and will include the cost for SSEMP implementation in the Bill of Quantities (BOQ) for construction as a line item. The costs for the conduct of training will be shouldered by the PIC and include costs for site visits, printing of materials, and other logistics arrangements. Table 9 presents the estimate of the contractors' environmental management costs and Table 10 outlines the estimated cost of PIC's EMP implementation.

Table 9: Estimated Cost for Contractors' EMP Implementation

Item	Quantity	Unit cost	Estimated cost
Package 1: Construction of accommodation, administration and supporting buildings			
SSEMP preparation	Lumpsum		$1,000
SSEMP implementation (construction mitigation measures)	Lumpsum		$10,000
Asbestos management (including securing of permit on ACM disposal in jamoat Halevard, purchase of materials, and equipment for ACM removal, transport and disposal) [(a)]	Lumpsum		$10,000
Sewage treatment facility for Phase 2 (if necessary)	Lumpsum		Part of project cost
Mobile toilet for workers at construction site	1 unit	$800	$800
Air or noise measurement (in case of complaint)	5 samples	$40/sample	$200
Mobilization of EO	18 months	$500	$9,000
Mobilization of HSO	18 months	$500	$9,000
Mobilization of CLO	18 months	$500	$9,000
Sub-total (Package 1)			**$49,000**
Package 2: Rehabilitation of utility infrastructure services for local communities			
SSEMP preparation	Lumpsum		$1,000
SSEMP implementation (construction mitigation measures)	Lumpsum		$10,000
Asbestos management (including construction of asbestos pit in jamoat Halevard, securing of permit on ACM disposal, purchase of materials and equipment for ACM removal, transport and disposal) [(b)]	Lumpsum		$30,000
Purchase of garbage collection truck	One unit	$210,000	Part of project cost
Purchase of waste bins for the villages	Lumpsum		Part of project

Item	Quantity	Unit cost	Estimated cost
			cost
Purchase of equipment for medical waste disinfection (autoclave, microwave, etc.)	Lumpsum		Part of project cost
Improvement of medical waste incinerator	Lumpsum		Part of project cost
Mobile toilet for workers at construction site	1 unit	$800	$800
Air or noise measurement (in case of complaint)	5 samples	$40/sample	$200
Mobilization of EO	30 months	$500	$15,000
Mobilization of HSO	30 months	$500	$15,000
Mobilization of CLO	30 months	$500	$15,000
Sub-total (Package 2)			**$87,000**
Package 3: Rehabilitation of community-based disaster risk management offices, anti-hail units, and radar station			
SSEMP preparation	Lumpsum		$1,000
SSEMP implementation (construction mitigation measures)	Lumpsum		$5,000
Mobile toilet for workers at construction site	1 unit	$800	$800
Air or noise measurement (in case of complaint)	3 samples	$40/sample	$120
Mobilization of EO	6 months	$500	$3,000
Mobilization of HSO	6 months	$500	$3,000
Mobilization of CLO	6 months	$500	$3,000
Sub-total (Package 3)			**$15,920**
Package 4: Access road rehabilitation			
SSEMP preparation	Lumpsum		$1,000
SSEMP implementation (construction mitigation measures)	Lumpsum		$5,000
Provision of bypass road	Lumpsum		Part of project cost
Mobile toilet for workers at construction site	1 unit	$800	$800
Air or noise measurement (in case of complaint)	2 samples	$40/sample	$80
Mobilization of EO	3 months	$500	$1,500
Mobilization of HSO	3 months	$500	$1,500
Mobilization of CLO	3 months	$500	$1,500
Sub-total (Package 4)			**$11,380**
Package 5: PIG office repair[(c), (d)]			
SSEMP preparation	Lumpsum		$1,000
SSEMP implementation (construction mitigation measures)	Lumpsum		$5,000
Mobilization of EO	6 months	$500	$3,000
Mobilization of HSO	6 months	$500	$3,000
Mobilization of CLO	6 months	$500	$3,000
Sub-Total (Package 5)			**$15,000**
Grand Total			**$178,300**

CLO = Community Liaison Officer, EO = environmental officer, HSO = health and safety officer, SSEMP = site-specific environmental management plan

Notes:

(a) The cost includes the materials and equipment for removal, transport, and disposal of ACM waste from the existing buildings to be demolished at the anti-hail site and securing of permit on ACM disposal at the ACM pit that is constructed under civil works package 2. Civil works package 1 is expected to commence later in Q2 2024.

(b) The cost includes the construction of the asbestos pit at jamoat Halevard, securing of permit for ACM disposal, and materials and equipment for removal, transport and disposal of ACM waste from school toilets and canteen. The ACM pit will accommodate the ACM wastes from package 1 based on CESCD/PIC assessment and district approval. Civil works package 2 is expected to start in Q4 2023.

(c) Repair works are confined within existing building. Air or noise sampling is not necessary.

(d) There is no need for mobile toilet since there are existing toilets at the office.

Table 10: Estimated Cost for PIC's EMP Implementation

Item	Quantity	Unit Rate	Estimated Cost
International Environment Specialist	4 months (intermittent)	$20,000	$80,000
National Environment Specialist	12 months (intermittent)	$2,500	$30,000
Training on EMP, AMP, OSH, GRM	10 persons x 2 time	$500/person	$10,000
Total			$120,000.00

AMP = asbestos management plan, EMP = environmental management plan, GRM = grievance redress mechanism, OSH = occupational health and safety

E. Monitoring and Reporting

261. Environmental monitoring is a very important aspect of environmental management. The monitoring includes: (i) recording any changes in key environmental parameters (compared with the baseline); and (ii) implementation and effectiveness management and mitigation measures including approved SSEMPs. The PIG, with assistance from the PIC, will conduct regular monitoring, including review of measures undertaken by each contractor on the environment, health, and safety aspects of the contract package. Environmental monitoring reports will be prepared on a semi-annual basis and submitted to ADB.

262. The SAEMRs will document the license requirements and compliance to conditions, SSEMPs preparation and implementation, necessary remedial actions to effectively address negative environmental impacts due to project implementation, status of environmental capacity building activities as well as documentation of any complaint received, and corresponding actions made to resolve the complaint.

263. The PIG will submit SAEMRs to CESCD and ADB for review and disclosure, within 30 days after completion of each monitoring period. SAEMRs will be prepared and submitted to ADB, starting after the Project becomes effective, until ADB's Project Completion Report (PCR) is issued. Within three months after completion of all civil works, a report on the project's environmental compliance performance (including lessons learned that may help CESCD and PIG in their environmental monitoring of future projects) will also be prepared. This report will be part of the input to the overall PCR.

264. The PIG, with the support of the PIC, will translate the summary of these documents into both Tajik and Russian languages, and post them on CESCD website with the full reports (in English), within two weeks after ADB's clearance of each document. PIC will support the PIG in preparing such reports. In case the PIC is not mobilized yet when the first SAEMR is due and/or the PIC's liability period ends before ADB's PCR issuance, the PIG itself will be responsible for preparing the SAEMRs.

265. The PIG will submit the following reports to ADB:

1. Quarterly project progress report including a section on safeguard implementation and capacity building activities
2. SAEMRs covering the status of the project, clearances/approval requirements and conditions, SSEMPs preparation and implementation, remedial or corrective actions undertaken, status of capacity building activities on environment safeguard, and documentation of complaints received, and corresponding actions undertaken to resolve the complaint.

3. In case of any accident related to occupational and community health and safety, the CESCD / PIG is expected to (i) report to ADB within 72 hours, and (ii) prepare and submit an incident report with action plan within 7 days of the occurrence.

IX. CONCLUSION AND RECOMMENDATION

266. The proposed additional financing will contribute to the improvement of shelters for displaced families as well as improve the social services infrastructure in surrounding villages. The project is expected to improve reliability of electricity, sanitation in schools and health center, equipment in the health center, and access roads. Based on this assessment, it is concluded that the project will result in significant positive socio-economic benefits.

267. The project will not cause significant negative environmental impacts and any potential negative environmental impacts are small-scale and localized and can be mitigated through good design and implementation of mitigation measures.

268. Based on assessment of the project components and activities, the project is classified as category B for environment in accordance with ADB SPS (2009). There are no components that will traverse environmentally or culturally sensitive areas. The footprint of impact of the infrastructures is small and confined to a very limited area. Any adverse impacts can be reduced to acceptable levels through the implementation of practical mitigation measures associated with internationally accepted good engineering and construction practices.

269. Following requirements of ADB SPS (2009), CESCD/PIG will apply pollution prevention and control technologies and practices consistent with international good practice as reflected in internationally recognized standards such as EHS Guidelines. When Government regulations differ from these levels and measures, CESCD/PIG will achieve whichever is more stringent. If less stringent levels or measures are appropriate in view of specific project circumstances, CESCD/PIG will provide full and detailed justification for any proposed alternatives that are consistent with the requirements presented in ADB SPS (2009).

270. This IEE together with the EMP is prepared in compliance with ADB SPS (2009) for category B projects. The EMP and other safeguard requirements (including any conditions stipulated in the SEE approval) will be included in bidding documents and civil works contracts. Each contractor will be required to prepare an SSEMP outlining how they intend to implement the EMP. Each SSEMP needs to include COVID-19 Health and Safety Management Plan and Emergency Response Plan. CESCD/PIG will be required to review and clear the contractors' SSEMPs prior to commencement of civil works and ensure that no access to the site is allowed before SSEMPs' clearance. Should there be any unanticipated impacts, the IEE and the EMP will need to be updated to account for any additional or new environmental impacts and relevant corrective actions.

