

**REPUBLIC OF ARMENIA
MINISTRY OF TRANSPORT AND COMMUNICATION
TRANSPORT PIU STATE INSTITUTION**

**LIFELINE ROAD NETWORK IMPROVEMENT
PROJECT
(Including the Additional Financing)**



**ENVIRONMENTAL AND SOCIAL MANAGEMENT
FRAMEWORK**

Final draft

**Yerevan
April 22, 2015**

TABLE OF CONTENTS

INTRODUCTION.....	1
PROJECT DESCRIPTION	1
WORLD BANK SAFEGUARD POLICIES	2
NATIONAL LEGISLATION	3
INSTITUTIONAL FRAMEWORK.....	6
ENVIRONMENTAL AND SOCIAL SCREENING OF INDIVIDUAL INVESTMENTS	8
POTENTIAL IMPACTS AND RISKS	8
MITIGATION MEASURES	10
STAKEHOLDER CONSULTATION	12
ENVIRONMENTAL MANAGEMENT PLANS.....	13
Attachment I:Environmental Management Plan Checklist for Small Scale Road Construction or Rehabilitation.....	14
Attachment II: Monthly Field Environmental Monitoring Checklist	19
Attachment III: Minutes of Public Consultation Meeting	21

LIST OF ACRONYMS

AF	Additional Financing
EIA	Environmental Impact Assessment
EMF	Environmental Management Framework
EMP	Environmental Management Plan
ESMF	Environmental and Social Management Framework
IBRD	International Bank for Reconstruction and Development
IDA	International Development Association
LRNIP	Lifeline Roads Network Improvement Project
MoTC	Ministry of Transport and Communication of the Republic of Armenia
MoNP	Ministry of Nature Protection of the Republic of Armenia
NGO	Non-Governmental Organization
O&M	Operation and Maintenance
OP	Operational Policy
PIU	Project Implementation Unit
RoA	Republic of Armenia
RAP	Resettlement Action Plan
RPF	Resettlement Policy Framework
SNCO	State Non Commercial Organization
WB	The World Bank

INTRODUCTION

The Republic of Armenia (RoA) has been receiving assistance from the World Bank for the improvement of roads infrastructure for several years. In 2012, Armenia borrowed US\$ 45 million equivalent from the International Bank for Reconstruction and Development (IBRD) to implement Lifeline Road Network Improvement Project (LRNIP). This operation is successfully ongoing. Meanwhile, the Government has requested an additional financing (AF) for LRNIP in the amount of US\$ 40million equivalent so as to reconstruct and repair local roads in various regions of RoA over the period of 2016-2019.

LRNIP, now supplemented with AF will continue providing an immediate economic stimulus to rural communities by providing employment as well long term benefit of an improved lifeline infrastructure. In addition to the economic benefits (regional employment, access to markets for agricultural products, etc.), there are substantial social benefits to the rural populations in improving their access to education, medical and social opportunities.

The Ministry of Transport and Communication of Armenia (MoTC) retains overall responsibility for the implementation of the LRNIP, including AF, while day-to-day project management function is delegated to the Transport Projects Implementation Unit (Transport PIU) under the MoTC.

All rehabilitation works envisaged under the LRNIP, including AF, will be undertaken on existing alignments and will include reconstruction, pavement rehabilitation, improvement of drainage facilities and road safety features resulting in stable and safe roads. Activities to be supported from the AF are same in nature and scope as those being undertaken under the original project. They do not trigger any additional safeguard policy of the World Bank and the project remains environmental Category B. Because the Project finances similar types of rehabilitation works in multiple locations over the country environmental impacts of which are pretty much well known beforehand, the environmental due diligence in project implementation implies the use of present Environmental and Social Management Framework (ESMF), which is a guide for the conduct of environmental and social screening of individual investments and the development of site-specific Environmental Management Plans. Due to limited scope of works which are confined to the upgrading of the existing roads, use of a simplified Environmental Management Plan Checklist for Small Scale Road Construction or Rehabilitation is recommended.

The Environmental Management Framework developed for the LRNIP has been used as a basis for the preparation of present ESMF for the purposes of LRNIP-AF.

PROJECT DESCRIPTION

The Project Development Objective and Project Components will remain the same as in the on-going project after provision of the AF. The Project Development Objective is to improve access of rural communities to market and services through upgrading of selected lifeline roads and to strengthen the capacity of the Ministry of Transport and Communication to manage the lifeline roads. The Project components are a) Lifeline road improvement and b) project management and institutional strengthening. The first component will invest in physical works and the second – will

deliver technical assistance. The Project will also include a contingent emergency response funding option so that in case of a natural or man-made event that causes a major disaster, the Government of Armenia may request the World Bank to re-allocate project funds for contributing to emergency response and recovery in road sector. This funding instrument included into the LRNIP could also be used to channel additional resources should they become available as a result of the emergency.

The LRNIP-AF will provide an immediate economic stimulus to rural communities by providing employment as well as a long term benefit of an improved lifeline infrastructure. In addition to the economic benefits (regional employment, access to markets for agricultural products, etc.), there are substantial social benefits to the rural populations in improving their access to education, medical and social opportunities.

