# Environmental Monitoring Report

**PUBLIC**

Project Number: 52339-001

Semi-annual Report: (January - June 2024)

July 2024

## Georgia: Modern Skills for Better Jobs Sector Development Program, Subprogram 1

Prepared by Skills Agency of Ministry of Education and Science of Georgia for the Asian Development Bank (ADB).

#7 Semi-annual Environmental Monitoring Report:
Reporting period: January – June 2024
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# GEORGIA: Modern Skills for Better Jobs Sector Development Program – Subprogram 1

LOAN 4034 GEO, Project Number: 52339-001
(Financed by the Asian Development Bank)

Prepared by: Project Implementation Unit of the Ministry of Education and Science of Georgia for Asian Development Bank

## ACRONYMS & ABBREVIATIONS

| | |
|---|---|
| ADB | Asian Development Bank |
| DNP | Defects Notification Period |
| EA | Executing agency |
| EMP | Environmental Management Plan |
| EMS | Environmental Management System |
| GRC | Grievance Redress Committee |
| GRM | Grievance Redress Mechanism |
| IEE | Initial Environmental Examination |
| MOES | Ministry of Education and Science of Georgia |
| PCU | Project Coordination Unit |
| PIU | Project Implementation Unit |
| PMU | Project Management Unit |
| SSEMP | Site Specific Environmental Management Plan |
| VET | Vocational education and training |
| TOR | Terms of Reference |
| NQF | National qualifications framework |
| CBTA | Competency-based training and assessment |

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# 1. INTRODUCTION

## 1.1 Preamble

1. This report represents the Semi-Annual Environmental Monitoring Report for Modern Skills for Better Jobs Sector Development Program – subprogram 1- design and rehabilitation works in skills hubs and secondary schools.

2. This report is the seventh Semi-Annual EMR prepared for the period of January-June 2024.

## 1.2 Headline information

3. The project supports the GoG efforts to transform the vocational education and training (VET) sector. The program is aligned with the following impact: inclusive economic growth strengthened. It will result in the following outcome: a responsive VET network promoting excellence in skills development strengthened. Proposed program reform areas are: (i) quality and relevance of VET in priority economic sectors improved; (ii) access to, and inclusiveness of, the VET system increased; and (iii) institutional framework strengthened through increased private participation in VET. The impact of the project will be: labor productivity and competitiveness of the economy enhanced; its outcome will be: VET institutions and program aligned with evolving labor market needs.

4. The project has been assigned environmental category B, in accordance with the ADB Safeguard Policy Statement (SPS 2009). IEE report with the EMP is considered as sufficient environmental assessment of the project. According to Georgian legislation, preparation of environmental impact assessment in none of the locations, where construction works are planned, is required.

5. The Ministry of Education and Science of Georgia has agreed to implement the Environmental Management Plan (EMP) and submit regular reports on its implementation. The consolidated Initial Environmental Examination (IEE), including the EMP, has been prepared in accordance with the ADB's Safeguard Policy Statement (2009) and published on the Asian Development Bank (ADB) website in September 2020,[1] which was revised by PIU and approved by ADB in December 2021. After final equipment list and based on the request of local municipality representatives there was a need for allocation of three initial sites, therefore there was need for revision of Supplementary Environmental Examination & Social Safeguards Due Diligence report.
IEE is designed to avoid and/or compensate the negative environmental impacts that may results from the project works and it considers all phases of the project cycle. The plan provides overview of the environmental monitoring at the construction and operation stages and includes timeframe and responsibilities for carrying out the monitoring process. IEE includes results of information disclosure, public consultation and participation process.

6. Detailed design and construction supervision firm has been contracted on 30.06.2022. Construction activities are not commenced yet, due to the delay in submission the final Detailed Designs by DCS firm, as well as several failed CW tenders, where no interest was expressed by CW providers. Respectively, CW lots were split and each school with the CW budget under $1mln

[1] Modern Skills for Better Jobs Sector Development Program – Subprogram 1: Initial Environmental Examination Report (IEE) (https://www.adb.org/sites/default/files/project-documents/52339/52339-001-iee-en_0.pdf)

is being advertised separately and with relaxed procurement conditions – shopping. Construction works should be planned in such a way as to prevent the transposition of flora and fauna. Therefore, the project will have no direct impacts on the biodiversity of neither area. In some of the locations where rehabilitation/reconstruction work is planned, the training process will take place in parallel. This fact is also an additional challenge for the construction work for which appropriate mitigation measures will be applied.

## 2. PROJECT DESCRIPTION AND CURRENT ACTIVITIES

### 2.1 Project Description

7. The program represents ADB's first engagement in the education sector in Georgia. Its design was informed by ADB's extensive experience in VET across Asia, in such diverse countries as India, Indonesia, the People's Republic of China, and Viet Nam. Two overarching lessons derived from it are the need for political and financial commitment to raising the quality of VET, and the importance of private sector involvement, not least in planning, financing, and curriculum development. Other lessons from previous ADB projects and broader VET experience are the importance of (i) mobilizing students to pursue VET; (ii) incorporating entrepreneurship into programs; (iii) recruiting and training qualified teachers; (iv) providing career guidance and good labor market data to improve decision-making; (v) taking measures to increase women's participation; (vi) combining in-class training and work-based learning (WBL); (vii) imparting soft skills; and (viii) using recognized quality standards, testing, and certification processes. The program incorporates these lessons through both its program actions and project initiatives.