271. For the proper implementation of the IEE/EMP, the PIG will have a full-time environmental specialist (CESCD-ES) throughout the entire project implementation period. The CESCD-ES has already been appointed and he will continue his assignment during project implementation. The CESCD-ES will be supported by PIC-IES (4 person-months) and PIC-NES (12 person-months). The responsibilities of PIC-IES will include, among others, providing trainings to CESCD/PIG and contractors on EMP implementation and monitoring, including on asbestos management. CESCD/PIG will also ensure that each contractor will assign (i) a qualified and full-time EO, (ii) a qualified and full-time HSO; and a full-time CLO who will provide environmental management services and supervision. CESCD/PIG will have the right to suspend works or payments if the Contractor is in violation of any of his obligations under the EMP and SSEMPs.

APPENDIX A: DOCUMENTATION OF PUBLIC CONSULTATIONS

A. Consultation Meetings

Village consultations were held in jamoat Zoli Zar, Jalolidin Balkhi District on 23–24 June 2022. The meetings were participated by local people from the villages in Sanoat, Mehnatobod, Firmanov, Pravda, and Urtabuz.

Overall, the consultation meetings were attended by a total of 122 people, consisting of 75 men and 47 women. The proposed project and components were presented and an orientation of the purpose of the meeting and rationale of the safeguard requirements on environment, land acquisition and resettlement, and gender were explained to the participants. This was followed by an open discussion of concerns and suggestions from the people. In general, there is no objection to the proposed project of CESCD. There were several suggestions and recommendations that were raised by the participants as outlined in Table 1.

Table 1: Comments and Suggestions from the Village Consultations

Sanoat village	**CESCD Response**
• Fencing of the primary and secondary schools for the safety of children. • Rehabilitation of the schools not only construction of toilets; provision of additional classrooms. • Street lighting because the roads are dark at night, and it is not safe. • Fix the heating system in schools. • The old transformer at the corner of the secondary school becomes overloaded and result in power interruption. The people suggested having a separate transformer for the community and separate for the school and health center. • Provide ambulance or vehicle to bring patients to hospitals for the health centers. People use their own money for gasoline to bring patients to hospital or sometimes use bicycle only. • Provide fence for the cemetery that is along the road leading to the anti-hail center.	The suggestions and recommendations will be taken into consideration during detailed design. CESCD will deliberate on the priority needs of the villages as it relates to the project objectives. CESCD cannot commit to the implementation of all suggestions but will evaluate these recommendations and see which can be funded under the project. Follow-up consultations will be conducted by CESCD/PIG with the communities to discuss the final project design. Consultations will continue throughout project implementation.
Pravda village	
• Stadium or playground in Pravda. • Support for persons with disabilities. • Procurement of equipment for the health center because only basic thermometer, weighing scale and household refrigerator is in the center. There is no proper refrigeration	The suggestions and recommendations will be taken into consideration during detailed design. CESCD will deliberate on the priority needs of the villages

storage for vaccines.	as it relates to the project objectives on disaster management and resiliency. CESCD will appreciate learning about the support needed for persons with disabilities in the village.
Urtabuz village	
• Repair of culvert on the road that was damaged during the construction at the anti-hail center from passing vehicles. The damaged culvert resulted to insufficient capacity to drain runoff and causes flooding in the area. • Provision of water supply because the area in Urtabuz is elevated and wells have to be dug >80m; lack of water causes water-related illnesses. • More classrooms for the new school. • Procurement of equipment for the health center.	The suggestions and recommendations will be taken into consideration during detailed design. CESCD will deliberate on the priority needs of the villages as it relates to the project objectives. The World Bank is in the advance stage of implementation of the water supply project that will cover the entire district. The water supply component was taken out of the ADB project to avoid duplication.

J. Balkhi district, Zoli Zar Jamoat, Sanoat village. 06/23/2022, 9:00AM

№	Full name	Organization/Occupation	Gender
1	Avliyakulova Saodat	teacher	F
2	Akadzhonov Boymirzo	teacher	M
3	Doikov Rakhimdzhon	teacher	M
4	Ismolzoda Hassan	Resident	M
5	Boymurodov Kuryuonali	Teacher	M
6	Loikov Imomali security	Guard	M
7	Hasanov Yusuf	Teacher	M
8	Khudaklov N.	resident	M
9	Hazratkulov Sattor	Chairman of the mahalla	M
10	Bobomurodov Nurullo	Jamoat representative	M
11	Bobonazarov Panchoi	mahalla	M
12	Kholmatov Alisher	mahalla	M
13	Mamanov Dustmurod	local resident	M
14	Bodurov Shody	resident	M
15	Khudaikulov Raushan	teacher	M
16	Kholmatov Shavkat	mardak	M
17	Khudokulova Nazira	cleaner	F
18	Goibnazarzoda Mirzo	director of school №29	M
19	Bobonazarova Umrinisso	collective farmer	F
20	Khamroeva Gulchekhra	collective farmer	F
21	Khazratkulova Soibchamol	collective farmer	F
22	Kichoeva Colletiva	resident	F
23	Tavhieva Nilufar	collective farmer	F
24	Kamanova Donagul	collective farmer	F
25	Karimova Ugiloy	collective farmer	F
26	Alimardonova Bakhri	teacher	F
27	Kasimova Parvina	teacher	F
28	Tagoeva Muhabbat	teacher	F
29	Akramova Khairinisso	teacher	F
30	Irogimova Farogat	teacher	F
31	Tavkieva Adolat	teacher	F
32	Tagaeva Zamira	teacher	F
33	Khudoykulov Ravshan	teacher	M
34	Bobonazarov Odil	teacher	M
35	Kenjaev Shahzoda	Resident	F
36	Tagoeva Shoira	Resident	F
37	Khudoykulova Adolat	Resident	F
38	Ergashova Muborak	doctor	F
39	Kimatov Jahongir	student	M
40	Cherry Rivera	ADB international environmental consultant	F
41	Fozilov Fozil	Local ADB Consultant	M
42	Atabaev Anvar	NRE from NDRMP	M
43	Kamilova Larisa	ADB national environmental consultant	F
44	Bakhtibekova Zulfiya	ADB Local Gender Consultant	F
45	Tursunzoda	Firuza NDRMP	F

J. Balkhi district, Zoli Zar Jamoat, Somoni village (Pravda). 06/23/2022; 2:00PM

№	Full name	Organization/Occupation	Gender
1	Chodiev Olim	school number 28, caretaker	M
2	Tursunova Zamira	mahalla chairman	F
3	Kazakbaev Nematjon	collective farmer	M
4	Abdurakhmonov Abdumalik	collective farmer	M
5	Yuldoshev Furkatjon	collective farmer	M
6	Khaydarov Mukhamadjon	collective farmer	M
7	Gulomov Mukhidin	collective farmer	M
8	Goibnazarov A.		M
9	Ergashev A.	farmer	M
10	Botirov Jakhongir	collective farmer	M
11	Holmatov B.	collective farmer	M
12	Alimkulov Tukhtomysh	The caretaker of school No. 28	M
13	Boboev Bozorboy	collective farmer	M
14	Nazbudinov Talabsho	doctor	M
15	Kazakbaev Muminchon	collective farmer	M
16	Abdusamatov Abdurasul	collective farmer	M
17	Khayitov Sohibkhon	farmer	M
18	Gafurov Idibek	resident	M
19	Khudoyberganov Abdurutalib	teacher	M
20	Khakimov Muratjon	student	M
21	Khaitov Umedulo	farmer	M
22	Sotiboldiev Shakar	farmer	M
23	Sobirov Sodikjon	farmer	M
24	Khaitov Burkhon	farmer	M
25	Boboev Sodikjon	farmer	M
26	Mahmudjonov Kamoljon	farmer	M
27	Hudoybergonov A.	pensioner	M
28	Khudoyberdieva Hikoyat	collective farmer	F
29	Nazirova Momagul	collective farmer	F
30	Polbekova Zebo	cleaning woman	F
31	Mahmudjonova Rano	a housewife	F
32	Topkoldieva Zebo	a housewife	F
33	Mahmudjonova Munira	School No. 28	F
34	Cherry Rivera	ADB international environmental consultant	F
35	Tursunzoda Firuza	NDRMP	F
36	Kamilova Larisa	ADB national environmental consultant	F
37	Khudoyberganova Kholida	village chairman	F
38	Bobomurodov Nurullo	Jamoat worker	M
39	Atabaev Anvar	NRE of NDRMP	M
40	Fozilov Fozil	ADB Local Social Adviser	F
41	Bakhtibekova Zulfiya	ADB Local Gender Adviser	F

