MDF
MUNICIPAL DEVELOPMENT
FUND OF GEORGIA

Rehabilitation and safety Measures of Access road to Village Gogasheni in Akhalkalaki Municipality

Sub-Project Environmental and Social Screening and

Environmental Management Plan

WORLD BANK FINANCED
THIRD REGIONAL DEVELOPMENT PROJECT

October, 2015

Sub-Project description

The sub-project (SP) envisages rehabilitation and safety measures of access road to village Gogasheni, located in Akhalkalaki Municipality, at South-east approximately in 40 km distance from town Akhalkalaki.

Access road starts on the left side in 15 kilometers of Khertvisi-Vardzia-Mirashkhani highway (1300m above sea level) and it follows the eastern slope of Javakheti upland to the entrance of village Apnia (1750m above the sea level). The road bears importance of local interest. The length of rehabilitative road section is 7037m and the width is 5-6m. The road does not cross the populated area. At the beginning of the road (from the side of Vardzia) fragmental sections of amortized asphalt-concrete cover are still preserved along 500 meter longitudinal, whereas the rest of the above-mentioned road (about 6537 meter) is entirely constitutes ground. Small ravines repeatedly cross the whole length of the highway. The ditches practically do not exist. The existing steel water drains do not provide water transmission and the water is disorderly flowing on the carriageway, due to what roadbed is heavily transformed into ravines. Sharp turns and 16 Serpentines are represented on the way. The slope is demolished in several sections, what contracts approach road. The contraction of approach road is also conditioned by the accumulated debris after cleaning works of roadbed on the opposite side of road slope.

In some sections of the existing road, the roadbed is widened on the account of rubble-stone supporting wall built in dry formation. The rubble-stone is locally extracted. The stone formation, excluding several sections is properly preserved into the wall and valid for future usage. Damaged rubble-stone walls will be demolished and the stones will be reused for construction of the new gabions.

SP envisages the following works:

- Arrangement of Asphalt-concrete cover at the end (the side of Vardzia) of the road along 500m.
- Arrangement of gravel cover in 7 sections of the road (total length -545m)
- Leveling the cover on the rest part of the road.
- Cleaning of the existing culverts from the sedimentary soil.
- Demolition of the existed rubbles.
- Construction of gabion walls (609 m)
- Rehabilitation of the existing steel pipes (d-0,530m)
- Laying of new steel pipes (d-0,720m)
- Construction of reinforced-concrete drain ditches. (1168m)
- Cutting the existing shrubbery along the road.
- Construction of steel guardrails, road signs, concrete parapet of special profile and indicating posts.

Environmental Screening and Classification of SP

(A) IMPACT IDENTIFICATION

Does the subproject have a tangible impact on the environment?	The SP has a modest negative environmental impact and it is expected to have tangible long-term positive impact on the social environment.
What are the significant beneficial and adverse environmental effects of the subproject?	Rehabilitated road starts from the territory of Akhalkalaki region, village Apnia and passes through the unpopulated area. The territory is mountainous and performs the function of grazing land. The influence on the natural and social environment will be short-term, what is characterizing for rehabilitative works of medium-scale. In the modified environment: noise, dust, vibration, exhaust; generated construction waste, traffic and pedestrian access violation. As the result of construction works approximately 9800m^3 inert and organic waste are formed (after cutting the shrubbery). The average distance from the SP construction area to the nearest dumpsite is 15 km. The mentioned road passes on the 5km section of Khertvisi-Vardzia- Mirashkhani highway. The intense traffic movement of construction vehicles will be nuisance factor for both local population and tourists as well. Implementation of the project requires 1600 m^3 sand-gravel and 700 tone asphalt. Transportation of the mentioned materials, from Akhaltsikhe and Aspindza regions also, will cause disturbances for local population and tourists as well. Rehabilitated works require usage about 3 tone of liquid bitumen, which should not be placed on the construction site territory. In case of necessity, bitumen will be supplied by specific techniques and it will be instantly utilized.

