



MUNICIPAL DEVELOPMENT FUND OF GEORGIA

Restoration of King Erekle II Palace (BatonisTsikhe Fortress, Telavi)

Environmental Review

**WORLD BANK FINANCED
REGIONAL DEVELOPMENT PROJECT**

**Tbilisi, Georgia
October, 2014**

ABBREVIATIONS

WB	World Bank
EIA	environmental impact assessment
EMP	environmental management plan
ER	Environmental Review
MDF	Municipal Development Fund
MoENRP	Ministry of Environment and Natural Resources Protection
RDP	Regional Development Project
SECHSA	Strategic Environmental, Cultural Heritage, and Social Assessment
CH	Cultural Heritage

Environmental Screening and Classification

Sub-project (SP) for the restoration of Batonis Tsikhe (Castle) commenced under the Regional Development Project (RDP) in the town of Telavi in 2012. It was suspended by the end of 2012 and works have been on hold till the development of Action Plan for Conservation of Batonis Tsikhe complex as cultural heritage monument.

Action Plan for Conservation of Batonis Tsikhe complex was elaborated in 2013 by the National Agency for Cultural Heritage of Georgia with support of the World Bank. The Conservation Action Plan was adopted by the decree of the Minister of Culture and Monument Protection (#05/78, dated February 11, 2014). Action Plan for Conservation of Batonis Tsikhe complex includes approaches, principles and methodology for restoration/rehabilitation of the Palace of King Erekle II, which is a central building of architectural complex. Existing design of the rehabilitation of the palace was amended based on Action Plan for Conservation of Batonis Tsikhe complex. Amended design got approved by the National Agency for Cultural Heritage. Environmental Review of Batonis Tsikhe SP was also amended respectively.

Palace of the King Erekle II is a central building of architectural complex of Batonis Tsikhe Fortress in the center of the town of Telavi. Palace is one of the significant cultural heritage sites in Kakheti due to its artistic and historical value.

SP for restoration of Batonis Tsikhe Fortress envisages replacement of damaged parts of the building and rectification of negative outcomes of some earlier restoration works undertaken in 1980-ies following irrelevant design solutions. Wood bearing structures of roof and balconies, roof decking, wood tracery doors and stained-glass windows, doors and brick floor will be replaced.

The main scope of restoration and construction works

1. Arranging floor of Georgian bricks - 582m²;
2. Arranging bearing structures of balcony with Caucasian oak material – 10.5m³
3. Arranging roofing beams of larch material – 23.6m³;
4. Arranging roof wood structures and boarding - 27.3 m³;
5. Arranging roof decking with titan-zinc non-corrosive sheet- 821m²;
6. Arranging roof with lime and special waterproof layers – 204m²
7. Arranging oak tracery doors and stained-glass windows– 228 m²
8. Plastering the walls with carbonic calcium gypsum - 1052 m²;
9. Painting the walls with water-emulsion paint – 410 m²;
10. Double-insulated electrical cable of various diameter - 450 m.
11. Light Emitting Diode (LED) illumination bulbs of various sizes – 325 ps.

(A) IMPACT IDENTIFICATION

Has the subproject a tangible impact on the environment?	The SP has tangible positive social impact.
What are the significant beneficial and adverse environmental effects of the subproject?	<p>SP is expected to have positive long term environmental and social impact through rehabilitation and conservation of cultural heritage site and improving touristic attraction. Restoration of the King Erekle II Palace, which is included in the national list of the cultural monuments, will preserve the monument from further damage, natural disasters, and severe weather. The increased tourist flows will have positive social impact through improvement of employment opportunities. SP implementation will create opportunity for new jobs for local population and increase their incomes.</p> <p>The expected negative environmental and social impacts are likely to be short term and typical for small to medium scale rehabilitation works in urban landscape: noise, dust, vibration, and emissions from the operation of construction machinery; generation of construction waste; disruption of traffic and pedestrian access.</p> <p>Increased tourist flows may have indirect negative environmental impacts: waste generation, vandalism, etc.</p>
Does the subproject have any significant potential impact on the local or affected communities?	<p>No new land take and resettlement are expected. The long term social impact will be beneficial (improvement of local population living conditions and growth of tourist flow, attraction of private sector investment in tourism infrastructure).</p> <p>Negative impacts are short term and limited to the construction site. They are related to the possible disturbance described above.</p>
What impact has the subproject on the human health?	Minor negative impacts are related to dust, emissions, noise and vibration during construction period.

(B) MITIGATION MEASURES

<p>What alternatives to the subproject design have been considered and what mitigation measures are proposed?</p>	<p>Consideration of alternatives was irrelevant for this SP.</p> <p>The expected negative impacts of the construction phase can be easily mitigated by demarcation of the construction site, traffic management, good maintenance of the construction machinery, observance of the established working hours, and well organized disposal of waste to the formally agreed sites.</p>
<p>What lessons from the previous similar subprojects have been incorporated into the project design?</p>	<p>The initial design for restoration of the King Erekle II Palace has been amended based on the principles, approaches and methodology provided in the Action Plan for Conservation of Batonis Tsikhe compound.</p>
<p>Have concerned communities been involved and have their interests and knowledge been adequately taken into consideration in subproject preparation?</p>	<p>Telavi population was informed about the upcoming plans of restoring Batonis Tsikhe compound in a meeting held in Kakheti Governor's office in Telavi (03.02.2012). Reaction of the beneficiary community was positive.</p> <p>EMP developed for this SP was available for Telavi population and discussed in a consultation meeting held on 06.10.2014. Minutes of meeting is attached to ER.</p>

(D) CATEGORIZATION AND CONCLUSION

Based on the screening outcomes, subproject is classified as environmental Category

A

B

C

Conclusion of the environmental screening:

1. Subproject is declined
2. Subproject is accepted

If accepted, and based on risk assessment, subproject preparation requires:

1. Completion of the Environmental Management Checklist for Small Construction and Rehabilitation Activities
2. Environmental Review, including development of Environmental Management Plan

Risk Assessment of Eligible Subprojects

Sensitive receptors of the Natural and Social Environment around a subproject site	Yes / No?	Significant potential impact / high risk (check)	Low potential impact / low risk (check)
Natural Habitats, fragile ecosystems	No	Forests; wetlands; nesting/breeding areas, rest areas for migratory birds, wildlife corridors connecting protected areas, steep slopes, alpine and subalpine zone, green-fields	Strongly transformed urban or rural landscapes, industrial sites, brown-fields
		N/A	N/A
Surface water bodies	No	Major rivers and river floodplains, trans-boundary water bodies and their tributaries, lakes; smaller water bodies which have high value for local communities or biodiversity	Small rivers and streams, artificial reservoirs and ponds which are not indicated as having high value for local communities or biodiversity
		N/A	N/A
Groundwater sources	No	Deposits of the regional/national importance, mineral and/or thermal water sources, high groundwater table	Regular groundwater table
		N/A	N/A
Valuable landscapes	No	Protected landscapes, landscapes of outstanding aesthetic value, Green-fields, recreational areas	Strongly transformed urban or rural landscapes, industrial sites, brown-fields
		N/A	N/A
Physical cultural resources	Yes	Individual or general protection zones of cultural monuments, historical or traditional sites (religious, burial, ritual)	No cultural resources
		v	N/A
Human settlements	No	More than 20 affected households; physical relocation needed	Less than 20 affected households, no physical relocation needed, no land take required
		N/A	N/A
Geohazards: severe erosion, landslides, flooding	No	Recorded	Not recorded
		N/A	N/A

If a subproject is expected to carry high risk based on any of the above criteria of assessment, it is considered a high risk subproject. An environmental review has to be carried out and an environmental management plan developed;

If a subproject is not expected to carry high risk based on any of the above criteria of assessment, it is considered a low risk subproject and an Environmental Management Checklist for Small Construction and Rehabilitation Activities has to be completed.

Social and Cultural Resource Screening of Subprojects

Social safeguards screening information		Yes	No
1	Is the information related to the affiliation and ownership status of the subproject site available and verifiable? (The screening cannot be completed until this is available)	✓	
2	Will the project reduce other people's access to their economic resources, such as land, pasture, water, public services or other resources that they depend on?		✓
3	Will the project result in resettlement of individuals or families or require the acquisition of land (public or private, temporarily or permanently) for its development?		✓
4	Will the project result in the temporary or permanent loss of crops, fruit trees and Household infra-structure (such as granaries, outside toilets and kitchens, etc)?		✓
If answer to any above question (except question 1) is "Yes", then OP/BP 4.12 Involuntary Resettlement is applicable and mitigation measures should follow this OP/BP 4.12 and the Resettlement Policy Framework			
Cultural resources safeguard screening information		Yes	No
5	Will the project require excavation near any historical, archaeological or cultural heritage site?	✓	
If answer to question 5 is "Yes", then OP/BP 4.11 Physical Cultural Resources is applicable and possible chance finds must be handled in accordance with OP/BP and relevant procedures provided in the Environmental Management Framework .			

ENVIRONMENTAL ASSESSMENT

1. Introduction

1.1. Background Information

The Government of Georgia approved in June 25, 2010 (Government resolution no. 172), the State Strategy on Regional Development of Georgia for 2010-2017, prepared by the Ministry of Regional Development and Infrastructure (MRDI). The main objective of the strategy is to create a favorable environment for regional socio-economic development and improve living standards. These objectives will be attained through a balanced socio-economic development, increased competitiveness and increased socio-economic equalization among the regions.

In order to better utilize the tourism and agriculture potentials that exist in Kakheti and reduce internal socio-economic disparities, the Government of Georgia approached the World Bank with the request to provide financial support to the regional development in Kakheti. A Regional Development Project (RDP) was prepared jointly by the Government of Georgia and the World Bank, and the latter is expected to provide a loan funding for the implementation of RDP.

The SP for the restoration of King Erekle II Palace (Batonis Tsikhe Fortress, Telavi) is a part of the RDP and shall be prepared, reviewed, approved, and implemented in agreement with the requirements of the Georgian legislation and the World Bank policies applicable to the RDP.

1.2. The Municipal Development Fund as Implementing Agency

The Municipal Development Fund of Georgia (hereinafter: the MDF) is a legal entity of public law, the objective of which is to support strengthening institutional and financial capacity of local government units, investing financial resources in local infrastructure and services and improving on sustainable basis the primary economic and social services for the local population (communities). MDF is designated as an implementing entity for the RDP and is responsible for its day-to-day management, including application of the environmental and social safeguard policies.

MDF prepares and submits to the World Bank for approval the Subproject Appraisal Reports (SARs), with safeguards documents attached. Depending on whether a subproject is carrying higher or lower risks, the due environmental diligence applicable to it may include conduct of an environmental review (including development of an EMP) – for high risk Category B, or be limited to the use of Environmental Management Checklist for Small Construction and Rehabilitation Activities – for low risk Category B.

1.3. Brief Information on Proposed SP

Description & brief history:

Palace of the King Erekle II is a central building of architectural complex of Batonis Tsikhe in the center of the town of Telavi. According to the saying great lord of Kartli-Kakheti Erekle the Second has

leaved and deceased in this Palace. In the XVIII c. King Erekle II has erected new fortification construction which was reconstructed several times in XIX-XX. The palace is located in eastern part of the Batonis Tskikhe territory divided by the low cobble-stone wall. Palace is constructed near the small church, northern wall of the fence. During the initial stage of Russian Imperial governance the King's palace was used for various purposes – barracks, food store, stables and etc. Up to 1864 the Palace was retaining its initial design and style characteristics.