J. Balkhi district, Zoli Zar Jamoat, Urtabuz village. 06/24/2022; 9:30AM

№	Full name	Organization/Occupation	Gender
1	Yunusov Akramdfon	loader	M
2	Kiromidinov AzhudFa	collective farmer	M
3	Kamolov Fathidin	resident	M
4	Chamolov SharifkhudFa	resident	M
5	Gulov Ismoil	resident	M
6	Abdulloev Abduchaffar	resident	M
7	Davlatov Holboy	resident	M
8	Nazarov Beknazar	resident	M
9	Mavlonov We carry	resident	M
10	Salimov Zikrolo	resident	M
11	Gulov Abdulaziz	resident	M
12	Nosirov Abdurofe	resident	M
13	Gulov Nodirhucha	resident	M
14	Sodikov Mahmadali	resident	M
15	Akhmedov Kimgar	resident	M
16	Fozilov Davlatbeg	resident	M
17	Toshev Gulmurod	resident	M
18	Abirov Bobonazar	resident	M
19	Khakimov Orzikul	resident	M
20	Ahmadov Navruz	resident	M
21	Saidov Mahmasaid	resident	M
22	Odinaev M.	resident	M
23	Ataev Turgun	resident	M
24	Fozilova Sadbarg	resident	F
25	Nozanini Zarobirzoda	resident	F
26	Faizikulova Khairiniso	resident	F
27	Kosimova Erkamokh	nurse	F
28	Nachbidinova N.	resident	F
29	Sharipova Z.	resident	F
30	Faizulloeva N.	resident	F
31	Kholmatova S	resident	F
32	Holmatova S.	resident	F
33	Saidova A.	resident	F
34	Kamilova Larisa	ADB national environmental consultant	F
35	Bobomurodov Nurulo	Jamoat worker	M
36	Fozilov Fozil	ADB Local Social Adviser	M
37	Cherry Rivera	ADB international environmental consultant	F

Photos of the Public Consultations


J. Balkhi District, Zoli Zar, Sanoat village, 06/23/200, 9:00AM


J. Balkhi District, Zoli Zar, Pravda village, 06/23/200, 2:00PM


J. Balkhi District, Zoli Zar, Urtabuz village, 06/24/200, 9:30AM

B. Interviews

Random informal interviews were also conducted to gather views of the local people related to the state of the environment and project concerns and issues. Questions were asked from the local people on the following:

1. What is your source of water? Can you comment on the water quality and water pressure? Is water pressure available 24/7? (Have there been cases of diseases associated with poor-quality water in your family?)
2. What is your source of electricity? Can you comment on the electricity for your village?
3. Do you have toilet per household? or shared toilet?
4. Is there pit latrine to manage wastewater from toilets? How do you manage wastewater from cooking and washing?
5. How do you manage garbage / solid wastes?
6. What is the source of livelihood of families?
7. What are the means of livelihood of the people in the village?
8. What issues and concerns do you encounter in the community in terms of environmental disasters like climate, landslides, soil erosion, flooding, etc.?
9. When was the last major environmental disaster?
10. Are you aware of the proposed project in your settlement area or your village?
11. What do you think are the benefits of the project to your household? to your community?
12. What do you think are the negative effects of the project?

Those who participated in the interviews included: 9 from Sanoat; 8 from Pravda; and 5 for Urtabuz. The results of the interviews are presented below:

Name of Respondent	Bobonazarova Umriniso, collective farmer, 900080362
Residence	J. Balkhi district, Sanoat village, Zoli Zar Jamoat
Date of Interview	23.06.2022
1. What is your source of water? Can you comment on the water quality and water pressure? Is water pressure available 24/7? (Have there been cases of diseases associated with poor-quality water in your family?)	There is a well in the house, there are no problems with water. There were no diseases, we boil the water.
2. What is your source of electricity? Can you comment on the electricity for your village?	There is a common power line, there is always light, but with strong winds in winter, the lines/wires get broken and there are blackouts.
3. Do you have toilet per household? or shared toilet?	There is a toilet for the household.
4. Is there pit latrine to manage wastewater from toilets? How do you manage wastewater from cooking and washing?	There is no cesspool. Wastewater overflows into the garden.
5. How do you manage garbage / solid wastes?	Food waste is fed to cattle. What can be burned, we burn in tanur (national oven).
6. What is the source of livelihood of families?	Work on a collective farm.
7. What are the means of livelihood of the people in the village?	Work on a collective farm; work in Russia
8. What issues and concerns do you encounter in the community in terms of environmental disasters like climate, landslides, soil erosion, flooding, etc.?	Last year, during the rains, there was a mudflow, CoES helped a lot.
9. When was the last major environmental disaster?	I can't remember
10. Are you aware of the proposed project in your settlement area or your village?	No
11. What do you think are the benefits of the project to your household? to your community?	Of course, the project will help people.
12. What do you think are the negative effects of the project?	The negative consequences of the construction will be temporary, the positive ones will be more than the temporary negative effects.
13. Do you have suggestions and recommendations to implement the project?	We need a kindergarten, families with many children have nowhere to leave their children. Also need an artel for girls.

Name of Respondent	Tagoymurodov Nurullo, representative of Zoli Zar Jamoat
Residence	J. Balkhi district, Sanoat village, Zoli Zar Jamoat.
Date of Interview	23.06.2022.
1. What is your source of water? Can you comment on the water quality and water pressure? Is water pressure available 24/7? (Have there been cases of diseases associated with poor-quality water in your family?)	There is a well in the house, there are no problems with water. There were no diseases, we boil the water. But the water quality is bad for drinking, the water is cloudy.
2. What is your source of electricity? Can you comment on the electricity for your village?	There is a common power line, there is always light, but with strong winds in winter, the wires break and there are blackouts
3. Do you have toilet per household? or shared toilet?	There is a toilet for the household.
4. Is there pit latrine to manage wastewater from toilets? How do you manage wastewater from cooking and washing?	There is no cesspool. Wastewater is poured into the garden and into the pit
5. How do you manage garbage / solid wastes?	Food waste is fed to cattle, what can be burned is burned in a tanura (national oven). The rest is buried deeper in a hole in the garden.
6. What is the source of livelihood of families?	Work in Zoli Zar jamoat, selling vegetables from the garden, son working in Russia
7. What are the means of livelihood of the people in the village?	Work on a collective farm, work in Russia
8. What issues and concerns do you encounter in the community in terms of environmental disasters like climate, landslides, soil erosion, flooding, etc.?	1-2 years ago, from rainstorms, water rose in the drainage channel, flooded the road and the area around
9. When was the last major environmental disaster?	I can't remember
10. Are you aware of the proposed project in your settlement area or your village?	Yes, I heard
11. What do you think are the benefits of the project to your household? to your community?	Certainly positive
12. What do you think are the negative effects of the project?	The negative consequences of the construction will be temporary, the positive ones will be more.
13. Do you have suggestions and recommendations to implement the project?	We need a kindergarten, families with many children have nowhere to leave their children.

Name of Respondent	Akadzhonov Boymirzo, teacher, 559000882
Residence	J. Balkhi district, Sanoat village, Zoli Zar Jamoat.
Date of Interview	23.06.2022.
1. What is your source of water? Can you comment on the water quality and water pressure? Is water pressure available 24/7? (Have there been cases of diseases associated with poor-quality water in your family?)	There is a well in the house, there are no problems with water. There were no diseases, we boil the water.
2. What is your source of electricity? Can you comment on the electricity for your village?	Common power line, light is always on, no problem.
3. Do you have toilet per household? or shared toilet?	There is a toilet for the household
4. Is there pit latrine to manage wastewater from toilets? How do you manage wastewater from cooking and washing?	There is no cesspool. Wastewater is poured into the garden and into the pit.
5. How do you manage garbage / solid wastes?	Food waste is fed to cattle, what can be burned, we burn, the rest we bury in a pit in the garden. We temporarily store paint cans, plastics, then they are sold for reuse.
6. What is the source of livelihood of families?	School work
7. What are the means of livelihood of the people in the village?	Work at school, collective farm, migration to Russia for work
8. What issues and concerns do you encounter in the community in terms of environmental disasters like climate, landslides, soil erosion, flooding, etc.?	2-3 years ago, a landslide occurred near the house due to heavy rains. We eliminated the consequences on our own, leveled the area ourselves, covered it with rubble.
9. When was the last major environmental disaster?	I can't remember
10. Are you aware of the proposed project in your settlement area or your village?	Yes, I heard
11. What do you think are the benefits of the project to your household? to your community?	Certainly positive
12. What do you think are the negative effects of the project?	The negative consequences of the construction will be temporary, the positive ones will be greater.
13. Do you have suggestions and recommendations to implement the project?	To get the project done faster

Name of Respondent	Akadzhonov Boymirzo, teacher, 559000882
Residence	J. Balkhi district, Sanoat village, Zoli Zar Jamoat.
Date of Interview	23.06.2022.

1. What is your source of water? Can you comment on the water quality and water pressure? Is water pressure available 24/7? (Have there been cases of diseases associated with poor-quality water in your family?)	There is a well in the house, there are no problems with water. There were no diseases, we boil it.
2. What is your source of electricity? Can you comment on the electricity for your village?	Common power line, light is always available, no problem
3. Do you have toilet per household? or shared toilet?	There is a toilet for the household.
4. Is there pit latrine to manage wastewater from toilets? How do you manage wastewater from cooking and washing?	There is no cesspool. Wastewater is poured into the garden and into the pit.
5. How do you manage garbage / solid wastes?	Food waste is fed to cattle, what can be burned, we burn, the rest we bury in a pit in the garden. We temporarily store paint cans, plastics, then these are bought for reuse.
6. What is the source of livelihood of families?	School work
7. What are the means of livelihood of the people in the village?	Work at school, collective farm, migration to Russia
8. What issues and concerns do you encounter in the community in terms of environmental disasters like climate, landslides, soil erosion, flooding, etc.?	2-3 years ago, a landslide occurred near the house due to heavy rains. We eliminated the consequences on our own, leveled the area ourselves, covered it with rubble
9. When was the last major environmental disaster?	I can't remember
10. Are you aware of the proposed project in your settlement area or your village?	Yes, I heard
11. What do you think are the benefits of the project to your household? to your community?	Certainly positive
12. What do you think are the negative effects of the project?	The negative consequences of the construction will be temporary, the positive ones will be greater.
13. Do you have suggestions and recommendations to implement the project?	To get the project done faster

Name of Respondent	Goibnazarzoda Mirzo, director of school No. 29, 938908393
Residence	J. Balkhi district, Sanoat village, Zoli Zar Jamoat.
Date of Interview	23.06.2022.