8. The project finances the establishment of innovative skills hubs in existing VET institutes in Kutaisi and Telavi to deliver high-quality and relevant training in seven priority economic sectors. The skills hubs will display sector leadership and innovation, develop national and international links, and support other VET institutes. The program will finance improved gender-sensitive facilities; updated equipment; training in entrepreneurship, languages, and soft skills; student placement services; capacity building; and support for income-generating activities.

9. The hub locations were chosen based on (i) their proximity to economic growth nodes, (ii) alignment of programs with priority economic sectors, (iii) government priorities, and (iv) the condition of facilities and equipment. Skills hubs will have increased public and private funding. The program will develop new or revise existing competency-based training and assessment programs at national qualifications framework (NQF) levels 4 and 5. The program steering committee will be able to propose changes to the prioritization of economic sectors and VET programs to reflect changes in economic circumstances or government priorities. The project will also support the introduction of income-generating activities in skills hubs.

10. The project will support the introduction of VET in 20 secondary schools to deliver competency-based training and assessment (CBTA) VET programs at national qualifications framework levels 3 and 4 in priority economic sectors, by upgrading facilities, providing equipment, supporting curriculum development, and building capacity. It will also (i) formulate a VET gender policy and guidelines, (ii) undertake social marketing of VET, and (iii) establish a career guidance and counseling system.

11. List of locations: rehabilitation/reconstruction works in skills hubs and secondary schools.

1) Simon Skhirtladze Oni public school
2) Ilia Chavchavadze Sachkhere public school #2
3) Chiatura public school #1
4) Vani public school #1
5) Terjola public school #2
6) Zestaponi public school #6
7) Kharagauli public school #2
8) Samtredia public school #11 merged with #15

9) Hub Kutaisi College Iberia (Anjaparidze str. Kutaisi Georgia)
10) Hub Kutaisi College Iberia (nikea str,Kutaisi Georgia)
11) Akaki Tsereteli State University Kutaisi
12) Ramin Dikhaminjia Ckhorotsku public school #1
13) Tsalenjikha public school #1
14) Abasha public school #1
15) Martvili public school #1
16) Akhaltsikhe municipality Vale public school #1
17) Aspindza public school
18) Ninotsminda public school #4
19) Village Mukhrani public school #1
20) Levan Devdariani Gardabani public school #1
21) Kareli public school #1
22) Akhmeta Municipality Village Duisi public school
23) Sighnaghi municipality Tsnori public school #1
24) Hub Telavi college Prestige

12. Locations are given in the **Figure 1** below.

**Fig. 1: Map of the Project locations**

## 2.2 Project Contracts and Management

13. A list or table of main organizations involved in the project and relating to Environmental Safeguards is given at 1 below. It includes lender, borrower and PIU (Project implementation unit), environmental staff with their names and contact details.

**Table 1. List of Main Organizations under the Project**

| Type of project participant | Name of Agency/Company | Environmental Staff | Name and contact details |
|---|---|---|---|
| Lender | Asian Development Bank | Country Environmental Focal | Ninette R. Pajarillaga<br>E-mail: npajarillaga@adb.org |
| | | Country Environmental Focal for the project, Safeguards Officer Georgia Resident Mission Asian Development Bank | Nino Nadashvili<br>Tel: +995 577 44 09 90<br>nnadashvili@adb.org |
| | | Environmental RETA Consultant Georgia Resident Mission Asian Development Bank | Giorgi Kobaladze<br>Tel: +995 599 689834<br>gkobaladze@adb.org |
| Borrower | Ministry of Education and Science of Georgia | PIU Project Manager | Ms. Tamar Dvali<br>Tel: 599 374441<br>E-mail: dvali.tamar@mes.gov.ge |
| | | PIU Environmental/Social Safeguards Specialist | Nino Shushtakashvili<br>Tel: 591 31 32 05<br>E-mail:<br>nino.shushtakashvili@mes.gov.ge |

14. In relation to the environmental aspects, the PIU Environmental/Social Safeguard Specialist Nino Shushtakashvili. Environmental/Social Safeguard Specialist joined the PIU in April 2024.

- ensures that bidding documents include all requirement to implement IEE and its EMP.
- ensures that the bidder selected will have adequate resources to implement and update EMP.
- undertakes safeguards monitoring activities and prepare safeguard reports to be submitted to ADB.
- ensures that other project-related tasks are complied with ADB SPS 2009 and Government requirement.
- will review and approve Site-Specific and Topic Specific Management Plans prepared by Construction Contractor.

15. During the construction environmental specialist of the Construction Supervision Consultant, Salome Meparishvili will assist the PIU to supervise and monitor implementation of the EMP/SSEMP during construction.