In 1860 the building was transferred into the ownership of Saint Nino Women's charity organization. Under the initiative from the chairman of the above organization Ana Chavchavadze and Grigol Orbeliani's personal initiative, without consideration of community's position, unjustified reconstruction of the Palace had been implemented during 1864-67 yy. Up to 1865 the works have been undertaken under the Zaltsman's design. The above period is distinguished with the destroying of Persian style. The two lightning systems were replaced with the openings at all height framed with the brick profiles. In Zaltsman period the additions to the building were constructed and the stair case with stairs mounting at two levels was destroyed. The addition to the building was then demolished for the establishment of exit. In 1865 Zaltsman has been stopped. The works were continued without any design and supervision from architect. During this period the wall dividing the east balcony and corridor was destroyed. The second floor was built.

In 1867 the reconstruction of school was finalized. As a result the complex of non-systematically developed adjacent buildings was created. With added and built on new buildings the Palace was lost among the irrelevant and blank buildings. A three level block building was added to the west part of non-systematically developed palace complex in 1912.

Such complex existed up to 1981, when based on the decision of "extended" methodical board (almost all specialists of the area, art critics as well as representatives from the adjacent areas participated in the Board) the Palace was cleaned from the late additions. The block built later - in 1912 - remained in place. Telavi historical museum was located in the above building.

In 1974-82 restoration works were carried out on the monument. Author of the then restoration project was Z. Megvinetukhutsesi.

By the decree of Minister of Culture and Monument Protection of Georgia (#3/46, dated February 23, 2006) and by the decree of the President of Georgia (#665, dated November 7, 2006) the Erekle II King Palace have been listed as Cultural Heritage Monument of national significance.

Key Stakeholders

Grant Recipient/ Borrower: Government of Georgia represented by the Ministry of Finance

Local Representation: Municipality of city Telavi

Sources of Funding/

Financing: World Bank (WB) and Municipal Government (MG)/Government of Georgia (GOG)

Implementing Agency: Municipal Development Fund of Georgia (MDF)

Implementation Structure

World Bank (WB) Loan Agreement with the Government of Georgia; Project Implementation Agreement between the Borrower (Georgia) and MDF for the project; Investment Financing Agreement (IFA) for the funding of the Rehabilitation of Batonis Tsikhe between MDF and the Municipal Government (MG) of city Telavi.

2. Legislation and Regulations

According to the law of Georgia on Permit on Environmental Impact (2008) the SP does not require EIA and obtaining of Permit on Environmental Impact.

The SP triggers to the OP/BP 4.01 Environmental Assessment and OP/BP 4.11 Physical Cultural Resources of the World Bank.

According to the above mentioned safeguard policies and the Environmental Management Framework adopted for the RDP, the SP has been classified as B(+) category and requires preparation of Environmental Review (ER) and environmental Management Plan (EMP), in compliance with recommendations of SECHSA and EMF.

According to the Law on "Cultural Heritage" permit should be obtained for conduction of rehabilitation work of the cultural heritage monument.

According to the national regulatory system:

- (i) construction materials must be obtained from licensed providers,
- (ii) if contractor wishes to open quarries or extract material from river bed (rather than purchasing these materials from other providers), then the contractor must obtain licenses for extraction,
- (iii) if contractor wishes to operate own concrete plant (rather than purchasing concrete from other providers), then the contractor must prepare technical report on inventory of atmospheric air pollution stationary source and agree with MoENRP.
- (iv) disposal of the construction waste into a landfill or permanent placement of access inert material generated in the course of rehabilitated works must be approved by local (municipal) governing bodies in written.

Copies of extraction licenses (if applicable), permits for operating concrete plants (if applicable), and waste disposal permits will be attached to this ER once the contractor is selected and mobilized to the work site.

Written agreement should be obtained from the administration of the Telavi historical museum on the proper relocation and storage of the museum items disposed for this moment in the basement of the Palace.

3. The Subproject

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4. Baseline Environmental Conditions

4.1. Physical-geographical Description, Geology, Geomorphology, Hazardous Geological Processes

General physical-geographical description

Kakheti is situated in the eastern part of Georgia. It is bordered by Russian Federation from the north (Republics of Chechnya and Dagestan), Azerbaijan from the east and south and Georgian regions - Mtskheta-Mtianeti and Kvemo Kartli from the west.

The area of Kakheti is 11040,6 km² constituting 16,6% of the whole territory of Georgia. Kakheti includes 8 administrative regions.

Telavi is the city in East Georgia. It is located in the bottom of the north-east side of Gombori Mountain, on Alazani valley. It is the administrative center of Kakheti region and Telavi municipality. Telavi is the final destination of Tbilisi-Telavi railroad. It is located 550-800 m. above the sea level and distance from Tbilisi is 158 km. Telavi was established and received its status as a city in 1801. The population of Telavi is 21.8 thousand people (according to 2002 census). There are 24 villages in Telavi municipality.

Morphological, geological, tectonic and hydrogeological conditions

According to the tectonics, Kakheti region includes three large geotectonic blocks: The eastern zone of subsidence of loess schistous slates stratum of anticlinorium of the Caucasioni main ridge;

Kazbegi-Lagodekhi zone of the Lower and Middle Jurassic slates of the folded system of the Caucasioni southern slope and Mestia-Tianeti zone of the Upper Jurassic and Cretaceous carbonate flysch, which is divided into two sub-zones (Zhinvali-Gombori and Alazani subsidence zones);

Eastern subsidence zone of Georgian lump (intermountain depression), which is presented by Outer Kakheti sub-zone within the limits of Kakheti.