1. What is your source of water? Can you comment on the water quality and water pressure? Is water pressure available 24/7? (Have there been cases of diseases associated with poor-quality water in your family?)	There is a well in the house, there are no problems with water. There were no diseases, we boil it.
2. What is your source of electricity? Can you comment on the electricity for your village?	General power line, electricity is sometimes cut off, the transformer is old.
3. Do you have toilet per household? or shared toilet?	There is a toilet for the household
4. Is there pit latrine to manage wastewater from toilets? How do you manage wastewater from cooking and washing?	There is a cesspool. Wastewater is poured into the garden and into the pit, taken out by machine (suction pump).
5. How do you manage garbage / solid wastes?	Residents of the jamoat dig a hole for waste in their gardens, I don't have a place, we pile it up, then we take it out by a tractor or a car to the landfill.
6. What is the source of livelihood of families?	Work at school, vegetable garden, work in Russia
7. What are the means of livelihood of the people in the village?	Work at school, collective farm, garden, first-aid post, migration to Russia
8. What issues and concerns do you encounter in the community in terms of environmental disasters like climate, landslides, soil erosion, flooding, etc.?	I don't remember big problems.
9. When was the last major environmental disaster?	Did not have
10. Are you aware of the proposed project in your settlement area or your village?	Yes, I heard
11. What do you think are the benefits of the project to your household? to your community?	Certainly positive
12. What do you think are the negative effects of the project?	Negative impacts from construction will be negligible
13. Do you have suggestions and recommendations to implement the project?	I would like the school to be refurbished.

Name of Respondent	Tagaev Turgunbek, CoES and GO of J. Balkhi district, senior lieutenant
Residence	J. Balkhi district, Sanoat village, Zoli Zar Jamoat.
Date of Interview	23.06.2022.

1. What is your source of water? Can you comment on the water quality and water pressure? Is water pressure available 24/7? (Have there been cases of diseases associated with poor-quality water in your family?)	The water is imported, there is no water in the pipes above the drainage channel. For drinking, we buy 100 m^3 of water for 120 somoni, this volume is enough for a month. For domestic needs, we take water from the canal. There are no diseases in our family, but many in the village have urolithiasis.
2. What is your source of electricity? Can you comment on the electricity for your village?	Common power line, electricity is sometimes cut off, the load is large, low voltage, a new transformer is needed.
3. Do you have toilet per household? or shared toilet?	There is a toilet for the household
4. Is there pit latrine to manage wastewater from toilets? How do you manage wastewater from cooking and washing?	There is no cesspool. We use canal water in winter
5. How do you manage garbage / solid wastes?	Jamoat residents dig a waste pit in their gardens
6. What is the source of livelihood of families?	The whole family works in the CoES and GO district
7. What are the means of livelihood of the people in the village?	Work at school, collective farm, garden, first-aid post, migration to Russia for work
8. What issues and concerns do you encounter in the community in terms of environmental disasters like climate, landslides, soil erosion, flooding, etc.?	I don't remember big problems.
9. When was the last major environmental disaster?	Did not have
10. Are you aware of the proposed project in your settlement area or your village?	Yes, I heard
11. What do you think are the benefits of the project to your household? to your community?	Certainly positive
12. What do you think are the negative effects of the project?	Negative impacts from construction will be negligible
13. Do you have suggestions and recommendations to implement the project?	School renovation, kindergarten

Name of Respondent	Akramova Khairiniso, teacher, 937200358
Residence	J. Balkhi district, Sanoat village, Zoli Zar Jamoat.
Date of Interview	23.06.2022.

1. What is your source of water? Can you comment on the water quality and water pressure? Is water pressure available 24/7? (Have there been cases of diseases associated with poor-quality water in your family?)	There is a well in the house, there are no problems with water. There were no diseases, we boil it.
2. What is your source of electricity? Can you comment on the electricity for your village?	General power line, electricity is sometimes cut off, there is an old transformer.
3. Do you have toilet per household? or shared toilet?	There is a toilet for the household.
4. Is there pit latrine to manage wastewater from toilets? How do you manage wastewater from cooking and washing?	There is a cesspool, we pour wastewater into it and to the garden.
5. How do you manage garbage / solid wastes?	Solid waste that does not go to livestock feed and is not burned is temporarily stored, after which it is taken out by own car or tractor to the landfill.
6. What is the source of livelihood of families?	Work at school, in the village
7. What are the means of livelihood of the people in the village?	Work at school, collective farm, garden, first-aid post, migration to Russia
8. What issues and concerns do you encounter in the community in terms of environmental disasters like climate, landslides, soil erosion, flooding, etc.?	I don't remember big problems.
9. When was the last major environmental disaster?	Did not have
10. Are you aware of the proposed project in your settlement area or your village?	Yes, I heard
11. What do you think are the benefits of the project to your household? to your community?	Certainly positive
12. What do you think are the negative effects of the project?	Negative impacts from construction will be negligible
13. Do you have suggestions and recommendations to implement the project?	School needs renovation

Name of Respondent	Imomova Markhabo, nurse
Residence	J. Balkhi district, Sanoat village, Zoli Zar Jamoat.
Date of Interview	23.06.2022.

1. What is your source of water? Can you comment on the water quality and water pressure? Is water pressure available 24/7? (Have there been cases of diseases associated with poor-quality water in your family?)	There is a well in the house, there are no problems with water. There were no diseases, we boil it.
2. What is your source of electricity? Can you comment on the electricity for your village?	Common power line, electricity is sometimes turned off, especially in winter, there is no light for up to a day.
3. Do you have toilet per household? or shared toilet?	No private toilet, shared toilet
4. Is there pit latrine to manage wastewater from toilets? How do you manage wastewater from cooking and washing?	Wastewater is poured into the garden and pit
5. How do you manage garbage / solid wastes?	temporarily stored, then to the landfill
6. What is the source of livelihood of families?	Hospital, nurse
7. What are the means of livelihood of the people in the village?	Work at school, collective farm, garden, first-aid post, migration to Russia for work
8. What issues and concerns do you encounter in the community in terms of environmental disasters like climate, landslides, soil erosion, flooding, etc.?	Roads are washed out when it rains
9. When was the last major environmental disaster?	Did not have
10. Are you aware of the proposed project in your settlement area or your village?	Yes, I heard
11. What do you think are the benefits of the project to your household? to your community?	Certainly positive, roads and toilets will improve
12. What do you think are the negative effects of the project?	Negative impacts from construction will be negligible
13. Do you have suggestions and recommendations to implement the project?	-

Name of Respondent	Khudoykulov Raushan, teacher,900632325
Residence	J. Balkhi district, Sanoat village, Zoli Zar Jamoat.
Date of Interview	23.06.2022.

1. What is your source of water? Can you comment on the water quality and water pressure? Is water pressure available 24/7? (Have there been cases of diseases associated with poor-quality water in your family?)	There is a well at home, 9-11 m, there are no problems with water. There are no diseases, we boil the water.
2. What is your source of electricity? Can you comment on the electricity for your village?	General power line, electricity is sometimes cut off, old transformer
3. Do you have toilet per household? or shared toilet?	There is a toilet for the household
4. Is there pit latrine to manage wastewater from toilets? How do you manage wastewater from cooking and washing?	There is a cesspool, we pour wastewater into it and a garden
5. How do you manage garbage / solid wastes?	Food waste for animals. Solid waste that does not go to livestock feed and is not burned is temporarily stored, after which it is taken out by own car or tractor to the landfill
6. What is the source of livelihood of families?	School work, teacher
7. What are the means of livelihood of the people in the village?	Work at school, collective farm, garden, first-aid post, migration to Russia
8. What issues and concerns do you encounter in the community in terms of environmental disasters like climate, landslides, soil erosion, flooding, etc.?	I don't remember big problems.
9. When was the last major environmental disaster?	Did not have
10. Are you aware of the proposed project in your settlement area or your village?	Yes, I heard when they built the camp
11. What do you think are the benefits of the project to your household? to your community?	Certainly positive
12. What do you think are the negative effects of the project?	Residents will suffer
13. Do you have suggestions and recommendations to implement the project?	School needs renovation

Name of Respondent	Chodiev Olim, school number 28, watchman
Residence	J. Balkhi district, Zoli Zar Jamoat, Somoni village (Pravda)
Date of Interview	23.06.2022.