16. The PIU, through the architectural design and construction supervision firm's environment, health and safety specialists will ensure:

- The site-specific EMPs, based on the generic EMP included to the IEE, will be submitted by the contractor(s) to the PIU for approval at least 10 days before taking possession of any work site. No access to the site will be allowed until the site-specific EMPs will be approved by the PIU;
- Sufficient resources are made available to implement, monitor, and record the implementation of the EMPs;
- Semi-annual environmental monitoring reports are prepared and submitted to ADB for disclosure on the ADB's website within one (1) month of the end of each period covered until the project completion report is issued;
- The environmental monitoring reports include, inter alia, a review of progress made on the implementation of the EMPs, problems encountered, and remedial measures taken.
- In case of a change in design, the IEE and EMP must be reviewed to ensure that additional impacts (if any) are incorporated and addressed;
- Contractors are supervised to ensure compliance with the requirements of the IEE and the EMPs;
- In the event of unanticipated environmental impacts occurring, PIU must immediately inform ADB, prepare a corrective action plan (CAP), coordinate with ADB and implement it;
- Public consultations will be continued during project's implementation stage.
- coordination with PIU and health and safety specialist(s) of the contractors to ensure safety and wellbeing of the workers and communities with regard to Covid-19

The contractor, through its environmental, health and safety specialist(s), will ensure:

- preparation, at the pre-construction stage, of the site-specific EMPs based on the IEE and generic EMP, and submission them for approval to the PIU;
- implementation of the EMP under supervision of the PIU;
- submission of monthly environmental monitoring reports to the PIU;
- In case of unpredicted environmental impacts occurring during project implementation,

immediately inform the PIU;

- The safety and well-being of workers and communities in regard to COVID-19, in liaison with the design and construction supervision firm's environment, health and safety specialist;

- In case of any major accident at the construction site immediately inform the PIU;

- There is adequately record of the condition of roads, and other relevant infrastructure prior to starting to transportation of materials and civil works; and

- Pathways and other local infrastructure are reinstated to at least their pre-project condition upon the completion of construction.

### 2.3 Project Activities During Current Reporting Period

17. The IEE study was carried out in 2020, afterwards the document was twice revised by PIU and approved by ADB in 2021 and 2022. As part of the assessment, desk research of the project concept notes, technical assistant reports, legislation and available secondary data was carried out. ADB's safeguard policy requirements and state legal framework were reviewed. Field observations were conducted on the project pre-selected sites for assessing existing conditions and potential project impacts. The key receptors and stakeholders were identified. The significant project impacts were assessed based on the review of the project proposed activities and field observations, and corresponding measures were proposed to reduce impacts within acceptable limits according to the national and international standards. Those measures are reflected in environmental management plan (EMP) and environmental monitoring plan.
18. During current reporting period (January-June 2024) DCS firm presented detailed designs for all locations, all of the mentioned detail designs were delayed by PIU, After that, DCS firm re-submitted detail designs and for this moment only six projects were approved by PIU. The list of approved projects are below: Ninotsminda public school #4, Zestaponi public school #6, Vani public school #1, Ramin Dikhaminjia Ckhorotsku public school #1, Aspindza public school and Vale Public School.

19. During the mentioned period (January-June 2024) IEE and Due diligence reports were split for each location by PIU Environmental/Social Safeguards Specialist. For the reporting period only six IEE and Due diligence reports are cleared and 6 IEEs are disclosed at ADB website.

20. Cleared and Remained ones IEE/SDDR Documents

| **Cleared IEE/SDDR Documents** | **Remained ones** |
|---|---|
| Ninotsminda public school #4 | Chiatura public school #1 |
| Zestaponi public school #6, | Terjola public school #2 |
| Vani public school #1 | Kharagauli public school #2 |
| Ramin Dikhaminjia Ckhorotsku public school #1 | Samtredia public school #11 |
| Aspindza public school | Tsalenjikha public school #1 |
| Vale Public School | Abasha public school #1 |
| Hub Telavi college Prestige (cleared in 2023) | Martvili public school #1 |

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|---|---|
| | Village Mukhrani public school #1 |
| | Levan Devdariani Gardabani public school #1 |
| | Kareli public school #1 |
| | Akhmeta Municipality Village Duisi public school |
| | Sighnaghi municipality Tsnori public school #1 |
| | Simon Skhirtladze Oni public school |
| | Ilia Chavchavadze Sachkhere public school #2 |
| | Hub Kutaisi College Iberia (Anjaparidze str. Kutaisi Georgia) |
| | Hub Kutaisi College Iberia (nikea str,Kutaisi Georgia) |
| | Akaki Tsereteli State University Kutaisi |

### 2.4 Description of Any Changes to Project Design

21. N/A

## 3. ENIRONMENTAL SAFEGARDS ACTIVITIES

### 3.1 General Description of Environmental Safeguard Activities

22. No civil works commenced yet, and respectively no CW contract has been awarded.

### 3.2 Site Audits

23. N/A.

### 3.3 Unanticipated Environmental Impacts or Risks

24. N/A.

### 3.4 Grievance Redress Mechanism

25. No grievances and complaints were received during January – June 2024 reporting period.

## 4. RESULTS OF ENIRONMENTAL MONITORING

26. N/A.

## 5. FUNCTIONING OF THE SSEMP

27. Within 28 days of the Commencement Date the Contractor shall develop and submit SSEMP to Employer. SSEMP will be reviewed and endorsed by the supervision company's environmental specialist and approved by the PIU. The SSEMP will be submitted to the Employer for approval at least 10 days before taking possession of any work site. No access to the site will be allowed until the SSEMP is approved by the Project Implementation Unit (PIU)".