The landscape of Telavi is scenic. The city is wrapped in picturesque landscapes from all sides. Telavi faces the Tsiv-Gombori Range to the south and south-west and borders on the Alazani Valley to the north and east. The Greater Caucasus mountain range, which runs to the north of the Alazani Valley, can be seen from most of Telavi.

Tsiv-Gombori Range is a large young anticline developed on the substrate of Pliocene Molassa deposits. The given deposits are situated in an unconformity on the Cretaceous and Paleogene complex-folded flysch deposits. In the crest part of Tsiv-Gombori ridge and upper step of its northern slope, there are fragments of plain-wavy watersheds and denudation surfaces survived. Its surfaces are dissected by breakthrough gorges and all of them are characterized by the development of strong mudflow processes;

General assessment of hazardous geological processes

Southern part of Kakheti region is located within earthquake intensity of 7 grade, the central part comprising Dedoplistskaro and Sagarejo falls within 8 grade, Signangi and Gurjaani is located at the boarder of 8 and 9 grade zones and the Northern part of Kakheti, including Telavi, Ikalto, Akhmeta, Kvareli, as well as Tusheti falls within the most high risk zone of 9 grade earthquake intensity.

There are no geo hazard areas and hazardous geological processes at the SP area.

Climate

Telavi municipality belongs to the moderately humid subtropical climate district. Alazani valley formed hot humid summers and moderately cold winters. Mean annual air temperature is 12°C, the absolute maximum of 39°C, 700-800 mm precipitation per year.

Hydrology

City Telavi is located in the catch basin of river Alazani which is the second largest river in Georgia, heads on the southern slopes of the Caucasian mountain chain at 825 m altitude above sea level, at the point where two rivers, the Tsiplovanskhevi and Samkuristskali merge at village Kadori. The river flows into Mingechauri water reservoir at the eastern ending of outer Kakheti plateau. The length of the river Alazani is 351 km, its total fall is 745 m, its mean slope is 2.1‰ and the area of its catch basin is 11800 km².

Soils

On the left side of the Alazani valley is developed meadow-forest noncarbonated alluvial soil and on the right side the alluvial carbonate soil. In the foothill zone is developed the brown soil. In the Caucasus range and in the lower of slopes under broad-leaved forest is developed gray forest soil.

5. Analysis of Potential Impacts

5.1. Construction Phase

Social Impacts

- **General set of social issues.** Significant social impact of rehabilitation activities, like change of local demographic structure, influx of new settlers, secondary development, job opportunities, increase of AIDS risks is not envisaged.
- **Resettlement Issues.** SP does not imply private land acquisition and no permanent impacts are envisaged on private or leased agricultural lands and private assets or businesses.
- **Positive impact related to Job opportunities for construction workers.** Limited and temporary.
- **Health issues related to noise, emissions, vibration.** Limited and temporary.
- **Traffic Disruption.** Local traffic can be impacted limited and temporary by transport activities related to the SP.
- **Safety and Access.** There will be reduced access to areas adjacent to rehabilitation and potential hazards to vehicles and pedestrians during rehabilitation downtime. During construction works, minor negative impact on school pupils and staff safe access to school located on the territory of Batonis Tsikhe is expected.

Environmental Impacts

Improper handling, storage, use and disposal of construction materials and wastes could pose a risk of water/ soil contamination at the construction site and storage site. Improper maintenance and fueling of equipment could also lead to the potential contamination of soil and to some extent – water (near the crossings of the unnamed seasonal stream). The later impact is less probable.

Soil Pollution

Potential pollutants from a SP of this nature include the following (this list is not exhaustive):

- Diesel fuel, lubrication oils and hydraulic fluids, antifreeze, etc. from construction vehicles and machinery;
- Miscellaneous pollutants (e.g. cement and concrete);
- Construction wastes (packaging, stones and gravel, cement and concrete residue, wood, etc.)
- Extremely small amount of hazardous wastes (e.g. waste oils, oily rags, spent filters, contaminated soil, etc.) constituting about 0.1% of total amount of the wastes.

Water Pollution

Water pollution may result from a variety of sources, including the following:

- Spillages of fuel, oil or other hazardous substance, especially during refuelling
- Disturbance of watercourse banks and bed during watercourse crossings by heavy machinery
- Silt suspended in runoff waters ("construction water")
- Washing of vehicles or equipment

Spillages may travel quickly downhill to a watercourse or water body. Once in a watercourse, it can be difficult to contain the pollution which can then impact over a wide area downstream. It is therefore vital that prompt action is taken in the event of any potential water pollution incident.

Air Pollution and Noise

Potential impact of air pollution is minimal and related to operation of vehicles and heavy machinery at the construction site and during transportation of materials.

- Noise and vibration arising from heavy machinery and vehicles
- Air emissions (from vehicles, etc.)
- Dust (from vehicles).
- Fumes may be a concern linked to supply and transportation of materials

Construction Related Wastes

Inert and Non Hazardous Construction Wastes

The following types of inert and non-hazardous construction waste are anticipated to be produced from these activities:

- Inert (mineral) construction waste;
- Removed old wood materials;
- Removed bricks, gypsum plastering, glass;
- Removed the "Robermast" layer, tin, lime and cement plastering, bitumen residues from the roofs.

Hazardous Construction Wastes

Small quantities of the hazardous wastes will arise mainly from the vehicle maintenance activities. A number of hazardous wastes, which could be generated, include:

- liquid fuels;

- lubricants, hydraulic oils;
- chemicals, such as anti-freeze;
- contaminated soil;
- spillage control materials used to absorb oil and chemical spillages;
- machine/engine filter cartridges;
- oily rags, spent filters, contaminated soil, etc.)