	Rehabilitation of the mentioned road expects the increase of tourists' interests, as the marvelous view is spread from all sections of the road to the direction of Vardzia Unique Historical Monument. Implementation of the SP will create the chance for local inhabitants (Apnia, Gogasheni and etc.) to travel via the shortest highway to the direction of Aspindza-Akhaltsikhe and Tbilisi. After implementation of the SP, expenditures for road operation and care-maintenance will be decreased. Safety of traffic will be increased. Emission of health-harmful exhaust and fuel consumption will be also decreased.
May the subproject have any significant impact on the local communities and other affected people?	Implementation of the SP does not require land acquisition. There will be long-term positive social impact, such as growth of tourist flow, attraction of private sector investment in tourism infrastructure comfort and safe relocation, fuel and time economy, road permeability any time of a year and etc.

(B) MITIGATION MEASURES

Were there any alternatives to the sub-project design considered?	Due to the fact that the SP envisages rehabilitation of existing road, alternatives were not considered.
What types of mitigation measures are proposed?	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. In case chance find is encountered in the course of earthworks, the contractor must immediately stop any physicalactivity on site and informs the MDF. The MDF promptly notifies the Ministry of Culture and Monument Protection, which takes over responsibility for the following course of action. Works may resume only upon receipt of written permission from the Ministry of Culture and Monument Protection. Nut trees, locating along the road (are the species included in the red list of Georgia) will be guard railed and preserved by random impair or cut. In operation phase proper management of generated solid waste and waste water should be ensured to reduce impact on the environment.
What lessons from the previous similar subprojects have been incorporated into the project design?	MDF have wide experience of implementation of medium and large scale road and streets rehabilitation subprojects financed by various donor organizations. Based on the lessons learned from previous similar projects, design envisages not only rehabilitation of road pavement but also installation of storm water ditches which will backing further maintenance of the street cover.
Have concerned communities been involved? And have their interests and knowledge been adequately taken into consideration in subproject preparation?	EMP intended for the SP will be available to community population in the village Gogasheni and consultation meeting will be held prior to the commencement of works.

(C) CATEGORIZATION AND CONCLUSION

Conclusion of the environmental screening:

1. Subproject is declined ☐
2. Subproject is accepted ■

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 ☐

Social Screening and Cultural Resource Screening of SP

	Social safeguards screening information	Yes	No
1	Is the information related to the affiliation, ownership and land use status of the sub-project site available and verifiable? (The screening cannot be completed until this is available)	**X**	
2	Will the sub-project reduce people's access to their economic resources, such as land, pasture, water, public services, sites of common public use or other resources that they depend on?		**X**
3	Will the sub-project result in resettlement of individuals or families or require the acquisition of land (public or private, temporarily or permanently) for its development?		**X**
4	Will the project result in the temporary or permanent loss of crops, fruit trees and household infra-structure (such as ancillary facilities, fence, canal, granaries, outside toilets and kitchens, etc)?		**X**
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?		**X**
If answer to question 5 is "Yes", then **OP/BP 4.11Physical Cultural Resources** is applicable and possible chance finds must be handled in accordance with OP/BP and relevant procedures provided in the **Environmental and Social Management Framework**.			

Environmental Management Plan

PART A: GENERAL PROJECT AND SITE INFORMATION

INSTITUTIONAL AND ADMINISTRATIVE	
Country	**Georgia**
Project title	**Third Regional Development Project (RDP 3)**
Sub-Project title	**Rehabilitation and safety Measures of Access road to Village Gogasheni in Akhalkalaki Municipality**
Scope of site-specific activity	The sub-project (SP) envisages rehabilitation and safety measures of access road to village Gogasheni, located in Akhalkalaki Municipality, at South-east approximately in 40 km distance from town Akhalkalaki. Access road starts on the left side in 15 kilometers of Khertvisi-Vardzia-Mirashkhani highway (1300m above sea level) and it follows the eastern slope of Javakheti upland to the entrance of village Apnia (1750m above the sea level). The road bears importance of local interest. The length of road section to be rehabilitated within the SP is 7037m; width is 5-6m. The road does not cross the inhabited area. At the start of the road (from the side of Vardzia) fragmental sections of amortized asphalt-concrete cover are still preserved along 500 metre longitudinal, whereas the rest of the above-mentioned road (about 6537 metre) is entirely constitutes ground. Small ravines repeatedly cross the whole length of the highway. The ditches practically do not exist. The existing steel water drains do not provide water transmission and the water is disorderly flowing on the carriageway, due to what roadbed is heavily transformed into ravines. Sharp turns and 16 Serpentines are represented on the way. The slope is demolished in several sections, what contracts approach road. The contraction of approach road is also conditioned by the accumulated debris after cleaning works of road bed on the opposite side of road slope. In some sections of the existing road, the roadbed is widened on the account of rubble-stone supporting wall built in dry formation. The rubble-stone is locally extracted. The stone formation, excluding several sections is properly preserved into the wall and valid for future usage. Damaged rubble-stone walls will be demolished and the stones will be reused for construction of design gabions. **SP envisages the following works:** - Arrangement of Asphalt-concrete cover at the end (the side of Vardzia) of the road along 500m. - Arrangement of gravel cover in 7 sections of the road (total length -545m) - Leveling the cover on the rest part of the road. - Cleaning of the existing culverts from the sedimentary soil.