28. In case of changes (additions/deletions and modifications) of mitigation or monitoring measures have been approved, the PIU shall ensure that the SEMP is updated to reflect these changes.

## 6. GOOD PRACTICE AND OPPORTUNITY FOR IMPROVEMENT

29. N/A.

## 7. SUMMARY AND CONCLUSIONS

30. No environmental safeguard issues were faced during the reporting period as there were no civil works have been implemented. Bidding is ongoing.

31. The next steps in terms of the expected schedule for bidding and contract award are summarized in the Table 2 below.

**Table 2. Next steps**

| # | Activities | Schedule |
|---|---|---|
| 1 | Environment, health and safety provisions will be incorporated in Civil work provider firm's contract documentation. | Q4 2024 |
| 2 | The site-specific EMPs, based on the generic EMP included to the IEE, will be submitted by the contractor(s) to the PIU for approval | Q4 2024 |
| 3 | Civil works and environmental monitoring will commence from | Q4 2024 onwards |

**Annex 1: Environmental Management Plan**

| Project Activity / Item | Potential Risks and Impacts | Mitigation Measures | Location | Indicators | Institutional responsibility | | Implementation Schedule | Related Costs |
|---|---|---|---|---|---|---|---|---|
| | | | | | Implementation | Supervision | | |
| **Pre-construction Phase** | | | | | | | | |
| Planning of the project activities | Safeguards related issues are not fully reflected in IEE and generic EMP and not properly considered during planning and implementation of the project activities | (i) Review of IEE and update of EMP in case of changes in the list of the project selected sites and/or other important circumstances | | Safeguards related aspects are properly considered during planning and implementation of the project activities | TA | | TA phase | Expert related costs |

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| Integration of safeguards related aspects into the bidding documents | Bidding documents are not responsive to the safeguards related issues and performance of the contractor is low | (i) Include all safeguards related clauses and integrate IEE and EMP into the bidding documents.<br><br>(ii) Include in contract provisions heals and safety issues, containing a specific COVID-19 risk management plan (as part of the HSP and ERP) | For each site | Bidding documents contain all necessary clauses related to safeguard issues;<br><br>IEE and EMP are attached to the bidding documents and contractor is performing accordingly;<br><br>Health and safety provisions including COVID-19 risk management plan (as part of the HSP and ERP) is in place prior to the contract award | PIU | | Project start phase<br><br>Prior to contract award | No special costs expected |
| Planning of the civil works | Safeguard incompliances observed i n | (i) Preparation of site- specific EMPs, taking into account site- | For each site | Site-specific EMPs are prepared and presented to PIU for approval at least | Contra ctor | Archite ctural Design | Two weeks before starting the | Expert related costs |

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| | different places during the implementation of the works | specific environmental and social safeguards issues and requirements; potential impacts on sensitive receptors and corresponding mitigation measures;<br><br>(ii) Assess and confirmation of the COVID-19 specific HSP and ERP submitted by contractor before commencement of the works | | ten days prior to starting of the civil works;<br><br>The works are planned taking into account all possible site-specific risks, includes corresponding mitigation measures and are in compliance with site-specific requirements'<br><br>COVID-19 specific HSP and ERP are confirmed before commencement of the works | | and Construction Supervision Firm<br><br>PIU | civil works | |

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| Construction regulations and obtaining permits | In compliance with construction standards and regulations and lack of necessary permits for the construction related works | (i) Agree design and construction related works with all relevant institutions;<br><br>(ii) get necessary permits from relevant state institutions if required.<br><br>(iii) Particular attention to the construction near the sensitive receptors, high voltage power lines, railways, or other facilities. | For each site | All necessary permits are obtained and works agreed with corresponding institutions;<br><br>Documents are presented to the PIU before starting of the civil works | Contractor | Architectural Design and Construct ion Supervision Firm<br><br>PIU | Before the commencement of the civil works | No special costs expected |
| Planning of transportation | Provisions related to traffic regulation and vehicle movement | Develop traffic management framework prior to the commencement of the works. | For each site | Traffic management framework is in place | Contractor | Architectural Design and Construct | Before the commencement of the civil works | Cost for preparation of the plan |

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| | skipped in the designing process | | | | | ion Supervision Firm<br><br>PIU | | |