Transport related impacts

- Noise & Vibration Impacts
- Traffic congestion (nuisance)
- Air pollution
- Mud on roads
- Refuelling, maintenance and vehicle cleaning and related risks of soil and water contamination

Impacts on the physical cultural property

The SP will be implemented in the territory of a cultural heritage site, including historical buildings. Risks related to restoration and upgrading of the site are: damage to old constructions due to vibration on site; impact on the historical and aesthetic values of the site. Operational phase risks are related to management of visitation, securing rehabilitated palace from unfavorable storage conditions and preventing vandalism on site, and household waste management.

6. Environmental Management Plan

This Environmental Management Plan (EMP) has been prepared to ensure that negative environmental impacts associated with this SP are minimized.

6.1. Mitigation Measures

CONSTRUCTION PHASE

A number of restrictions and mitigation measures are to be taken into account during the rehabilitation process:

1. The machinery should move only along the preliminarily agreed route;
2. The maximum allowed speed will be restricted on the castle adjacent territory;
3. The frequency of movement of the machinery will be restricted;
4. Parking place of the machinery/vehicles should be arranged outside of the cultural heritage site and no vehicles should not left on the site after working hours.
5. Construction materials must be obtained from licensed providers. Contractor will be required to submit to the MDF copies of the licenses, permits, written agreements, certificates, etc. to prove that all materials are obtained from licensed providers, including wood materials from

oak. Contractor will not allow to use wood material from oak species listed in the Red List of Georgia.

6. On the castle territory, the marginally allowable rates of vibration, noise and emissions will be by 20% decreased of maximum admissible levels of atmospheric air pollution, vibration and noise;
7. Storage of hazardous wastes on the cultural heritage rehabilitation area will be prohibited
8. Any construction or municipal wastes produced during rehabilitation stage should remove from the cultural heritage rehabilitation area every day at the end of working hours.
9. Every worker at mobilization stage will undergo the respective training on working on the high sensitivity site. The institute provide such training and module of the training should be agreed with National Agency for Cultural Heritage Preservation.

In course of rehabilitation activities, in case of observing any suspicious object, the rehabilitation works will be suspended and will restart only upon issuance of the permit by the National Agency for Cultural Heritage.

Temporary relocation and secure storage of Telavi Museum Inventory (items)

Telavi Museum items disposed for this moment in the basement of the palace should be relocated and storage in accordance of the written agreement with museum administration obtained prior of the works commencement.

Noise Related Impact

Noise is one of typical impacts related to the construction activities. The compliance with the environmental requirements is even more significant for the SP area due to the considerations regarding the construction activities list to be implemented within the territory of historical monument area, because it will involve the transportation of heavy cargo with heavy vehicles in the direct proximity of the historical monuments.

In case of absence of special measures and disregard to the restrictions the transport and devices could inflict serious damage.

Contractor construction organization should adopt special measures to achieve agreement with all stakeholder organizations on cargo transportation.

Mitigation Measures

- The selected movement route of the heavy vehicles should be maximally distances from historical monuments and densely populated districts of Batonis Tsikhe. In exceptional cases the allowed intensity of the vehicle traffic and speed should be determined;
- The import of the inert material shall be conducted from the licensed quarries nearby SP area. The rout of the transport movement during the transportation of inert material and any other construction material should be agreed upon with the appropriate municipal services and overload with the trucks and violation of the allowed traffic intensity should not take place;

- The maximum speed should be restricted to the safety level during the pass of the trucks in the proximity of the historical monuments;
- Proper technical control and maintenance practices of the machinery should be applied.
- Activities should be limited to daylight working hours;
- No-load operations of the vehicles and heavy machinery is not allowed. Proper mufflers will be used on machinery.
- The contractor organization should develop and submit to the customer the risk factors, their mitigation measures and emergency situation action plan prior to the beginning of the works;
- In case of emergency the measures agreed with the customer should be implemented under the surveillance of the interested organizations and with due regard to their comments;

Pollution Prevention Measures:

Water/Soil Pollution. Specific mitigation measures should be implemented at the construction site for prevention of water and soil pollution:

- Prevent operation of vehicles in the watercourses (e.g. unnamed stream near crossing sites);
- Revision of vehicles will be required to ensure that there is no leakage of fuel and lubricating materials. All machinery will be maintained and operated such that all leaks and spills of materials will be minimised. Daily plant checks (Vehicle Maintenance Procedure) will be undertaken to ensure no leaks or other problems are apparent. Vehicle maintenance, cleaning, and degreasing will be undertaken in designated areas, arranged outside of the cultural heritage site, of hard-standing, not over made ground. Maintenance points will not be located within 50m of any watercourse, well or dry gorge..
- Lubricants, fuel and solvents should be stored and used for servicing machinery exclusively in the designated sites, arranged outside of the cultural heritage site, with adequate lining of the ground and confinement of possible operation and emergency spills. Spill containment materials (sorbents, sand, sawing, chips etc.) should be available on construction site.
- No fuel, lubricants and solvents storage or refuelling of vehicles or equipment will be allowed on the cultural heritage site.
- Contractor should be required to organize and cover material storage areas. The material storage sites should be protected from washing out during heavy rain falls and flooding through covering by impermeable materials.
- Wet cement and/or concrete will not be allowed to enter any watercourse, pond or ditch.

Waste Handling

All waste from the construction site will be disposed of in accordance with environmental regulations and at approved landfills.