1. What is your source of water? Can you comment on the water quality and water pressure? Is water pressure available 24/7? (Have there been cases of diseases associated with poor-quality water in your family?)	There is a well at home, there are no problems with water, the motor is running. There were no diseases, we boil the water.
2. What is your source of electricity? Can you comment on the electricity for your village?	Shared power line, sometimes switched off, especially in winter
3. Do you have toilet per household? or shared toilet?	There is a toilet for the household
4. Is there pit latrine to manage wastewater from toilets? How do you manage wastewater from cooking and washing?	Yes. There is a cesspool, wastewater is taken out by a special machine
5. How do you manage garbage / solid wastes?	Food waste for animals. There is a hole or pit where we burn wastes.
6. What is the source of livelihood of families?	The whole family works on a collective farm, in Russia.
7. What are the means of livelihood of the people in the village?	Work on a collective farm, garden, migration in Russia for work
8. What issues and concerns do you encounter in the community in terms of environmental disasters like climate, landslides, soil erosion, flooding, etc.?	I don't remember big problems.
9. When was the last major environmental disaster?	Did not have
10. Are you aware of the proposed project in your settlement area or your village?	Yes, I heard
11. What do you think are the benefits of the project to your household? to your community?	Certainly positive
12. What do you think are the negative effects of the project?	Temporary inconvenience
13. Do you have suggestions and recommendations to implement the project?	-

Name of Respondent	Sobirov Sodikjon, farmer 915590424
Residence	J. Balkhi district, Zoli Zar Jamoat, Somoni village (Pravda)
Date of Interview	23.06.2022.

1. What is your source of water? Can you comment on the water quality and water pressure? Is water pressure available 24/7? (Have there been cases of diseases associated with poor-quality water in your family?)	There is a well at home, there are no problems with water, the motor is running. There are no diseases, we boil the water.
2. What is your source of electricity? Can you comment on the electricity for your village?	Shared power line, electricity is sometimes cut off, especially in winter
3. Do you have toilet per household? or shared toilet?	Shared toilet
4. Is there pit latrine to manage wastewater from toilets? How do you manage wastewater from cooking and washing?	Yes. Wastewater from the common toilet is taken out by a special machine (suction pump), at home there is a pit in the garden for wastewater.
5. How do you manage garbage / solid wastes?	Food waste for animals. There is a pit where we burn wastes. Paint cans, plastics are sold for reuse
6. What is the source of livelihood of families?	Watchman in the school garden, 2 family members work in Russia
7. What are the means of livelihood of the people in the village?	On a collective farm, at a school, in a first-aid post, in Russia
8. What issues and concerns do you encounter in the community in terms of environmental disasters like climate, landslides, soil erosion, flooding, etc.?	The village does not have a garbage collection area.
9. When was the last major environmental disaster?	Did not have
10. Are you aware of the proposed project in your settlement area or your village?	Yes, I heard
11. What do you think are the benefits of the project to your household? to your community?	Certainly positive
12. What do you think are the negative effects of the project?	Temporary inconvenience
13. Do you have suggestions and recommendations to implement the project?	It is necessary to complete the construction of a school, a toilet, a stadium, a canteen is needed (heating is needed)

Name of Respondent	Khudoiberdieva Hikoyat, collective farmer 93538060
Residence	J. Balkhi district, Zoli Zar Jamoat, Somoni village (Pravda)
Date of Interview	23.06.2022.

1. What is your source of water? Can you comment on the water quality and water pressure? Is water pressure available 24/7? (Have there been cases of diseases associated with poor-quality water in your family?)	There is a well at home, there are no problems with water, the motor is running. There are no diseases, we boil the water.
2. What is your source of electricity? Can you comment on the electricity for your village?	Shared power line, there are rarely restrictions in winter, no restrictions in summer
3. Do you have toilet per household? or shared toilet?	Toilet per household
4. Is there pit latrine to manage wastewater from toilets? How do you manage wastewater from cooking and washing?	No. Pit, in the garden there is for sewage from washing
5. How do you manage garbage / solid wastes?	There is a hole where we burn wastes.
6. What is the source of livelihood of families?	There is a greenhouse, customers from Dushanbe, Yavan, Tursunzade come for products.
7. What are the means of livelihood of the people in the village?	Kitchen garden, field, school, Russia for work
8. What issues and concerns do you encounter in the community in terms of environmental disasters like climate, landslides, soil erosion, flooding, etc.?	The village does not have a garbage collection area.
9. When was the last major environmental disaster?	Did not have
10. Are you aware of the proposed project in your settlement area or your village?	Yes, I heard
11. What do you think are the benefits of the project to your household? to your community?	Certainly positive
12. What do you think are the negative effects of the project?	Temporary inconvenience
13. Do you have suggestions and recommendations to implement the project?	The school needs repairs and it is necessary to complete the school, the toilet, the stadium, the school canteen is needed. Children study in 3 shifts (900 people), 35-38 students in one class

Name of Respondent	Makhmujonov Kamoljon, farmer, 000114718
Residence	J. Balkhi district, Zoli Zar Jamoat, Somoni village (Pravda)
Date of Interview	23.06.2022.

1. What is your source of water? Can you comment on the water quality and water pressure? Is water pressure available 24/7? (Have there been cases of diseases associated with poor-quality water in your family?)	There is a well at home, there are no problems with water, the motor is running. There are no diseases, we boil the water.
2. What is your source of electricity? Can you comment on the electricity for your village?	Shared power line, no problem
3. Do you have toilet per household? or shared toilet?	There is a toilet for the household
4. Is there pit latrine to manage wastewater from toilets? How do you manage wastewater from cooking and washing?	Yes. There is a cesspool, wastewater is taken out by a special machine/pump.
5. How do you manage garbage / solid wastes?	Food waste for animals. There is a pit where we burn wastes.
6. What is the source of livelihood of families?	The whole family works on the farm
7. What are the means of livelihood of the people in the village?	Work on a collective farm, school, Russia
8. What issues and concerns do you encounter in the community in terms of environmental disasters like climate, landslides, soil erosion, flooding, etc.?	I don't remember big problems.
9. When was the last major environmental disaster?	Did not have
10. Are you aware of the proposed project in your settlement area or your village?	Yes, I heard
11. What do you think are the benefits of the project to your household? to your community?	Certainly positive
12. What do you think are the negative effects of the project?	Temporary inconvenience
13. Do you have suggestions and recommendations to implement the project?	Renovate the school

Name of Respondent	Boboev Sodikjon, collective farm worker, 900176213
Residence	J. Balkhi district, Zoli Zar Jamoat, Somoni village (Pravda)
Date of Interview	23.06.2022.
1. What is your source of water? Can you comment on the water quality and water pressure? Is water pressure available 24/7? (Have there been cases of diseases associated with poor-quality water in your family?)	We use water from the canal. There are no diseases, we boil the water.
2. What is your source of electricity? Can you comment on the electricity for your village?	Shared power line, electricity sometimes cut off
3. Do you have toilet per household? or shared toilet?	There is a toilet for the household.
4. Is there pit latrine to manage wastewater from toilets? How do you manage wastewater from cooking and washing?	No. Wastewater drains into the garden and the pit.
5. How do you manage garbage / solid wastes?	Food waste for animals. There is a pit to burn the wastes.
6. What is the source of livelihood of families?	The whole family works on the farm
7. What are the means of livelihood of the people in the village?	Work on a collective farm, school, first-aid post, garden, migration to Russia for work
8. What issues and concerns do you encounter in the community in terms of environmental disasters like climate, landslides, soil erosion, flooding, etc.?	I don't remember big problems.
9. When was the last major environmental disaster?	Did not have
10. Are you aware of the proposed project in your settlement area or your village?	Yes, I heard
11. What do you think are the benefits of the project to your household? to your community?	Certainly positive
12. What do you think are the negative effects of the project?	Temporary inconvenience
13. Do you have suggestions and recommendations to implement the project?	Renovate the school

Name of Respondent	Khaitov Burkhon, farmer 901800871
Residence	J. Balkhi district, Zoli Zar Jamoat, Somoni village (Pravda)
Date of Interview	23.06.2022.

1. What is your source of water? Can you comment on the water quality and water pressure? Is water pressure available 24/7? (Have there been cases of diseases associated with poor-quality water in your family?)	There is a well. There are no diseases, we boil the water.
2. What is your source of electricity? Can you comment on the electricity for your village?	Shared power line, used to have problems, not now
3. Do you have toilet per household? or shared toilet?	There is a toilet for the household.
4. Is there pit latrine to manage wastewater from toilets? How do you manage wastewater from cooking and washing?	Yes, sewage is taken out by a machine, sewage from washing is drains into a garden and a pit.
5. How do you manage garbage / solid wastes?	Food waste for animals. There is a pit to burn wastes.
6. What is the source of livelihood of families?	The whole family works on the farm
7. What are the means of livelihood of the people in the village?	Work on a collective farm, school, first-aid post, garden, migration to Russia for work.
8. What issues and concerns do you encounter in the community in terms of environmental disasters like climate, landslides, soil erosion, flooding, etc.?	I don't remember big problems.
9. When was the last major environmental disaster?	Did not have
10. Are you aware of the proposed project in your settlement area or your village?	Yes, I heard
11. What do you think are the benefits of the project to your household? to your community?	Certainly positive
12. What do you think are the negative effects of the project?	Temporary inconvenience
13. Do you have suggestions and recommendations to implement the project?	-

