

# Environmental Assessment and Review Framework

---

March 2015

## ARM: Sustainable Urban Development Investment Program –Tranche 2

Design of Road Links of the Yerevan Western Ring Road

Prepared by Yerevan Municipality for the Asian Development Bank.

This environmental assessment and review framework is a document of the borrower. The views expressed herein do not necessarily represent those of ADB's Board of Directors, Management, or staff, and may be preliminary in nature. Your attention is directed to the [“terms of use”](#) section on ADB's website.

In preparing any country program or strategy, financing any project, or by making any designation of or reference to a particular territory or geographic area in this document, the Asian Development Bank does not intend to make any judgments as to the legal or other status of any territory or area.

# REPUBLIC OF ARMENIA



## YEREVAN MUNICIPALITY

Sustainable Urban Development Investment Program- Tranche 2

Contract CS/01, Task 3

### DESIGN OF ROAD LINKS OF THE YEREVAN WESTERN RING ROAD

Argavand-Shirak, Babajanyan-Ashtarak highway  
and Davitashen-Ashtarak highway sections



## Environmental Assessment and Review Framework

1	0	1	5	E	V	0	0	0	0	0	R	0	0	0	2	0	2
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Consultant



Funding Agency



Asian Development Bank

Implementing Agency



ԵՐԵՎԱՆԻ ԸՆԴՀԱՆՈՒՄՆԵՐԱՆ

DOCUMENT QUALITY INFORMATION

- General information

Date	16 October 2014
Reference	Task_03_Report_15EV_R02_V01_EARF.doc

- History of modifications

Version	Date	Written by	Approved & signed by:
01 First issue	16/10/2014	Pierre Bourguignon	Pierre Meurisse
01a Following PIU comments	20/10/2014	Elena Jahn	Pierre Meurisse
02 Following ADB comments received on 09/03/2015	12/03/2015	P. Bourguignon	Pierre Meurisse

## ABBREVIATIONS

ADB	Asian Development Bank
DESC	Design Engineering and Supervision Consultant
EA	Executing Agency
EARF	Environmental Assessment and Review Framework
EIA	Environmental Impact Assessment
EIEC	Environmental Impact Expertise Center” SNCO
EMP	Environmental Management and Monitoring Plan
EA	Executing Agency
IA	Implementing Agency
IEE	Initial Environmental Examination
IUCN	International Union for Conservation of Nature
LARP	Land Acquisition and Resettlement Plan
MNP	Ministry of Nature Protection
MOC	Ministry of Culture
MOE	Ministry of Economy
MFF	Multi-tranche Financing Facility
NGO	Non-Governmental Organization
PCR	Physical Cultural Resource
PIU	Project Implementation Unit
PMIC	Project Management and Institutional Strengthening Consultant
RA	Republic of Armenia
RAMSAR	Ramsar Convention on Wetlands
REA	Rapid Environmental Assessment (checklist)
ROW	Right-Of-Way
SEI	State Environmental Inspectorate SNCO State Non-commercial Organization
SEMP	Site-Specific Environmental Management Plan
SUDIP	Sustainable Urban Development Investment Program
TA	Technical Assistance
TOC	Table of Contents
TOR	Terms of Reference
YDPIU	Yerevan Development Project Implementation Unit
YM	Yerevan Municipality
UNESCO	United Nations Educational, Scientific, and Cultural Organization
USD	United States of America Dollar

### NOTE

In this report, USD refers to US dollars.

## TABLE OF CONTENTS

A.	INTRODUCTION .....	5
B.	COUNTRY'S ENVIRONMENTAL ASSESSMENT AND REVIEW FOUNDATION.....	7
B.1.	National legislation and ADB policy .....	7
B.2.	Institutional capacity and development .....	8
C.	OVERVIEW OF THE SUDI PROGRAM AND THE PROJECTS TO BE ASSESSED .....	9
C.1.	General Description .....	9
C.2.	Sections Location and Description.....	
C.3.	General Construction Impacts .....	12
D.	PROCEDURES TO BE USED FOR PROJECTS UNDER SUDIP ROGRAM.....	13
D.1.	Responsibilities and Authorities .....	13
D.2.	Environmental Criteria for Project Selection .....	15
D.3.	Procedures for Environmental Assessment of Projects .....	16
E.	COMPLIANCE WITH ADB'S ENVIRONMENTAL ASSESMENT GUIDELINES .....	26
E.1.	Public Disclosure.....	26
E.2.	Staffing Requirements and Budget.....	27

## LIST OF ANNEXES

Appendix 1	Rapid Environmental Assessment (REA) Checklist
Appendix 2	Scoping Document
Appendix 3	Outline of an Environmental Impact Assessment (EIA) Report
Appendix 3-A	Outline of a Summary Environmental Impact Assessment (SEIA) Report
Appendix 4	Outline of an Initial Environmental Examination (IEE) Report
Appendix 4-A	Outline of a Summary Initial Environmental Examination (SIEE)

## A. INTRODUCTION

1. The “Sustainable Urban Development Investment Program” (SUDIP) will be implemented over a period of 9 years. The “Program” herein referred to is the SUDIP. The Program is aimed to improve the urban transport system in Yerevan. The Program has been developed to complement the urban master plan of Yerevan City to promote a sustainable, integrated and cost efficient urban transport system. In the short term, the main objective is to complete the missing road links of the western urban ring. The two captioned road projects will help to divert through-traffic around the city centre. In the mid term, the other missing sections of the western bypass will be constructed namely: Babajanyan - Ashtarak Highway and Davitashen - Ashtarak Highway; and Argavand-Shirak road link. The Government of Armenia through the request from the Yerevan Municipality has received a loan from the Asian Development Bank (ADB) to finance the SUDIP. The SUDIP will be funded through the multitranche financing facility (MFF) of the ADB.
2. The mandatory requirements of the MFF necessitate that the proposed projects of the first tranche and the projects of subsequent tranches of the SUDIP follow adequate environmental assessment processes. The Environmental Assessment and Review Framework (EARF) was prepared to provide guidance on safeguard screening, assessment, institutional arrangements, and processes to be followed for projects or subsequent tranches that will be prepared after Board approval. The framework also specify the criteria for eligibility that ensure the quality of projects identified for all tranches of the SUDIP evaluated in a manner consistent with the requirements of the Ministry of Nature Protection (MNP), which is the national environmental agency of the Republic of Armenia (RA), and the ADB. The EARF will guide Yerevan Municipality (YM), in carrying out the environmental assessment of all the projects under the “Sustainable Urban Development Investment Program”. The EARF sets out:
3. The general principles; selection criteria; procedure of organization, and conducting environmental expert assessment, of the project documents under this MFF;
4. The requirements on the type of project documents and the procedure of submitting the reoffer environmental expert assessment; and a list of environmentally hazardous types of activities subject to mandatory environmental impact assessment (EIA) on the project approval stage.
5. The implementation arrangements are as follows:
6. The Ministry of Economy (MOE) is the Executing Agency (EA). The EA will oversee the implementation of the Program and the disbursement of the loan.
7. The Implementing Agency (IA) for the services will be the Municipality of Yerevan which will be responsible for the overall technical supervision and execution of the Projects.
8. Yerevan Municipality Project Implementation Unit (YMPIU) has been established within the IA, the which is responsible for day-to-day management of this Project.
9. Engineer. Engineer’s key responsibilities include preparation the final Environmental Impact Assessment (EIA) or Initial Environment Examination (IEE) as applicable, along with the relevant Environment Management and Monitoring Plan (EMP). During construction the key tasks of the Engineer will include supervision and monitoring of construction of the Project including the implementation of the Site Specific EMP.

10. Asian Development Bank. ADB may carry out periodic project reviews, inspections and supervision of the Project throughout the Project cycle in conformity with the principles and requirements embodied in the SPS 2009.



## B. COUNTRY'S ENVIRONMENTAL ASSESSMENT AND REVIEW FOUNDATION

### B.1. National legislation and ADB policy

11. After Armenia gained its independence in 1991, the deteriorating environmental condition of the country became more apparent and environmental concerns became high priority political issues and the process of development of environmental legislation was initiated. The 10<sup>th</sup> Article of the Constitution of the Republic of Armenia (passed in 1995) states the State responsibility for environmental protection, reproduction, and wise use of natural resources. Some 25 laws have been promulgated to protect the environment. The relevant national law on environmental protection and assessment is:

- (i) Law on Environmental Impact Assessment and Expert Examination (July 22, 2014)

12. The set law is the main law administered by the MNP. Other pieces of pertinent environmental legislation to be considered are:

- (i) Law on Specially Protected Natural Areas (1991, updated 2006)
- (ii) Law on Ensuring Sanitary-epidemiological Security of the RA Population (1992)
- (iii) Law on Atmosphere Air Protection (1994)
- (iv) Law on Automobile Roads (1996)
- (v) Law on the Protection and Use of Fixed Cultural and Historic Monuments and Historic Environment (1998)
- (vi) Law on Environment and Nature Use Charges (1998)
- (vii) Law on Flora (1999)
- (viii) Law on Fauna (2000)
- (ix) Land Code (1991, updated 2001)
- (x) Law on Hydro-meteorological Activity (2001)
- (xi) Law on Environmental Education (2001)
- (xii) Code on Underground Resources (2002)
- (xiii) Water Code (1992, updated 2002)
- (xiv) Law on Seismic Defense (2002)
- (xv) Law on Water Users' Associations and Federations of the Water Users Associations (2002)
- (xvi) Law on Waste (2004);
- (xvii) Law on Environmental Oversight (2005)
- (xviii) Forest Code (2005)
- (xix) Law on Rates of Environmental Charges (2006)
- (xx) Law on National Water Program (2006)
- (xxi) Law on Oversight of Land Use and Protection (2008)

13. The key departments within the MNP that have administrative authority over EIA and the project approval process are two State Non-commercial Organizations (SNCOs):

- (i) The “Environmental Impact Expertise Center” (EIEC), the State Non-commercial Organization (SNCO) is responsible for reviewing and issuance of assessment conclusion reports required for implementation of a project and adding conditions when necessary to protect the environment; and
  - (ii) The State Environmental Inspectorate (SEI) is responsible for inspecting projects to ensure compliance with conditions imposed by the EIEC and with the Project EMP.
14. The EIA process and the SEI’s power to inspect are the principal tools used by the MNP to achieve compliance with environmental protection principles. To satisfy relevant regulations and to gain a positive assessment conclusion from the MNP, this EIA report should be prepared in accordance with the Law on Environmental Impact Assessment and Expert Examination (July 22, 2014) and the legislative provisions relevant to environmental protection should be considered accordingly.
15. ADB classifies projects into four categories (A, B,C and FI) depending on the nature and scale of the expected impacts, and requires a different level of environmental study for each category. This includes Environmental Impact Assessment (EIA) and Initial Environmental Examination (IEE), which is a shorter form of EIA that is not represented in the Armenian system.
16. To reduce the differences between Armenian legislation and International environmental polices the new law on Environmental Impact Assessment and Expert Examination has been approved in July 2014. The new law defines the environmental assessment process. *The law* requires projects to be assessed according to a two stage process (i) the preliminary stage, which including screening and categorization as category A, B, or C according activity type; and (ii) a main examination phase, where Category A and B projects are further examined. *In the law also* provided an outline for the EIA report which includes sections on analysis of the project impacts for both physical, biological and social environments, and cumulative impacts.
17. Despite that the law introduces many improvements over the previous law there are still a number of gaps between the Law and ADB’s Safeguard Policy Statement (2009) policy principles. In particular, requirements of environmental management planning and the contents of environmental management plans need to be strengthened.
18. Furthermore, in determining environmental standards for projects it supports, ADB follows the approach set out in the World Bank group’s Environment, Health and Safety Guidelines (2007), although alternative emission levels and approaches to pollution prevention/abatement can be adopted if necessary to better reflect national legislation and local conditions.

## **B.2. Institutional capacity and development**

19. Yerevan Municipality has a Department of Nature Protection with five staff members whose mandate is to control environmental degradation of the city. The YDPIU has been set up 2 years ago and has undertaken SUDIP Trache 1 construction projects. The organizational structure of the YMPIU includes an environment specialist, and will be provide with consulting support as needed, as it will be of long-term benefit to this program and subsequent investments.

## C. OVERVIEW OF THE SUDI PROGRAM AND THE PROJECTS TO BE ASSESSED

### C.1. Project Description

20. The Sustainable Urban Development Investment Program (SUDIP) will develop a Sustainable Urban Transport Sector Development Plan for a period of 9 years and an institutional development and capacity building plan for all the municipalities involved. The Program will support the development to municipal sector policy and will address: (i) approaches to urban transport service coverage and delivery, including operation, maintenance, and asset creation; (ii) investment plans; (iii) institutional arrangements and coordination framework; and (iv) legal and regulatory framework. The Program will have the following components and expected outputs:

**Component A:** Completion, extension, rehabilitation, and improvement of urban transport municipal infrastructure in urban areas in Armenia (physical investment);

**Component B :** Institutional Capacity Development Plan, with urban transport institutional and management capacity strengthened in relevant municipalities including concession (non-physical investment).

**Component C:** Program Management Facility, with assistance and consulting services to implement and manage the Program and all the specific projects under the MFF (non-physical investment).

21. In the first tranche of the SUDIP, two projects have been identified in conjunction with the Government and Yerevan Municipality comprising two missing links in the Yerevan by-pass road system. The two road Projects are: (i) Project 1-Argavand-Shirak Road link will be constructed to 6-lane divided road; and (ii) Project 2-Babajanyan-Ashtarak highway will be upgraded to 4-lane divided roads and Davitashen-Ashtarak highway will be upgraded to 6-lane divided roads.

22. The environmental categorization of the Projects will be undertaken using the Rapid Environmental Assessment (REA) checklist of ADB to further determine the environmental assessment requirements of the projects under Tranche 2 and future projects in the succeeding tranches. The REA Checklist (see Appendix 1) consists of questions relating to: the sensitivity and vulnerability of environmental resources in the project area, and the potential for the project to cause significant/potential adverse environmental impacts. The Categorization is based on the most environmentally sensitive component. This means that if one part of the project is with potential for significant adverse environmental impacts, then the project is to be classified as Category A regardless of the potential environmental impacts of other aspects of the project. Category B projects are judged to have some adverse environmental impacts, but of a lesser degree and/or significance than those for Category A projects. An initial environmental examination (IEE) is required to determine whether or not significant environmental impacts warranting an EIA are likely. If an EIA is not needed, the IEE is regarded as the final environmental assessment report. (Armenia does not distinguish between IEE and EIA as ADB does. All infrastructure projects that are considered to have potential environmental impact based on their category are reviewed and approved by the MNP based on an EIA).

23. Tranche 2 projects of the Investment Program are focused on three road missing links to complete the Yerevan Western Ring Road. It includes sections 5 and 9 for which finances under Tranche 1 were not secured earlier. These three links are divided into five sections:

- (i) Argavand - Shirak road link (Section 5); the construction of a link between Argavand Highway and Shirak Street West of length approximately 1.3km. The alignment passes through the archaeological site known locally as Karmir Blur. The section is covered by LARP prepared under Tranche 1 projects. EIA for this part have been prepared and approved by ADB in June 2014.
- (ii) Babajanyan-Ashtarak highway, 6.7 km long; and
- (iii) Davitashen - Ashtarak highway; (Section 9) of 2.2 km. The section is covered by the draft IEE prepare in 2010 and LARP prepared in 2011, under the Tranche 1 projects.

24. Each section will provide dual two or dual three lane carriageways.

Project Location Map



## **C.2. General Construction Impacts**

25. The checklists indicate that most of the environmental, social risks and the potential cultural impacts are likely to occur during the construction stage, which is as expected as these are major construction projects, conducted in populated urban areas, often in locations where there are already traffic and transportation problems and the location of the historical/cultural sites. Most construction impacts are, however, temporary, related to the construction process itself, and can be mitigated by relatively straight forward measures that are common practice at sites of urban construction. These include:

- (i) reducing dust by using wheel washes, watering site roads, and covering loose material when carried on trucks (including removal of waste soil and delivery of sand);
- (ii) reducing noise, dust and visual intrusion by retention of existing mature trees and erecting barrier fences around sites;
- (iii) preparing and implementing pollution prevention and abatement plans to reduce risks of accidental spills of toxic materials and to contain and clean up any spills that do occur;
- (iv) preparing and implementing traffic management plans to avoid exacerbating congestion problems and maintain vehicle and pedestrian safety in the vicinity of sites.;
- (v) appropriate construction camps and waste disposal;
- (vi) provisions for workers and public safety,
- (vii) preparation and execution of archaeological investigations.

## D. PROCEDURES TO BE USED FOR PROJECTS UNDER SUDIP PROGRAM

### D.1. Responsibilities and Authorities

26. A **Management Board for the Program**, chaired by the Prime Minister, has been set up to follow up the implementation of the Sustainable Urban Development Investment Program (SUDIP). It is comprised of Minister of Economy, Minister of Finance, Minister of territorial Administration, Minister of Justice, Minister of Transport and Communications, Mayor of Yerevan, and representatives of the Central Bank, the Real Estate Cadastre Agency, and Yerevan Development PIU. The Management Board is meeting every month.
27. The Ministry of Economy is the Executing Agency (EA) for the Investment Program. The EA will oversee the implementation of the Program and the disbursement of the loan.
28. **Implementing Agency(IA)**. The **Implementing Agency** (IA) is Yerevan Municipality (The Client) which is responsible for the overall technical supervision and execution of the Project. The Municipality also has the responsibility for waste management services that include organization of waste collection, assigning dump sites for construction waste and further maintaining the Project's landscape planting and beautification as well as cleaning squares, gardens and other public places of municipal significance.
29. Yerevan Municipality Project Implementation Unit (YMPIU). Within the IA, a Yerevan Municipality Project Implementation Unit (PIU) has been set up. The YMPIU is responsible for day-to-day implementation of the projects. It is headed by a full-time Project Director. The YMPIU includes following specialists: Institutional, Technical, Financial, Monitoring and Evaluation, Legal/Contract administration, Procurement, Resettlement, Environment, Communication and public relations, Assistant/translator. Responsibilities of the YMPIU include:
- (i) preparing and updating procurement plan;
  - (ii) tendering, evaluating bids, and awarding works;
  - (iii) contracting administration;
  - (iv) managing the Engineer;
  - (v) supervision;
  - (vi) quality control;
  - (vii) obtaining copies of the approvals and permits from relevant agencies;
  - (viii) preparing contract awards schedule and disbursing the loan according to ADB guidelines;
  - (ix) inspecting the Contractor's implementation of mitigation measures as specified in the EMP;
  - (x) preparing and submitting bi-annual environmental reports regularly to the ADB;
  - (xi) serving as point of public contact for any complaints or concerns;
  - (xii) responding to emergencies and notifying the relevant authorities within reasonable times; and
  - (xiii) keeping updated with changes in authority requirements and legislation and respond as appropriate.

**a) Engineer**

30. Engineer’s key responsibilities include:

- (i) update or prepare the final Environmental Impact Assessment (EIA) or Initial Environment Examination (IEE) as applicable, along with the relevant Environment Management and Monitoring Plan (EMP), and other documents as required;
- (ii) submit the updated EIA, EMP and EARF for the MOE, MTA, or YM and ADB’s review and approval;
- (iii) conduct the necessary consultations in compliance with the Environment Assessment and Review Framework (EARF) approved in 2010 between ADB and the Government of Armenia; and
- (iv) apply for and get a positive environmental expertise conclusion from the Environmental Expertise of the RA Ministry of Nature Protection for the EIA/IEE report and EMP as prescribed by the Armenian legislation (including, agreement on route with the RA Ministry of Culture, etc.).

31. During construction the key tasks of the Engineer will include the following major key activities:

- (i) supervise and monitor construction of the Project including the implementation of the Site Specific EMP;
- (ii) ensure that all work associated with the Project are carried out in full compliance with the designs and specifications and following international engineering and quality standards;
- (iii) manage contract changes, contractor claims and scope revisions;
- (iv) monitor the Project performance, benefits and ensure compliance with all social requirements; ensure that resettlement and environmental, health and safety requirements, road safety, health & safety and monitoring are carried out in compliance with the relevant safeguards documents, the ADB safeguards policy and the applicable laws of Armenia;
- (v) liaise with government and municipal authorities, program management Consultants, NGO’s, civil society, and other stakeholders concerned with the Project implementation to carry out proper consultation;
- (vi) carry out 2 visits during the defects liability period;
- (vii) ensure that the construction contractor prepares the detailed site specific EMP;
- (viii) report to YMPIU.