Inert and Non Hazardous Construction Wastes

- Written agreement with the "Solid Waste Management Company of Georgia" Ltd should be obtained by contractor on the disposal of construction waste on the nearest approved landfill prior to the works commencement.
- The personnel involved in the handling of hazardous and non-hazardous waste will undergo specific training in:
 - Waste handling
 - Waste treatment; and
 - Waste temporary storage
- Burning of waste on the SP site is forbidden.
- The records of waste disposal will be maintained as proof for proper management as designed.

Hazardous Wastes

- Written agreement with the licensed company should be obtained by contractor on the transportation, handling, disposal of hazardous waste prior to the works commencement;
- Temporarily storage of all hazardous or toxic substances will be in safe containers labelled with details of composition, properties and handling information;
- The containers of hazardous substances shall be placed in an leak-proof container to prevent spillage and leaching
- Paints with toxic ingredients or solvents or lead-based paints will not be used.

Dust and emissions

- All vehicles shall be maintained so that their emissions do not cause nuisance to workers or local people.
- Activities will be limited to daylight working hours to reduce impacts. All vehicles will be checked and repaired in case of need to eliminate increased level of noise due to damaged parts.
- Regular maintenance of diesel engines will be undertaken to ensure that emissions are minimised, for example by cleaning fuel injectors. Routine maintenance will be to a high standard to ensure that vehicles are safe and that emissions and noise are minimised. All plant used on site will be regularly maintained so as to be in good working order at all times to minimise potentially polluting exhaust emissions.

If deemed necessary in dry conditions or where significant quantities of dust are being or are likely to be produced mitigation measures will be arranged with the Construction Manager. Mitigation measures will include:

- Sheeting of construction materials and storage piles;
- Use of defined haulage routes and reductions in vehicle speed where required. Materials will be transported to site in off peak hours;

- Materials transported to site will be covered/ wetted down to reduce dust. The construction site will be watered as appropriate. Protective equipment will be provided to workers as necessary. All vehicles will be checked and repaired in case of need to eliminate increased emission due to damaged parts.
- During removing of the bricks, gypsum plastering, etc. destruction dust shall be suppressed by ongoing water spraying and/or installing dust screen enclosures at site;
- The surrounding environment (sidewalks, roads) shall be kept free of debris to minimize dust
- There will be no open burning of construction / waste material at the site
- There will be no excessive idling of construction vehicles at sites

Mitigation measures for Site safety access.

- To avoid any accident related to construction works, there relevant means will be provided to protect children studying in the school located on the territory of Batonis Tsikhe. The school is located out of construction site. For children and school staff safe access to school during construction works there will be arranged through the entry from castle wall's western gate and barriers with warning signs will be provided around the construction area.

OPERATION PHASE

Waste management

Increase of the number of tourists will result in the increased volume of waste. The number and volume of containers to be placed in the tourists gathering centers depends on the following factors: the expected number of tourists; the area of the territory, existence of access roads. Based on the calculations, for the expected 300 tourists one 1.1 m³ capacity metal container should be placed. It should be taken into consideration that the distance between containers should not exceed 50m and at the same time the 1.1 m³ containers should be easily accessible by the respective vehicles and there should be space for maneuvering. If the abovementioned requirements cannot be met, a smaller size easily portable 0.24 m³ plastic containers should be used. Therefore, for each case the number, size and location points should be determined on individual basis.

Imposing of penalty sanctions¹ against littering of the site

Placement of the containers will have no tangible result, if the penalty sanctions are not imposed and exercised. The effectively implementation of the penalty mechanisms will lead to accelerated achievement of the target.

Traffic and pedestrian access

The traffic will increase in adjacent area of Batonis Tsikhe, as well as in town Telavi, which will result in the increased level of local emissions and noise as well as traffic safety issues. The Mitigation measures for this will be:

¹ “The General Administrative Code of Georgia” Articles 52, 82 and 142

- Parking lots are located in the nearest streets and squares of Batonis Tsikhe in Telavi. The car parking area and lots are located so that cars and buses will be able to stop and maneuver uninterruptedly;
- The proper management services will reduce negative impacts, imposed by traffic jams causing increased volumes of emissions and noise, on CH site.
- For pedestrian there will be arranged relevant sidewalks, pedestrian passes and signage on the site access roads around Batonis Tsikhe.

Water-supply and sewage

Increased number of tourists will increase using of water supply and sewage systems. To exclude any accident that will cause water losses or disruption of sewage systems proper management and monitoring of the systems is required during operation period.

6.2. Monitoring

The monitoring plan for the SP is summarized in Monitoring Matrix. Monitoring measures include site supervision, verification of permits, monitoring of compliance of the contractor performance and environmental impacts like: noise, dust, soil and water pollution and air emissions etc. The capacity of the PIU to monitor environmental compliance is assessed as adequate. The PIU's construction supervisors and Environmental and Social specialist are responsible for environmental monitoring.

6.3. Implementation Arrangements

Overall responsibility for the coordination and implementation of the construction phase EMP will be with the MDF. As such they will be responsible for liaising with local environmental authorities, municipalities, the local community and the contractors engaged for construction on environmental issues associated with the implementation of this EMP and the Environmental Guidelines for Contractors.

The MDF will be responsible for ensuring that the following requirements are met: (i) Georgian environmental regulations; (ii) environmental permits are obtained; (iii) waste is disposed to a licensed disposal site; (iv) any other requirements identified by the MoENRP and agreed with the MDF; and (v) the Environmental Management and Monitoring Plans are implemented.

6.4. Costs of Implementation

Costs of implementing the proposed individual mitigation measures are small and difficult to single out from the costs of construction operations. Nonetheless, it is recommended that Bill of Quantities presented in the tender documentation carries a line item for the disposal of waste and excess materials. Other costs of adherence to good environmental practice and compliance with this EMP are expected to be integrated into the pricing of various construction activities.