The proposed Project will be implemented by the existing Transport Projects Implementation Unit State Institution (Transport PIU). The Transport PIU has experience in cooperating with the World Bank and other donors. The Transport PIU is adequately staffed and has the capacity to address all aspects of the project implementation. The Transport PIU will use consultant services for monitoring and ensuring safeguard compliance of the Project. The civil works will be supervised by a consulting company (Technical Supervisor) commissioned by the Transport PIU. Along with other responsibilities, this firm will be assigned to track compliance of civil works contractors with the EMPs and will monitor implementation of the prescribed mitigation measures.

WORLD BANK SAFEGUARD POLICIES

LRNIP triggers World Bank's **OP 4.01 *Environmental Assessment*** and, according to this policy, is classified as environmental category B. Works to be supported under the Project are expected to have low to moderate environmental and social risks, majority of which are confined to work sites and fall in the construction period. Effective management of these risks is possible by application of affordable and commonly used mitigation measures. LRNIP funding may not be used for any high-risk activity with the likely negative environmental and social impacts which are complex, span over a large area and last long after completion of works. Such activities fall under environmental Category A and not eligible for funding from the project proceeds. OP 4.01 requires that each individual investment, suggested for including into the Project implementation plan, undergoes environmental screening and classification, and that site-specific Environmental Management Plan is prepared to set for a detailed set of prescribed mitigation measures as well as a plan for monitoring their application at the road rehabilitation and operation phases.

LRNIP also triggers the World Bank's **OP 4.12 *Involuntary Resettlement***, because road rehabilitation may require small scale land take, temporary or permanent restriction of private property, seasonal loss of crops, or termination of informal land use by squatters. All of these cases are defined as various types of involuntary resettlement and must be handled according to OP 4.12. A Resettlement Policy

Framework (RPF) used for LRNIP has been updated to cover AF. If any individual investment implies any type of involuntary resettlement, then development of a full or adapted (simplified) Resettlement Action Plan (RAP) will be required following the guidance of RPF.

NATIONAL LEGISLATION

The 10th Article of the Constitution of the RoA (adopted in 1995 and amended in 2005) stipulates that the State is responsible for environmental protection, regeneration and wise use of natural resources. Since 1991, more than 25 codes and laws as well as numerous by-laws and regulations have been adopted to protect the environment. Summaries of several laws from the list, which are most relevant to the LRNIP (including the AF), are presented below:

Law on Environmental Impact Assessment and Expertise (2014, No HO 110-N)

The Law on Environmental Impact Assessment and Expertise, adopted in 2014, provides legal basis for implementation and introduction of state expertise of planned activities and concept frameworks as well as presents the standard steps of the Environmental Impact Assessment (EIA) process for various projects and activities in Armenia. It establishes the general legal, economic, and organizational principles for conducting mandatory state EIA of various types of projects and concepts of sectoral development (e.g., energy, mining, chemical industry, construction, metallurgy, pulp and paper, agriculture, food and fishery, water, electronics, infrastructure, services, tourism and recreation, etc.). The planned activities are classified into three categories reflecting different levels of environmental impact assessment according to severity of possible environmental impacts.

The Law also stipulates provisions directly related to road sector. Particularly in the Article 4 “Intended Activities Subject to Expertise” the Law enumerates the types of planned activities subject to environmental impact assessment: In the infrastructure sector, a proposed project is classified as Category A if it is about 1) four lane or more than four-lane road construction or reconstruction, or 2) widening of existing roads with no more than two lane to four or more lane, if the section has a length of 10 km or more. A proposed project is classified as Category B if it is about tunnels, subway or railway construction with 1 km in length and more, construction of bridges on the rivers with load capacity of 25 tones.

In addition, an EIA is also applicable to activities which are not listed in the Article 4 “Intended Activities Subject to Expertise”, but which will be implemented in protected areas, forests, historical monuments and public green spaces. In this case, the activity falls under Category B.

The EIA Law specifies notification, documentation, public consultations, and appeal procedures and requirements. The Law demands that for the operation of any economic unit, or implementation of a plan or programs, a positive conclusion on an environmental impact assessment must be obtained from the State Non Commercial Organization (SNCO) of the RA Ministry of Nature Protection (MoNP) called Center of Expertise for Environmental Impact Assessment.

The Law on Environmental Impact Assessment and Expertise is generally consistent with the EIA approaches followed by international development organizations (e.g., WB, EU and USAID). The law is applicable to a variety of civil works as well as to the development plans/programs (conceptually similar to the Strategic Environmental Assessment). It mandates assessment of trans-boundary impacts of the proposed activities. Also, it requires public disclosure and consultation. For Category A and B activities, issuance of a positive conclusion of expert review is required, which works as an environmental permit.

Works to be undertaken under LRNIP(including the AF) will not include new construction and will be undertaken only in the existing alignments. Therefore, according to the Law of Armenia on the Environmental Impact Assessment and Expertise, environmental assessment and issuance of an expert conclusion is not required.