Name of Respondent	Polbekova Zebo, cleaner, 937884024
Residence	J. Balkhi district, Zoli Zar Jamoat, Somoni village (Pravda)
Date of Interview	23.06.2022.
1. What is your source of water? Can you comment on the water quality and water pressure? Is water pressure available 24/7? (Have there been cases of diseases associated with poor-quality water in your family?)	There is a well. There are no diseases, we boil the water.
2. What is your source of electricity? Can you comment on the electricity for your village?	Common power line, electricity is not always normal, sometimes low voltage
3. Do you have toilet per household? or shared toilet?	Shared toilet
4. Is there pit latrine to manage wastewater from toilets? How do you manage wastewater from cooking and washing?	No. Laundry drains are drained into the garden and a pit.
5. How do you manage garbage / solid wastes?	Food waste for animals. There is a pit to burn wastes. Paint cans, plastic are bought.
6. What is the source of livelihood of families?	Dekhkanin, I sell at the bazaar
7. What are the means of livelihood of the people in the village?	Work on a collective farm, school, first-aid post, garden, migration to Russia for work.
8. What issues and concerns do you encounter in the community in terms of environmental disasters like climate, landslides, soil erosion, flooding, etc.?	I don't remember big problems.
9. When was the last major environmental disaster?	Did not have
10. Are you aware of the proposed project in your settlement area or your village?	Not
11. What do you think are the benefits of the project to your household? to your community?	Certainly positive
12. What do you think are the negative effects of the project?	Slate recycling
13. Do you have suggestions and recommendations to implement the project?	-

Name of Respondent	Tursunova Zamira, mahalla chairman 907791747
Residence	J. Balkhi district, Zoli Zar Jamoat, Somoni village (Pravda)
Date of Interview	23.06.2022.
1. What is your source of water? Can you comment on the water quality and water pressure? Is water pressure available 24/7? (Have there been cases of diseases associated with poor-quality water in your family?)	We use water from the canal. There are no diseases, we boil the water.
2. What is your source of electricity? Can you comment on the electricity for your village?	Common power line, in winter there are restrictions of 1-2 hours (rarely)
3. Do you have toilet per household? or shared toilet?	Toilet per household
4. Is there pit latrine to manage wastewater from toilets? How do you manage wastewater from cooking and washing?	No. Laundry drains drain into a garden and a pit. Only four families take wastewater out of the toilets with a special machine.
5. How do you manage garbage / solid wastes?	Everyone has pits, the whole village collects waste for livestock feed, collect it and send it to press. Cans of paint are collected, sold.
6. What is the source of livelihood of families?	Dekhkanin, I sell greens and vegetables at the market, buyers come and buy
7. What are the means of livelihood of the people in the village?	Work on a collective farm, school, first-aid post, garden, migration to Russia for work.
8. What issues and concerns do you encounter in the community in terms of environmental disasters like climate, landslides, soil erosion, flooding, etc.?	I don't remember big problems.
9. When was the last major environmental disaster?	Did not have
10. Are you aware of the proposed project in your settlement area or your village?	Not
11. What do you think are the benefits of the project to your household? to your community?	Certainly positive
12. What do you think are the negative effects of the project?	Temporary inconvenience
13. Do you have suggestions and recommendations to implement the project?	A kindergarten is needed, a sports ground for mini football, a canteen, school toilets need to be changed, a fence around the school needs to be

Name of Respondent	Odinaev Sukhrob, CoES and GO of Balkhi region,
Residence	J. Balkhi district, Zoli Zar Jamoat, Urtabuz village
Date of Interview	24.06.2022.
1. What is your source of water? Can you comment on the water quality and water pressure? Is water pressure available 24/7? (Have there been cases of diseases associated with poor-quality water in your family?)	We use water from the canal. There are no diseases, we boil the water.
2. What is your source of electricity? Can you comment on the electricity for your village?	Shared power line, outages are rare
3. Do you have toilet per household? or shared toilet?	Toilet per household
4. Is there pit latrine to manage wastewater from toilets? How do you manage wastewater from cooking and washing?	No. toilet, canal
5. How do you manage garbage / solid wastes?	Waste is collected and removed
6. What is the source of livelihood of families?	CES and GO, Russia for work
7. What are the means of livelihood of the people in the village?	Work on a collective farm, school, first-aid post, CoES and civil defense, migration to Russia to work
8. What issues and concerns do you encounter in the community in terms of environmental disasters like climate, landslides, soil erosion, flooding, etc.?	4-5 years ago there was a flood after heavy rains
9. When was the last major environmental disaster?	Did not have
10. Are you aware of the proposed project in your settlement area or your village?	Yes
11. What do you think are the benefits of the project to your household? to your community?	Certainly positive
12. What do you think are the negative effects of the project?	Temporary inconvenience
13. Do you have suggestions and recommendations to implement the project?	To speed up the project

Name of Respondent	Fozilova Sadbarg, volunteer of one of the agriculture projects, 902016672
Residence	J. Balkhi district, Zoli Zar Jamoat, Urtabuz village
Date of Interview	24.06.2022.

1. What is your source of water? Can you comment on the water quality and water pressure? Is water pressure available 24/7? (Have there been cases of diseases associated with poor-quality water in your family?)	We use water from the canal and buy for a month, 5 tons - 100 somoni. Illnesses are common, many have diarrhea.
2. What is your source of electricity? Can you comment on the electricity for your village?	Shared power line, there are rarely blackouts even in winter
3. Do you have toilet per household? or shared toilet?	Toilet per household
4. Is there pit latrine to manage wastewater from toilets? How do you manage wastewater from cooking and washing?	No. vegetable garden, pit
5. How do you manage garbage / solid wastes?	A pit in the garden, what can be burned, we burn, paint cans are bought
6. What is the source of livelihood of families?	Vegetable garden, sold at the market. Sometimes clients come, take the harvest
7. What are the means of livelihood of the people in the village?	Work on a collective farm, school, first-aid post, migration to Russia to work
8. What issues and concerns do you encounter in the community in terms of environmental disasters like climate, landslides, soil erosion, flooding, etc.?	During heavy rains floods the road. Occasionally there are small earthquakes.
9. When was the last major environmental disaster?	Did not have
10. Are you aware of the proposed project in your settlement area or your village?	Yes
11. What do you think are the benefits of the project to your household? to your community?	Certainly positive
12. What do you think are the negative effects of the project?	Temporary inconvenience
13. Do you have suggestions and recommendations to implement the project?	There is no transport in the area, it is difficult to get anywhere

Name of Respondent	Abdulloev Khussein, Leading Community Outreach Specialist
Residence	J. Balkhi district, Zoli Zar Jamoat, Urtabuz village
Date of Interview	24.06.2022.

1. What is your source of water? Can you comment on the water quality and water pressure? Is water pressure available 24/7? (Have there been cases of diseases associated with poor-quality water in your family?)	There is a well. There is always water. There are no diseases.
2. What is your source of electricity? Can you comment on the electricity for your village?	General power line, all is well with the light
3. Do you have toilet per household? or shared toilet?	Toilet per household
4. Is there pit latrine to manage wastewater from toilets? How do you manage wastewater from cooking and washing?	No. vegetable garden, pit
5. How do you manage garbage / solid wastes?	A pit in the garden, burning, food waste for livestock.
6. What is the source of livelihood of families?	In jamoat, collective farm
7. What are the means of livelihood of the people in the village?	Work on a collective farm, school, first-aid post, migration to Russia to work
8. What issues and concerns do you encounter in the community in terms of environmental disasters like climate, landslides, soil erosion, flooding, etc.?	No concerns
9. When was the last major environmental disaster?	Did not have
10. Are you aware of the proposed project in your settlement area or your village?	Yes
11. What do you think are the benefits of the project to your household? to your community?	Certainly positive
12. What do you think are the negative effects of the project?	The bridge was broken during the construction of the camp
13. Do you have suggestions and recommendations to implement the project?	Repair the bridge faster

Name of Respondent	Akhmedov Zayniddin
Residence	J. Balkhi district, Zoli Zar Jamoat, Urtabuz village
Date of Interview	24.06.2022.

1. What is your source of water? Can you comment on the water quality and water pressure? Is water pressure available 24/7? (Have there been cases of diseases associated with poor-quality water in your family?)	There is a well. There is always water. There were no diseases.
2. What is your source of electricity? Can you comment on the electricity for your village?	Shared power line, occasional blackouts
3. Do you have toilet per household? or shared toilet?	Toilet per household
4. Is there pit latrine to manage wastewater from toilets? How do you manage wastewater from cooking and washing?	No. vegetable garden, pit
5. How do you manage garbage / solid wastes?	A pit in the garden, what can be burned, we burn, food waste for livestock.
6. What is the source of livelihood of families?	Collective farm, work in Russia
7. What are the means of livelihood of the people in the village?	Work on a collective farm, school, first-aid post, migration to Russia to work
8. What issues and concerns do you encounter in the community in terms of environmental disasters like climate, landslides, soil erosion, flooding, etc.?	There are small earthquakes of 4-5 points
9. When was the last major environmental disaster?	Did not have
10. Are you aware of the proposed project in your settlement area or your village?	Yes
11. What do you think are the benefits of the project to your household? to your community?	Certainly positive
12. What do you think are the negative effects of the project?	Temporary difficulties
13. Do you have suggestions and recommendations to implement the project?	There are no wells in the village of Urtabuz, there is water in the lower part of the village, but not at the top

Name of Respondent	Kosimova Erkamokh Khakimovna, nurse, 939082770
Residence	J. Balkhi district, Zoli Zar Jamoat, Urtabuz village
Date of Interview	24.06.2022.