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| Designing | Non-optimized design of the workshops leading to adverse environmental impacts at the construction and operational phases | (i) Taking into account the environmental and social safeguards aspects when planning the design of workshops;<br><br>(ii) Consider green building concept for workshops design;<br><br>(iii) Taking into account the existing vegetation cover when selecting the construction area in order to avoid cutting of trees and other plantations as much as possible;<br><br>(iv) Consideration of design alternatives to minimize adverse environmental impacts at the construction and operational phases;<br><br>(v) Ensure energy efficiency of buildings to reduce resource utilization and emissions during its operation | For each site | Optimal workshop design for each site | Contractor | Architectural Design and Construction Supervision Firm<br><br>PIU | Pre-contraction/ designing stage | Design preparation costs |

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| Information disseminatio n | Unpreparednes s of teachers, students, and local communities; delays in learning process | Informing stakeholders in advance on the start of the civil works | For each site | Information is disclosed at least 10 days before starting of the civil works | Contra ctor | Architect ural Design and Construc t ion Supervis ion Firm | Prior to the start of the civil works | Costs related to disseminatio n of the information |
| **Construction Phase** | | | | | | | | |

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| Moving of vehicles and construction equipment and implementation on of other activities related to the civil works | Noise and vibration caused by vehicles movement, construction equipment and other activities<br><br>Impact on the construction site and the Sensitive receptors nearby<br><br>Inefficient learning process and annoyance of the communities living in the surrounding areas | (i) Carry out civil works mainly during vocations and the time free from learning process to avoid disruptions of the educational process and to minimize impacts on the sensitive receptors nearby;<br>(ii) Avoid construction activities during operation of different sensitive receptors, such as kindergartens and other educational facilities, hospitals etc.<br>(iii) No or limited nighttime and weekend works and ensure operation of heavy equipment during the day;<br>(iv) Avoid movement of vehicles and machineries near the cultural heritage sites and the sensitive receptors as much as possible, especially in the areas where the sensitive receptors are particularly close;<br>(v) Limited number of machineries used at the same time;<br>(vi) Avoid noise as much as | For each site<br><br>With regard measure ii – for each site, with special attention to Tsnori, Sackhkere, Duisi, Vani<br><br>With regard measure iv – for each site, with special attention to Gardabani, Aspindza, Tsnori, Telavi, Sachkhere, Vani, Kareli, Duisi, Oni, Mukhrani<br><br>Regarding the measure vii – For each | Noise and vibration measurement data meets the standards<br><br>No special complaints received related to noise and vibration issues<br><br>Infrastructure stability is assessed<br><br>Monitoring is being conducted | Contractor | Architectural Design and Construction Supervision Firm<br><br>PIU | Throughout construction phase | Additional expenses due to time constraints<br><br>Costs related to up to date equipment and its maintenance |

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| | | possible when reloading trucks;<br>(vii) Install acoustic enclosures and noise isolation around construction areas;<br>(viii) Setting up local hoardings, screens or barriers to shied particularly noisy activities<br>(ix) Provide hearing protection devices against noise;<br>(x) Assess the infrastructure stability at the detailed design stage;<br>(xi) Use a damper to absorb vibration;<br>Use of modern machinery and equipment compliant with sound and vibration standards;<br>(xi) Carry out activities by taking into account permissible noise and vibration standards;<br>(xii) On-site monitoring of noise and vibration level. | site, with special attention to Kutaisi, Telavi, Abasha, Chkhorotsku, Tsalenjikha, Samtredia, Terjola, Vale, Gardabani, Kareli, Duisi, Tsnori, Mukhrani, Oni<br><br>Regarding the measure viii – For each site, with special attention to Tsnori, Gardabani, Aspindza, Vani sites.<br><br>Regarding the measure (x) – For each site, with special attention to Kutaisi State Universty and Gardabani sites | | | | | |

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| | Air pollution due to increased Traffic volume, movement of construction machinery and generation of dust from construction activities | (i) Conduct 24-hour air quality measurement at least on the CO parameter; and Ozone (O3) measurement (daily max.8 h) in each site;<br>(ii) Develop a dust suppression scheme prior to construction;<br>(iii) Use of separate gates for trucks and vehicles to access the ground and avoid them as much as possible from sensitive receptors<br>(iv) Use well-developed technology and equipment and maintain their quality;<br>(v) Ensure that emissions are minimized by cleaning of fuel injectors;<br>(vi) Refuel vehicles by using of fuel nozzles and pumps to prevent fugitive emissions of volatile organic compounds;<br>(vii) Avoid dust generating activities on strong windy days;<br>(viii) Use of water dust suppression during dry weather; Coveringvehicles when transporting construction materials;<br>(ix) Limiting the speed of vehicle | Regarding the measure I CO measuremen t<br>-special attention to Gardabani, Telavi, Aspindza, Abasha and Oni; and Ozone for each site<br><br>Regarding the measure (iii) - for each site, with special attention to Gardabani, Aspindza,Ts n ori, sites; | Measurement data is in place and meets the permissible emission standards | Contra ctor | Architectural Design and Construct ion Supervision Firm<br><br>PIU | Befor e comm ence ment<br><br>of works/ throug hout constr uction phase | Costs related to up-to-date equipment and monitoring |