Land Code (2001)

The Land Code defines the main directives for management and use of the state land, including those allocated for various purposes, such as agriculture, urban construction, industry and mining, energy production, transmission and communication lines, transport and other purposes. The areas used for roads, bridges and tunnels, as well as their relevant alienation zone are considered as land allocated for transport objects. The Code defines the land under the specially protected areas as well as forested, watered and reserved land. It also establishes the measures aimed to the land protection, as well as the rights of state bodies, local authorities and citizens towards the land.

Disposal of excess material and construction waste under LRNIP (including the AF) must follow the Land Code. This law shall be complied with also in case a small-scale land take is required for the purposes of project implementation.

Law on Wastes (2004)

The law regulates legal and economic relations connected to the collection, transfer, maintenance, development, reduction of volumes, prevention of negative impact on human health and environment. The law defines objects of waste usage, the main principles and directions of state policy, the principles of state standardization, inventory, and introduction of statistical data, the implementation of their requirements and mechanisms, the principles of wastes processing, the requirements for presenting wastes for the state monitoring, activities to decrease the amount of the wastes, including nature utilization payments, as well as the compensation for the damages caused to the human health and environment by the legal entities and individuals, using the wastes, as well as requirements for state monitoring and legal violations. The law defines the rights and obligations of the state governmental and local governmental bodies, as legal entities and individuals.

Law on Wastes, along with the Land Code, will govern disposal of excess material and construction waste generated in the course of LRNIP (including the AF) implementation.

Law on Environmental Oversight (2005)

The Law regulates the issues of organization and enforcement of oversight over the implementation of environmental legislation of the RoA, and defines the legal and economic basis underlying the specifics of oversight, the relevant procedures, conditions and relations, as well as environmental oversight in the RoA.

Civil works to be implemented under the LRNIP (including the AF) will be subject to oversight by the State Environmental Inspectorate to ensure general compliance with the national environmental legislation.

Law on Automobile Roads (2006)

The Law regulates economic, legal and organizational basis for development and administration of a motor road network; designing, construction, repair and maintenance, classification and registration of roads in the RoA, as well as regulates legal relationships between bodies and organizations implementing those functions.

The design, quality control and later maintenance of roads under the LRNIP (including the AF) are subject to regulation by the Law on Automobile Roads.

The existing legal framework governing the use of natural resources and environmental protection includes a large variety of legal documents. Governmental resolutions are the main legal instruments for implementing the environmental laws. Environmental field is also regulated by presidential orders, Prime-Minister's resolutions and ministerial decrees.

International Agreements

In addition to the above presented list and summaries of laws, numerous strategies, concept frameworks, and national programs related to the nature protection have been developed as well as a number of international agreements and conventions have been signed and ratified by the RoA. International Conventions and Protocols signed and ratified by the RoA, which are most relevant to the LRNIP (including the AF) are presented in the list below:

- Convention on Biological Diversity (Rio-De-Janeiro, 1992);
- UN Framework Convention on Climate Change (New-York, 1992) and Kyoto Protocol (Kyoto, 1997);
- Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters (Aarhus, 1998).

Permitting

Environmental permits necessary for accomplishing the works envisaged by the LRNIP (including the AF), including data on issuing authorities and tentative timing of obtaining the permit, are summarized in the below table:

Name of permit	Issuing authority	Permit obtaining stage
Construction license	Ministry of Urban Development	After design stage, prior to bidding
State Traffic Police Permit	Traffic Police of RoA	During the design stage, approval of the traffic management plan
Construction permit	Head of the	Prior to construction

Name of permit	Issuing authority	Permit obtaining stage
	appropriate community	
Lease agreement or ownership documents for construction site	Property owner	Before establishment of the construction site
Mining license *	Ministry of Energy and Natural Resources	During construction stage
Purchase documents for purchased crushed stone	Authorized seller	During construction stage - purchase of the materials
Maximum permissible discharge permit	Ministry of Nature Protection	During construction stage
Agreement for disposal of construction waste	Head of the appropriate community	Before disposal of the waste off-site, at least 3 months prior to issuance of the final certificate

* If construction materials are purchased, owner of the quarry must have a valid permit from the MNP

All of the above permits are relevant for the LRNIP (including the AF) implementation, however some of them might not be necessary depending on the nature of works and their organization (e.g. contractor is not requested to have a mining license in case the crushed stone is purchased, however the company producing the crushed stone should possess a valid mining license).

Social Legislation

Law on the Alienation of the Private Property for Public and State Needs (2006)

The law regulates procedural aspects of land acquisition and compensation rights of titled landowners and owners of immovable property in cases of alienation of their property for public purposes.

This law will be applicable to small-scale land take under LRNIP (including the AF), should that be required for the purposes of the Project.

INSTITUTIONAL FRAMEWORK

This section briefly presents the roles of entities that may have involvement in the LRNIP (including the AF), primarily but not exclusively from an environment perspective.

Ministry of Nature Protection

The Ministry of Nature Protection (MoNP) is responsible for the protection, sustainable use and regeneration of natural resources as well as the improvement of the environment in the RoA. The MoNP authority includes development of the national environmental policy, environmental standards and guidelines, as well as the enforcement of these standards and guidelines.