PART D: MONITORING MANAGEMENT PLAN

Activity	What (Is the parameter to be monitored?)	Where (Is the parameter to be monitored?)	How (Is the parameter to be monitored?)	When (Define the frequency / or continuous?)	Why (Is the parameter being monitored?)	Who (Is responsible for monitoring?)
CONSTRUCTION PHASE						
Supply with construction materials	Purchase of construction materials from the officially registered/licensed suppliers	In the supplier's office or warehouse	Verification of documents	During conclusion of the supply contracts	To ensure technical reliability and safety of infrastructure	MDF, Construction supervisor
Transportation of construction materials and waste, Movement of construction machinery	Technical condition of vehicles and machinery Confinement and protection of truck loads with lining Respect of the established hours and routes of transportation	Construction site	Inspection	Unannounced inspections during work hours and beyond	Limit pollution of soil and air from emissions; Limit nuisance to local communities from noise and vibration; Minimize traffic disruption.	MDF, Construction supervisor, Traffic Police
Restoration works	Compliance with design approved by NACHP	Construction site	Inspection	In the course of restoration works	Prevention of damage of historical features of building and historical site in hole.	MDF, Construction supervisor NACHP

Activity	What (Is the parameter to be monitored?)	Where (Is the parameter to be monitored?)	How (Is the parameter to be monitored?)	When (Define the frequency / or continuous?)	Why (Is the parameter being monitored?)	Who (Is responsible for monitoring?)
Sourcing of inert material	<p>Purchase of material from the existing suppliers if feasible;</p> <p>Obtaining of extraction license by the works contract and strict compliance with the license conditions;</p> <p>Terracing of the borrow area, backfilling to the exploited areas of the borrow site, and landscape harmonization;</p> <p>Excavation of river gravel and sand from outside of the water stream, arrangement of protective barriers of gravel between excavation area and the water stream, and no entry of machinery into the water stream.</p>	Borrowing areas	<p>Inspection of documents</p> <p>Inspection of works</p>	In the course of material extraction	<p>Limiting erosion of slopes and degradation of ecosystems and landscapes;</p> <p>Limiting erosion of river banks, water pollution with suspended particles and disruption of aquatic life.</p>	MDF, Construction supervisor
Generation of construction waste	<p>Temporary storage of construction waste in especially allocated areas;</p> <p>Timely disposal of waste to the formally designated locations</p>	Construction site; Waste disposal site	Inspection	Periodically during construction and upon complaints	Prevent pollution of the construction site and nearby area with solid waste	MDF, Construction supervisor
Traffic disruption and limitation of pedestrian access	<p>Installation of traffic limitation/diversion signage;</p> <p>Storage of construction materials and temporary placement of construction waste in a way preventing congestion of access roads</p>	At and around the construction site	Inspection	In the course of construction works	Prevent traffic accidents; Limit nuisance to local residents	MDF, Construction supervisor

Activity	What (Is the parameter to be monitored?)	Where (Is the parameter to be monitored?)	How (Is the parameter to be monitored?)	When (Define the frequency / or continuous?)	Why (Is the parameter being monitored?)	Who (Is responsible for monitoring?)
Workers' health and safety	Provision of uniforms and safety gear to workers; Informing of workers and personnel on the personal safety rules and instructions for operating machinery/equipment, and strict compliance with these rules/instructions	Construction site	Inspection	Unannounced inspections in the course of work	Limit occurrence of on-the-job accidents and emergencies	MDF, Construction supervisor
OPERATION PHASE						
Management of BatonisTsikhe premises	Household waste management Maintenance of water supply and sanitation system Control installation of new physical constructions and infrastructure within the site	BatnoisTsikhe site	Inspection	During operation of facilities	Prevent littering of the site Prevent malfunction of fountains, public WCs, and utilities in the administration buildings Preserve historical and aesthetic value of the site	Administration of the Telavi Historical Museum Telavi municipality
Management of visitation to BatonisTsikhe	Development and implementation of a site management plan	BatonisTsikhe site	Inspection	Prior to the rehabilitated site re-entering into operation and throughout operation	Prevent over-crowding of the site and dissatisfaction of visitors	Administration of the Telavi Historical Museum

Attachments

Attachment 1: Minutes of Public Consultation Meeting

October 6, 2014
Town Telavi, Georgia

Minutes of Public Consultation Meeting

Kakheti Regional Development Project (RDP)

Restoration of the Erekle II Palace (Batoni Tsikhe, Telavi) Sub-project

Public hearing of sub-project Environmental Review

In order to discuss environmental documentation (Social and Environmental **Review including Environmental management Plan**) prepared for the sub-project-“*Restoration of the Erekle II palace (Batoni Tsikhe, Telavi)*”, a public consultation meeting was conducted on October 6, 2014.

The meeting was held in the Telavi Center for Civic Engagement (USAID) and aimed at keeping local population abreast of sub-project related planned activities, the expected negative impacts on the natural and social environment and the ways and means of preventing them.

Those present at the meeting:

Representatives of Telavi city hall: Gagnidze Vakhtang, Kushitashvili Pikria, Giorgi Kiknadze, Garibashvili elene, Ekaterine Oboladze, Maguli Charbadze, Otar Mdivnishvili,

Residents of Town Telavi: Mariam Marelashvili, Asmat Tetiashvili, Maka Valashvili, Makvala Arabuli, Makvala Tsiklauri, Lia Mumlauri.

Journalist - Mariam Zaalishvili –

Representative of Telavi Center for Civic Engagement/USAID: Lika Imerlishvili

Designer of the SP- Zaal Megvinetukhutsesi

Representative of Ltd “Georgian Engineering”: Paata Bitsadze

Representatives of “Gamma Consulting”: Alexandre Balakhashvili, Zurab Mgaloblishvili.