**Table 1: Institutional Roles and Responsibilities**

PIU	ADB
<b>Pre-Construction Phase</b>	
- With the assistance of project consultants, identifies and incorporates environmental mitigation and monitoring measures into bidding and contract documents; - ensures that bidders and contractors have access to the EIA or IEE and EMP reports of the projects and ensures that the successful bid includes provisions to implement those relevant	- Reviews project screening results and ratifies inclusion as environment category “B” projects. - Reviews and approves IEEs/EIAs on no-objection



mitigation measures; and - makes the successful bidder aware of its responsibilities to mitigate environmental problems associated with its construction activities.	basis. - Discloses IEEs (for environment category “B” projects) and EIAs to the public through the ADB website.
<b>Construction Phase</b>	
- Reviews progress reports to ensure that all mitigation measures are properly implemented. - Consolidates monthly reports and submits quarterly reports to ADB for review and every 6 months, prepares progress reports on the implementation of the project EMPs and in compliance with government and ADB environmental requirements and submits them to ADB for review. - Ensures that the EMPs include provisions for Physical Cultural Resources (PCRs3) chance-finds and that the contractor is acquainted with the relevant procedures by the Ministry of Culture. - Submits bi-annual reports on implementing EMPs, including implementation of an environmental emergency program, if any, to ADB	Reviews bi- annual reports and provides necessary advice to the PIU.
<b>Operation Phase</b>	
- Every 6 months, prepares progress reports on project and environmental performance and submits them to ADB for review. - Submits project completion environmental monitoring report to ADB after three years of completion of construction summarizing the overall environmental impacts from the projects.	Undertakes annual environmental review missions for environment category “A” and “B” projects.

## D.2. Environmental Criteria for Project Selection

32. Considering the potential environmental impacts of future projects and the relevant environmental requirements of ADB and the Government of Armenia, the Government and ADB agreed on the following criteria for selection of future projects to be included in the Sustainable Urban Development Investment Program:

- (i) Projects should not pass through any ecologically sensitive and significant areas as recognized by the Government of Armenia or any area that is internationally significant (such as protected wetlands and mangroves).
- (ii) Projects should not pass through any wildlife sanctuaries, national parks, nature reserves, and protected areas designated by national and international regulations.
- (iii) Projects should not pass through any cultural heritage or archaeological sites designated by UNESCO
- (iv) Projects shall only involve activities that follow all the applicable Government regulations.
- (v) If, during the implementation of a project, the contractor encounters chance-finds, such chance-finds shall be dealt with according to Ministry of Culture regulations, as stipulated in the EMP.
- (vi) Projects should be located wherever possible on Government-owned land, to avoid impacts related to involuntary resettlement.

- (vii) If it is not possible to locate all project components or construction activities on Government land, designs should minimize the acquisition of privately-owned land, buildings, and businesses.
- (viii) If a project passes through any cultural heritage or archaeological sites designated by the Ministry of Culture, it must be approved by the Ministry of Culture and must address all provisions required by the Ministry of Culture to safeguard the physical and cultural resources (PCR).

### **D.3. Procedures for Environmental Assessment of Projects**

33. ADB categorizes road projects in to two environmental categories, “A” and “B”. Projects with potential of significant adverse environmental impacts, and as listed in para.23 below, are environment category “A”, for which an EIA is required to address significant impacts. Projects judged to have some adverse impacts, but all of them of lesser degree and/or significance than environment category “A” are environment category “B”, for which an IEE is required to determine whether or not significant environmental impacts warranting an EIA are likely. If an EIA is not needed, the IEE is regarded as the final environmental assessment report. The guidelines to prepare environmental assessment reports for an environment category “A” project (EIA) and for an environment category “B” project (IEE) in compliance with ADB’s Safeguard Policy Statement (2009) are given in the following sections.
34. According to the RA Law the types of activities envisaged for assessment of environmental impact (hereinafter referred to as Expertise) are classified into three categories: A, B, C as per decreasing level of impact on environment.
35. Expertise is to be implemented in two phases:
- (i) initial phase, during the which it is considered to study/review the application for initial evaluation
  - (ii) main phase, during the which it is considered to study/review report on main assessment.
36. After submitting the initiative for categories A and B, the authorized body, the RA MNP, within 30 days decides whether envisaged activity corresponds to technical assignments in regard to be a subject to environmental impact assessment. In case of category C, whether envisaged activity corresponds to conditions to be assessed and to receive Expertise conclusion.

#### **a) Screening**

37. Every project to be included in this MFF Program will be screened to determine its environment category based on ADB’s Rapid Environmental Assessment (REA) checklist, a REA Checklist for Road Project is presented in Appendix 1. Classification is to be based on the most environmentally sensitive component, which means that if one part of a project has the potential for significant adverse environmental impacts, then the project is to be classified as environment category “A” regardless of the potential environmental impacts of other aspects of the project.
- (i) Road upgrading and rehabilitation and other construction –related urban transport projects that do not fall into any of the category A screening items are classified as environment category “B”.

38. Projects are classified during an initial screening of potential environmental impacts. However the classification is subject to change as more detailed information becomes available and preparation proceeds. The environment category must be reconfirmed by the Chief Compliance Officer prior to the first Management Review Meeting.
39. According to the Armenian legislation the screening refers to the procedures, that is in case of category A and B projects whether envisaged activity to be a subject to environmental impact assessment and in case of category C, whether envisaged activity corresponds to conditions to be assessed and to receive Expertise conclusion.

***b) Scoping***

40. Before conducting any environmental study, a scoping document consisting of the scope of the environmental surveys, methods of data collection and outputs anticipated from the study is to be prepared. In case of environment category “A” projects, the scoping document is to be approved by the EA before detailed environmental studies are undertaken. Scoping should focus on identifying those components of the environment that are likely to be significantly affected by the project based on project location, past documented experience, the likely geographic and time-related extent of the effects, and the measurements or thresholds to be used to assess significance. A topographic map of the study area showing the document. A sample scoping document is presented in Appendix 2.

***c) Identifying Baseline Conditions and Impacts***

41. With the screening and scoping results in hand, planning of the field program is simplified; however, it does require the involvement of an experienced environmental assessment practitioner.
42. Collection of baseline information on biophysical, social and economic aspects of the project area for the purposes of monitoring of construction activities. These are important reference against which changes caused by the implementation of the project can be measured and quantified. This is usually carried out through site visits and review of data bases for all available environmental parameters such as terrain, soils, rivers, forest, protected areas, and land use. This will also include collection and analysis of background noise, and air and water quality. Collection of baseline data should be designed and focused on relevant aspects that are likely to be affected by the proposed project. In other words, the baseline data and information should be sufficient to convey to readers the nature of environmental, social and economic conditions of the affected areas.
43. Changes as a result of construction activities and operation of the project, by relating cause and effect such as changes in traffic volume, fleet make-up, and traffic patterns to air quality and noise levels. The location and sampling area where baseline data were collected and where ongoing monitoring takes place should be well documented to enable data replication and comparative analyses of parameters for monitoring purposes.

***d) Public Consultations/Hearing and Communication Plan***

44. According to ADB’s SPS (2009) and RA Law on Environmental Impact Assessment and Expert Examination (2014) the public consultations are to be held at the early stage of EIA field work and during project preparation as soon as EIA draft report is developed.

45. Consultation meetings with the representatives of stakeholders: governmental authorities and NGOs:

- (ii) Municipality of Yerevan – the Implementing Agency:  
Yerevan Municipality Project Implementation Unit (YMPIU)
- (iii) Ministry of Nature Protection;  
Nature Protection Expertize SNCO
- (iv) Non-government organizations (NGOs) such as:  
Association for Sustainable Human Development  
Young biologist association, etc.

46. The Public Consultation and Communication plan includes:

- (i) Disclosure of Project related Information to raise the awareness of the public on the Project.
- (ii) Public consultations are implemented to meet the ADB SPS requirements and the requirements of the RA Law on EIA to ensure the participation of the public and APs on the design and IEE/EIA and EMP drafting stage. The further public consultations shall be implemented by Contractor with assistance and participation of the Engineer and YMPIU should the design or another significant change in project implementation occurred.
- (iii) Grievance Redress Mechanism to ensure the everyday permanent communication with APs for prompt response and resolution of complains and suggestions.

#### ***e) Information Disclosure***

47. The ADB SPS's information disclosure requires that meaningful consultations are carried out with project stakeholders, relevant government units, the community, the persons or groups affected by the Project, civil society and NGOs.

48. The information about the Project was disclosed through the public consultation events mentioned in A3 a), as well as during series of introductory and follow-up meetings with relevant ministries and other official authorities such as the Ministry of Nature Protection, Yerevan Municipality and with several NGOs.

49. For the information disclosure purposes the following documents shall be put on the ADB's, YM and YMPIU websites and regularly updated when needed:

- (v) IEE/EIA report (including EMP);
- (vi) Environmental Assessment and Review Framework (EARF).

#### ***f) Preparation of the Environmental Management and Monitoring Plan***

50. The Environmental Management Plan should be prepared to ensure compliance with the ADB's environmental safeguard requirements and all applicable laws, regulations and standards for environmental protection in Republic of Armenia. The EMP should contain the measures to

mitigate and prevent the unwanted effects that may arise during the Project implementation, as well as the monitoring actions to check the compliance of construction works implementation process to the planned mitigation measures through the whole Project cycle: from the engineering design phase, preconstruction, construction through the operation and maintenance periods. When the final EMP will be developed as an integral part of the final EIA/IEE it will be included in the tender and contract documents.

51. On the other hand the Contractor will determine his construction practices, working methods, schedule and access to the site. To best reflect the changed and modified conditions the Contractor will required to complete and update the EMP with more detailed site-specific and activity specific mitigation measures and prepare the Site-specific environmental management plans (SEMP) 28 days prior to works commencement date. The SEMP will be considered as consistent part of Contractor’s contractual liabilities.
52. Contractor will consult with Engineer and decide how many SEMP’s are needed for each Road links area and will prepare the SEMP based on the following outline:
  - (i) Boundaries of the site the SEMP is relevant for are defined;
  - (ii) Sensitive receptors and environmental values are identified;
  - (iii) Site-specific construction activities are specified;
  - (iv) The risk of impacts is assessed;
  - (v) Environmental management measures are assigned for the impacts that need to be mitigated as a result of risk assessment;
  - (vi) SEMP prepared including the sub plans;
  - (vii) Environmental work plans prepared (maps, drawings, etc.).

***g) Estimating Mitigation, Monitoring, and Training Costs***

53. The purpose of the Environmental Management Plan is to guide the Contractor and Engineer in the prevention and mitigation of environmental impacts related to implementation of the construction works, as well as to serve as guidance for the Yerevan Municipality and other relevant authorities, including the SEI during operation and subsequent maintenance period. The Environmental Management Plan will serve as the basis for the following:
  - (vii) Management of the Project’s potential impacts and their prevention or mitigation;
  - (viii) Preparation of SEMP’s by the Contractor prior to commencement of pre-construction and construction related activities; and
  - (ix) Implementation of monitoring program to check compliance with the environmental legislation, regulations and environmental standards.
54. The Environmental Management Plan should summarize the anticipated environmental impacts. For every identified impact a corresponding mitigation measure will be proposed. The mitigation measures will be more specified based on the risk assessment to be conducted during the preparation of the SEMP’s. The environmental monitoring activities, the entities responsible for carrying out those activities and the estimated costs of implementation are also included.
55. The SEMP’s will be prepared by the Contractor based on the specificities of the construction contract and updated upon the need to be adapted to possible changing conditions. It shall be submitted to the Engineer for the review and YMPIU approval. Any changes or deviations from

the SEMP must first be approved by the Engineer.

- (i) According to the recommended Environmental Safeguard Clauses for Civil Works Contracts the Contractor shall undertake the following investigations and activities during the mobilization period:
- (ii) Hire a full time environmental specialist (ES) with strong background in health and safety
- (iii) Ensure the participation of the ES, engineering and work's supervision staff in the ADB safeguard presentation training organized by Engineer.
- (iv) Organize environmental and safety training and orientation for workers
  1. Implement a survey of the initial condition of access roads Implement the measure on identification and protection of existing community trees that might be damaged by construction activities in accordance with SEMP;
  2. Protection and/or relocation of water mains, sewers, electricity lines and other utilities;
  3. Surveys for collection of baseline data for air quality (dust), noise and vibration (if needed), 21 days prior to commencement of works.
- (v) Submit for approval by the Engineer 28 days prior to start the works the Site-specific Environmental Management Plan.

56. Beside the above mentioned Contractor will:

- (i) Provide access to the site and to facilities for the ES.
- (ii) Allow access to the site for any environmental monitoring and inspection at any time requested,
- (iii) Ensure the everyday implementation of the SEMP, including undertaking of regular monitoring, maintenance, reporting, etc.
- (iv) Execute upon work completion, all the work necessary to reinstate all the used areas of the site close to its original condition to the reasonably acceptable level. This will be approved by the Engineer in written certification of reinstatement.

57. The provisions set out in the EMP will be implemented by the Contractor ES and monitored by the Engineer ES in assistance with YMPIU ES.

58. The EMP provides general principles and common mitigation measures and includes the following sub-plans:

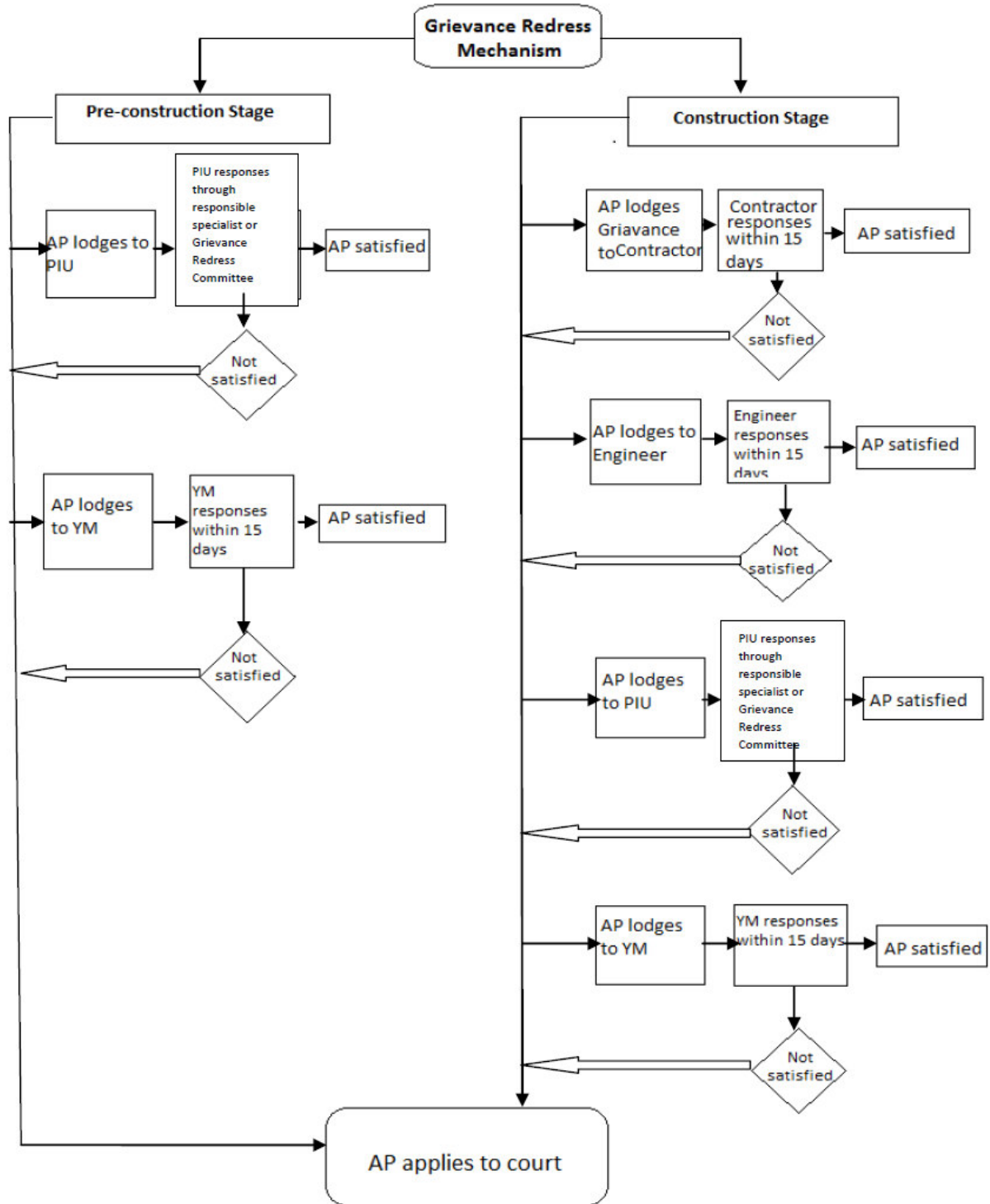
- (i) Occupational Health, and Safety Plan
- (ii) Public Consultation and Communications Plan
- (iii) Vegetation Clearing Plan
- (iv) Utilities Protection and Relocation Plan
- (v) Environmental Protection Plan
- (vi) Construction Work Camps Plan
- (vii) Site Management Plan (Quarry and borrow pit, dumping sites, concrete batching and asphalt plants)
- (viii) Traffic and Access Management Plan

- (ix) Emergency Response Plan
- (x) Waste and Material Disposal Plan
- (xi) Site Reinstatement, Landscaping, and Revegetation Plan

#### ***h) Grievance Redress Mechanism***

59. For receiving feedbacks, concerns and complaints from the APs, a Grievance Redress Mechanism (GRM), inspired by the ***problem solving function*** of ADB’s guidelines and policies shall be maintained for the duration of the Project. The Grievance Redress Mechanism will intended to assist aggrieved persons in lodging their complaints and to describe the mechanism designed to redress their grievances in a timely and effective manner. The parties potentially involved are: the complainants, Contractor, Engineer, YMPIU, EA, and the courts.
60. Public will be informed about the GRM during the public consultations. Also information on the existence of GRM and the steps the AP could undertake to raise the suggestions or complains shall be disclosed on the YMPIU website, as well as on the Project informational board installed by the Contractor on construction sites.
61. The procedural steps of the Grievance Redress Mechanism for the Project provided below.

#### **Figure D-1: Grievance Redress Mechanism Flow-Chart**





62. The following are the procedural steps to file a complaint, pose an inquiry on matters relating to project implementation, environmental concerns and other issues regarding the Project.

**Pre-construction stage:**

**63. Step 1.** The person affected by the Project could raise their suggestions/concerns/complaints first of all to the PIU. PIU receives and resolve/replies the APs' grievances.

If an AP is not satisfied with the response or PIU responsible staff needs additional capacity to response the APs' grievance, the Grievance Review Group (GRG) can be formulated to ensure comprehensive, equitable and transparent discussion of the case. To establish legitimacy of the GRG to review and judge on the substantive merit of the AP's complaint, the composition of the GRG should be balanced and include an independent observer to ensure the impartiality and transparency of the complaint review process. The following composition of the GRG is proposed:

<b>Members</b>	<b>Position</b>
(a) Representative of PIU	Chairperson
(b) Representative of safeguards team (PIU)	Member
(c) Representative of Local Government, as relevant	Member
(d) Certified technical expert, as relevant	Member
(e) Representative of Engineer/Contractor, as relevant	Member
(f) Representative of the APs	Member
(g) Independent party (for example NGO)	Observer

**64.** To make for effective complaint processing, the role and responsibilities of each GRG member should be carefully elaborated and explained to them.

**65. Step 2.** If AP is not satisfied with PIU's decision even after GRG review of the grievance, then s/he can lodge the grievance to the Yerevan Municipality. YM follows Public Administration RA law for registration, revision and resolving the case.

**Construction Stage:**

**66. Step 1.** The person affected by the Project could raise their suggestions/concerns/complaints first of all to the Contractor's dedicated grievance staff that is an attempt will be made to resolve complaints at the local level. In order to maintain transparency and accountability to affected communities and to make information, assistance and grievance resolution services accessible to the Affected Persons, the Contractor will establish the following GRM as a part of the Project's integral GRM:

- (i) AP's could approach Contractor's representative (construction foreman, engineer, social or environmental specialist) on-site and/ or register their suggestion /complain into the grievance register book kept by Contractor at the field office established in the construction camp located nearby the RoW. The template for recording grievance, content and format of the application shall be specified in the Contractor's SEMP and agreed with Engineer.
- (ii) Contractor ensures the provision of contact information (field office location, operating hours, names of responsible contact persons, phone numbers, regular mail and email addresses, etc.) via posters and Project informational boards.

**67.** Contractor should immediately inform the Engineer and PIU if AP lodged the grievance and should send the copy of written complaint to them. Contractor should implement appropriate mitigation

measures to solve the issue and send the written response/reply to the AP with cc Engineer and PIU.

68. **Step 2.** Should the AP be not satisfied with the Contractors' solution of his/her complain, the further opportunities are available. AP could next apply to the Engineer via lodging the complaint within one month after receiving/not receiving the response from the Contractor.
69. The incoming suggestions/ complains shall be considered and classified into environmental and social/resettlement items. The social/resettlement safeguard related complains shall be handled in the scope of Engineer and YMPIU LARP specialists.
70. The environmental specialists of the Engineer in collaboration with the Contractor(s) shall establish an office at the Project site where environmental complaints of Projects' AP regarding EMP and project operations' impacts can be lodged. This Project site office will be used for: supervision of construction, including monitoring of the Contractor's compliance to the EMP to ensure the mitigation measures are timely and properly implemented; disclosing all safeguard documents; and receiving and responding to the comments/feedbacks from the community. The Engineer shall respond to the complaint within 15 days.
71. **Step 3.** Should the Engineer fail to satisfy the complaint, AP could apply to YMPIU, YM, EA and ADB AM. The complaint in the Construction stage at the PIU level will be proceeded with the same scheme as in the pre-construction stage. All the contact information shall be provided by Contractor on posters and on the Project informational board. Contractor shall serve as an entry point in this stage and provide the necessary explanations and assistance in application to the mentioned entities, if needed through the personal contact with AP.
72. Finally the AP can always seek attention and interference of the court. However all the efforts will be made to settle the issues at the Contractor's, the Engineer and YMPIU level. If not possible, attempts will be made to resolve the issues at the YM level to avoid/minimize litigation as much as possible.
73. All complaints regardless of the outcome and solutions will be properly documented and made available for review, monitoring and evaluation purposes.

*i) Reporting*

74. The next step is preparation of the assessment document according to a prescribed format and level of details. An outline of an EIA report, which also generally applies to IEE reports, is in Appendix 3 and can also be found in ADB's website at [www.adb.org/documents/guidelines/environmental\\_assessment/default.asp](http://www.adb.org/documents/guidelines/environmental_assessment/default.asp).
75. According to RA legislation General requirements for Environmental impact assesment report are:
- (i) description of the envisaged activity and the objective;
  - (ii) physical, technical and technological characteristics;
  - (iii) description of all possible options, including refusing of the envisaged activity (zero option),
  - (iv) environmental assessment of the potential economic damage. Economic loss compensation cost and payment schedule.
  - (v) Description of the environment of the impact area, natural conditions, resources and their usage,
  - (vi) potential social impacts, risks, benefits, and analytical characteristics,
  - (vii) the scope of impact caused by emergency, the possibilities, ways and means of mitigation or elimination of its impact,
  - (viii) the complience of the envisaged activity with the approved conceptual/framework document of that paricular area,
  - (ix) the planned measurements
  - (x) monitoring of the impact of the envisaged activity and post-design analysis program,
  - (xi) material (maps, layouts, graphs, tables etc.) providing summary information about the content of the report on the envisaged activity,
  - (xii) the sources of used environmental baseline data,
  - (xiii) and other information.

## E. COMPLIANCE WITH ADB'S ENVIRONMENTAL ASSESMENT GUIDELINES

76. The Executing Agency and Implementing Agency's environmental due diligence will ensure the proper implementation of environmental mitigation measures for all projects under their respective mandate are monitored. The timely execution and effectiveness of the measures to prevent or minimize the projects' impact must be documented and put in record. The due diligence report include the Project's EMP implementation and compliance to all environmental requirements of the ADB and to the government agencies involved in the implementation of SUDIP Projects. The environmental performance report of the project will be integrated with the due diligence report for the ADB. ADB must be given access as needed to undert a keen environmental due diligence for all projects.
77. An EMP will be part of the overall project monitoring and supervision, and will be implemented by the contractor with over sight from specialists with in the Engineer. Progress on the implementation of the EMP will be included in the periodic project progress reports. Specific monitoring activities defined in the EMP of the IEE or EIA which will be prepared by Engineer will be carried out by the contractors and monitored by specialists within the PIU . Contractor will required to complete and update the EMP with more detailed site-specific and activity specific mitigation measures and prepare the Site-specific environmental management plans (SEMP) 28 days prior to works commencement date. The SEMP will be considered as consistent part of Contractor's contractual liabilities. The YDPIU will submit reports on EMP implementation to ADB every six months for environment category "A" and annually for other environment category "B" projects.
78. The PIU will review the IEE or EIA and the corresponding EMP for each project to ensure that mitigation measures and monitoring plans proposed in those documents are incompliance with ADB's policy and government's environmental requirements. According to the reports and reviews during its missions, ADB, in consultation with the government, will confirm compliance. For this purpose, the PIU will provide ADB with access to information on any project. The information on implementation of an EMP, as well as the environmental and social safeguards compliance, will be systematically documented and reported to ADB as part of the regular progress reports.

### E.1. Public Disclosure

79. The Implementing Agency and YMPIU are responsible for ensuring that all environmental assessment documents, including the environmental due diligence and monitoring reports, are properly and systematically kept as part of the project record of each project under its responsibility. All environmental documents are subject to public disclosure. These documents should be made available to the public, if requested. Incase of environment category "A" project, the EIA will be reviewed by ADB and after finalization, disclosed to the public through ADB's and SUDIP's websites at least 120 days before the project is approved by ADB's Board of Directors. The IA will also ensure that public consultations, particularly with persons that are affected by the project, are undertaken during the IEE or EIA preparation consistent with the ADB's environmental assessment policy and the relevant Government environmental requirements.
80. In case of environment category B the following documents are to be disclosed on ADBs

website:

- (i) The final IEE or IEE should be revised into EIA which will be prepared to meet requirements of Armenian legislation,
- (ii) A new or updated IEE/EIA and corrective action plan prepared during project implementation, if any, and
- (iii) Environmental monitoring reports

## **E.2. Staffing Requirements and Budget**

81. The Engineer will recruit an environmental assessment team to prepare the environmental assessment reports for each project consistent with this EARF. Generally the environmental assessment team would include an environmental specialist, a hydrologist, a geologist, and a biologist. Since Armenia is rich in archaeological remains, the services of a recognized archaeologist should also be included to assist with the liaison with the Ministry of Culture and the Board of Conservation and Preservation of Historical and Architectural Monuments. In addition, adequate funding resources must be provided under each project for environmental monitoring and mitigation measures for each project. Actual team compositions and costs will depend on the size and complexity of each project.

**APPENDIX 1:  
 RAPID EXAMINATION ASSESSMENT (REA) CHECKLIST  
 FOR POTENTIAL ENVIRONMENTAL AND SOCIAL IMPACTS**

**Rapid Environmental Assessment (REA) Checklist**

**ROADS  
 AND  
 HIGHWAY  
 S**

**Rapid Environmental Assessment (REA) Checklist**

**Instructions:**

- (i) The project team completes this checklist to support the environmental classification of a project. It is to be attached to the environmental categorization form and submitted to the Environment and Safeguards Division (RSES), for endorsement by Director, RSES and for approval by the Chief Compliance Officer.
- (ii) This checklist focuses on environmental issues and concerns. To ensure that social dimensions are adequately considered, refer also to ADB's (a) checklists on involuntary resettlement and Indigenous Peoples; (b) poverty reduction handbook; (c) staff guide to consultation and participation; and (d) gender checklists.
- (iii) Answer the questions assuming the “without mitigation” case. The purpose is to identify potential impacts. Use the “remarks” section to discuss any anticipated mitigation measures.

**Country/Project Title:**

**Sector Division:**

Screening Questions	Yes	No	Remarks
A. PROJECT SITING IS THE PROJECT AREA ADJACENT TO OR WITHIN ANY OF THE FOLLOWING ENVIRONMENTALLY SENSITIVE AREAS?			
▪ CULTURAL HERITAGE SITE			
▪ PROTECTED AREA			
▪ WETLAND			
▪ MANGROVE			
▪ ESTUARINE			
▪ BUFFER ZONE OF PROTECTED AREA			
▪ SPECIAL AREA FOR PROTECTING BIODIVERSITY			

Screening Questions	Yes	No	Remarks
B. POTENTIAL ENVIRONMENTAL IMPACTS WILL THE PROJECT CAUSE...			
▪ encroachment on historical/cultural areas; disfiguration of landscape by road embankments, cuts, fills, and quarries?			
▪ encroachment on precious ecology (e.g. sensitive or protected areas)?			
▪ alteration of surface water hydrology of waterways crossed by roads, resulting in increased sediment in streams affected by increased soil erosion at construction site?			
▪ deterioration of surface water quality due to silt runoff and sanitary wastes from worker-based camps and chemicals used in construction?			
▪ increased local air pollution due to rock crushing, cutting and filling works, and chemicals from asphalt processing?			
▪ risks and vulnerabilities related to occupational health and safety due to physical, chemical, biological, and radiological hazards during project construction and operation during project construction and operation?			
▪ noise and vibration due to blasting and other civil works?			
▪ dislocation or involuntary resettlement of people?			
▪ dislocation and compulsory resettlement of people living in right-of-way?			
▪ disproportionate impacts on the poor, women and children, Indigenous Peoples or other vulnerable groups?			
▪ other social concerns relating to inconveniences in living conditions in the project areas that may trigger cases of upper respiratory problems and stress?			
▪ hazardous driving conditions where construction interferes with pre-existing roads?			
▪ poor sanitation and solid waste disposal in construction camps and work sites, and possible transmission of communicable diseases (such as STI's and HIV/AIDS) from workers to local populations?			
▪ creation of temporary breeding habitats for diseases such as those transmitted by mosquitoes and rodents?			
▪ accident risks associated with increased vehicular traffic, leading to accidental spills of toxic materials?			
▪ increased noise and air pollution resulting from traffic volume?			

Screening Questions	Yes	No	Remarks
<ul style="list-style-type: none"> <li>▪ increased risk of water pollution from oil, grease and fuel spills, and other materials from vehicles using the road?</li> </ul>			
<ul style="list-style-type: none"> <li>▪ social conflicts if workers from other regions or countries are hired?</li> </ul>			
<ul style="list-style-type: none"> <li>▪ large population influx during project construction and operation that causes increased burden on social infrastructure and services (such as water supply and sanitation systems)?</li> </ul>			
<ul style="list-style-type: none"> <li>▪ risks to community health and safety due to the transport, storage, and use and/or disposal of materials such as explosives, fuel and other chemicals during construction and operation?</li> </ul>			
<ul style="list-style-type: none"> <li>▪ community safety risks due to both accidental and natural causes, especially where the structural elements or components of the project are accessible to members of the affected community or where their failure could result in injury to the community throughout project construction, operation and decommissioning.</li> </ul>			

**APPENDIX 2:**

**SCOPING DOCUMENT**

**A. Introduction**

Scoping is a process for determining the issues to be addressed, the information to be collected, and the analysis required to assess the environmental impacts of a project. The scoping activities outlined here is an integration of the ADB’s policy on environmental assessment and Armenia’s environmental laws.

Scoping involves 5 basic steps: (i) identifying the environmental indicators; (ii) preparing the development scenario—identifying the range of activities that will be involved in subprojects; (iii) defining the spatial or geographic extent for the purposes of the environmental assessment; (iv) defining the time period over which impacts are to be assessed; and (v) identifying the environmental issues.

This scoping framework has been prepared and revised by the project consultant to carry out the environmental assessment and consequently update the IEE reports for the Tranche 1 Projects in accordance with the requirements of ADB’s Safeguard Policy Statement (2009) and relevant laws and regulations in Armenia. Likewise, this scoping document shall be used for the succeeding projects to be identified in the future Tranches. The Scoping document will identify potential environmental impacts on physical, ecological, resources during the whole project cycle (i.e., design, pre-construction, construction and operation/maintenance). The scoping also encompasses the social, cultural and the economic benefits of project in the local area, the municipality and to the country as a whole. The Environmental Impact Assessment (EIA) /Initial



Environmental Examination (IEE)<sup>1</sup> report will be prepared along with environmental management and monitoring plan (EMP) to address all the identified environmental impacts. To comply with the RA's Law on Environmental Impact Assessment and Expert Examination (July 22, 2014), an EIA report will be prepared as prescribed by the Ministry of Nature Protection (MNP). The study will be carried out by Consultant and IEE/EIA report will be prepared by the Engineer, revised by the PIU and to be submitted to the ADB for review and approval.

## B. Scope of Work

### 1. Baseline Studies

#### Output 1 : Memorandum on Armenian Legal and Administrative Procedures

**Activity 1.1:** Collection and review of relevant information regarding environmental legislation, statutory orders, by-laws, etc. connected to preparation and approval of the EIA report by Armenian Authority, and draft the memo. The memorandum will also consider the requirements of ADB policy and guidelines for category “A” and “B” projects.

**Activity 1.2:** Conducting a series of meetings with the senior staff of ministries responsible for environment protection, natural resources, culture, and archaeology to discuss appropriate legal and administrative procedures. Discussions also include issues such as basis for further approval/disapproval of EIAs by Armenian authorities and on the issuance. Review of the relevant environmental laws, regulations, norms, and standards on air, noise, water, waste, flora, and fauna.

**Activity 1.3:** Discussions with the Implementing Agency (IA) on the issuance of construction permits and environmental clearance certificates in accordance with the Government's relevant laws and regulations.

#### Output 2: Preparation of Baseline Assessment

**Activity 2.1:** Review of reports and field data collected from the project's pre-feasibility study; and other related road projects carried out under the World Bank, JBIC, EBRD, and MCC's funding.

**Activity 2.2:** Collection of baseline information on existing environmental condition along the project road alignments and identification of the environmental components that need detailed further study. Baseline assessment will be done based on the available secondary information, and primary data gathered during the field visits including, but not limited to, the following:

- (i) Physical resources: topography, climate, soils, geology, land use, coastal resources, and surface and ground water resources.
- (ii) Natural hazards: seismicity, floods, landslides, and volcanic activity.
- (iii) Ecological Resources: landscape and natural ecosystem, flora and fauna, wildlife and wetland habitats, nature reserve and protected areas.

---

<sup>1</sup> Preliminary assessments of the tranche1 projects indicate environment category “B”, for which ADB policy requires Initial Environmental Examinations. For project approval from the Ministry of Nature Protection (MNP), an EIA will be prepared to satisfy relevant regulations of the MNP. The MNP EIA will have similar, if not identical, requirements as the ADB IEE.

- (iv) Environmental quality: Air quality (PM, CO, NO<sub>x</sub>, SO<sub>x</sub>, SO<sub>2</sub>etc.), noise levels, and water quality (DO, BOD<sub>5</sub>, COD, TOC, pH, total nitrogen, total phosphorus, suspended solids, etc.).
- (v) Physical and Cultural Resources (PCRs): structures or sites those are of historical,
- (vi) Archaeological, paleontological, or architectural significance.

## 2. Detailed Field Investigation to Screen Environmental Impacts

### Output 3: Field Investigation and Analysis of Results

**Activity 3.1:** Preparation of lay out plan of the project road including, but not limited to, the flowing information:

- (i) Road alignments
- (ii) Sampling location for environmental parameters (air, noise, water)
- (iii) Construction camp including storage of petroleum products and explosives
- (iv) Asphalt and batch mixing plants, construction sites and camps, quarry sites, borrow pits, soil disposal are as
- (v) Water sources, waste disposal sites, environmentally sensitive areas
- (vi) Existing dwellings and commercial buildings within 100 m of the ROW
- (vii) Location softrees >150mm diameter and orchards within100m of the ROW
- (viii) Locations of cemeteries within 100 m of the ROW

**Activity 3.2:** Preparation of a cadastral and use maps howing the project locations and descriptions of the surrounding activities. This is to ensure that the project road is compatible with the national regulation specified for constructions ites.

**Activity3.3:** Initiation of necessary investigations and field work for gathering of the following additional information about ecological and environmental parameters in the project area.

- (i) **Landscape, Geo-hazards and Slope Stability.** Identification of natural landscape along the project road. Assessment of geological and geomorphologic features of the project area, as well as any violent interference by natural processes. Investigation and evaluation of results to predict rock falls, landslide, mudflow, and debris flow, erosion, ground subsidence, floods, lateral erosion of riverbanks (washing-off), and se ashore erosion.
- (ii) **Soil Erosion and Slope Stability.** Analys is of soil characteristics, moisture contents, vegetation cover, etc., in conjunction with the above activity, to predict possible soil erosion and landslides due to project activities.
- (iii) **Terrestrial Flora and Fauna.** Investigation of the composition of plants pecies and migratory birds in the project area. Attention should be paid to the distribution of protected plant and animal/birds species in order to ensure the protection and conservation of these species.
- (iv) **Wetland habitat sand Aquatic Flora and Fauna.** Investigations of occurrence of species (flora and fauna) in the identified wetlands along the project area and assess the potential influence of the proposed road alignment. Attention should be paid to the distribution and presence of protectedmigratory species of fish in order to ensure their protection and conservation.
- (v) **Protected Areas and Sensitive Environmental Receptors.** Collection of

protected and sensitive area maps and exact coordinates showing the boundaries and buffer zones of protected areas and project alignments and descriptions of the habitats. This is to ensure that the locations of sensitive areas and project alignment are sufficiently distant enough to maintain harmonization and avoid any potential disturbances on the habitats. Investigation will also be done along the project alignment for other sensitive situations such as wetlands, seashore, tourism, etc.

- (vi) **Traffic Flow.** Traffic counts and historical traffic flow to predict the future traffic growth and the load on the project road and other road links.
- (vii) **Air Quality and Noise Level.** Collection and analysis of air (PM, CO, NO<sub>x</sub>, SO<sub>x</sub>, SO<sub>2</sub>) and noise levels along the project road and at representative receptors.
- (viii) **Water Quality.** Collection and analysis of water quality (DO, BOD<sub>5</sub>, COD, TOC, turbidity, suspended solids, pH, and total dissolved solids) of the major rivers along the project road. Investigation of water quality impacts during construction and operations stages in selected river sites.
- (ix) **PCRs.** Investigation of the impact of the project on structures or sites that are of historical, archaeological, paleontological, or architectural significance along the project corridor.
- (x) **Quarry and Borrow Sites and Spoil Disposal.** Estimation of effects on the ecological resources in the area connected to quarry and barrow pit operations and spoil disposal sites needed for construction.

### 3. Analysis of Alternatives and Economic Assessment

In some instances it will be necessary to consider “alternatives to” the project. This situation should not arise if the project is consistent with DMC’s development strategy, ADB’s Country and Strategy Program, and has been developed based on a sector strategy and road map. The EIA report should describe how the project fits into this larger strategic planning context. If the public react negatively, and they perceive that the EA report has not considered alternatives to the project, or that preferred alternative is proceeding based on flawed assumptions. Should there be controversy surrounding the project, the EA report should include a discussion of alternatives to the project.

#### Output 4: Analysis of Alternative Options

**Activity 4.1:** The selection of alternatives should be compared in terms of their potential environmental impacts, capital and recurrent costs, suitability under local conditions, and monitoring requirements. For each alternative, the environmental costs and benefits should be quantified to the extent possible, economic values should be attached where feasible, and the basis for the selected alternative should be stated. The “nogo” alternative may be the only alternative to the project that can be realistically considered.

#### Output 5: Economic Assessment

**Activity 5.1:** Economic analysis of all alternatives in accordance with ADB’s Handbook on Economic Evaluation of Environmental Impacts for: (i) discussion of impacts that have not been expressed in monetary values, in quantitative terms where possible; (ii) costs and benefits of environmental impacts; and (iii) costs, benefits, and cost-effectiveness of mitigation measures.

### 4. Forecast Future Impacts and Mitigation Measures

## Output 6: Forecast of Impacts

**Activity 6.1:** When possible, air quality and noise levels forecasts should also be given for the non mitigation case; based on meteorological data and traffic estimates using computer modeling software and recommended mitigation measures.

**Activity 6.2:** Evaluate the project impact on all physical and ecological resources described in Activity 3.3 and recommendation of mitigation measures.

**Activity 6.3:** Evaluate socio-economical and cultural impacts, such as:

- (i) Assessment of the status of livelihoods (agriculture, business, etc. )in the context of socio-economical impact.
- (ii) Assessment of the impact on objects or areas with known archaeological values in the project area.
- (iii) Assessment of impacts on culturally and religiously sensitive locations (church, cemetery, etc.)
- (iv) Assessment of impacts in tourism sector
- (v) Assessment of traffic safety.

**Activity 6.4:** Assess impact on human health and estimation of possible health impacts on construction workers and roadside residents (such as safety, HIV/AIDS, STDs, human trafficking) due to construction camps and other project activities.

## Output 7: Environmental Management and Monitoring Plan

**Activity 7.1:** Prepare an Environmental Management and Monitoring Plan (EMP) for all phases of the project from detail engineering design phase, pre-construction, construction and operation period to ensure timely implementation of mitigation measures for environmental, archaeological/historical, cultural and social safeguards. The monitoring plan should focus on the implementation of mitigation and enhancement measures in controlling the unwanted environmental impacts. Detail environmental protection measures to (i) mitigate potential environmental impacts, (ii) provide in-kind compensation for lost environmental resources, or (iii) enhance environmental resources. Prepare cost estimates for each mitigation measure proposed in the EMP and ensure all the mitigation measures are considered in the engineering design of the Project.

**Activity 7.2:** Define environmental parameters for air quality, noise levels, water quality, accidental spills of hazardous substances, and protected areas if applicable.

## 5. Institutional Assessment and Monitoring Mechanism

### Output 8: Institutional Assessment

**Activity 8.1:** Identify responsible offices and government agencies for implementation and supervision of the EMP. The institutional roles and arrangements, description of the institutional capacity and training needs of the implementing agency for effective implementation of the EMPs must be defined. The training needs assessment for capacity building measures to strengthen the institution should be considered and provide cost estimates.

Responsibilities for monitoring shall be defined along with arrangements for data and information reporting, and for coordination between the contractor for mitigation and the YMPIU responsible

for compliance monitoring. The monitoring plan should specify who/which, what, when and where the mitigating, enhancement measures and/or remedial actions should be and monitoring their implementation.

### **Output 9: Monitoring Mechanism**

**Activity 9.1:** Specify “feedback monitoring” program, atoll to be used by implementing entities enable them to respond quickly to activities, which during the construction and operation turn out to have a negative effect to the environment. The tool will specify the parameters, location, frequency and means of monitoring.

## **6. Public Consultations and Disclosure Plan**

Public consultation is mandatory as part of the EA process for category A and B projects to be funded by ADB. The ADB’s safeguard policies for environment, and resettlement require public consultation at an early stage of the EA process. The adequacy of the public consultation and information disclosure is one of the criteria used to determine the project’s compliance with the safeguard policies.

### **Output 10: Conduct Public Consultations and Documentation**

**Activity 10.1:** Assist the IA an YMPIU to conduct public consultations. Following ADB’s Public Communications Policy (2005), a project classified under environmental Category A will require an Environmental Impact Assessment (EIA) report. At least two public consultations shall be conducted. The first consultation shall be accomplished during the detailed engineering design and EIA study so that views of affected groups are taken into account in the design of the project and its environment mitigation measures. The second consultation will be undertaken when the draft final EIA report is available, and prior to loan appraisal by ADB. For Category B projects one public consultation is necessary. The public consultation is also prescribed and required under the RA’s Law on Environmental Impact Assessment and Expert Examination (July 22, 2014). The consultation process will involve affected people, key agencies, NGOs, and other stakeholders and they are provided with opportunities to participate in the decision-making process and to influence decisions that will affect them. Address all the comments in the engineering designs.

**Activity 10.2:** Agreement by the relevant authorities of specific zones where minor temporary and/or permanent impacts to the environment can be accepted during the construction and operation phase of any bypass road required to construct SP1.

### **Output 11: Disclosure Plan**

**Activity 11.1:** The environmental assessment reports SIEE and SEIA reports will be made accessible and available to interested parties, and general public. The reports are required to be circulated through the depository library system and on the ADB and SUDIP websites. ADB’s “120 day rule” requires that the SEIA, and the SIEE of category B projects are available to the general public at least 120 days before ADB’s Board of Directors considers the loan. This section will provide of summary of information disclosed to date and procedures for future disclosure.

### **APPENDIX 3: OUTLINE OF AN ENVIRONMENTAL IMPACT ASSESSMENT REPORT**

This outline is part of the Safeguard Requirements 1. An environmental assessment report is required for all environment category "A" and "B" projects. Its level of detail and comprehensiveness is commensurate with the significance of potential environmental impacts and risks. A typical EIA report contains the following major elements, and an IEE may have a narrower scope depending on the nature of the project. The substantive aspects of this outline will guide the preparation of environmental impact assessment reports, although not necessarily in the order shown.

#### **A.Executive Summary**

This section describes concisely the critical facts, significant findings, and recommended actions.

#### **B. Policy, Legal, and Administrative Framework**

This section discusses the national and local legal and institutional framework within which the environmental assessment is carried out. It also identifies project-relevant international environmental agreements to which the country is a party.

#### **C.Description of the Project**

This section describes the proposed project; its major components; and its geographic, ecological, social, and temporal context, including any associated facility required by and for the project (for example, access roads, power plants, water supply, quarries and borrow pits, and spoil disposal). It normally includes drawings and maps showing the project's layout and components, the project site, and the projects are influenced.

#### **D.Description of the Environment (Baseline Data)**

This section describes relevant physical, biological, and socioeconomic conditions within the study area. It also looks at current and proposed development activities within the project's area of influence, including those not directly connected to the project. It indicates the accuracy, reliability, and sources of the data.

#### **E. Analysis of Alternatives**

This section examines alternatives to the proposed project site, technology, design, and operation—including the no project alternative—in terms of their potential environmental impacts; the feasibility of mitigating these impacts; their capital and recurrent costs; their suitability under local conditions; and their institutional, training, and monitoring requirements. It also states the basis for selecting the particular project design proposed and, justifies recommended emission levels and approaches to pollution prevention and abatement.

#### **F.Anticipated Environmental Impacts and Mitigation Measures**

This section predicts and assesses the project's likely positive and negative direct and indirect impacts to physical, biological, socioeconomic (including occupational health and safety, community health and safety, vulnerable groups and gender issues, and impacts on livelihoods through environmental media [Appendix 2, para.6]), and physical cultural resources in the

project's are a of influence, in quantitative terms to the extent possible; identifies mitigation measures and any residual negative impacts that can not be mitigated; explores opportunities for enhancement; identifies and estimates the extent and quality of available data, key data gaps, and uncertainties associated with predictions and specifies topics that do not require further attention; and examines global, transboundary, and cumulative impacts as appropriate.

## G. Information Disclosure, Consultation, and Participation

This section:

- (i) Describes the process undertaken during project design and preparation for engaging stakeholders, including information disclosure and consultation with affected people and other stakeholders;
- (ii) summarizes comments and concerns received from affected people and other stakeholders and how these comments have been addressed in project design and mitigation measures, with special attention paid to the needs and concerns of vulnerable groups, including women, the poor, and Indigenous Peoples; and
- (iii) describes the planned information disclosure measures (including the type of information to be disseminated and the method of dissemination) and the process for carrying out consultation with affected people and facilitating their participation during project implementation.

## H. Grievance Redress Mechanism

ADB's safeguard policies on Environment and Involuntary Resettlement recognize the importance of consulting with the Project Affected Person sandgroups to provide opportunities to raise their concerns and issues regarding the project. To continuously receive feedback from the Projects' Affected Person and facilitate resolution. ADB requires that the grievance redress mechanism be established and maintained for the duration of the Project.

The environmental unit established within the PIU in collaboration with the Contractor(s) shall establish a project site office where people's complaints can be lodged. The project site office will be used for: (a) construction supervision, including monitoring the Contractor's compliance to the EMP to ensure the mitigation measures are timely and properly implemented; (b) disclosing all safeguard documents; (c) receiving and responding to the comments/feedbacks from the Community. The entities potentially involved are: complainant, contractor, EA, PIU, NGOs, ADB, and the courts.

The project affected person or people affected by the project who have any grievances should raise their concerns/complaints to the Contractors, the Consultant, the PIU and relevant government officials through the grievance redress mechanism set up for the project. The people's complaints should be addressed and resolved by the Contractors, Consultant and the PIU within 3 weeks from the date of receipt of the complaint. An open meeting with the public and affected people may be organized to solve the issues/complaints. If the complaints are not resolved within the stipulated time or the complainants disagree with the complaint resolution, they can lodge their complaints to the concerned competent authorities at higher levels such as the MNP, MOC, etc. The procedures of lodging complaints and resolutions at these levels must be in compliance with the regulations of RA. All records of the public meetings and how grievances are addressed will be maintained by the Consultant and the PIU and at the project site office for the public access to these records.

The following is the procedural steps to address the grievance redress mechanism:

**Contractor:**

The contractor is obliged to carry out the work in accordance with contractual requirements that include:

- (i) a person or staff responsible for grievance procedure who:
  - a. keeps a log,
  - b. drafts mitigation measure to be implemented by contractor, and
  - c. prepares periodic reports.
- (ii) a designated telephone line; posting the telephone number, email address, and contact name on Project Boards; and

**PIU:**

PIU staff to include an environment specialist who will:

- (i) arbitrate disagreements between contractor, and aggrieved person;
- (ii) monitor grievance process;
- (iii) coordinate and arbitrate grievances with contractor;
- (iv) coordinate with NGO; and
- (v) report periodically to IA and ADB

**Complainant:**

A potential complainant is urged to proceed in the following order; he/she should:

- (i) contact contractor's designated grievance staff in person or via designated telephone number;
- (ii) lodge complaint and provides information for complaint log;
- (iii) agree with contractor on mitigation measure;
- (iv) agree with contractor on time limit to implement mitigation measure;
- (v) agree with contractor on verification method that mitigation measure has been implemented as agreed;
- (vi) sign off that mitigation measure has been implemented as agreed;
- (vii) seek redress from PIU if not satisfied with (iii), (iv), and (v);
- (viii) seek redress from IA if not satisfied with (vii);
- (ix) seek redress from ADB if not satisfied with (viii);
- (x) involve appropriate NGOs; and
- (xi) seek redress from the courts if all else fails.

**I. Environmental Management and Monitoring Plan (EMP)**

This section deals with these of mitigation and management measures to be taken during project implementation to avoid, reduce, mitigate, or compensate for adverse environmental impacts (in



that order of priority). It may include multiple management plans and actions. It includes the following key components (with the level of detail commensurate with the project's impacts and risks):

- (i) Mitigation:
  - (a) identifies and summarizes anticipated significant adverse environmental impacts and risks;
  - (b) describes each mitigation measure with technical details, including the type of impact to which it relate sand the conditions under which it is required (for instance, continuously or in the event of contingencies), together with designs, equipment descriptions, and operating procedures, as appropriate; and
  - (c) provides links to any other mitigation plans (for example, for involuntary resettlement, Indigenous Peoples, or emergency response) required for the project.
- (ii) Monitoring:
  - (a) describes monitoring measures with technical details, including parameters to be measured, methods to be used, sampling locations frequency of measurements, detection limits and definition of thresholds that will signal the need for corrective actions; and
  - (b) describes monitoring and reporting procedures to ensure early detection of conditions that necessitate particular mitigation measures and document the progress and results of mitigation.
- (iii) Implementation arrangements:
  - (a) specifies the implementation schedules howing phasing and coordination with overall project implementation;
  - (b) describes institutional or organizational arrangements, namely, who is responsible for carrying out the mitigation and monitoring measures, which may include one or more of the following additional topics to strengthen environmental management capability: technical assistance programs, training programs, procurement of equipment and supplies related to environmental management and monitoring, and organizational changes; and
  - (c) estimates capital and recurrent costs and describes sources of funds for implementing the environmental management plan.
- (iv) Performance indicators: describes the desired outcomes as measurable events to the extent possible, such as performance indicators, targets, or acceptance criteria that can be tracked over defined time periods.

## J. Conclusion and Recommendation

This section provides the conclusions drawn from the assessment and provides recommendations.

The EIA report will present the conclusions of the study including: (i) gains which justify project implementation; (ii) explanation of how adverse effects could be minimized or offset, and compensated to make these impacts acceptable; (iii) explanation of use of any irreplaceable

resources; and (iv) provisions for follow-up surveillance and monitoring. Simple visual presentations of the type and magnitude of the impacts may aid the decision-maker.