Although LRNIP (including the AF) is not subject to environmental permitting and no specific conditions of environmental performance are established for its implementation, the MoNP, through its State Environmental Inspectorate, will exercise oversight on works to be undertaken as part of LRNIP (including the AF) to

ensure that undertaken activities are compliant with applicable general environmental norms and standards.

Ministry of Energy and Natural Resources

The Ministry of Energy and Natural Resources is a republican body of executive authority, which elaborates and implements the policies of the RoA Government in the energy sector. The ministry is also responsible for the protection, sustainable use, and regeneration of natural resources, and implements its functions through the Agency of Mineral Resources and the Subsoil Concession Agency.

In case of opening and/or use of quarries or borrow pits, a construction company hired on the proceeds of LRNIP (including the AF) shall obtain permits from the Ministry of Energy and Natural Resources.

Ministry of Health

Within the structure of the Ministry of Health, the State Health Inspectorate implements Ministry of Healthcare-entrusted supervisory functions. Acting on behalf of the Republic of Armenia, the Inspectorate may impose sanctions for breach of healthcare, work safety and labor legislation standards and provisions.

LRNIP-financed activities (including the AF) will be subject to control from the State Health Inspectorate over their compliance with the national sanitary-hygienic norms.

Ministry of Territorial Administration and Emergency Situations

The Ministry of Territorial Administration and Emergency Situations elaborates and implements the policies of the RoA in the area of civil defense and protection of population in emergency situations; and develops and monitors implementation of regional socio - economic development programs. The Ministry also guides operation of the regional and local bodies of the executive Government, such as Marzpetarans and municipalities/communities. Public roads of local significance falling under the regional jurisdiction are on the books of Marzpetarans (regional administration bodies). Public roads of local significance are registered with communities (bodies of the local self-government).

Lifeline roads to be rehabilitated under LRNIP are expected to be either on the books of Marzpetarans or local communities. In that regard, they fall in the control area of the Ministry of Territorial Administration.

Ministry of Transport and Communication

The Ministry of Transport and Communication (MoTC) is the State body of executive authority, which elaborates and implements the policies of the GoA in the transport, communication, and information technologies sectors. The Department on Road Construction is the main structural subdivision of the MoTC involved in road sector, and mainly in developing state policy on improvement and perspective development of road network in the country.

MoTC is the implementing entity for LRNIP (including the AF).

Transport Project Implementation Unit of the MoTC

Transport Project Implementation Unit (PIU) is an entity established by the GoA to implement investment and development projects in transport sector developed by the MoTC and regional administrative bodies and approved by the GoA at the expenses of the State Budget and funding provided to the RoA by bilateral and multilateral financing organizations.

The Transport PIU is responsible for day-to-day management of LRNIP (including the AF), including planning, coordination, supervision, management and reporting.

ENVIRONMENTAL AND SOCIAL SCREENING OF INDIVIDUAL INVESTMENTS

The main purpose of environmental and social screening of individual investments proposed for funding from the LRNIP (including the AF) is to assess nature and scope of risks associated with the rehabilitation and operation of the suggested roads and to classify each activity into relevant environmental category by the World Bank's OP 4.01 as well as by the Law of RA on Environmental Impact Assessment and Expertise. Environmental classification by World Bank's OP 4.01 is required to confirm eligibility of the proposed investment, because only Category B activities may be supported under the LRNIP, while Category A activities must be excluded.

Another purpose of the environmental and social screening of the proposed investments is to identify if any type of involuntary resettlement is required for the rehabilitation and operation of the proposed road and to launch preparation of the RAP, as required.

Risks and expected negative environmental and social impacts of the eligible investments identified through the environmental and social screening will shape preparation of site-specific EMPs, which will provide detailed information on the type and scope of the likely impacts, prescribe measures for their mitigation, and provide a blueprint for monitoring application of these measures.

POTENTIAL IMPACTS AND RISKS

In general, the potential adverse environmental and social impacts associated with rehabilitation works carried out on local roads are expected to be minor, short-term and localized. Vast majority of the potential adverse impacts are likely to occur during the construction/rehabilitation period. Long term environmental impacts are expected to be generally neutral, and long term social impacts will be positive due to improved transportation conditions and better accessibility for local communities.

Degradation of landscapes and soil erosion. No significant impacts on landscapes are expected, because all works will be undertaken on the existing roads. Erosion prone areas occur in many locations throughout the country, which has a complex, hilly terrain. Earth works, especially on the mountain slopes, may trigger erosion or aggravate ongoing processes.

Pollution with construction run-offs. As a result of fuel/lubricant leakage from machinery and stock piled asphalt, oil products and chemicals may pollute soil, penetrate to the ground water or run off to surface water bodies. Servicing and washing of vehicles and machinery in proximity to rivers or streams may also result in water pollution from construction run-offs. If construction camps are established on-site, environment pollution may occur from sanitation facilities provided at these camps.

Impacts on the biodiversity. During the construction period, earth works required for adjusting road alignment and arrangement of road shoulders may result in damage to the vegetative cover. Borrowing for construction materials, disposal of excess material and waste may also lead to disturbance of wildlife, including impacts on habitats. However because all works will be undertaken within the existing road corridors with minor deviation from the present alignment, significant damages are unlikely, as well as impacts on critical or natural habitats.