	- Demolition of the existed rubbles. - Construction of gabion walls (609 m) - Rehabilitation of the existing steel pipes (d-0,530m) - Laying of new steel pipes (d-0,720m) - Construction of reinforced-concrete drain ditches. (1168m) - Cutting the existing shrubbery along the road. - Construction of steel guardrails, road signs, concrete parapet of special profile and indicating posts. Construction of infantry sidewalk is not envisaged under the SP due to the narrowness of the road. Water removal from the road is performed through ditches and culverts. Drainage waters will be discharged in the existing natural ravines, it will not lead furrowing of slopes and creation of new ravines along the existing area.		
Institutional arrangements (WB)	Task Team Leader: Ahmed Eiweida Co-Task Team Leader: Zaruhi Tokhmakhian	Safeguards Specialist: Darejan Kapanadze	
Implementation arrangements (Borrower)	Implementing entity: Municipal Development Fund of Georgia	Works supervisor: (tbd)	Works contractor: (tbd)

SITE DESCRIPTION	
Name of institution whose premises are to be rehabilitated	Motorway-Access road to Village Gogasheni (from the side of Vardzia) belongs to highway of locally importance, which is ruled by Akhalkalaki Municipality.
Address and site location of institution whosepremises are to be rehabilitated	11, Charentsiani str. 0700, Akhalkalaki, Georgia
Who owns the land?Who uses the land (formal/informal)?	Municipal property
Description of physical and natural environment around the site	Access road starts on the left side in 15 kilometers of Khertvisi-Vardzia-Mirashkhani highway (1300m above sea level) and it follows the eastern slope of Javakheti upland to the entrance of Apnia. The whole road passes unpopulated territory. The territory is mountainous, and performs the function of pasturelands.

	The first section of the road runs through sparse forest-covered slopes of the shrubbery (hornbeam, blackberries, hawthorn, and dog rose). The second section of the road runs along the shrubbery and herbaceous vegetation-covered slopes. Pine artificial plantation is cultivated on the slopes along the road. Nut trees are planted (included species in the red list of Georgia) on the slope near from the carriageway and in some cases, they are separately on the shoulders. As the slopes locating along the road section are furrowed with natural ravines, the small areas are allocated for grazing. The large amount of the municipality territory constitutes Akhalkalaki mountainous upland. Its surface is relatively homogeneous shape; the height fluctuates between 1600m above sea level (in north-west) and 2100m above sea level (in south-west). Rocks within the rehabilitated section are constituted by the sand-stones on the clay and limestone-cement and breccias of volcanic origin and sand-stones. According to current regulatory document P.N. 01.01.09 - ,,Seismic Construction" of Georgia the SP area belongs to 8-balley seismic zone. Average annual temperature is $9,4^0$ C, Average temperature in July is $20,0^0$C, and Average temperature in January is $-2,2^0$C. Average annual precipitation is 520mm. Villages, Apnia and Gogasheni are located in 1700=1742 m above sea level. The population of Apnia is 111 people, and population of Gogasheni is 349 people. Village Gogasheni is about 30 kilometers distance from Akhalkalaki. Village has excellent views of the castle-city of Vardzia.
Locations and distance for material sourcing, especially aggregates, water, stones?	Distance from design zone to the nearest landfill is 15 km. Distance to the nearest licensed asphalt plant is approximately 55-60 km(Akhaltsikhe region)
LEGISLATION	
National and local legislation and permits that apply to project activity	The SP has been classified as an Environmental Category "B" according to the World Bank policies and the ESMF.