1. What is your source of water? Can you comment on the water quality and water pressure? Is water pressure available 24/7? (Have there been cases of diseases associated with poor-quality water in your family?)	There is a house (pool). 1 water carrier car -60 somoni, enough water for a month. There were no diseases.
2. What is your source of electricity? Can you comment on the electricity for your village?	Common power line, sometimes disconnected in winter, there are wire breaks
3. Do you have toilet per household? or shared toilet?	Toilet per household
4. Is there pit latrine to manage wastewater from toilets? How do you manage wastewater from cooking and washing?	Yes. Export by car - 50 somoni. There is a pit
5. How do you manage garbage / solid wastes?	We store garbage in bags, neighbors collect it and take it to the landfill by car
6. What is the source of livelihood of families?	I have been working as a nurse for 32 years. Not enough money, son in Russia to work, neighbors help
7. What are the means of livelihood of the people in the village?	Work on a collective farm, school, first-aid post, migration to Russia to work, shop
8. What issues and concerns do you encounter in the community in terms of environmental disasters like climate, landslides, soil erosion, flooding, etc.?	nothing to worry about
9. When was the last major environmental disaster?	Did not have
10. Are you aware of the proposed project in your settlement area or your village?	Not
11. What do you think are the benefits of the project to your household? to your community?	Certainly positive
12. What do you think are the negative effects of the project?	Temporary inconvenience
13. Do you have suggestions and recommendations to implement the project?	There would be more such projects. The fact that you at least talk to the population, ask the population about their problems, makes you feel better, thank you.

APPENDIX B: APPLICABLE ENVIRONMENTAL STANDARDS

Table 1: National Standards

	National Standards (GOSTs)
1.	31431—2011. Nature conservation. Air. Set of maximum allowable emissions (MAE). 29 November 2011
2.	31434—2011 Nature conservation. Air. Determination of efficiency parameters of dust collection systems. 29 November 2011
3.	IEC 61241-0—2011 Electrical equipment used in areas containing flammable dust. Part 0. General requirements. 29 November 2011
4.	GOST 17.0.0.01-76 (CT CEB 1364-78) (in edition 1987) System of Standards for the protection of the environment and the improvement of the use of natural resources. Executive summary
5.	Executive summary GOST 17.0.0.04-80 (1998) Nature conservation. Environmental passport (certificate) of an industrial facility. Executive summary
6.	GOST R IS014001-98 Environmental management systems. Requirements and guidelines.
7.	GOST 17.0.0.02-79 (1980) Nature conservation. Provision of meteorological control of air pollution, surface water and soils.
8.	GOST 17.1.1.01-77 (CT CEB 3544-82) Water use and protection. General terms and definitions.
9.	GOST 17.2.1.01- 76 Emission classification (content).
10	GOST 12.1.014-84 (1996) OSSS. Air in the workplace. method for measuring the concentration of pollutants using indicator tubes.
11	GOST 12.1.005-88 (1991) OSSS. General hygiene requirements for air in the workplace.
12	GOST 17.2.2.05-97 Standards and methods for measuring emissions containing diesel exhaust gas from tractors and self-propelled agricultural machines.
13	GOST 21393-75 Diesel vehicles. Exhaust gas opacity. Measuring Standards and methods.
14	GOST 17.2.2.03-77 Carbon monoxide concentration in the exhaust gas of vehicles with gasoline motor.
15	GOST 17.2.2.03-87 Standards and methods for measuring carbon monoxide in the exhaust gas of gasoline engined cars.
16	GOST 17.4.2.01-81 Hygiene item parameters.
17	GOST 17.4.1.02-83 Chemical classification for pollution monitoring.
18	GOST 12.1.003-83 (1991) OSSS. Noise. General safety requirements
19	GOST 12.1.023-80 (1996) OSSS. Noise. Noise threshold methods for stationary machines.
20	GOST 12.1.029-80 (1996) OSSS. Means and methods of protection against noise. Classification.
21	GOST 12.1.036-81 (1996) OSSS. Noise. Acceptable noise levels in residential and public buildings.
22	GOST 12.1.007-76 (1999) OSSS. Harmful substances. Classification and general safety requirements.
23	GOST 12.4.119-82 OSSS. Respiratory PSE. methods for assessing the protective properties of aerosols.
24	GOST 12.4.125-83 (1985) OSSS. Collective protection against mechanical factors. Classification.
25	SNiP 2.05.02-85 (1985) Construction norms and rules for roads for vehicle
	Sanitary norms and rules (SanPin)
26	SanPin 2.1.4.559-96 Portable water. Hygienic requirements for water quality from centralized drinking water supply systems. Quality control
27	CH 2.2.4/2.1.8.562-96 Noise in workplaces, residential and public buildings and in residential areas.

Table 2: Drinking Water Parameters and Limits[33]

Parameter	Units	Tajikistan Standard[34]	WHO Standard	EU Standard[35]	Adopted Project Standard
Physical Quality					
pH	—	6-9	6-9	6.5-9.5	6-9
Total Dissolved Solids	mg/l	1000	—		1000
Hardness	Mg-eqv/l	7.0	—		7.0
Turbidity	EMF (formasine) or mg/l (caoline)	1.5	—	Acceptable to consumers and no abnormal change	1.5
Inorganic Chemical Quality					
Aluminum (Al)	mg/l	0.5	—	0.2	0.5
Ammonium ion (NH4)	mg/l		—	0.5	0.5
Antimony (Sb)	mg/l	0.05	0.02	0.005	0.02
Arsenic (As total)	mg/l	0.05	0.01	0.01	0.01
Barium (Ba)	mg/l		0.7	—	0.7
Beryllium (Be)	mg/l		—	—	
Boron (B)	mg/l		0.5	1.0	0.5
Cadmium (Cd)	mg/l	0.001	0.003	0.005	0.003
Chloride ion (Cl‘)	mg/l	350	—	250	350
Chlorine (Cl)	mg/l	0.3-0.5 (free) 0.8-1.2 (bounded)	5	—	0.3-0.5 (free) 0.8-1.2 (bounded)
Chromium (Cr+6) (Cr+3)	mg/l	0.05	0.05	0.05	0.05
Copper (Cu)	mg/l	1.0	2	2.0	1.0
Cyanide (CN)	mg/l		0.07	0.05	0.07
Fluoride ion (F=)	mg/l		1.5	1.5	1.5
Flydrogen Sulphide (H_2S)	mg/l		...	...	
Iron (Fe)	mg/l	0.3	...	0.2	0.3
Lead (Pb total)	mg/l	0.03	0.02	0.01	0.02
Manganese (Mn)	mg/l		0.4	0.05	0.4
Mercury (Fig)	mg/l		0.001	0.001	0.001
Molybdenum (Mo)	mg/l		0.07	...	0.07
Nickel (Ni)	mg/l	0.1	0.02	0.02	0.02
Nitrate ion (as $N0_3$)	mg/l	45	50	50	45
Nitrite ion (as $N0_2$)	mg/l		3 or 0.2	...	3
Phosphate ion ($P0_4^{2+}$)	mg/l	3.5	...	...	3.5
Selenium (Se)	mg/l		0.01	0.01	0.01
Silicon (Si)	mg/l	10	....	....	10
Silver (Ag)	mg/l		...	...	
Sodium (Na)	mg/l		...	200	200
Sulphate ion ($S0_4^{2+}$)	mg/l	500	...	250	500
Strontium (Sr)	mg/l		...	...	
Uranium (U)	mg/l		0.015	...	0.015
Vinyl Chloride (C_2H_3CI / H_2C)	mg/l		0.0003	0.0005	0.0003
Zinc (Zn)	mg/l	5.0	...	...	5.0
Petrochemicals	mg/l	0.1		0.1-5	0.1
Surfactants (anionic)	mg/l	0.5		....	0.5
COD	mg/l	....		150-400	150-400
Permanganate oxizability	mg/l	5		....	5

[33] The most stringent quality standards will be applied to this project.
[34] SanPin 2.1.4.1074-01.
[35] EU Council Directive 98/83/EC of 3rd November 1998

Parameter	Units	Tajikistan Standard[34]	WHO Standard	EU Standard[35]	Adopted Project Standard
Specific electrical conductivity	$2x10^3$			....	$2x10^3$

WHO=World Health Organization; EU=European Union
Sources: SanPiN 2.1.4.1074-01 and WHO

Table 3: Environmental standards for water quality and discharges to water[36]

Parameter	National Standards/ Requirements Tajikistan	EHS Guidelines[37]	Adopted Project Standards
pH	6.5-8.5	6-9	6.5-8.5
BOD	-	30 mg/l	30 mg/l
COD	-	125 mg/l	125 mg/l
Total nitrogen	-	10 mg/l	10 mg/l
Total phosphorus	-	2 mg/l	2 mg/l
Oil and grease	-	10 mg/l	10 mg/l
Total suspended solids	-	50 mg/l	50 mg/l
Total coliform	-	400 MPN/100 ml	400MPN/100ml
Aluminum	0.04 mg/m^3	-	0.04 mg/l
Iron (Fe)	0,1 mg/m^3	-	0.1 mg/l
Cadmium (Cd)	0.005 mg/m^3	-	0.005 mg/l
Copper (Cu)	0.001 mg/m^3	-	0.001 mg/m^3
Nickel (Ni)	0.01 mg/m^3	-	0.01 mg/m^3
Lead (Pb)	0.006 mg/m^3	-	0.006 mg/m^3
Zinc (Zn)	0.01 mg/m^3	-	0.01 mg/m^3
Chromium (Cr^{+6})	0.02 mg/m^3	-	0.02 mg/m^3
Chromium (Cr^{+3})	0.07 mg/m^3	-	0.07 mg/m^3
Oil and petrochemicals	0.05 mg/m^3	-	0.05 mg/m^3
Arsenic (As)	0.05 mg/m^3	-	0.05 mg/m^3
Calcium (Ca)	180 mg/m^3	-	180 mg/m^3
Silicon	1.0 mg/m^3	-	1.0 mg/m^3

BOD=Biochemical Oxygen Demand; COD = Chemical Oxygen Demand; MPN = Most Probable Number
Sources: EHS Guidelines and Procedure of Environmental Impact Assessment accepted by Resolution No. 464 of the Government of the Republic of Tajikistan (3 October 2006)

[36] Footnote 28
[37] Footnote 4.