Noise vibration and temporary air pollution. Dust will be generated due to transportation of construction materials and truck traffic. Dust and the bitumen smoke arising from road construction works will have localized and temporary negative impact on the air quality. Noise and vibration from the operation of construction machinery and traffic of heavy vehicles will cause nuisance to local communities during works undertaken in the immediate proximity to settlements.

Generation of excavated material and construction waste. Demolition debris will be generated during roads rehabilitation. This may include fragments of removed asphalt pavement, concrete stubs, road rails, etc. Other types of waste, such as excess soil and rock; removed trees, shrubs or branches; and household waste generated from the presence of construction workers on-site and from operation of construction camps.

Safety hazards from construction activities. No major hazards are expected during construction of the proposed project elements as long as proper construction practices and safety procedures are applied. During the operation period, negative impact may occur as a result of driving at high speed. Increased speed and expected higher traffic volumes can increase the number of traffic accidents.

Social impacts. Negative social impacts of the construction phase are expected to be minimal – confined to nuisance from noise, vibration, and possibly some disruption of traffic in those sections of roads that are located in or around human settlements. Works may also limit or block access of people to their houses, land plots, pastures or other private or communal property. Local residents may not be notified well on time about upcoming works and about temporary disruption of municipal service provision or communications resulting from works on roads. There is a likelihood of project-affected people suffering from inappropriate behavior of works' contractors or observing negative impacts of ongoing works while not knowing how to voice their concerns and make their voices heard. Likely positive social impact of the construction phase is temporary employment of local population by works' contractors. However while recruiting local non-skilled work force, work's contractor may discriminate people by ethnic identity and gender.

Long term social impacts will be positive. Improved connectivity is likely to increase economic activity in the project beneficiary areas leading to decreased out-migration of young work force. Residing in villages and commuting to work will also become easier. The rehabilitated roads will increase the access to markets for local producers and promote development of the agricultural sector, tourism and in some cases development of local industry. Furthermore, improved roads will give access to new employment. The economic development will help to get more investments in public utility facilities, energy, telecommunications, education, public health, cultural and entertainment, etc. The rehabilitated road sections will lead to reduction of vehicle operating costs, which also will have a positive effect on the private economy of car owners. Another negative impact could be the increased number of traffic accidents due to higher speed on the rehabilitated roads.

Impacts on physical cultural resources. Because the project will finance only rehabilitation works, it will not affect any known cultural or historic monuments. However earth works carry possibility of chance finds.

MITIGATION MEASURES

Expected environmental and social risks of LRNIP (including the AF) are predominantly small or medium for individual road sections. However application of mitigation measures is important for managing these risks and keeping negative impacts at the possible minimum level. Present ESMF provides description of a generic set of mitigation measures applicable to potential impacts of design, construction and operation phases which are known upfront and pretty similar for all potential investments. This menu of mitigation measures should be used for preparing site-specific EMPs once detailed designs of individual road sections become available.

Design phase

In order to reduce number and severity of traffic accidents the designs should provide for the crash barriers on hazardous sections, traffic calming road humps where appropriate, direction posts in curves and new traffic signs and road markings. In some places the stabilization of steep slopes with gabions shall also be considered.

Construction phase

Reducing impacts on vegetative cover and wildlife

Construction workers must operate in a manner to minimize environmental footprint at the work site. Movement of vehicles and construction machinery shall be allowed only within along the road under rehabilitation or designated access roads if required in order to avoid damage of grass cover and other vegetation around the work site. If removal of trees is needed within the right of way in order to allow space for adjusting alignment, arranging road shoulders, or allowing operation of construction machinery, then cutting should be undertaken under strict control to avoid extraction of unnecessary number of trees and an avoidable damage to other trees growing nearby. In case there is a need for establishing work camps, plots with minimal growing vegetation should be selected for locating them.

Managing waste

Special locations should be designated for on-site storage of waste. Hazardous wastes should be piled separately from excavated soil, excess material and other non-hazardous waste. Official agreements should be obtained from relevant authorities for final disposal of waste by works contractors, collection and removal of waste by municipal service providers, or acceptance of waste for re-cycling by specialized companies.

Preventing pollution of soil and water

Servicing and fueling of construction vehicles and machinery should be undertaken at service centers away from work sites to the extent possible. If performed on-site, a non-permeable surface should be provided for fueling and a stock of absorbents should be kept for addressing accidental spills. Washing of machinery must be forbidden in proximity to surface water bodies. Used automobile oil, stock of fuel and oil, and other hazardous substances must be kept also upon non-permeable surfaces, preferably under shelter and in safe from fire. In case of construction camps include housing for workers, septic tanks or pit toilets should be provided and maintained in a manner preventing direct discharge to surface water bodies and deterioration of sanitary conditions.

Avoiding soil erosion

Earth works may last over extended period of time along road alignments and at borrowing sites. Compacting, landscaping and reinstatement of excavated plots and cut slopes should be undertaken promptly upon completion of works in individual segments of an affected area, rather than being delayed till full completion of works. Terracing of non-stable slopes, arrangement of gabions, provision of drainage, and sawing or planting of vegetation should be undertaken as required to avoid erosion. Topsoil must always be stripped from excavation sites and kept separately during earth works, so that it can be used effectively for site reinstatement and permit natural regeneration of vegetation to the extent possible. Use of the existing quarries should be encouraged to avoid extended environmental foot print of works.

Handling chance finds

If chance find is encountered in the course of earth works, then works contractor must immediately stop all physical activities on site and notify the Transport PIU. The Transport PIU shall communicate information to the Agency for the Protection of Cultural Property and keep works on hold till written communication is received from this Agency clearing resumption of works.

Ensuring work site safety

Signaling systems and relevant signage must be installed on the roads under rehabilitation. Additional means of traffic regulation may be required in individual locations. Sites of waste and material storage, work camps and access roads should be clearly demarcated. Works on roads should be planned and undertaken in the manner minimizing traffic disruption and risks to local residents. Construction workers and personnel should be provided with uniforms and individual protective gear. Personnel operating construction machinery and heavy vehicles should hold relevant licenses and be adequately trained.

Managing nuisance to local communities

Local communities should be notified about timing and scope of planned works upfront. If road rehabilitation will cause temporary disruption of utility or communication services, then service users should also be notified about this in advance. If works are performed within or in the immediate proximity to settlements, then working hours should be strictly limited to daytime hours and dust control through sprinkling should be applied. Special signage and possibly fencing should be used if works are ongoing near children's institutions. Speed limits should be imposed for vehicle movement within settlements. Temporary storage of construction materials and waste as well as parking of construction machinery shall not block or limit access of local residents to their property and to public spaces or, if this is inevitable, then alternative temporary access should be provided.

The Transport PIU shall establish and effectively operate grievance redress mechanism which would allow project-affected people to communicate their concerns and seek their resolution following a pre-defined set-up. The Transport PIU should also discourage works contractors from ethnic or gender discrimination while recruiting local low-qualified work force as temporary labor.

Operation phase

Maintenance works on the rehabilitated roads should be undertaken on regular basis. This would imply cleaning of drainage systems to avoid water logging on the road surface and its shoulders, collection and removal of roadside garbage, cleaning of snow and repair of road surface as required. Waste generated during pothole patching or other repair works should be collected and disposed at designated locations. Waste dumping at the road shoulders must be strictly forbidden. Theft of road signs is common in remote secondary and local roads. Signage should therefore regularly be monitored and replaced promptly as required.

STAKEHOLDER CONSULTATION

The present draft ESMF will be disclosed through the web page of the Ministry of Transport in Armenian and English languages and a public consultation meeting will be held to discuss it with stakeholders. The ESMF will then be finalized through incorporation of the received feedback as relevant, and the minutes of the consultation meeting will be attached.

Consultation on the Site-Specific EMPs

All draft site-specific EMPs, once developed, will be disclosed through the web page of the MoTC in Armenian and English languages and several hard copies in Armenian language will be placed in the offices of local governments for convenient access by the project-affected communities. The Transport PIU will consult with local governments on the most convenient and adequate format and medium for engaging affected communities into commenting on the EMPs. Meaningful inclusion of women, youth, and vulnerable groups into public consultations will be mandatory. Received feedback will be incorporated into the final versions of EMPs and the EMPs will then be re-disclosed.

ENVIRONMENTAL MANAGEMENT PLANS

Environmental and social screening of the proposed individual investments will be carried out by the Transport PIU. Once a road is identified for rehabilitation, the Transport PIU will inspect the area in order to identify environmental and social risks associated with the proposed works in the identified location. At this stage the environmental classification of the proposed investments will be undertaken and in an unlikely case of an activity falling under environment Category A, it will be rejected.

For the investments approved by the MoTC and the World Bank for further elaboration, the detailed design will be developed and site-specific EMPs will be produced. The Transport PIU is not staffed with environmental and social specialists and will use consultant services for ensuring good environmental and social performance under the LRNIP (including the AF). This would imply oversight on the adherence to national environmental legislation, the World Bank's safeguard policies, present ESMF, and site-specific EMPs.

EMPs will be produced by external consultants as well, in combination with the development of road rehabilitation designs. EMPs will be included into tender packages and be attached to works contracts, making their implementation mandatory for works contractors. In case a works provider violates requirements of EMP or otherwise causes environmental damage, then the Transport PIU will work out a time-bound plan for damage liquidation and the contractor will be obligated to implement it. Works contracts shall, therefore, carry adequate provisions for imposing environmental damage liquidation upon contractors.

The Transport PIU will hire a licensed technical supervisor of works, and will include environmental supervision into the terms of reference of such supervisor. *Terms of reference will be subject to review and clearance by the World Bank.* The supervision consultant will be obligated to produce monthly environmental supervision reports of all active work sites. Overall responsibility for the environmental and social compliance under the LRNIP (including the AF) will rest with the MoTC and the Transport PIU under it. Therefore the Transport PIU will be mandated to assure quality of environmental and social monitoring of works that is undertaken by the technical supervisor. This would imply verification of information provided by the technical supervisor through occasional spot-checks on site.