Representatives of International Supervisor Company - „Steget Group”: Zurab Kviriashvili, Patrizia Giacomelli, Kakhaber Jangulashvili.

Representatives of Municipal Development Fund of Georgia:

Nino Jangulashvili- Environmental Safety Specialist;

Tamar Kardava - Beneficiary Relations Specialist.

Nino Jangulashvili opened the meeting and presented information about the purpose of the meeting, main goals of the sub-project and the planned works envisaged under the SP to the audience. In the process of the meeting, she conducted presentation about the Social and Environmental Review and Social and Environmental Management Plan prepared for the sub-project. Nino Jangulashvili shortly explained to the public about the social and environmental screening procedures applied for the WB and environmental and social requirements of the presented SP. She described activities envisaged under the SP and discussed potential social and environmental impacts (positive/negative) which may arise as a result of the SP implementation and mitigation measures in order to minimize or avoid these potential negative impacts.

N. Jangulashvili discussed about the structure and content of Environmental Review, the necessity of mitigation measures implementation envisaged under the environmental management plan, responsibilities of the construction contractor for implementation of EMP and the issues related to the environmental monitoring of the SPs. She noted that EMP forms an integral part of the contract made with the civil works contractor. The last one is responsible for performance of mitigation measures envisaged under the EMP to protect social and natural environment.

At the end of the presentation, N. Jangulashvili informed the participants about the contact persons for communication, in case of existence of any complaints concerning environmental or social issues.

After the presentation, the audience was given a possibility to express their opinions and/or participate in Q&A session concerning presented issues, they posed the following question.

Questions and remarks	Answers and comments
Considering that, a school is located near the construction site, local population are interested in how implementation of safety measures would be ensured to protect the site from pupil's access.	Construction contractor is responsible to ensure implementation of security measures to protect the construction area, there will be arranged fences around the construction site, information and warning signs will be installed and the site will be protected by the Security Service.
How will be removed the domestic waste from the construction sites?	Contractor is required to make a contract with a local cleaning service and "solid waste management company of Georgia" LTD for domestic waste removal from the construction site to ensure clean up the site timely.
Will the restoration works interfere to the movement of church parish and clergy to the church located on the castle territory?	Similar restrictions are not expected, as there is a enough place on Erekle II palace territory to bound construction works area from other part

	of the yard and also define the movement area for people to access the church.
When will the construction works be launched?	Selection of the construction company is in the process and the selected construction contractor will be mobilized and construction works launched in the nearest future.

At the end of the meeting the audience expressed their positive attitude towards the project and their hope that rehabilitation of Erekle II palace will be completed in time and will contribute to the development of the region's tourism potential.

Photo material and copy of meeting participants' registration list are hereby enclosed.

Minutes prepared by Nino Jangulashvili, MDF Environmental Safety Specialist

6 October 2014

Photos:



List of participants:

კახეთის რეგიონული განვითარების პროექტი/ Regional Development Project (RDP)- Kakheti

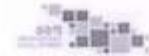
ქვეპროექტი: ერეკლე II სასახლის (ბატონის ციხე, თელავი) რესტავრაციის ქვეპროექტი

Sub-Project: Restoration of King Erekle II Palace (BatonisTsikhe Fortress, Telavi)

გარემოსდაცვითი შეფასების დოკუმენტის საჯარო განხილვა/ Public Hearing of ER

06.10.2014 თელავი/Telavi
დასმწრეთა სია/List of Attendance

#	გვარი, სახელი/ Name	ორგანიზაცია/ Organization	საკონტაქტო ინფორმაცია/ Contact information	ხელმოწერა/ Signature
1	2	3	4	5
1	მინაძე მანუკა	განმარტოვებული	568-77-27-03	
2	ვინაძე ივანე	თავის ბაზა	570-70-42-25	
3	მუჯანყაშვილი ზაზა	სსიპ-თელავი	591 93-81-45	
4	საქმობრობის ცენტრი	თელავის მუნიციპალიტეტი	599 857741	
5	ქ-თელავი-სახლი	თელავის მუნიციპალიტეტი	599 507404	
6	ბაბუნა დარბაზი	თელავის მუნიციპალიტეტი	568 610851	
7	მუსიკის სასახლე	თელავის მუნიციპალიტეტი	27-18-33	
8	და. მუსიკის	საქართველო	87-11-10	
9	განმარტოვებული	თელავის მუნიციპალიტეტი	599 551799	
10	მუსიკის სასახლე	თელავის მუნიციპალიტეტი	599-14-86-85	



დამსწრეთა სია/List of Attendance

#	გვარი, სახელი/ Name	ორგანიზაცია/ Organization	საკონტაქტო ინფორმაცია/ Contact information	ხელმოწერა/ Signature
1	2	3	4	5
11	ნათა დარბაზიანი	თავისუფალი საქართველო	595 555 944	
12	გიორგი შაველიძე	თავისუფალი საქართველო	599 201041	
13	მარიამ ჯორჯიანი	თავისუფალი საქართველო	555 813155	
14	მარია ვასილიძე	თავისუფალი საქართველო	555-817-412	
15	გაბრიელ მამუკაძე	თავისუფალი საქართველო	595-22-63-79	
16	გაბრიელ მამუკაძე	თავისუფალი საქართველო	593-50-9041	
17	საი მამუკაძე	საქართველოს მთავრობა	591 188 103	
18	მადონა ბერიძე	საქართველოს მთავრობა	599 10 29 24	
19	გიორგი მამუკაძე	საქართველოს მთავრობა	599 50 44 34	
20	Elvira Kvirashvili	STEGET	577774003	
21	PATRIZIA GIACOMELLI	STEGET	571404200	
22	STEGET	საერთაშორისო მთავრობა	591 230 763	