	Georgian legislation does not require any type of environmental review, approval or permitting for the SP. Though 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 asphalt or concrete plant (rather than purchasing these materials from other providers), then the contractor must obtain an environmental permit with an established ceiling of pollutant concentrations in emissions and technical report on inventory of atmospheric air pollution stationary source agreed with Ministry of Environment and Natural Resources Protection. IV. Permanent placement of the inert material (cut ground and sedimentary soil) generated in the course of earth works in a selected location must be approved by local (municipal) governing bodies in written; In case chance find is encountered in the course of earthworks, the contractor must immediately stop any physical activity on site and informs the MDF. Works may resume only upon receipt of written permission from the Ministry of Culture and Monument Protection. GOST and SNIP norms must be adhered.
PUBLIC CONSULTATION	
When / where the public consultation process will take /took place	The discussion of EMP will be held prior to the commencement of works.
ATTACHMENTS	
Attachment 1: Site map and pictures Attachment 2: Record on public consultation (to be provided) Attachment 3: Agreement on waste disposal (to be provided) Other permits/agreements – as required	

PART B: SAFEGUARDS INFORMATION

ENVIRONMENTAL /SOCIAL SCREENING			
	Activity/Issue	**Status**	**Triggered Actions**
Will the site activity include/involve any of the following?	A. Building rehabilitation	■ Yes [ ]No	See Section **A** below
	B. New construction	[ ] Yes ■ No	See Section **A** below
	C. Individual wastewater treatment system	[ ] Yes ■ No	See Section **B** below
	D. Historic building(s) and districts	[ ] Yes ■ No	See Section **C** below
	E. Acquisition of land[1]	[ ] Yes ■ No	See Section **D** below
	F. Hazardous or toxic materials[2]	[ ] Yes ■No	See Section **E** below
	G. Impacts on forests and/or protected areas	[ ] Yes ■ No	See Section **F** below
	H. Handling / management of medical waste	[ ] Yes ■ No	See Section **G** below
	I. Traffic and Pedestrian Safety	■ Yes [ ]No	See Section **H** below

[1] Land acquisitions includes displacement of people, change of livelihood encroachment on private property this is to land that is purchased/transferred and affects people who are living and/or squatters and/or operate a business (kiosks) on land that is being acquired.

[2] Toxic / hazardous material includes but is not limited to asbestos, toxic paints, noxious solvents, removal of lead paint, etc.

PART C: MITIGATION MEASURES

ACTIVITY	PARAMETER	MITIGATION MEASURES CHECKLIST
0. General Conditions	Notification and Worker Safety	(a) The local construction and environment inspectorates and communities have been notified of upcoming activities (b) The public has been notified of the works through appropriate notification in the media and/or at publicly accessible sites (including the site of the works) (c) All legally required permits have been acquired for construction and/or rehabilitation (d) The Contractor formally agrees that all work will be carried out in a safe and disciplined manner designed to minimize impacts on neighboring residents and environment. (e) Workers' PPE will comply with international good practice (always hardhats, as needed masks and safety glasses, harnesses and safety boots) (f) Appropriate signposting of the sites will inform workers of key rules and regulations to follow.
A. General Rehabilitation and /or Construction Activities	Air Quality	(a) The surrounding environment (sidewalks, roads) shall be kept free of debris to minimize dust (b) There will be no open burning of construction / waste material at the site (c) There will be no excessive idling of construction vehicles at sites
	Noise	(a) Construction noise will be limited to restricted times agreed to in the permit (b) During operations the engine covers of generators, air compressors and other powered mechanical equipment shall be closed, and equipment placed as far away from residential areas as possible
	Water Quality	(a) The site will establish appropriate erosion and sediment control measures such as e.g. hay bales and / or silt fences to prevent sediment from moving off site and causing excessive turbidity in nearby streams and rivers.
	Waste management	(a) Mineral construction and demolition wastes will be separated from general refuse, organic, liquid and chemical wastes by on-site sorting and stored in appropriate containers. (b) Construction waste will be collected and disposed on the nearest municipal landfill. (c) The records of waste disposal will be maintained as proof for proper management as designed. (d) Whenever feasible the contractor will reuse and recycle appropriate and viable materials (except asbestos)

ACTIVITY	PARAMETER	MITIGATION MEASURES CHECKLIST
	Protection of trees along the roads	(a) Trees (especially walnuts) along the road must be protected from cutting or unintentional damage; Large tress shall be marked and cordoned off with fencing and their root system protected; (b) Movement of vehicles will strictly limit within traffic lane; Pockets for turning of vehicles should be arranged. (c) All workers will be strictly prohibited from, foraging, waste dump or other damaging activities to adjusted landscapes. (d) Any tree that is damaged or dies as a consequence of the construction shall be replaced by a suitably sized transplant at least 1:3 ratio to the approval of the MDF and National Forest Agency.
H. Traffic and Pedestrian Safety	Direct or indirect hazards to public traffic and pedestrians by construction activities	(a) In compliance with national regulations the contractor will insure that the construction site is properly secured and construction related traffic regulated. This includes but is not limited to ▪ Signposting, warning signs, barriers and traffic diversions: site will be clearly visible and the public warned of all potential hazards ▪ Traffic management system and staff training, especially for site access and near-site heavy traffic. Provision of safe passages and crossings for pedestrians where construction traffic interferes. ▪ Adjustment of working hours to local traffic patterns, e.g. avoiding major transport activities during rush hours or times of livestock movement ▪ Active traffic management by trained and visible staff at the site, if required for safe and convenient passage for the public. ▪ Ensuring safe and continuous access to office facilities, shops and residences during renovation activities, if the buildings stay open for the public.

PART D: MONITORING 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 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 Along transportation route Near settlement areas.	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
EarthWorks	Temporary storage of excavated material in the pre-defined and agreed upon locations; Backfilling of the excavated material and/or its disposal to	Construction site	Inspection	In the course of earth works	Prevent pollution of the construction site and its surroundings with construction waste;	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?)
	the formally designated locations; In case of chance finds immediate suspension of works, notification of the Ministry of Culture and Monument Protection, and resumption of works exclusively upon formal consent of the Ministry. .				Prevent damage and loss of physical cultural resources	
Sourcing of inert material	Purchase of material from the existing suppliers if feasible; Obtaining of extraction license by the works contract and strict compliance with the license conditions; Terracing of the borrow area, backfilling to the exploited areas of the borrow site, and	Borrowing areas	Inspection of documents Inspection of works	In the course of material extraction	Limiting erosion of slopes and degradation of ecosystems and landscapes; Limiting erosion of riverbanks, water pollution with suspended particles and disruption of aquatic life.	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?)
	landscape harmonization; 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.					
Generation of construction waste	Temporary storage of construction waste in especially allocated areas; Timely disposal of waste to the formally designated locations	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
Trafic disruption and limitation of pedestrian access	Installation of traffic limitation/diversion signage; Storage of construction materials and temporary placement of construction waste in a way preventing	Along construction route. Along materials and waste transportation route.	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?)
	congestion of access roads					
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
Completion of construction	Rake or loosen all compacted ground surfaces Ensure that waste and surplus materials are removed from site, or otherwise dealt with according to the wishes of landowners or local residents Excavate any contaminated soil from fuel depots /	All construction and camp sites	Inspection	After completion of construction	Prevent pollution of the construction site and nearby area after SP implementation	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?)
	workshops, remove and reshape the area.					
OPERATION PHASE						
Maintenance of rehabilitated road	Conduct regular monitoring and inventory of risks for erosion and drainage problems Conduct routine maintenance like grading, drain clearing, pothole patching and shoulder repairs.	Entire road section	Inspection	During rehabilitation works	Prevent road accidents and disruption of traffic	Akhalkalaki Municipality
Pedestrian safety	Promote off-road let down stops; Enhance improvements in road signage and pavement markings.	Entire road section	Inspection	Recurrent	To enhance pedestrians safety following increased vehicle speed	Akhalkalaki Municipality

Attachment 1: Site Map and pictures