The Transport PIU will be responsible for reporting on the LRNIP (including the AF) progress to the MoTC and the World Bank. Providing information on the environmental and social compliance will be an integral part of the project progress reporting. The Transport PIU reports will contain analytical information on the overall status of environmental and social compliance of works within the report period, will flash out issues encountered and remedial measures applied. Monthly field environmental monitoring checklists provided by technical supervisor to the Transport PIU will be attached to Transport PIU's progress reports.

Attachment I: Environmental Management Plan Checklist for Small Scale Road Construction or Rehabilitation

PART 1: GENERAL PROJECT AND SITE INFORMATION

INSTITUTIONAL & ADMINISTRATIVE				
Country				
Project title				
Road to be rehabilitated				
Scope of rehabilitation activities				
Institutional arrangements (Name and contacts)	WB Project Team Leader	PIU Director	Local Counterpart and/or Recipient (marz / municipal authority)	
Implementation arrangements (Name and contacts)	WB Safeguard Specialists	PIU Safeguard Supervisor	Technical Supervisor of Works	Works Contactor
SITE DESCRIPTION				
Name of site				
Describe site location				
Who owns the land?				
Description of geographic, physical, biological, geological, hydrographic and socio-economic context				
Locations and distance for material sourcing, especially aggregates, water, stones				
LEGISLATION				
Identify national & local legislation & permits that apply to project activity				
PUBLIC CONSULTATION				
Identify when / where the public consultation process took place				
ATTACHMENTS				
Minutes of public consultation				
Site map and photo material				
Agreements for waste disposal				
License for borrowing (if performed by contractor)				

PART 2: SAFEGUARDS SCREENING AND TRIGGERS

ENVIRONMENTAL /SOCIAL SCREENING FOR SAFEGUARDS TRIGGERS			
	Activity/Issue	Status	Triggered Actions
Will the site activity include/involve any of the following?	A. Roads rehabilitation	<input type="checkbox"/> Yes <input type="checkbox"/> No	If "Yes", see Section A below
	B. New construction of small traffic infrastructure	<input type="checkbox"/> Yes <input type="checkbox"/> No	If "Yes", see Section A below
	C. Impacts on surface drainage system	<input type="checkbox"/> Yes <input type="checkbox"/> No	If "Yes", see Section B below
	D. Historic building(s) and districts	<input type="checkbox"/> Yes <input type="checkbox"/> No	If "Yes", see Section C below
	E. Acquisition of land ¹	<input type="checkbox"/> Yes <input type="checkbox"/> No	If "Yes", see Section D below
	F. Hazardous or toxic materials ²	<input type="checkbox"/> Yes <input type="checkbox"/> No	If "Yes", see Section E below
	G. Impacts on forests and/or protected areas	<input type="checkbox"/> Yes <input type="checkbox"/> No	If "Yes", see Section F below
	H. Risk of unexploded ordinance (UXO)	<input type="checkbox"/> Yes <input type="checkbox"/> No	If "Yes", see Section G below
	I. Traffic and Pedestrian Safety	<input type="checkbox"/> Yes <input type="checkbox"/> No	If "Yes", 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 3: 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 (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) During excavation works dust control measures shall be employed, e.g. by spraying and moistening the ground. (b) Demolition debris, excavated soil and aggregates shall be kept in controlled area and sprayed with water mist to reduce debris dust. (c) During pneumatic drilling or breaking of pavement and foundations dust shall be suppressed by ongoing water spraying and/or installing dust screen enclosures at site. (d) The surrounding environment (sidewalks, roads) shall be kept free of soil and debris to minimize dust. (e) There will be no open burning of construction / waste material at the site. (f) All machinery will comply with the national emission regulations, will be well maintained and serviced and 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 canalization and nearby streams and rivers.
	Waste management	(a) Waste collection and disposal pathways and sites will be identified for all major waste types expected from excavation, demolition and construction activities. (b) 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. (c) Construction waste will be collected and disposed properly by licensed collectors. (d) The records of waste disposal will be maintained as proof for proper management as designed. (e) Whenever feasible Contractor will reuse and recycle appropriate and viable materials (except when containing asbestos).
B. Impacts on surface drainage system	Water Quality	(a) There will be no unregulated extraction of groundwater, nor uncontrolled discharge of process waters, cement slurries, or any other contaminated waters into the ground or adjacent streams or rivers; the Contractor will obtain all necessary licenses and permits for water extraction and regulated discharge into the public wastewater system. (b) There will be proper storm water drainage systems installed and care taken not to silt, pollute, block or otherwise negatively impact natural streams, rivers, ponds and lakes by construction activities. (c) There will be procedures for prevention of and response to accidental spills of fuels, lubricants and other toxic or noxious substances. (d) Construction vehicles and machinery will be washed only in designated areas where runoff will not pollute natural surface water bodies.