Table 4: Air quality standards (Protection of Human Population (at receptors)[38]

National Standards/ Requirements Tajikistan Standards[39] , mg/m^3	**EHS Guidelines**[40]
PM 0.15	Where set, national air quality standards apply. If no national standards are set, then the EHS standards apply.
NO 0.06	
$N0_2$ 0.04	
$S0_2$ 0.05	
Ammonia 0.06	WHO Standards
Benzopyrene 0.1	WHO guidelines, µg/m^3:
Benzene 0.1	$PM_{2.5}$ 10 (1 yr)
Acetone 0.35	$PM_{2.5}$ 25 (24 h)
Petrol 1.5	PM_{10} 20 (1 yr)
V_20_5 0.002	PM_{10} 50 (24 h)
Vinyl acetate 0.15	Ozone 100 (8 h)
HCl 0.2	NO_2 40 (1 yr)
HF 0.005	NO_2 200 (1 hr)
Fe_20_3 0.04	SO_2 20 (24 h)
$HN0_3$ 0.4	SO_2 500 (10 min)
H_2SO_4 0.1	
Xylol 0.2	
Manganese and its oxides 0.001	
Copper oxides 0.002	
Magnesia 0.05	
Nickel oxide 0.001	
Inorganic dust (SiO270 %) 0.05	
$Si0_2$ = 70 % - 20 % 0.1	
$Si0_2$ is less than 20 % 0.15	
Lead and its compounds 0.0003	
Lead sulfur 0.001	
Hydrogen sulfide, H_2S 0.008	
Turpentine 1	
Ethyl alcohol (ethanol) 5.0	
Butyl alcohol (butanol) 0.1	
Propane alcohol (propanol) 0.3	
methyl alcohol (methanol) 0.5	
Styrene 0.003	
Soot 0.05	
CO 3.0	
Phenol 0.01	
Formaldehyde 0.003	
Fluoride (HF, SiF_4) 0/05	
Freon (all brands) 10	
Chromium trioxide 0.0015	
Chlorine 0.03	
ZnO 0.05	
Ethylene oxide 0.03	

[38] Footnote 28

[39] Procedure of Environmental Impact Assessment accepted by Resolution No 464 of the Government of the Republic of Tajikistan dated 3 October 2006.

[40] Footnote 4.

Table 5: Noise Standard[41]

Topic	National Standards/Requirements Tajikistan/Project Adopted Standards	EHS Guidelines[42]
Nighttime noise limits for human protection	Noise emissions at the nighttime (23:00-07:00) should not exceed the following levels (SanPin 2.2.4/2.1.8.562-96): 1. <u>Inside residential and public buildings:</u> 1. Hospital and sanatorium's wards, and operating rooms: 25 dB(A); 2. Residential rooms in apartments, rest houses, boarding houses, houses for the elderly and disabled, sleeping rooms in kindergartens, and residential schools: 30 dB(A); 3. Rooms in hotels and hostels: 35 dB(A); 2. <u>In residential and other areas:</u> 1. Recreational areas immediately adjoining hospital buildings and health centres: 35 dB(A) 2. Areas immediately adjoining residential buildings, policlinics, dispensary, rest houses, homes for the elderly and disabled, kindergartens, schools and other educational institutions, libraries; 45 dB(A); 3. Areas immediately adjoining hotel and dormitory's buildings: 50 dB (A)	Noise emissions should not exceed the following levels or result in a maximum increase in background levels of 3 dB at the nearest receptor location off-site: Outdoor: 1. Residential; institutional, educational: Nighttime (22:00-07:00): 45 dB(A) 2. Industrial, commercial: Nighttime (22:00-07:00): 70 dB(A)
Daytime noise limits for human protection	Noise emissions at the daytime (07:00-23.00) should not exceed the following levels (SanPin 2.2.4/2.1.8.562-96): 3. <u>Inside residential and public buildings:</u> 1. Hospital and sanitorium's wards, and operating rooms: 35 dB(A); 2. Consultation rooms of policlinics, ambulant clinics, dispensers, hospitals, and sanatoria 35 dB (A). 3. Classrooms, teachers' common room, school and other educational organization's auditoriums conference halls, and public reading rooms 40 dB(A). 4. Residential rooms in apartments, rest houses, boarding houses, houses for the elderly and disabled, sleeping rooms in kindergartens, and residential schools: 40 dB(A); 5. Rooms in hotels and hostels: 45 dB(A); 6. Halls of cafes, restaurants, eating rooms: 55 dB(A); 7. Shops trade halls, passenger halls in airports and stations, consumer services centres: 60 dB(A); 4. <u>In residential and other areas:</u> 1. Recreational areas immediately adjoining hospital buildings and health centres: 45 dB(A) 2. Areas immediately adjoining residential buildings, policlinics, dispensary, rest houses, homes for the elderly and disabled, kindergartens, schools and other educational institutions, libraries: 55 dB(A); 3. Areas immediately adjoining hotel and dormitory's buildings: 60 dB (A) 4. Rest areas at the territory of hospitals and sanatoria 35 dB (A) 5. Recreation areas at the territory of micro-districts, and residential areas, rest houses, houses for the elderly and disabled, children's playgrounds in kindergartens, schools and other educational	Noise emissions should not exceed the following levels or result in a maximum increase in background levels of 3 dB at the nearest receptor location off-site: Outdoor 1. Residential; institutional, educational.: Daytime (07:00-22:00): 55 dB(A) 2. Industrial, commercial: daytime (07:00-22:00): 70 dB (A).

[41] Footnote 28
[42] Footnote 4.

	institutions: 45 dB (A)	

APPENDIX C: TEMPLATE OF ASBESTOS MANAGEMENT PLAN

1. Description of the project and location

- Describe the project components and locations

2. Layout and condition of Asbestos Containing Material

- Describe the quantity of ACM waste and locations where these are found

3. Objectives of the Asbestos Management Plan

- Cite the objectives of the AMP such as:

1. To remove asbestos cement roof sheets from ….
2. To ensure safe removal and disposal of ACM wastes
3. To ensure compliance with international good practice on ACM waste management.

4. Asbestos Management Procedure

Describe the following:

- activities to be undertaken prior to ACM removal
- general safety measures
- staffing, site team (supervisor and other workers involved)
- role of contractor, PIC, CESCD/PIG, district
- permits needed and secured
- equipment to be used such as ladder, hand tools, etc.
- personal protective equipment (PPE) such as hard hat, safety footwear, gloves, facemask, type 5/6 coveralls, eye protection, and first aid kit
- general site procedures such as fencing, polyethylene sheets, waste skips, warning signages
- orientation of workers and community on the AMP
- ACM waste disposal site
- contingency measures to be implemented

5. Detailed procedures during asbestos removal, packing, storage and transportation

Refer to ADB's Good Practice Guidance for the Management and Control of Asbestos: Protecting Workplaces and Communities from Asbestos Exposure Risks

1. The operatives will be briefed on the method statement and associated risks, they will be handed copies of AMP as reference.
2. No work to proceed until the extent of the works has been agreed on site.
3. The workforce will undertake a site safety induction.

4. After all personnel have been site inducted, the site supervisor will read through the method statements covering the works to be carried out, so all operatives understand the safe method of work. Once all operatives understand the safe method of work to be used, they will sign the method to say that they will work to this method at all times, if an amendment is needed to the method statement this can only be done by a site manager and all operatives must sign this appendix to say they will use this safe method of work.
5. The site supervisor will first do a toolbox meeting on the removal of asbestos products and will issue the relevant PPE.
6. Operative will remove the sheets as a whole as possible, polyethylene will be placed on the floor first so as to catch any small pieces that may drop to the floor.
7. The operatives will start to remove the sheets from one end. As the fixings from one sheet are cut, the sheet will be removed by the operative on the podium and then passed to the operative on the ground who will then take it and place it in a sealed skip, once the roof sheets have been removed the polyethene sheet will be rolled up on itself and used again.
8. All sheets will be taken to a permitted landfill site in accordance with the ADB's Good Practice Guidance for the Management and Control of Asbestos: Protecting Workplaces and Communities from Asbestos Exposure Risks.
9. All PPE and polyethene sheet will be disposed of as asbestos waste. All plant to be cleaned off at the end of the day and the residue disposed of as asbestos waste.
10. Full PPE will be worn at all times when removing the cement bonded asbestos sheeting. The work area to be clean at all times and as work progresses an operative will pick up any small pieces, which have fallen on the floor.
11. The site will be left in a clean and tidy condition, on completion a site inspection will be made before any demolition work commences.

4. Emergency procedures

Describe the emergency procedures such as:

1. Mobile phone for emergency communication
2. Trained first aiders
3. Provision of first aid kit on site
4. Provision of Spill kit on site
5. Procedures in the event of an accident/incident (i.e., all work will cease immediately). The area will be made safe, and the site management will conduct an investigation and, when it is completed, work will commence depending on the outcome of the investigation and severity of the accident. Instruction to commence will be given by the site manager.

6. Detailed clean-up procedures

Describe the clean-up and decontamination activities.

5. Emergency Contact Numbers

Name:

Number: