Environmental Assessment and Review Framework

Project Number: 52316-001
May 2019

Republic of Indonesia: Emergency Assistance for Rehabilitation and Reconstruction

Prepared by the Ministry of Public Works and Housing and the Ministry of Transport for the Asian Development Bank. This is an updated version of the report originally posted in March 2019 available on https://www.adb.org/projects/documents/ino-52316-001-earf.

CURRENCY EQUIVALENTS
(as of 17 February 2019)

Currency unit	–	Indonesian Rupiah (Rp)
Rp1.00	=	$0.0000688
$1.00	=	Rp.14,529

ABREVIATIONS

ADB	-	Asian Development Bank
AMDAL	-	Analisis Mengenai Dampak Lingkungan
CPIU	-	Central project implementation unit
DGH	-	Directorate General of Highways
EA	-	executing agency
EAL	-	Emergency assistance loan
EARF	-	environmental assessment review framework
EARR	-	Emergency Assistance for Rehabilitation and Reconstruction
EIA	-	environmental impact assessment
EMP	-	environmental management plan
GRM	-	grievance redress mechanism
IA	-	implementing agency
IEE	-	Initial environmental examination
MPWH	-	Ministry of Public Works and Housing
MOT	-	Ministry of Transport
PIU	-	project implementation unit
SPPL	-	Surat Pernyataan Pengelolaan Lingkungan
SPS	-	safeguard policy statement
UPL/UKL	-	Upaya Pengelolaan Lingkungan Hidup dan Upaya Pemantauan Lingkungan Hidup

NOTES

In this report, "$" refers to US dollars.

CONTENTS

I. INTRODUCTION

A. Proposed Project

1. The Government of the Republic of Indonesia (the Government) has requested the Asian Development Bank (ADB) to finance the Emergency Assistance for Rehabilitation and Reconstruction (EARR) from recent disaster events. The emergency assistance loan (EAL) supports the Government of Indonesia to build back better critical infrastructure damaged following the devastating disaster events in Central Sulawesi in September 2018. The EARR will support rehabilitation and reconstruction of education facilities, water supply, water resources, ports, and airport. All infrastructure will be built to higher standards of disaster resilience.to help finance rehabilitation works benefiting disaster affected area to recover from the damage caused by the earthquake and tsunami. To comply with the ADB environmental safeguard requirements, an environmental assessment and review framework (EARF) was prepared. The EARF guides the environmental assessment process to screen subproject interventions, sets up institutional arrangements in relation to environmental management and monitoring, and defines environmental assessment requirements in accordance with the existing procedures to comply with the applicable laws and regulations of the Government and with ADB Safeguard Policy Statement, 2009 (SPS 2009).[1]

2. To achieve its expected outcome the EARR will include the following outputs. Targets and indicators are described in detail in the Design and Monitoring Framework. Subprojects under each output of the EARR will be subject to a selection criterion since the EAL will apply a sector lending approach in selecting investments.

3. **Component 1: Public Works Infrastructure** comprising:

(i) **Output 1: Human settlements infrastructure constructed, rehabilitated and upgraded.** The output will construct, rehabilitate and/or upgrade (i) education facilities, and (ii) water supply (treatment and distribution facilities) infrastructure. The facilities will be built back better to higher standards of disaster resilience, which will ensure risks from future hazards are reduced through structural design features. At the same time, non-structural measures such as disaster preparedness plans will also be implemented. The output will ensure that sustainability plans are in place and capacity of agencies strengthened to better manage water supply services.

(ii) **Output 2: Water resources infrastructure constructed, rehabilitated and upgraded**. The output will (i) reconstruct the Gumbasa irrigation system; (ii) reconstruct and upgrade the PASIGALA raw water supply system; and (iii) construct coastal protection works to prevent coastal erosion and tidal flooding. Where possible, nature-based solutions will be promoted. The river basin organization will be strengthened to better design resilient infrastructure, improve O&M of assets, and stay equipped with hydrometeorological instruments for managing water flows across the river basin.

4. **Component 2: Transportation Infrastructure** comprising:

[1] ADB. 2009. *Safeguard Policy Statement*. Manila.

(i) **Output 3: Ports rehabilitated and reconstructed.**The output will (i) rehabilitate the damaged ports in Pantoloan, Donggala, and Wani; (ii) restore and improve their operating capacity; and (iii) establish safety and emergency response plans for the rehabilitated ports.

(ii) **Output 4: Airport rehabilitated and reconstructed.** The output will repair and/or reconstruct the runway, terminal building and related infrastructure of the Mutiara Sis Al Jufri airport in Palu and will establish a safety and emergency response plan for the rehabilitated airport.

5. The overall EARR was classified as category B for environmental safeguards per ADB's Safeguard Policy Statement (2009). Each subproject will be classified individually. Category B or C are possible, but subprojects classifying as category A, including highly complex and sensitive subprojects, and activities listed on the Prohibited Investment Activities List in Appendix 5 of SPS [2] shall not be eligible for financing under the sector loan.

6. The purpose of this EARF is to: (i) describe the proposed activities to be financed under the EAL; (ii) specify the requirements that will be followed for subproject screening and categorization, environmental assessment including provisions for meaningful consultation with stakeholders and information disclosure requirements and, where applicable, safeguard and environmental criteria that are to be used in selecting subprojects and/or components; (iii) identify possible environmental impacts of components likely to be supported through subprojects; (iv) specify implementation procedures; (v) specify monitoring and reporting requirements; (vi) describe the institutional responsibilities for the preparation, implementation, and progress review of safeguard documents for subprojects; and (vii) assess the adequacy of the Executing Agencies' (EA) and Implementing Agencies' (IAs) capacities to implement national regulations and ADB's SPS 2009, and identify needs for capacity building.

7. This EARF was endorsed by the executing agencies, disclosed in the Asian Development Bank's (ADB) website, and will be translated in Bahasa and disclosed in the website of the EA.

II. ASSESSMENT OF LEGAL FRAMEWORK AND INSTITUTIONAL CAPACITY

A. ADB Safeguard Policy Statement 2009

8. All projects supported by ADB must comply with ADB's Safeguard Policy Statement (2009). [3] ADB's SPS (2009) sets out the policy objectives, scope and triggers, and principles for Environmental safeguard areas to be followed across all aspects of its operations. ADB adopts a set of specific safeguard requirements that borrowers/clients are required to meet in addressing environmental impacts and risks. Borrowers/clients must comply with these requirements during the project preparation and implementation phases. ADB's environmental safeguard requirements are defined in ADB's SPS, Appendix 1 (Safeguard Requirements 1: Environment. Pages 30-40). All environmental safeguard principles and requirements of ADB's SPS are reflected in this EARF.

9. **Categorization.** Per ADB's SPS (2009), the nature and significance of the environmental impacts determine the level of environmental assessment needed. The level of environmental impacts will depend on the type and location of a subproject, the sensitivity,

[2] ADB. 2009. Safeguard Policy Statement. Appendix 5: ADB prohibited investment activities list (p. 76).
[3] Footnote 1.

scale, nature and magnitude of its potential impacts, and the availability of cost- effective mitigation measures. Subprojects must be screened for their impacts significance and classified into one of the 3 categories defined in Table 2.

10. **International good practice.** ADB's SPS requires that during the design, construction, and operation of the project the borrower/client will apply pollution prevention and control technologies and practices consistent with international good practice, as reflected in internationally recognized standards such as the World Bank Group's *Environment, Health and Safety Guidelines.* These standards contain performance levels and measures that are normally acceptable and applicable to projects. When host country regulations differ from these levels and measures, the borrower/client will achieve whichever is more stringent.

11. **Table 1** presents a list of IFC guidelines applicable to all activities supported under the EARR and should be used and referred to in environmental safeguard documents such as initial environmental examination (IEE) and environmental management plan (EMP).

Table 1: IFC guidelines applicable to all activities supported under EARR

EHS Guideline	Description, Relevance to EARR
EHS General Guidelines (2007)	Define general and GIIP that must be applied for facilities and activities to be supported under the EARR. Key sections of the General Guidelines of relevance to EARR include: − Environmental Guidelines (covering air emissions, wastewater and ambient water quality, hazardous materials management, waste management, noise) − Occupational health and safety − Community health and safety − Construction and decommissioning (including debris removal and clearance). The General Guidelines are designed to be used together with the relevant Industry Sector EHS Guidelines which provide guidance to users on EHS issues in specific industry sectors (see below).
EHS Guidelines for Water and Sanitation (2007)	Provide guidance on operation and maintenance of (i) potable water treatment and distribution systems, and (ii) collection of sewage in centralized systems (such as piped sewer collection networks) or decentralized systems (such as septic tanks subsequently serviced by pump trucks) and treatment of collected sewage at centralized facilities. Most importantly, the guidelines cover the following aspects that should be considered in the design and operation of water supply and sanitation activities to be supported by the EARR: − Water supply (including water withdrawal, water treatment, and water distribution) − Sanitation (including fecal sludge and septage collection, sewerage, wastewater and sludge treatment and discharge) − Occupational health and safety − Community health and safety
EHS Guidelines for Water Management Facilities (2007)	Provide guidance for facilities or projects dedicated to the management of municipal solid waste and industrial waste, including waste collection and transport; waste receipt, unloading, processing, and storage; landfill disposal; physico-chemical and biological treatment; and incineration projects. Most importantly, the guidelines cover the following aspects that should be considered in the design and operation of solid waste management activities to be supported by the EARR:

EHS Guideline	Description, Relevance to EARR
	− Municipal solid waste management (collection and transport, processing and storage, treatment, disposal) − Industrial non-hazardous waste management (such as sludge from water supply treatment plant, wastewater treatment plant, inert construction/demolition waste) − Occupational health and safety − Community health and safety
EHS Guidelines for Ports, Harbors, Terminals (2017)	Provide guidance on EHS issues primarily associated with port and terminal construction and operations. Most importantly, the guidelines cover the following aspects that should be considered in the design, reconstruction and operation of ports to be supported by the EARR: − Terrestrial and aquatic habitat alteration and biodiversity − Climate change resilience − Water quality − Air emissions − Waste management − Hazardous materials and oil management − Noise and vibration (including underwater)

EHS = Environmental, Health, and Safety; GIIP = Good International Industry Practice.

B. Government of Indonesia's Environmental Policy and Regulatory Framework

12. Besides, ADB's SPS (2009), the EARR's subprojects shall also comply with the Government of Indonesia's environmental laws, standards, rules, and requirements which impose restrictions on activities to avoid, minimize, or mitigate likely impact on the environment. It is the responsibility of the EARR executing and implementing agencies to ensure that all activities under the EARR are in accordance with the legal framework, whether national or local. Compliance is required in all stages of the subprojects' implementation, including design, construction, and operation and maintenance. Key laws and regulations that apply to this EARR are presented below.

1. National environmental regulatory framework

13. **Law No 32 of 2009.** The main Indonesian law on environmental management, i.e. Law No 32 of 2009 on Protection and Management of Environment. Article 22 of the Law stated that any business and activity that has significant impactP4F[4]P on the environment shall have an environmental impact assessment (AMDAL), and article 34 specifies that any business and activity that does not require an AMDAL, shall undertake *Upaya Pengelolaan Lingkungan Hidup dan Upaya Pemantauan Lingkungan Hidup* (UKL-UPL), whereas for small activities that do not require an UKL-UPL, a statement of ability to undertake environmental management and monitoring of their activity, *Surat Pernyataan Pengelolaan Lingkungan* (SPPL), is required. Further, Article 36 specifies that all activities shall have environment permit that will be given by concerned government agency after the environmental assessment document has been approved.

14. **Minister of Environment Decree No. 5 of 2012.** The Government's screening procedure is presented in the Minister of Environment Decree No. 5 of 2012 on Types of Business Plans and/or Activities Subject to Environmental Impact Analysis (Attachment 1 of the Decree provides list of business plan and/or activities that need environmental impact

[4] Criteria of significant impact is also provided in Article 32 of the Law.

assessment). The screening considers potential significant impacts as well as magnitude or size of business plan or activities. The decree mentions that the types of business plans and/or activities that are required to have an Environmental Impact Assessment are determined based on: (a) potential significant impact, and (b) uncertainty of technological capabilities available to overcome significant negative impacts that will arise.

15. Decree No. 5 of 2012 indicates that potential significant impacts for each type of business and/or activity are determined based on the following aspects:

- amount of the population who will be affected by the planned business and/or activity;
- area of spread of impact;
- intensity and duration of the impact;
- number of other environmental components that will be affected;
- cumulative nature of the impact;
- reversal or irreversibility of the impact; and
- other criteria in accordance with the development of science and technology; and / or
- international references applied by several countries as a basis for AMDAL policy.

16. **Environmental assessment procedure.** The environmental assessment procedure is described in Indonesia's environment law and regulations. All project or business proposals will undergo screening to classify whether a project proposal would need AMDAL, or UKL/UPL (equal to category B that needs IEE), or SPPL (equal to category C). The project screening procedure is shown in Figure 1. The sectors listed in the decree include: (i) Multisector activities (such as reclamation); (ii) Defense; (iii) Agriculture; (iv) Fisheries and Marine Affairs; (v) Forestry; (vi) Transport; (vii) Satellite Technology; (viii) Industry; (ix) Public Works; (x) Housing and Settlements; (xi) Energy and Mineral Resources (including Electricity); (xii) Tourism; (xiii) Nuclear Energy; and (xiv) Hazardous Waste Management. Examples of abbreviated screening of subprojects that need AMDAL according to the Government screening criteria is shown in the footnotes, i.e. in public works activities,[5] transport subsector,[6] irrigation activity,[7] housing and settlement development.[8]

17. Indonesian environmental assessment procedure and requirements are presented in several laws and regulations related to Environmental Impact Assessment, among others:

- Law No. 26/2007 on Spatial Planning;
- Law No. 14/2008 on Public Information Disclosure;
- Law No 32 of 2009 on Protection and Management of the Environment;

---

[5] Example of Public Work activities requiring AMDAL: dredging activity with capital dredging of more than 500,000 m3; dredging of river and/or the sea with capital dredging that cuts stones (not coral material) more than 250,000 m3 and more than an area of 5 ha; placement of dredging material in the sea with volume 500,000 m3 within an area of 5 ha.

[6] Example of Transport activities requiring AMDAL: road construction/upgrading with widening in big cities of more than 5 km and with land acquisition of more than 20 ha; in medium cities of more than 5 km and with land acquisition of more than 30 ha; in villages of more than 5 km with land acquisition of more than 50 ha. Port construction with one of these facilities: Wharf with sheet pile or open pile with length more than 200 m and an area of more than 6,000 m2; Wharf with massive construction for all sizes; Break water of more than 200m; Floating Facility of more than 10,000 DWT; Airport for fixed wing with runway of more than 1,200 m and passenger terminal of more than 10,000 m2.

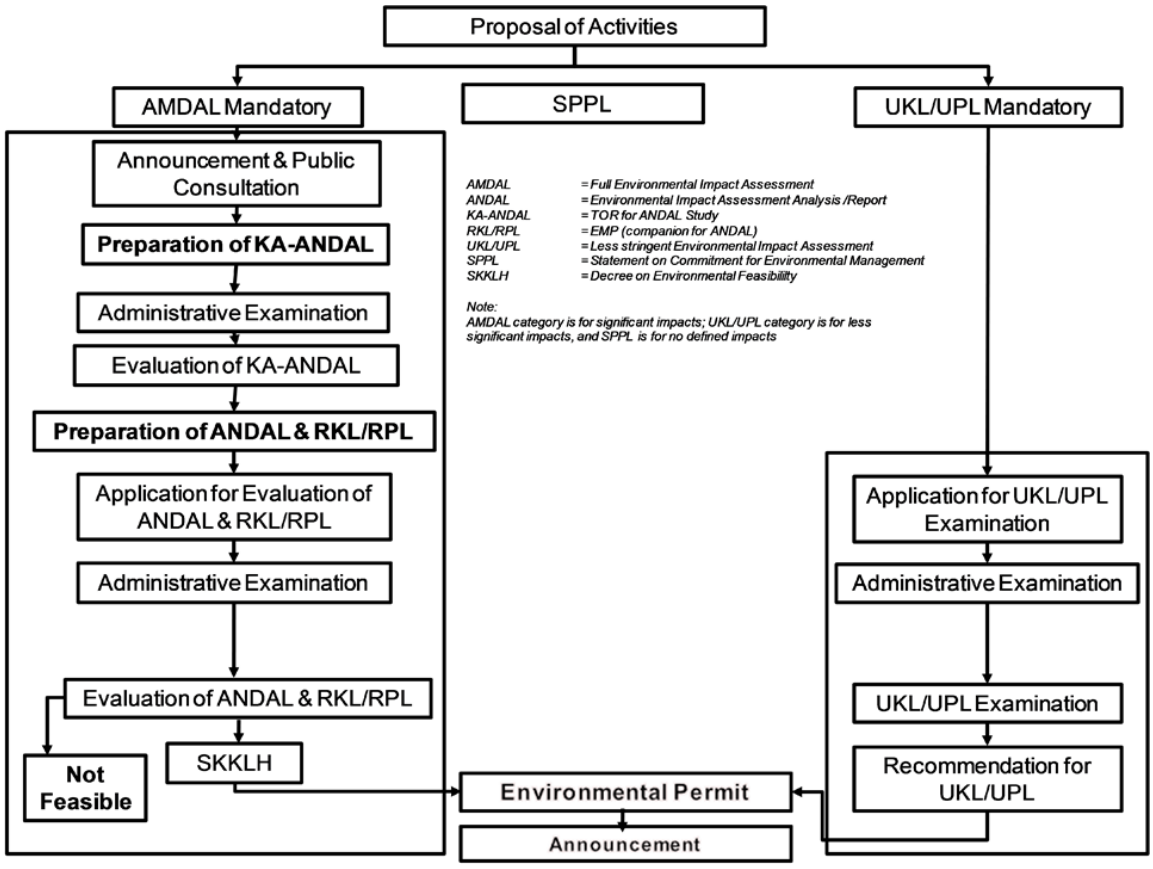
[7] Example of irrigation facilities requiring AMDAL: new irrigation development of more than 3000 ha, irrigation upgrading of more than 1,000 ha, new rice field development of more than 500 ha.

[8] Example of housing development and settlement area requiring AMDAL: (a) Metropolitan City of more than 25 ha, (b) Large city of more than 50 ha, (c) Medium and small city of more than 100 ha, and for transmigration settlement purposes of more than 2,000 ha.

- Minister of Environment Decree 5 of 2012 on Types of Business Plans and/or Activities Subject to Environmental Impact Analysis;
- Minister of Environment Decree 16 of 2012 on Guidelines for Preparation of Environmental Documentation;
- Government Regulation 12 of 2010 on Living Environment Management and Monitoring Efforts and Statement of Capability to Manage and Monitor the Living Environment;
- Government Regulation 17 of 2012 on Guidelines for Community Participation and Environment Disclosure in Environmental Impact Assessment and Environmental Permitting;
- Government Regulation 27 of 2012 on Environment License/Permit;
- Decree of Minister of Environmental Affairs 45 of 2005 on Guidelines for the Formulation of Reports on the Realization of Environmental Management Plans (RKL) and Environmental Monitoring Plans (RPL); and
- Minister of Environment Decree 9 of 2010 on Guidelines on Community Grievances and Handling of Grievances Caused by Pollution and/or Degradation.

18. A more complete list of Indonesian environmental management Laws, Regulations, Decrees, etc., is presented in **Appendix 1**.

Figure 1: Flowchart of Indonesian Environmental Screening and Clearance



19. The Indonesia AMDAL system generally conforms to the intent of ADB's environmental policy principles, requirements and management guidelines. According to the

regulation, all projects should undergo environmental clearance before proceeding to implementation. Table 2 shows the relationship between the ADB environmental categorization and those under Indonesia's regulations/policies. Essentially, an AMDAL study corresponds to an EIA, and an UKL-UPL corresponds to an IEE. The Statement of Environmental Management and Monitoring undertaking (Surat Pernyataan Kesanggupan Pengelolaan dan Pemantauan Lingkungan Hidup -SPPL) generally corresponds to the environmental implication review of Category C projects as per the ADB SPS 2009.

20. The **AMDAL** and EIA correspondent to a certain extent, though the criteria used for categorization under the Government of Indonesia's AMDAL procedure and ADB SPS 2009 requirements differ. Indonesia regulation provides quite rigid quantitative criteria, while ADB rely on qualitative criteria (significance). For example, Indonesia's AMDAL procedure classifies projects based on specific magnitude (length, depth, width, size, or other physical dimensions), whereas ADB's SPS 2009 categorizes projects based on the "significance of impacts". Not all activities requiring AMDAL per Indonesia's AMDAL procedure may categorize as category A per ADB SPS 2009 and vice versa.

21. The **UKL-UPL** is required for certain business activities which unlikely to have significant impacts on the environment, but which still require environmental assessment and approval. There is no specific certification for the team required for preparation of UKL-UPL.

22. **SPPL** requires the proponent to monitor and manage the environmental impact of its business and/or activities which are exempted from the AMDAL or UKL-UPL.

23. **Existing Facilities**. Facilities that have been established prior to the enactment of environmental law should comply with Regulation No. 14 of 2010 on "Environment Document for Activities that Already Have Business License but Do Not Yet Have Environmental Document". These facilities should prepare Environmental Evaluation Document and Environmental Management Document in accordance with Regulation No. 14 of 2010.

24. Relevant requirements with respect to workers' health and safety include Law No.1/1970 on Workers' Safety and Ministry of Workforce Decree Kep-51/MEN/1999 on Reference Standard for Activities in Working Area.

Table 2: ADB and Indonesia Project Categorization Systems

ADB Project Categories	AMDAL GoI Project Categories
Category A: A proposed project is classified as category A if it is likely to have significant adverse environmental impacts that are irreversible, diverse, or unprecedented. These impacts may affect an area larger than the sites or facilities subject to physical works. An environmental impact assessment is required.	**AMDAL**: Projects that according to law require an Environmental Impact Assessment (AMDAL). The detailed criteria that trigger an AMDAL defined in the Decree of Minister of Environment No. 05/2012.

Category B: A proposed project is classified as category B if its potential adverse environmental impacts are less adverse than those of category A projects. These impacts are site-specific, few if any of them are irreversible, and in most cases mitigation measures can be designed more readily than for category A projects. An initial environmental examination is required.	**UKL-UPL**: Projects that according to law requires Environmental Management Effort (UKL) and Environmental Monitoring Effort (UPL). However, special discretion and judgment of environmental agencies at local and national level (based on particular consideration) may override the category, and UKL-UPL Category may be "upgraded" to AMDAL Category.
Category C: A proposed project is classified as category C if it is likely to have minimal or no adverse environmental impacts. No environmental assessment is required although environmental implications need to be reviewed	**SPPL**: Projects that do not require AMDAL or UKL-UPL are obliged to submit a 'statement of management and environmental monitoring ability' or SPPL**.**

25. **Permitting Requirements.** List of necessary permits and related legislation to be prepared includes:

- Permission principle from the regent/mayor stating that the local government approved in principle the plan to build a subproject under the EAL.
- A list of permits and environmental documents to be prepared, submitted to and approved by the local environment agency.
- Affidavit of Bappeda (Regional Development Planning Agency) that the site plan of the subproject under the EAL does not conflict with the local regional spatial plan.
- Proof of registration of constituent EIA consultant from the Ministry of Environment and Forestry of the Republic of Indonesia.
- Official certificate confirming the accreditation of the EIA team.

26. Prior to subproject implementation, concerned agencies should consult *Dinas Lingkungan Hidup* (DLH, Provincial and District Environmental Office) to ensure compliance with environmental law and regulation as well as Law No. 23 of 2014 on Local Government (particularly authority in environmental management).

2. International Environmental Agreements

27. Indonesia has ratified several international conventions, including, among others:

- Convention on Biological Diversity, for parties to require the environmental assessment of their proposed projects that are likely to have significant adverse impacts on biological diversity with a view of avoiding or minimizing such impacts. Indonesia is obliged to respect and protect traditional knowledge related to sustainable utilization of biodiversity, including promote fair benefit sharing of the use of traditional knowledge. Based on this convention, the Nagoya Protocol was established, which was also ratified by the Government of Indonesia;
- Convention on Wetlands of International Importance Especially as Waterfowl Habitat (1972). Indonesia follows an international agreement to control the continuous encroachment of wetland in the present and future, to recognize the basic ecological functions of wetlands follows the economic, cultural, scientific, and recreation.
- Convention on the Prevention of Marine Pollution by Dumping Wastes and Other Matter (1972). Indonesia follows an international agreement to control marine pollution due to accumulation of waste and other materials and to encourage regional

agreements to complement the Convention; the London Convention came into effect in 1996.

- Vienna Convention for the Protection of the Ozone Layer, in 1998, and subsequent protocol and amendments, for parties to take appropriate measures to protect human health and the environment against adverse impacts likely to arise from human activities that will/likely modify the ozone layer.
- Protocol of 1978 Relating to the International Convention for the Prevention of Pollution from Ships, 1973 (MARPOL). Indonesia has ratified the international agreement to conserve the marine environment / marine pollution by banning oil and other hazardous substances and disposal of hazardous substances to suppress levels that do inadvertently (e.g. due to accidents).
- Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal (1989). Indonesia has ratified the international agreement to reduce cross-country movement of waste in accordance with the minimum limit of the Convention to create an environmentally friendly waste management and efficient; reducing toxicity of waste generated and to ensure that environmental management is the basis for resource development.
- United Nations Framework Convention on Climate Change (1992). Indonesia has ratified the international agreement to achieve stabilization of greenhouse gas concentrations in the atmosphere as low as possible to prevent dangerous anthropogenic interference with the climate.
- Kyoto Protocol to the United Nations Framework Convention on Climate Change. Indonesia has ratified the international agreement to reduce greenhouse gas emissions by promoting national programs in developed countries aimed at reducing greenhouse gas emissions and determine the percentage of reduction targets for developed countries.
- Indonesia has ratified the Paris Agreement within the United Nations Framework Convention on Climate Change (UNFCCC) dealing with greenhouse gases emissions mitigation, adaptation and finance in October 2016.
- Convention on Fishing and Conservation of Living Resources of the High Seas (Marine Life Conservation). Objectives: Solve the problem of preservation of biological resources in the high seas through international collaboration with the consideration that the use of modern technology for the exploitation of resources in excess will cause harm to these resources.

C. Institutional Capacity

28. The institutional arrangements for EARR implementation are presented in Section 6 of this EARF. MPWH (through the Directorate General for Water Resources) will be the executing agency (EA) for output 1 and 2, and the Ministry of Transportation (MOT) for output 3 and 4. The EAs will establish a Central Project Implementation Management Unit (CPMU) to consolidate activities and reporting from implementing agencies. The EAs will be supported by a secretariat consisting of representatives of concerned Directorates. The EAs will select and appraise subprojects according to subproject selection criteria.

29. The Central Sulawesi Settlement Infrastructure Agency under the Directorate General of Human Settlements will be the implementing agency for Output 1.[9] The Directorate General of Water Resources (DGWR), MPWH, through its river basin organization Balai Wilayah Sungai

[9] In close collaboration with the University and the Ministry of Religious Affairs for the Islamic University.

Sulawesi III, will be the implementing agency for Output 2. The Directorate General of Sea Transportation, MOT, will be the implementing agency for Output 3 and the Directorate General of Civil Aviation, MOT, will be the implementing agency for Output 4.. Each IA will establish a Project Implementation Unit (PIU), headed by a project director and staffed with social and environmental safeguards, gender, procurement, financial management and technical personnel. Each IA will draw upon the services of project management consultants (consultants) that will prepare safeguards documents, support the IA in implementing safeguards and gender action plans, ensure financial management, and oversee construction supervision. The consultants will have main EARF implementation responsibility.

30. ADB will conduct safeguards training for the EAs and IAs to ensure that these have sufficient capacity in implementing ADB requirements. Strengthening of capacity, other than through the course of the consultant's work with local counterparts and the provision of training on safeguards, is not required. Given the EAs experience of implementing ADB projects and with the additional support from the consultants, the government is anticipated to have the capacities required to implement the EARR and ensuring compliance with ADB's SPS and this EARF

III. OVERVIEW OF SUBPROJECTS TO BE ASSESSED, ANTICIPATED ENVIRONMENTAL IMPACTS

A. Overview of Subprojects

31. ADB will apply a sector lending approach in selecting subprojects under each of the outputs as listed in section A of this document. To be financed under the EARR, these subprojects will need to comply with the applicable selection criteria described in Section III. D Subprojects Selection Criteria of the Project Administration Manual. An indicative list of subprojects to be supported under the project is presented below.

Table 3.1: Indicative list of subprojects to be financed under the project

No	Subproject	Initial Environmental Safeguards Categorization Per ADB's SPS
	Ministry of Public Works and Housing (MPWH)	
	Directorate General of Human Settlements	
1	Rehabilitation of IAIN Campus, Palu	B
2	Upgrading of up to 100 kilometers of water distribution pipelines and the construction of up to 300 kilometer new pipelines	B
3	Construction of 35.000 house connections	B
4	Construction of Rakuta water treatment plant	B
	Directorate General of Water Resources	
5	Rehabilitation of weir and irrigation network D.I. Gumbasa 5.500 Ha Post Earthquake and Liquefaction area Kab. Sigi dan Palu City. Construction main canal works (26.5 km), 12 Secondary canals (48.5 km)	B

6	Restore 42 km long pipe of the PASIGALA raw water supply system including construction of the Wuno weir and Paneki intake	B
7	Reconstruction of around 7 km of coastal infrastructure in Palu City	B
	Ministry of Transport (MOT)	
	Directorate General of Civil Aviation	
8	Rehabilitation and reconstruction at Mutiara Sis Al Jufri Airport	B
	Directorate General of Sea Transport	
9	Rehabilitation of Wani Port	B
10	Rehabilitation of Pantoloan Port	B
11	Rehabilitation of Donggala Port	B

B. Anticipated Environmental Impacts

32. The main feature of the EARR that precludes significant adverse environmental impacts is the condition that all subprojects to be financed under the EARR should be Category B or C per ADB's SPS (2009) which explicitly excludes activities encroaching on legally protected sites, conservation forests and key biodiversity areas (KBAs). The other aspects of the EARR that minimizes the adverse environmental impacts are activities will primarily focus of re-construction works of damaged facilities, with few, if any, greenfield activities.

33. In general, the anticipated impacts from the proposed subprojects and activities are anticipated to be localized, short-term and in most cases reversible. The following section describes anticipated impacts during construction and operation phases of the likely subprojects. Construction-related impacts are similar for all subprojects as involving rehabilitation/reconstruction of damaged facilities and are not described separately to avoid repetition. Operation-phase impacts are described by sector.

C. Anticipated Environmental Impacts During Construction

34. This section describes impacts that may occur during rehabilitation/reconstruction works of damaged infrastructure.

35. **Noise and Vibration.** During demolition, rehabilitation and reconstruction activities, noise and vibration may be caused by the operation of pile drivers, earth moving and excavation equipment, concrete mixers, cranes and the transportation of equipment, materials and people. Noise reduction and control measures to consider in the EMP include:

- Planning activities in consultation with local communities so that activities with the greatest potential to generate noise are planned during periods of the day that will result in least disturbance
- Using noise control devices, such as temporary noise barriers and deflectors for impact and blasting activities, and exhaust muffling devices for combustion engines.
- Avoiding or minimizing project transportation through community areas

36. **Soil erosion.** Soil erosion may be caused by exposure of soil surfaces to rain and wind during site clearing, earth moving, and excavation activities. The mobilization and transport of soil particles may, in turn, result in sedimentation of surface drainage networks, which may result in impacts to the quality of natural water systems and ultimately the biological systems that use these waters. Soil erosion control measures to consider in the EMP include:

- Reducing or preventing erosion by: (i) scheduling to avoid heavy rainfall periods (i.e., during the dry season) to the extent practical; (ii) contouring and minimizing length and steepness of slopes; (iii) mulching to stabilize exposed areas; (iv) re-vegetating areas promptly; and (iv) designing channels and ditches for post-construction flows.
- Reducing or preventing off-site sediment transport through use of settlement ponds, silt fences, and water treatment, and modifying or suspending activities during extreme rainfall and high winds to the extent practical.
- Segregating or diverting clean water runoff to prevent it mixing with water containing a high solids content, to minimize the volume of water to be treated prior to release.
- To minimize disturbance to water bodies, (i) restricting the duration and timing of in-stream activities to lower low periods, and avoiding periods critical to biological cycles of valued flora and fauna; (ii) for in-stream works, using isolation techniques such as berming or diversion during construction to limit the exposure of disturbed sediments to moving water; (iii) consider using trenchless technology for pipeline crossings (e.g., suspended crossings) or installation by directional drilling.

37. **Air Quality.** Demolition, rehabilitation and reconstruction activities may generate emission of fugitive dust caused by a combination of debris removal, on-site excavation and movement of earth materials, contact of construction machinery with bare soil, and exposure of bare soil and soil piles to wind. A secondary source of emissions may include exhaust from diesel engines of earth moving equipment, as well as from open burning of solid waste on-site. Air pollution control measures to consider in the EMP include:

- Minimizing dust from material handling sources, such as conveyors and bins, by using covers and/or control equipment (water suppression, bag house, or cyclone).
- Minimizing dust from open area sources, including storage piles, by using control measures such as installing enclosures and covers, and increasing the moisture content.
- Dust suppression techniques should be implemented, such as applying water or non-toxic chemicals to minimize dust from vehicle movements.
- Selectively removing potential hazardous air pollutants, such as asbestos, from existing infrastructure prior to demolition.
- Managing emissions from mobile sources.
- Prohibiting open burning of solid waste.

38. **Solid Waste.** Non-hazardous solid waste generated during demolition, rehabilitation and reconstruction activities includes inert debris from damaged facilities, excess fill materials from grading and excavation activities, scrap wood and metals. Other non-hazardous solid wastes include office, kitchen, and workcamp wastes. Hazardous solid waste includes asbestos containing demolition waste, contaminated soils, which could potentially be encountered on-site due to previous land use activities, or small amounts of machinery maintenance materials, such as oily rags, used oil filters, and used oil, as well as spill cleanup materials from oil and fuel spills. Waste management measures to consider in the EMP include:

- Effective planning and implementation of a waste management strategy.

- Designing and implementing processes to prevent, or recycle wastes generated and to prevent hazards associated with the wastes generated.
- Segregating hazardous wastes from nonhazardous wastes. If generation of hazardous waste cannot be prevented, its management should focus on the prevention of harm to health, safety, and the environment.
- Ensuring that contractors handling, treating, and disposing of hazardous waste are reputable and legitimate enterprises, licensed by the relevant regulatory agencies and following good international industry practice for the waste being handled. Hazardous waste should be stored to prevent or control accidental releases to air, soil, and water resources.

39. **Hazardous Materials.** Demolition, rehabilitation and reconstruction activities may pose the potential for release of petroleum-based products, such as lubricants, hydraulic fluids, or fuels during their storage, transfer, or use in equipment. These materials may also be encountered during decommissioning activities in building components or industrial process equipment including transformers. Techniques for prevention, minimization, and control of these impacts include:

- Providing adequate secondary containment for fuel storage tanks and for the temporary storage of other fluids such as lubricating oils and hydraulic fluids.
- Using impervious surfaces for refueling areas and other fluid transfer areas.
- Training workers on the correct transfer and handling of fuels and chemicals and the response to spills.
- Providing portable spill containment and cleanup equipment on site and training in the equipment deployment.
- Assessing the contents of hazardous materials and petroleum-based products in building systems (e.g. PCB containing electrical equipment, asbestos-containing building materials) and process equipment and removing them prior to initiation of deconstruction/demolition activities and managing their treatment and disposal according to national regulations.
- Assessing the presence of hazardous substances in or on building materials (e.g., asbestos containing flooring or insulation) and decontaminating or properly managing contaminated building materials (see below).

40. **Asbestos Containing Materials (ACM).** A special concern is the potential presence of ACM in damaged facilities. Existing facilities with ACM should develop an asbestos management plan which clearly identifies the locations where the ACM is present, its condition (e.g. whether it is in friable form with the potential to release fibers), procedures for monitoring its condition, procedures to access the locations where ACM is present to avoid damage, and training of staff who can potentially come into contact with the material to avoid damage and prevent exposure. The plan should be made available to all persons involved in operations and maintenance activities. Repair or removal and disposal of existing ACM in buildings should only be performed by specially trained personnel. The use of asbestos containing materials (ACM) should be avoided in new buildings or as a new material in remodeling or renovation activities.

41. **Impact on ecological resources (marine and terrestrial habitats).** The siting of new facilities may encroach on natural and/or critical habitats. Clearing of existing vegetation may result in loss of associated ecological habitats and their fauna. Noise, vibrations, and intrusive activities related to construction works may scare away animals remaining onsite after vegetation clearance. Construction dredging, disposal of dredge spoil, construction of

piers, wharves, breakwaters, and other water-side structures, and erosion may lead to short and long-term term impacts on marine and shoreline habitats. Direct impacts may include the physical removal or covering of sea floor, shore, or land-side habitat, in addition to changes to water flow patterns and related sedimentation rates and patterns, while indirect impacts may result from changes to water quality from sediment suspension or discharges of stormwater and wastewater. Measures to avoid any negative impact on natural and critical habitats shall include:

- No subprojects shall be located in or with foreseeable adverse impacts on any legally protected area;[10] or
- No subprojects shall fall in part or in whole within an area supporting high biodiversity value.[11]

42. **Wastewater Discharges.** Demolition, rehabilitation and reconstruction activities may include the generation of sanitary wastewater discharges in varying quantities depending on the number of workers involved. Adequate portable or permanent sanitation facilities serving all workers should be provided at all construction sites.

43. **Contaminated Land.** Land contamination may be encountered in sites to be rehabilitated due to known or unknown historical releases of hazardous materials or oil, or due to the presence of abandoned infrastructure formerly used to store or handle these materials, including underground storage tanks. Actions necessary to manage the risk from contaminated land will depend on factors such as the level and location of contamination, the type and risks of the contaminated media, and the intended. Plans and procedures should be prepared and implemented to respond to the discovery of contaminated media to minimize or reduce the risk to health, safety, and the environment.

44. **Occupational Health and Safety.** Demolition, rehabilitation and reconstruction activities may pose a risk of exposure to dust, chemicals, hazardous or flammable materials, and wastes in a combination of liquid, solid, or gaseous forms. Vehicle traffic and use of lifting equipment in the movement of machinery and materials on a construction site may pose temporary hazards, such as physical contact, spills, dust, emissions, and noise. Slips and falls associated with poor housekeeping, such as excessive waste debris, loose construction materials, liquid spills, and uncontrolled use of electrical cords and ropes on the ground, are also among the most frequent cause of lost time accidents at construction and decommissioning sites. Falls from elevation associated with working with ladders, scaffolding, and partially built or demolished structures are among the most common cause of fatal or permanent disabling injury at construction or decommissioning sites.

45. **Community Health and Safety.** Risks may arise from inadvertent or intentional trespassing, including potential contact with hazardous materials, contaminated soils and other environmental media, buildings that are vacant or under construction, or excavations and structures which may pose falling and entrapment hazards. Increased incidence of communicable and vector-borne diseases attributable to construction activities represents a potentially serious health threat to project personnel and residents of local communities. Techniques to minimize the risk to community health and safety include:

---

[10] Protected Areas as defined in Annex III of Minister of Environment Regulation No. 5/2012 on Types of Business Plans and/or Activities Requiring AMDAL;

[11] Key Biodiversity Areas as defined in the World Database of Key Biodiversity Areas.

- Restricting access to the site, through a combination of institutional and administrative controls, with a focus on high risk structures or areas depending on site-specific situations, including fencing, signage, and communication of risks to the local community.
- Removing hazardous conditions on construction sites that cannot be controlled affectively with site access restrictions, such as covering openings to small confined spaces, ensuring means of escape for larger openings such as trenches or excavations, or locked storage of hazardous materials.

46. **Traffic Safety**. Demolition, rehabilitation and reconstruction activities may result in a significant increase in movement of heavy vehicles for the transport of construction materials and equipment increasing the risk of traffic-related accidents and injuries to workers and local communities. The incidence of road accidents involving EARR vehicles during construction should be minimized through sound temporary traffic management planning in consultation with local traffic control authorities.

D. Anticipated Environmental Impacts During Facility Operation

47. This section describes impacts that may occur during operation of facilities to be supported by the EARR.

Table 3.1: Main potential environmental impacts during operation phase, transport infrastructure (ports, airport)

Impact	Description
Air Quality	Vehicular (including vessel) emission will be the main source of air pollution during the operation phase.
Noise and Vibration	Noise generated by traffic movement will be the main source of noise. There can be vibration due to heavy vehicles.
Land and Soil	Slope failure and soil erosion can occur due to natural and induced causes. This requires continuous monitoring especially during and after the rainy season.
Hydrology and Drainage	Road sides are prone to landslides and soil erosion from heavy precipitation and flooding. Consequently, drain blockage will be a perpetual problem and more severe during the rainy season.
Traffic safety	Traffic accidents and vehicle collision with pedestrians may occur if no proper signages are placed.
Water pollution	Vessel collisions in the ports may result in spills with significant impacts on marine ecology and fishery resources.

Table 3.2: Main potential environmental impacts during operation phase, social infrastructure (IAIN Campus)

Impact	Description
Design considerations of buildings (general)	All buildings accessible to the public should be designed, constructed, and operated in full compliance with local building codes, local fire department regulations, local legal/insurance requirements, and in accordance with an internationally accepted life and fire safety (L&FS) standard, identifying means for fire prevention, means of egress, detection and alarm systems.

Table 3.3: Main potential environmental impacts during operation phase, irrigation infrastructure

Impact	Description
Soil erosion, water logging, and excessive sedimentation in canals.	Regular maintenance of slope protection structures and irrigation and drainage facilities should mitigate risk to acceptable level.

Reduction of river flows for downstream users.	No increase in total water consumption is anticipated. Irrigation losses will continue to return to the same river system and be available to downstream users.
Difficulty in movement of people and separation of community; community safety.	Provide culverts or bridges as required in consultation with communities. Use proper safety measures to prevent accidents at risky locations. Fence dangerous areas of canal.

IV. PROCEDURES FOR ENVIRONMENTAL ASSESSMENT OF SUBPROJECTS

48. The following procedures are to be followed in the environmental screening, assessment, and implementation of all subprojects. Environmental screening will be undertaken following both ADB's SPS 2009, as well as Indonesia AMDAL regulation.

A. Subproject Eligibility Criteria

49. The following subprojects will not be eligible for funding under the EARR. Any subproject meeting one or more of these criteria cannot be put forward for funding under this EARR:

(i) Subprojects that include activities listed on the Prohibited Investment Activities List in Appendix 5 of SPS;[12]
(ii) Subprojects that have potential to cause significant irreversible, diverse or unprecedented adverse environmental impacts and thus classifying as Category A per ADB's SPS 2009;
(iii) Subprojects located in or with foreseeable adverse impacts on any legally protected area;[13] or
(iv) Subprojects that fall in part or in whole within an area supporting high biodiversity value.[14]

B. Subproject Screening and Classification

50. At the subproject selection stage, all potential subprojects shall be screened and assigned a category in accordance with Indonesia's Law No. 32/2009 on Environmental Protection and Management and Minister of Environment Regulation No. 5/2012, and the ADB SPS (2009). Environmental screening procedures and classification procedures are described in Table 4.

[12] ADB. 2009. Safeguard Policy Statement. Appendix 5: ADB prohibited investment activities list (p. 76).
[13] Protected Areas as defined in Annex III of Minister of Environment Regulation No. 5/2012 on Types of Business Plans and/or Activities Requiring AMDAL; see also Appendix 2.
[14] Key Biodiversity Areas as defined in the World Database of Key Biodiversity Areas. See also Appendix 2.

Table 4: Screening requirements per Indonesia Indonesia's Law No. 32/2009 on Environmental Protection and Management and Minister of Environment Regulation No. 5/201, and ADB's SPS (2009)

Requirements	Procedures
Indonesian Requirements for Screening and Categorization (based Indonesia's Law No. 32/2009 on Environmental Protection and Management and Minister of Environment Regulation No. 5/2012)	The EARR proponent (in this case the IA in coordination with the CPMU) submits a Project Proposal to the district or provincial DLH for screening. For small-scale, low impact projects, the project proponent may directly submit a SPPL to the DLH. DLH makes a determination on the safeguards requirements: • An SPPL is sufficient, or • An UKL/UPL is required, or • An AMDAL is required
ADB Requirements for Screening and Categorization (based on ADB's Safeguard Policy Statement (2009))	ADB uses a classification system to reflect the significance of a project's potential environmental impacts. A project's category is determined by the category of its most environmentally sensitive component, including direct, indirect, cumulative, and induced impacts in the project's area of influence. Each proposed project is scrutinized (through the conduct of a rapid environmental assessment, REA) as to its type, location, scale, and sensitivity and the magnitude of its potential environmental impacts. Projects are assigned to one of the following four categories: (i) **Category A.** A proposed project is classified as category A if it is likely to have significant adverse environmental impacts that are irreversible, diverse, or unprecedented. These impacts may affect an area larger than the sites or facilities subject to physical works. An environmental impact assessment (EIA) is required. (ii) **Category B.** A proposed project is classified as category B if its potential adverse environmental impacts are less adverse than those of category A projects. These impacts are site-specific, few if any of them are irreversible, and in most cases mitigation measures can be designed more readily than for category A projects. An initial environmental examination (IEE) is required. (iii) **Category C.** A proposed project is classified as category C if it is likely to have minimal or no adverse environmental impacts. No environmental assessment is required although environmental implications need to be reviewed.

51. To comply with the above, the relevant IA (through the PIU, with the support of the consultants) shall screen a subproject and all activities included therein using the relevant Rapid Environmental Assessment (REA) Checklist (**Appendix 3**). The REA should be prepared based a site visit and secondary data. The relevant PIU will submit the following documents to the relevant IA, EA and ADB Resident Mission in Indonesia for confirmation of the categorization and due diligence requirements:

- Subproject description;
- Draft categorization form;
- Rapid Environmental Assessment (REA) form (**Appendix 3a-3h**);

52. Once the screening documents are received, ADB will review these and confirm the categorization within 5 working days. Candidate subprojects with potential for significant adverse impacts and requiring an environmental impact assessment (Category A) will be rejected (see subproject selection criteria above).

53. To comply with ADB's SPS, Category B subprojects require the preparation of an IEE, while Category C subprojects will require a desk review of environmental implications.

C. Preparation of Initial Environmental Examination (IEE)

54. In the case where an IEE is required, the relevant PIU, with the support of the consultants, will obtain prior confirmation of specific environmental safeguard requirements from ADB and the district DLH, as needed. The IEE including EMP will be prepared by the consultants following the guidance provided in ADB's SPS, Appendix 1 (Safeguard Requirements 1: Environment. Pages 30-40).

55. The IEE format shall be in accordance with ADB Safeguard Requirements 1: Environment, Annex to Appendix 1 (SPS page 41). Site-specific information including environment baseline on physical, ecological and socio-economic resources (including physical cultural resources) is required for all subprojects. The information should be collected through site visits and surveys within the subproject's area of influence.

56. An assessment of subproject impacts and risks on biodiversity and natural resources will also be undertaken. Issues regarding natural and critical habitats will be covered in the IEE report. Since Central Sulawesi province is one of areas that is rich in biodiversity, care will be taken during selection of subproject site to ensure they will not encroach on or affect biodiversity sensitive areas. **Appendix 2** shows distribution of Key Biodiversity Areas and protected areas in Central Sulawesi.

57. Pollution prevention for conservation of resources, particularly technology for management of process wastes will be addressed in the IEE report. Each subproject shall apply pollution prevention and control technologies and practices consistent with international good practices as reflected in internationally recognized standards such as the World Bank Group's Environmental, Health and Safety Guidelines (see Table 1). Occupational health safety and community health and safety will be properly addressed in the EMP section of the IEE report. In case subprojects are likely to have adverse impacts on physical cultural resources, appropriate mitigation measures will to be planned and reflected in the IEE. The IEE will also reflect meaningful consultation and disclosure process with a provision of grievance redress mechanism.

58. An environmental management plan (EMP), which is to be developed as part of an IEE, shall describe the environmental management measures that will be carried out to mitigate identified negative impacts or enhance the environment during implementation, and the environmental monitoring to be conducted to ensure that mitigation is provided and is effective in reducing impacts, or to determine the actual impacts of a subproject. The EMP shall outline specific mitigation measures, environmental monitoring requirements, and related institutional arrangements, including budget requirements for implementation. Where impacts and risks cannot be avoided or prevented, mitigation measures and actions will be identified so that the subproject is designed, constructed, and operated in compliance with applicable laws and regulations of Indonesia and meets the requirements specified in this document and the ADB SPS (2009).

59. The PIU, with the support of the consultants, will be responsible for the internal quality control of IEE and EMP. The draft documents shall be presented to relevant stakeholders [15] for consultation (refer to Consultation Section of this EARF).

D. Submission, disclosure and review of IEE and EMP

60. **Submission to ADB.** After completing all investigations and public consultation and participation processes required for the IEE, the relevant EA will endorse the draft IEE prepared by the PIU and the consultants, and submit it to (i) ADB in digital form for review and approval, and (ii) to the district or provincial DLH for information.

61. **Review by ADB.** Upon receipt of the IEE Report from the relevant EA/CPMU, ADB will review the IEE and EMP, and will (i) approve the IEE Report and disclose the final IEE on the EARR website; or (ii) request the relevant EA/CPMU and IA/PIU to revise the IEE to ensure its compliance with ADB's SPS and this EARF.

E. Submission, disclosure and review of UKL-UPL or AMDAL

62. **AMDAL/UKL-UPL Preparation**. The IA (supported by environmental consultants) will prepare AMDAL or UKL-UPL of subprojects based on impact significance and criteria in the Minister of Environment Decree No. 5 of 2012 on Types of Business Plans and/or Activities Subject to Environmental Impact Analysis. Coordination in the preparation of AMDAL or UKL-UPL and IEE should be maintained to ensure consistency of the documents.

63. **Submission to District/Provincial DLH**. The IA in coordination with the PIU and the consultants will also follow environmental assessment procedure of the government by consulting district/provincial DLH for guidance. A project proposal should be submitted to DLH to confirm type of environmental assessment needed, UKL-UP or AMDAL (procedure of Indonesian Environmental Screening and Clearance is presented in **Figure 1**).

64. **Review by DLH.** Upon receipt of AMDAL or UKL-UPL proposal, DLH will process the proposal according to the domestic procedure. AMDAL procedure will include impact screening, announcement to the public, impact scoping process, AMDAL preparation, review and decision and issuance of environmental permit. The UKL-UPL procedure is shorter, including screening; UKL-UPL preparation; public announcement; review and decision, and issuance of environmental permit.

F. Bidding documents, contract award

65. The relevant IA, through its PIU and with the support of the consultants, will prepare the bidding documents for the civil works packages. The IEE and EMP will be attached to and referred to in the bidding documents. The bidding documents will specify the obligation of the contractor to: (i) adhere to the IEE and the EMP; (ii) prepare a contract-specific EMP prior to construction, which shall be based on the EMP included in the IEE; (iii) allocate adequate funds and personnel to prepare and implement the contract-specific EMP.

[15] The primary stakeholders will be the villagers, local government and local community organizations. It may be necessary to translate the IEE into the local language (Bahasa).

66. The relevant PIU, with the support of the consultants, will review and clear the contract-specific EMP prior to commencement of works.

67. All applicable Government of Indonesia environmental permits/ approvals/ concurrences and ADB approval must be obtained prior to any contract award for civil works.

G. Environmental Management during Subproject Implementation

68. Contractors will be responsible for implementation of the contract-specific EMP during the construction phase. The respective IA/PIU will be responsible for implementation on any pre-contract award and/or pre-construction measures in the EMP.

69. With respect to aggregates and other construction materials, materials must be obtained from sources (including borrow pits, quarries, and other sources) that have all necessary legally approved licenses, permits and environmental approvals in accordance with government requirements, and free from any kind of disputes. In cases where materials are provided by commercial suppliers, these suppliers must certify that all materials are from sources that have all necessary legally approved licenses, permits and environmental approvals in accordance with government requirements, and free from any kind of disputes.

70. In the event of any design changes or unanticipated impacts, the IEE or EMP will have to be updated as per ADB SPS (2009) requirements.

H. Monitoring Environmental Performance, Reporting

71. **Supervision, monitoring.** The relevant PIU (with the support of the consultants) is responsible for supervision and monitoring of the contractors' implementation of the EMP. To ensure that potential environmental problems are detected and addressed promptly and appropriately, supervision and monitoring will take place during implementation. The PIU and consultants will conduct periodic (at least monthly for all construction sites of cat. B subprojects) supervision and environmental compliance monitoring of subproject activities.

72. The PIU shall notify and identify in writing to the relevant DLH and ADB any breaches of its obligations or other performance failures or violations of the environmental permit and the EMP as soon as reasonably possible and in any event, in respect of any breach which would have a serious impact or where the urgent attention of the DLH and ADB is or may be required, within not later than twenty-four (24) hours, and in all other cases within 7 days of the PIU becoming aware of such incident.

73. **Reporting.** Each PIU (with support of the consultants) will prepare semi-annual environmental safeguard monitoring reports and submit these to the relevant DLH and EAs, and to the IAs and EAs. The PMCs (under the EAs) will consolidate these monitoring reports into one environmental safeguards monitoring report. The first report will be submitted six months after start of construction and a final report within six months of completion. The monitoring reports shall include:

- documentation of compliance with all conditions;
- progress made to date on implementation of the EMP against the submitted implementation schedule;
- difficulties encountered in implementing the EMP and recommendations for remedying those difficulties and steps proposed to prevent or avoid similar future difficulties;

- number and type of non-compliance with the EMP and proposed remedial measures and timelines for completion of remediation;
- accidents or incidents relating to the occupational and community health and safety, and the environment;
- number and type of grievances/complaints received, and status of their resolution; and
- monitoring data of environmental parameters and conditions as committed in the EMP or otherwise required.

74. **Appendix 5** provides an annotated outline for monitoring reports. The environmental safeguard monitoring reports will be disclosed on ADB's website and on the websites of the executing agencies.

V. CONSULTATION, INFORMATION DISCLOSURE, AND GRIEVANCE REDRESS

A. Public consultation for IEE preparation and information disclosure

75. **Meaningful stakeholder consultation** and participation is an integral and important part of the EARR preparation and implementation of any subproject. Public consultation will be undertaken during IEE preparation to invite comments from potentially affected households, community groups, local government, and interested NGOs.

76. The relevant IA (through the PIU and with support of the consultants) shall undertake the following public consultation process during preparation of the IEE:

(i) Immediately upon commencement of the IEE, disclose relevant information about the proposed subproject to the public through local media, including by means of the prominent posting of legible sign boards at the subproject sites which are visible to the public; and

(ii) During IEE or EMP preparation, where a draft of the IEE or EMP has been prepared, meetings[16] with groups from the target areas for the subproject will take place to inform them of the proposed subproject and the possible environmental and social impacts, and to collect opinions from people who may be affected by the EARR. At this stage, the following agenda should be used to ensure that there is adequate exchange of information and opinion:
   - a summary of the proposed works under the subproject;
   - a summary of subproject objectives and likely positive and negative environmental impacts, covering the construction phase and operational impacts;
   - invitation for feedback in respect of any areas of concern that the public may have, and suggested means of implementation;
   - disclosure of and feedback on the Grievance Redress Mechanism; and
   - acceptability of the proposed works to the public.

77. The attendants as well as the relevant outcomes of these meetings will be documented in protocols, which will be attached as Annexes to the UKL-UPL and IEE reports.

[16] Pre-arranged meetings will be scheduled at appropriate times of day to all men and women and vulnerable persons to attend.

78. **Disclosure.** Disclosure will follow ADB's Public Communication Policy, 2011.[17] Once the IEE and its EMP is cleared by ADB, the IEE/EMP will be disclosed on the EARR website. The relevant EA (through the PMC) will send a written endorsement to ADB for disclosing the IEE/EMP on ADB's website. Documents should be disclosed prior to obtaining ADB approval to start construction. In addition, during EARR implementation, the following documents will be submitted to ADB for disclosure on its website:

(i) Updated IEEs (including EMP) and corrective action plan prepared during EARR implementation, if any
(ii) Environmental monitoring reports

B. Public consultation during construction

79. During construction and operation, the relevant IA (through the PIU) is obliged to inform EARR affected people and other stakeholders of EARR activities which are likely to create environmental and social impacts, and to allow them to access general information about the subproject (e.g., through provision of signage and noticeboards and communication through village representatives). In addition, should people affected by the EARR have any grievances, they have the right of lodging complaints through a grievance redress process established for the subproject.