*Environmental and Social Management Framework
Lifeline Road Network Improvement Project (including the Additional Financing)*

ACTIVITY	PARAMETER	MITIGATION MEASURES CHECKLIST
C. Historic building(s)	Cultural Heritage	<p>(a) If construction works take place close to a designated historic structure, or are located in a designated historic district, notification shall be made and approvals/permits be obtained from local authorities and all construction activities planned and carried out in line with local and national legislation.</p> <p>(b) It shall be ensured that provisions are put in place so that artifacts or other possible “chance finds” encountered in excavation or construction are noted and registered, responsible officials contacted, and works activities delayed or modified to account for such finds.</p>
D. Acquisition of land	Land Acquisition Plan/Framework	<p>(a) If expropriation of land was not expected but is required, or if loss of access to income of legal or illegal users of land was not expected but may occur, that the Bank’s Task Team Leader shall be immediately consulted.</p> <p>(b) The approved Land Acquisition Plan/Framework (if required by the project) will be implemented.</p>
E. Toxic materials	Asbestos management	<p>(a) If asbestos is located on the project site, it shall be marked clearly as hazardous material.</p> <p>(b) When possible the asbestos will be appropriately contained and sealed to minimize exposure.</p> <p>(c) The asbestos prior to removal (if removal is necessary) will be treated with a wetting agent to minimize asbestos dust</p> <p>(d) Asbestos will be handled and disposed by skilled & experienced professionals.</p> <p>(e) If asbestos material is to be stored temporarily, the wastes should be securely enclosed inside closed containments and marked appropriately. Security measures will be taken against unauthorized removal from the site.</p> <p>(f) The removed asbestos will not be reused.</p>
	Toxic / hazardous waste management	<p>(a) Temporarily storage on site of all hazardous or toxic substances will be in safe containers labeled with details of composition, properties and handling information.</p> <p>(b) The containers of hazardous substances shall be placed in a leak-proof container to prevent spillage.</p> <p>(c) The wastes shall be transported by specially licensed carriers and disposed in a licensed facility.</p> <p>(d) Paints with toxic ingredients or solvents or lead-based paints will not be used.</p>
F. Affected forests, wetlands and/or protected areas	Ecosystem protection	<p>(a) All recognized natural habitats, wetlands and protected areas in the immediate vicinity of the activity will not be damaged or exploited, all staff will be strictly prohibited from hunting, foraging, logging or other damaging activities.</p> <p>(b) A survey and an inventory shall be made of large trees in the vicinity of the construction activity, large trees shall be marked and cordoned off with fencing, their root system protected, and any damage to the trees avoided.</p> <p>(c) Adjacent wetlands and streams shall be protected from construction site run-off with appropriate erosion and sediment control feature to include but not limited to hay bales and silt fences.</p> <p>(d) There will be no unlicensed borrow pits, quarries or waste dumps in adjacent areas, especially not in protected areas.</p>
G. Risk of unexploded ordinance (UXO)	Hazard to human health and safety	<p>(a) Before start of any excavation works the Contractor will verify that the construction area has been checked and cleared regarding UXO by the appropriate authorities.</p>
H Traffic and pedestrian safety	Direct or indirect hazards to public traffic and pedestrians by construction activities	<p>(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:</p> <ul style="list-style-type: none"> ▪ 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, ▪ If required, active traffic management by trained and visible staff at the site for safe passage for the public, ▪ Ensuring safe and continuous access to all adjacent office facilities, shops and residences during construction.

PART 4: MONITORING PLAN

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?)	Cost (if not included in project budget)	Who (Is responsible for monitoring?)
CONSTRUCTION PHASE						
1.						
2.						
3.						
...						
x.						
OPERATION PHASE						
1.						
....						
y.						

Attachment II: Monthly Field Environmental Monitoring Checklist

Site location					
Name of contractor					
Name of supervisor					
Date of site visit					
Status of civil works					
Documents and activities to be examined	Status				Comments
	Yes	Partially	No	N/A	
Contractor holds license for extraction of natural resources					
Contractor holds permit for operating concrete/asphalt plant					
Contractor holds agreement for final disposal of waste					
Contractor holds agreement with service provider for removal of household waste from site					
Work site is fenced and warning signs installed					
Works do not impede pedestrian access and motor traffic, or temporary alternative access is provided					
Working hours are observed					
Construction machinery and equipment is in standard technical condition (no excessive exhaust and noise, no leakage of fuels and lubricants)					
Construction materials and waste are transported under the covered hood					
Construction site is watered in case of excessively dusty works					
Contractor's camp or work base is fenced; sites for temporary storage of waste and for vehicle/equipment servicing are designated					

Contractor's camp is supplied with water and sanitation is provided					
Contractor's camp or work base is equipped with first medical aid and fire-fighting kits					
Workers wear uniforms and protective gear adequate for technological processes (gloves, helmets, respirators, eye-glasses, etc.)					
Servicing and fuelling of vehicles and machinery is undertaken on an impermeable surface in a confined space which can contain operational and emergency spills					
Vehicles and machinery are washed away from natural water bodies in the way preventing direct discharge of runoff into the water bodies					
Construction waste is being disposed exclusively in the designated locations					
Extraction of natural construction material takes place strictly under conditions specified in the license					
Excess material and topsoil generated from soil excavation are stored separately and used for backfilling / site reinstatement as required					
Works taken on hold if chance find encountered and communication made to the					
Upon completion of physical activity on site, the site and contractor's camp/base cleared of any remaining left-over from works and harmonized with surrounding landscape					

Attachment III: Minutes of Public Consultation Meeting