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| | | when transporting materials;<br>(x)Remove demolished materials from the site as soon as possible.<br>(xi)se exhaust ventilation where possible;<br>(xii) Conduct air quality monitoring at construction sites. | | | | | | |
| | Generation of solid waste and wastewater | (i) Develop and agree on a waste management plan for each site prior to the commencement of civil works;<br>(ii) Develop a materials management plan prior to construction;<br>(iii) Minimization of waste generation;<br>(iv) Waste collection, treatment and disposal in accordance with the accepted standards;<br>(v) Allocation of special area in each site for construction and demolition debris;<br>(vi) Maintain photographs of the area, designed as the disposal site and restore the area construction is complete.<br>(vii) Timely disposal of waste at the nearest official landfill agreed with local municipalities<br>Sending of old metal equipment to scrap collection points. | For each site | Waste management plan is in place;<br><br>Materials management plan is in place;<br><br>Waste disposed on time; | Contra ctor | Architect ural Design and Construc t ion Supervis ion Firm<br><br>PIU | Throughou t constructi on phase | Cost related to construction waste managemen t |

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| | Soil and water contamination due to spill of fuel, oil, toxic chemicals, cement and other construction | (i) Avoid spilling hazardous materials, such as fuel, oils and other substances, and store them accordance with accepted standards (using a secondary containment system and impermeable base liners).<br>(ii) Ensure labeling of stored | For each site<br><br>Regarding the measure viii-special attention to Chiatura and Vani sites, | No soil and water contamination are observed | Contra ctor | Architect ural Design and Construc t ion Supervis ion Firm | Throughou t constructi on phase | Cost related to maintenanc e |

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| | material | material;<br>(iii) Placing excavation materials in approved locations;<br>(iv) Maintenance of vehicle and other equipment only in the originally designated areas;<br>(v) Coverage of trucks used for transportation;<br>(vi) Carry out regular technical inspection of vehicles, especially for fuel, oil and battery fluid leakage;<br>(vii) Prevention of rives contamination by construction material; (viii) particular attention should be paid to the Chiatura and Vani site, due to its proximity to the river. | due to its proximity to the river | | | PIU | | |

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| Movement of vehicles and construction equipment | Temporary traffic congestions | (i) Develop a traffic regulation plan including vehicles movement scheme and act accordingly;<br>(ii) Provide traffic control equipment;<br>(iii) Avoid moving vehicles next to the residential houses as much as possible and use alternative entrances;<br>Avoid transportation during rush hours;<br>Repair of damaged areas, if any. | For each site<br><br>Regarding the measure iii – for each site with special attention to Tsnori, Gardabani, Aspindza | Traffic management plan including vehicle movement scheme is on place;<br><br>Damaged are repaired | Contractor | Architectural Design and Construct ion Supervision Firm<br><br>PIU | Throughout construction phase | Costs related to traffic regulation |
| Rehabilitation /demolishing works | Using asbestos containing materials (ACM) during construction works | (i) ACM shall not be used as a new material for rehabilitation of existing facilities or in construction of new ones;<br>(ii) Removal and disposal of existing asbestos-roofing sheets in accordance with the internationally recognized standards and state regulations; | For each site Old auxiliary buildings with ACM roofing | Absence of ACM<br><br>Disposal is done in accordance with the internationally recognized standards | Contractor | Architectural Design and Construct ion Supervision Firm | Throughout construction phase | Costs related to removal and disposal |

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| | | (iii) Removal activities to be scheduled during student' absence time;<br>(iv)Equip workers with special equipment. | | | | PIU | | |
| Excavation at construction site | Excavations at construction sites may lead to soil stability, health and safety issues. The process can cause damage to archeological specimens and underground objects. | (i) Determining the exact location of the excavations<br>(ii) Estimate the volume of excavation material;<br>(iii) Avoid extra land excavation;<br>(iv) Limited movement of vehicles used for excavation;<br>(v) Implement erosion protection measures;<br>(vi) Installation of barricades and special signboard;<br>(vii) Excavation in accordance with a specific requirement without damaging the underground facilities;<br>(viii) Immediate stop of activities in case of discovery of architectural objects and informing the MOESCS. | Special attention to Kutaisi, Telavi, Abasha, Chkhorotsku, Tsalenjikha, Samtredia, Terjola, Vale, Gardabani, Kareli, Duisi, Aspindza, Tsnori, Mukhrani and Oni site | Archeological specimens are not damaged<br><br>Underground utilities are not damaged | Contractor | Architectural Design and Construct ion Supervision Firm | Throughout construction phase | Construction related costs |

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| Temporary relocation of utility supplies | Possible damage of utility supplies | (i) Perform the activity carefully and in a timely manner; and<br>(ii) Involve all relevant structures. | For each site | Utilities are not damaged no Complaints from local communities | Contractor<br><br>Municipality and other relevant institutions | Architectural Design and Construct ion Supervision Firm | Throughout construction phase and at the completion of constructi | Usually municipality takes responsibility for relocations |
| | Impact on flora and fauna species and their habitats | (i) Assessment the area and avoid environmental sensitive areas during construction;<br>(ii) Avoid building in a place covered by trees or other | For each site | Detailed information on vegetation cover and existing wildlife species provided in Site-specific EMPs; | Contractor | Architectural Design and Construct | Before starting of t works<br><br>Throughout | Experts related cost;<br><br>Possible costs related |

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| | | vegetation;<br>(iii) Avoid works in areas populated by important wildlife species;<br>(iv) Obtaining of special permits in case of necessary cutting or trees and other vegetation (MOEPA, local authorities);<br>(v) Planting to compensate damage appropriate ratio and in accordance to the regulations;<br>(vi) Develop alternative designs as needed | | No significant impact on biodiversity;<br><br>Damage is compensate d | | ion Supervis ion Firm<br><br>PIU | constructi on phase | to the developmen t of alternative designs |

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| Use of drinking water | Drinking water do not meet the requirements of technical regulation for drinking water | (i) Supply workers with bottled water during the construction period;<br>- Improving drinking water quality through:<br>Visual inspection of the water supply system to determine whether the headwork (water intake point), water pipes and/or reservoirs are damaged or contaminated and sampling from various sections and points;<br>- Elimination of technical damages if detected on pipes and reservoirs;<br>(ii) Microbiological sterilization of water by chlorine, ozone, or ultraviolet treatment in case of headwork's contamination. | Special attention to Kareli and Gardabani sites | No health-related issues caused by drinking water<br><br>Results of chemical and microbiological examinations in Kareli and Gardabani Public Schools meets the requirements of technical regulation for drinking water | Contractor<br><br>Relevant state institutions | Architectural Design and Construct ion Supervision Firm | Prior to the start of the works/Throughout construction phase | Costs related to the water quality improvement and monitoring |
| Campsite arrangements | Occupational health and Safety issues due to the risks associated with physical, chemical, biological | (i) Develop an emergency response plan;<br>(ii) Provide the camp with separate toilets (preferable bio toilets) and provide health and safety equipment (uniforms, helmets, goggles, sun-protection equipment etc.), first aid kits, | For each site | Emergency response plan is in place<br><br>Physical Injuries are not observed<br><br>Teacher and | Contractor | Architectural Design and Construct ion Supervision Firm | Throughout construction | Health and safety related costs |

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| | hazards | including snake venom drugs and bee venom antidotes;<br>(ii) Provide trainings to workers on health and safety issues. | | students are trained<br><br>Equipment is in place | | PIU | | |
| | Public health safety risks caused by improper fencing. Transmission of diseases (including COVID-19) from workers to community and vice versa | (i) Ensure appropriate fencing of the area<br>(ii) Carry out activities remotely from the public;<br>(iii) Compliance with the COVID- 19 guidelines of the Government of Georgia and ADB. | For each site | The area is properly fenced | Contractor | Architectural Design and Construct ion Supervision Firm<br><br>PIU | Throughout construction | Health and safety related costs |

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| Restoration of construction site | Impact on the existing environment, including utilities and landscape | (i) Develop a rehabilitation and restoration plan for each site to repair/restore damage prior to leaving the site;<br>(ii) Disposal of materials used for construction or rehabilitation in accordance with accepted standards and specific plans;<br>(iii) Restore area as equal to the original condition<br>(iv) Compensate damage to biodiversity if any | All sites | Rehabilitation/restoration planis in place;<br><br>Damaged is restored<br><br>Restored area is equal to the original condition;<br><br>Damage on Biodiversity is compensated. | Contractor | Architectural Design and Construct ion Supervision Firm<br><br>PIU | Throughout operational phase | Costs related to restoration |
| **Operational Phase** | | | | | | | | |

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| Equip and operation of the workshops | Noise and vibration in the workplace caused by mechanical impact, air or fluid flow and the vibrating surfaces of a machine | (i) Designing walls, floors, doors and windows providing sound transmission loss and cover ceilings and walls with sound- absorbing materials in woodworking workshops;<br>(ii) Remove noise sources from teachers and students by installing sound-proof barriers and providing buffer zones in woodworking workshops;<br>(iii) Installation of heavy bases for noisy equipment and isolate them from other equipment in woodworking workshops;<br>(iv) Select equipment that does not exceed the permissible noise and vibration permissible limits and equip them with silencers and dampers. Special attention to the sites with old infrastructure;<br>(v) Reduce outdoor noise in buildings by using sound-absorbing materials such as soundproofing panels or drywalls or reinforce frames through open cell foam and by installing doubled glass windows;<br>(vi) Operation of workshops during the day;<br>(vii) Noise and vibration level monitoring. | For each site<br><br>Regarding the measure I, ii, iii - Special attention to Abasha, Terjola, Kharagauli, Tsnori and Oni sites<br><br>Regarding the measure iv – for each site with special attention to Gardabani, Kutaisi State University, Duisi sites<br><br>Regarding the measure v- particular attention tobe payed to Mukhrani and Kutaisi College.<br><br>Regarding the activity v – for each site, with secial attention to Mukhrani and Kutaisi College | Noise<br><br>and vibration measurement data meet the established standards;<br><br>Equipment does not exceed the maximum noise permissible limits and are equipped accordingly | Contractor<br><br>Administration unit | Administration<br><br>Other relevant authorities | Throughout operational phase | Costs related to up-to-date equipment |

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| | Hazardous waste generation and air pollution as | (i) Collect waste in appropriate containers to prevent possible spillage and emanation;<br>(ii) Disposal of waste generated | For each site<br><br>Regarding the measures iv – | Toxic<br><br>and hazardous waste treated in accordance with | Administration | Administration<br><br>Other | Throughout operational phase | Operational costs |

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| | potential impacts caused by operation of different workshops; generation of sawdust; health problems | at various workshops in according with regulations;<br>(iii) Provide equipment with appropriate filters and other necessary technical means;<br>(iv) Installation of appropriate exhaust system equipped with special fire protection means in culinary art workshops. Ozone generators and UV treatments can be also used, but only on the basis of a preliminary analysis of its expediency, as it needs regular maintenance compensated by reduced frequency of duct cleaning and risk of fire;<br>(v) Installation of exhausting ventilation system for each student work table in the wooden workshop to prevent toxic fumes from solvents and paints.<br>(vi) Installation of wood dust collector and regular cleaning the machinery in each wood-processing workshop;<br>(vii) Arrangement utility sink for cleaning the special equipment in wood processing workshop and culinary art workshops;<br>(vii) Work out the waste disposal plan for pharmaceutical workshop. | with special attention to<br>(iv) Vale, Duisi, Chkhorotsku, Kareli, Sachkhere, Samtredia sites.<br><br>Regarding the measures v,vi – special attention to Abasha, Terjola, Kharagauli, Tsnori and Oni sites<br><br>Regarding the measures vi – special attention to Abasha, Terjola, Kharagauli, Tsnori and Oni, Vale, Duisi, Chkhorotsku, Kareli, Sachkhere, Samtredia sites.<br><br>Regarding the measure vii – Special attention to the Kutaisi State University site. | the corresponding standards and regulations | | relevant authorities | | |

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| | Drinking water quality may not meet the requirements of technical regulation on drinking water | (i) Periodic monitoring of water quality in each project site;<br>(ii) Periodic monitoring of nitrate level where according to the preliminary assessment, the nitrate content was close to the maximum permissible concentration;<br>(iii) Periodic monitoring of water quality with portable test kits measuring the free chlorine in the water. | For each site<br><br>Special attention to Kareli and Gardabani Public Schools;<br><br>Regarding the Measure ii- Special attention to Tsnori site<br><br>Regarding the measure iii – for each site | Drinking water quality meets the requirement of technical regulation for drinking water | Administration | Administration<br><br>Relevant state authorities | Throughout operational phase | Costs related to monitoring |

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| | Health and safety issues for trainers and students working in specific workshops | (i) Equip workshop ventilation and related system with UV air filters to prevent the risk of spreading infections;<br>(ii) Prevent taking of high-risk containing material (flammable, toxic, explosive and high voltage equipment) in workshops, especially in electronics and robotics workshops;<br>(iii) Allocate separate space for servers and UPS devices, isolated from students and teachers in ICT workshops;<br>(iv) Develop an emergency plan for each workshop place;<br>(v) Equip students and trainers with appropriate personal protective equipment, such as safety goggles, hearing protectors, respirators/masks etc.;<br>(vi) Wearing appropriate clothing;<br>Use of equipment, machinery and tools in safe conditions; | For each site<br><br>With regard to the measure ii – for each site with Special attention to Kutaisi, Vale, Duisi, Aspindza, Chiatura, Chkhorotsku, Kareli, Kharagauli, Tsnori, Tsalenjikha, Vani;<br><br>Regarding the measure iii – for each site with Special attention to Telavi, Abasha, Gardabani, Mukhrani, Oni, Sachkhere, Samtredia, Terjola, | Health and safety issue s are fully considered in each project site<br><br>Emergency response plan developed for each site<br><br>Teachers and students are trained in health and safety issues | Administration | Administration<br><br>Relevant state authorities | Throughout operational phase | Costs related to monitoring |

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| | | (vii) Equip workshops with first aid kits;<br>emergency lightening, fire detecting and firefighting equipment;<br><br>(ix) Use of high standard electrical installations/equipment;<br>(x) Install power isolators;<br>Install sockets, plugs and cables in safe places;<br><br>(xi) Train students and teachers in machinery and equipment protection;<br>(xii) Train students and teachers on health and safety issues and inform them how to act in case of accidents. | | | | | | |

ACM = asbestos containing material, ADB = Asian Development Bank, IEE = initial environmental examination, EMP = environmental management plan, PIU = project implementation unit, TA = technical assistance.

Source: Technical Assistance-9790 GEO.