**APPENDIX 3-A**

<b>OUTLINE OF ENVIRONMENTAL IMPACT ASSESSMENT (EIA) REPORT</b>	<b>OUTLINE OF A SUMMARY ENVIRONMENTAL IMPACT ASSESSMENT (SEIA) REPORT</b>
<p><b>A. Executive Summary</b></p> <p>This section describes concisely the critical facts, significant findings, and recommended actions.</p>	<p><b>A. Introduction</b> (1/2 page)</p> <p>This section will include the purpose of the report, extent of the EIA study and brief description of any special techniques or methods used.</p>
<p><b>B. Policy, Legal, and Administrative Framework</b></p> <p>This discusses the national and local legal and institutional framework of the environmental assessment. It also identifies project-relevant international environmental agreements to which the country is a party.</p>	<p><b>B. Description of the Project</b> (1/2page)</p> <p>This section will include the type of and need for project, location, size or magnitude of operation and proposed schedule for implementation.</p>
<p><b>C. Description of the Project</b></p> <p>Describes the proposed project; its major components; and its geographic, ecological, social, and temporal context, including any associated facility required by and for the project (e.g., access roads, power plants, water supply, quarries, borrow pits, and spoil disposal). It normally includes drawings and maps showing the project’s layout and components, the project site, and the project's area of influence.</p>	<p><b>C. Description of the Environment</b> (2-3 pages)</p> <p>This section will include the physical and ecological resources, human and economic development and quality of life values in the area affected by the project. Where available, environmental standards will be used as the baseline for comparative purposes.</p>
<p><b>D. Description of the Environment (Baseline Data)</b></p> <p>Describes relevant physical, biological, and socioeconomic conditions within the study area. It also looks at current and proposed development activities within the project's area of influence, including those not directly connected to the project. It indicates the accuracy, reliability, and sources of the data.</p>	<p><b>D. Alternatives</b> (1-2pages)</p> <p>For each alternative a summary of the probable adverse impacts and its relation to the project, and other alternatives will be discussed to determine whether the project minimizes the environmental impact overall other alternatives and is within acceptable environmental impact limits. In most cases, environmental impacts "with" and "without" project alternatives should be examined.</p>
<p><b>E. Anticipated Environmental Impacts &amp; Mitigation Measures</b></p>	<p><b>E. Anticipated Environmental Impacts and Mitigation Measures</b> (4-6pages)</p>

<p>Prediction and assessment of the project's likely positive and negative, direct and indirect impacts to bio-physical, socioeconomic (including occupational health and safety, community health and safety, vulnerable groups and gender issues, and on livelihoods [Appendix 2, para. 6]), and physical cultural resources in the project's area of influence, in quantitative terms to the extent possible; identifies mitigation measures and any residual negative impacts that cannot be mitigated.</p>	<p>Environmental impacts, both direct and indirect, on different environmental resources or values due to project location, as related to design, during construction and regular operation will be discussed and mitigation, offsetting or enhancement measures will be recommended.</p>
<p><b>F. Analysis of Alternatives</b></p> <p>Examines alternatives to the proposed project site, technology, design, and operation—including the no project alternative—in terms of their potential environmental impacts; the feasibility of mitigating these impacts; their capital and recurrent costs; their suitability under local conditions; and their institutional, training, and monitoring requirements. States the basis for selection and justification of the alternatives.</p>	<p><b>F. Economic Assessment (1-2pages)</b></p> <p>This section will include: (a) for environmental impacts that have not been expressed in monetary values, a discussion of such impacts, if possible, in quantitative terms (e.g. weight or volume estimates of pollutants); (b) costs and benefits of environmental impacts; and (c) costs, benefits and cost effectiveness of mitigation measures. This information should be integrated in to the overall economic analysis of the project.</p>
<p><b>G. Information Disclosure, Consultation, and Participation</b></p> <p>Describes the process undertaken during project design and preparation for engaging stakeholders meeting and consultation with affected people including information disclosures; the planned information disclosure measures (including the type of information to be disseminated and the method of dissemination) and the process for carrying out consultation with affected people and facilitating their participation during project implementation; and</p> <p>Documentation of comments and concerns received from affected people and other stakeholders and the integration into the project design and mitigation measures, and resolutions of the needs and concerns of vulnerable groups (e.g. Women, the poor, and Indigenous Peoples if any).</p>	<p><b>G. Environmental Management Plan (1-2pages)</b></p> <p>The EMP will describe the impacts to be mitigated, and activities to implement the mitigation measures, including how, when, and where they will be implemented. The environmental monitoring plan will describe the impacts to be monitored, and when and where monitoring activities will be carried out, and who will carry them out.</p>
<p><b>H. Grievance Redress Mechanism</b></p> <p>This section describes the grievance redress framework and the procedural steps to be followed (both informal and formal channels),</p>	<p><b>H. Public Consultation and Disclosure (1-3 pages)</b></p> <p>This section will describe the process undertaken to involve the public in project</p>

<p>time frame for resolving complaints received from project affected persons.</p>	<p>design and recommended measures for continuing public participation; summarize major comments received from beneficiaries, local officials, community leaders, NGOs, and others, and describe how these comments were addressed; list milestones in public involvement such as dates, attendance, and topics of public meetings; list recipients of this document and other project related documents; describe compliance with relevant regulatory requirements for public participation; and summarize other related materials or activities, such as press releases and notifications. This section will provide of summary of information disclosed to date and procedures for future disclosure.</p>
<p><b>I. Environmental Management and Monitoring Plan (EMP)</b></p> <p>This is the provision of mitigating and enhancement measures to be implemented through the project cycle from the engineering design phase to preconstruction; construction; and operation and maintenance period to avoid, reduce, eliminate, and compensate the unwanted environmental effects the proposed project may generate during implementation. The EMP features the following:</p> <p>(i) Impacts and Mitigation:</p> <p>Identifies and summarized anticipated impacts and risks; describes each mitigation measure with technical details, including the type of impact to which it relates and the conditions under which it is required (for instance, continuously or in the event of contingencies), together with designs, equipment descriptions, and operating procedures, as appropriate; and provides links to any other mitigation plans (for example, for involuntary resettlement, Indigenous Peoples, or emergency response) required for the project.</p> <p>(ii) Monitoring,</p> <p>Describes monitoring activities with technical details, including parameters to be measured, methods to be used, sampling locations frequency of measurements, detection limits and definition of thresholds that will signal the</p>	<p><b>I. Conclusions (1page)</b></p> <p>This section will describe the gains which justify implementation of the project; explain how significant adverse environmental impacts will be mitigated or offset and compensated for; explain/justify use of any irreplaceable resources and; describe follow-up surveillance and monitoring.</p>

<p>need for corrective actions; and reporting procedures.</p> <p>(iii) Implementation arrangements: Describes institutional or organizational arrangements responsible for carrying out the mitigation and monitoring activities; Specifies the implementation schedule for phasing and coordination of project implementation; and estimates capital and recurrent costs and describes sources of funds for implementing the environmental management plan.</p> <p>(iv) Performance indicators: Describes desired outcomes as measurable events to the extent possible, and targets, or acceptance criteria that can be tracked over defined time periods.</p>	
---	--

## APPENDIX 4: OUTLINE OF AN INITIAL ENVIRONMENTAL EXAMINATION (IEE)/ENVIRONMENTAL IMPACT ASSESSMENT (EIA) REPORT

### a. Introduction

This section usually includes the following:

- (i) purpose of the report, including (a) identification of the project and project proponent; (b) brief description of the nature, size, and location of the project and of its importance to the country; and (c) any other pertinent background information; and
- (ii) Extent of the IEE/EIA study: scope of study, magnitude of effort, person or agency performing the study, and acknowledgement.

### b. Description of the Project

Furnish sufficient details to give a brief but clear picture of the following (include only applicable items):

- (i) Type of project;
- (ii) Category of Project;
- (iii) Need for project;
- (iv) Location (use maps showing general location, specific location, and project site);
- (v) Size or magnitude of operation;
- (vi) Proposed schedule for implementation; and
- (vii) Descriptions of the project, including drawings showing project layout, and project components. This information should be of the same type and extent as is included in feasibility reports for proposed projects to give a clear picture of the project and its operations.

### c. Description of the Environment

Furnish sufficient information to give a brief but clear picture of the existing environmental resources in the area affected by the project, including the following (to the extent applicable):

- (i) Physical Resources:(e.g.)
  - atmosphere(e.g. air quality and climate)
  - topography and soils,
  - surface water
  - Groundwater
  - geology/seismology.
- (ii) Ecological Resources:(e.g.)
  - Fisheries
  - Aquatic biology
  - Wildlife
  - Forests
  - Rare or endangered species

- Protected areas
- Coastal resources
- (iii) Economic Development: (e.g.)
  - industries
  - infrastructure facilities (e.g. water supply, sewerage, flood control)
  - transportation (roads, harbors, airports, and navigation)
  - land use (e.g. dedicated area uses)
  - power sources and transmission
  - agricultural development, mineral development, and tourism facilities
- (iv) Social and Cultural Resources:(e.g.)
  - population and communities (e.g. numbers, locations, composition, employment)
  - health facilities
  - education facilities
  - socio-economic conditions(e.g. community structure, family structure, social wellbeing)
  - physical or cultural heritage
  - current use of lands and resources for traditional purposes by Indigenous Peoples
  - structures or sites that are of historical, archaeological, paleontological, or architectural significance.

#### **d. Screening of Potential Environmental Impacts and Mitigation Measures**

Using the checklist of environmental parameters for different sector projects, this section will screen out “no significant impacts” from those with significant adverse impact by reviewing each relevant parameter according to the following factors or operational stages. Mitigation measures, where appropriate, will also be recommended environmental problems due to project location, and related to project design, construction, and operations. Potential environmental enhancement measures and additional considerations will also be covered.

#### **e. Institutional Requirements and Environmental Monitoring Plan**

This section should state the impacts to be mitigated, and activities to implement the mitigation measures, including how, when, and where they will be implemented. Institutional arrangements for implementation should be described. The environmental monitoring plan will describe the impacts to be monitored, and when and where monitoring activities will be carried out, and who will carry them out. The environmental management and monitoring costs should also be described.

#### **f. Public Consultation and Information Disclosure**

This section will describe the process undertaken to involve the public in project design and recommended measures for continuing public participation; summarize major comments received from beneficiaries, local officials, community leaders, NGOs, and others, and describe how these comments were addressed; list mile stones in public involvement such as dates, attendance, and topics of public meetings; list recipients of this document and other project related documents; describe compliance with relevant regulatory requirements for public participation; and summarize other related materials or activities, such as press releases and notifications. This section will

provide of summary of information disclosed to date and procedures for future disclosure.

**g. Findings and Recommendations**

This section will include an evaluation of the screening process and recommendation will be provided whether significant environmental impacts exist needing further detailed study or EIA. If there is no need for further study, the IEE itself, which at times may need to be supplemented by a special study in view of limited but significant impacts, becomes the completed environmental assessment for the project and no follow-up EIA will be needed. If an EIA is needed, then this section will include a brief terms of reference (TOR) for the needed follow-up EIA, including approximate descriptions of work tasks, professional skills required, time required, and estimated costs. The Bank's Environment Guidelines provides a guide for preparing the TOR for different projects.

**h. Conclusions**

This section will discuss the result of the IEE and justification, if any, of the need for additional study or EIA. If an IEE, or an IEE supplemented by a special study, is sufficient for the project, then the IEE with the recommended institutional and monitoring program becomes the completed EIA.