C. Grievance Redress Mechanism

80. Unforeseen problems and issues may arise due to construction and operational impacts. Therefore, to resolve these issues, the executing agencies will each establish a mechanism to receive and facilitate resolution of affected peoples' concerns, complaints, and grievances about the EARR's environmental performance. It should be emphasized that this grievance redress mechanism related only to the EARR's safeguards performance.

1. Objectives of Grievance Redress Mechanism (GRM)

81. The GRM will allow to prevent and address community concerns, reduce risks, and assist the EARR to maximize environmental and social benefits. In addition to serving as a platform to resolve grievances, the GRM should help achieve the following objectives: (i) open channels for effective communication, including the identification of new environmental issues of concern arising from the EARR; (ii) demonstrate concerns about community members and their environmental well-being; and (iii) prevent and mitigate any adverse environmental impacts on communities caused by EARR implementation and operations. The GRM must be accessible to diverse members of the community, including more vulnerable groups such as women and youth. Opportunities for confidentiality and privacy for complainants are to be honored where this is seen as important.

82. Each IA will assign a Public Complaints Officer (PCO) to the PIU to coordinate the GRM and deal with complaints from affected people throughout implementation of subprojects under the under the IA's purview. Prior to construction, the PCO will finalize the GRM and issue notices to inform the public within the EARR area of the GRM. The PIU's phone number, address, email address will be disseminated to the people through displays at the respective offices and at construction sites.

[17] ADB. 2011. *Public Communication Policy*. Manila.

83. The PCO should have experience and/or training in dealing with complaints and mediation of disputes. The PCO will have facilities to maintain a complaints database and communicate with Contractors, the provincial/district DLH, and with complainants.

2. GRM Process and Timeframes

84. **GRM Entry Points**. Formal complaints may be made directly to the PCO or through the works contractors, the PIU, or the district and/or provincial DLH.

85. **Stage 1: Informal Resolution.** If a concern arises, the affected person may try to resolve the issue of concern directly with the Contractor. The Contractor must inform the PCO of the complaint and its resolution. The PCO must register the complaint in the complaint register. If the issue is successfully resolved, no further follow-up is required.

86. **Stage 2: Formal Complaint**. Affected people will submit an oral or written complaint directly to the PCO or through GRM entry points (Contractors, the PIU, provincial/district DLH). For an oral complaint, the PCO must make a written record. For each complaint, the PCO must investigate the complaint, assess its eligibility, and identify an appropriate solution. It will provide a clear reply within five (5) working days to the complainant and Contractor.

87. The PCO will, as necessary, through the IA and its PIU, instruct the Contractor to take corrective actions. The PCO will review the Contractor's response and undertake additional monitoring. During the complaint investigation, the PCO will work in close consultation with the Contractors, and the consultants. Contractors during construction should implement the redress solution and convey the outcome to the PCO within seven (7) working days.

88. **Stage 3: Multi-stakeholder Meeting**. If no solution can be identified by the PCO or if the complainant is not satisfied with the suggested solution under Stage 2, the PCO will organize, within 21 days of filing of the complaint, a multi-stakeholder meeting under the auspices of the head of the relevant IA, where all relevant stakeholders (i.e., the complainant, IA, PIU, Contractor, PMC, provincial/district DLH) will be invited. The meeting should result in a solution acceptable to all, and identify responsibilities and an action plan. The Contractors should implement the agreed-upon redress solution and convey the outcome to the PCO within seven (7) working days;

89. **Stage 4: ADB Special Mission** If the multi-stakeholder hearing process is not successful, the PCO will inform ADB accordingly, and the ADB EARR team may decide to organize a special mission to address the problem and identify a solution; and

90. **Stage 5**: **Judicial Proceedings.** If the affected person is not satisfied with the reply in Stage 4, he or she can go through local judicial proceedings.

91. **Reporting**. The PCO will record all complaints, investigations, and subsequent actions and report monthly to the PIU. A summary report on PCO operations and complaint logs will be included in semi-annual environmental monitoring reports to the EA and PMC, and in the consolidated monitoring report by PMC to ADB.

VI. IMPLEMENTATION ARRANGEMENTS

A. Institutional Responsibilities

92. **Steering Committee (SC).** At the national level, a steering committee comprising the Ministry of Finance, BAPPENAS, MPWH, and Ministry of Transportation (MOT) will be formed to guide the implementation of the EARR. At the provincial level, a steering committee will be formed comprising the Governor, District/City Heads and related sectoral agencies. The steering committee at the central and provincial level will also ensure coordination with other relevant ministries, and development partners; and communications with wider stakeholders.

93. **Executing Agencies.** MPWH (through the Directorate General for Water Resources) will be the executing agency (EA) for output 1 and 2, and the Ministry of Transport (MOT) through the Secretariat General will be the EA for output 3 and 4. Each EA will establish a Central Project Implementation Management Unit (CPMU) to consolidate activities and reporting from implementing agencies. The EAs will select and appraise subprojects according to subproject selection criteria. There will be an environmental safeguards focal person (person-in-charge, PIC) in each CPMU. MPWH, MOT and ADB will conduct regular coordination meetings involving all implementing agencies, relevant stakeholders including provincial and district *Dinas Lingkungan Hidup* (DLH, English: Environmental Agency), and other development partners. A project management consultant (PMC) will support each CPMU and consolidate quarterly and annual EARR progress reports for reporting to the Steering Committee and ADB.

94. **Implementing Agencies.** The Central Sulawesi Settlement Infrastructure Agency under the Directorate General of Human Settlements will be the implementing agency for Output 1.[18] The Directorate General of Water Resources (DGWR), MPWH, through its river basin organization Balai Wilayah Sungai Sulawesi III, will be the implementing agency for Output 2. The Directorate General of Sea Transportation, MOT, will be the implementing agency for Output 3 and the Directorate General of Civil Aviation, MOT, will be the implementing agency for Output 4.

95. **Project Implementing Units.** Each IA will establish a Project Implementation Unit (PIU), headed by a project director and staffed with social and environmental safeguards, gender, procurement, financial management and technical personnel. The PIUs, on behalf of the IAs, will be responsible for implementation of all subprojects under each implementing agency's purview. The PIUs will be responsible for environmental safeguards, including:

- environmental screening and categorization of subprojects;
- oversight or the preparation of the initial environmental examinations and environmental management plans;
- ensuring meaningful public consultation and ensuring that disclosure requirements are met;
- supervision of, monitoring of, and reporting on the implementation of environmental management plans;
- developing corrective action plans, as needed, and ensuring that corrective actions are undertaken; and

[18] In close collaboration with the University and the Ministry of Religious Affairs for the Islamic University.

- appointing of a Project Complaint Officer (PCO), establishment and operation of grievance redress mechanism (GRM).

96. The extent of **monitoring activities by the PIUs** will be commensurate with the subprojects' risks and impacts. Category B subprojects should be checked through monthly site visits. More frequent monitoring will be needed for higher risk Category B subprojects and when there are problems with EMP implementation. The PIUs are required to ensure the implementation of safeguard measures and relevant safeguard plans, as provided in the legal agreements, and to submit periodic monitoring reports on their implementation performance. The PIUs will:

- monitor the progress of implementation of EMPs and verify the compliance with environmental measures and standards and progress toward intended outcomes;
- document monitoring results through preparation of semiannual monitoring reports, and identify necessary corrective and preventive actions in the periodic monitoring reports;
- follow up on these actions to ensure progress toward the desired outcomes;
- submit semi-annual monitoring reports on safeguard measures as required by local environmental protection agencies (DHL), the relevant EA and the PMC.

97. **Consultant support (consultants).** Each IA/PIU will recruit consultants that will prepare safeguards documents, support the IA/PIU in implementing safeguards and gender action plans, ensure financial management, and oversee construction supervision. The consultants will have main EARF implementation coordination responsibility. The consultants will, on behalf of the IAs and their PIUs: (i) screen subprojects in compliance with the EARF, and submit screening and categorization forms to the respective EA and IAs; (ii) secure categorization of subprojects from local environment authorities (DLH, see below); (iii) prepare IEE reports and domestic assessments (UKL/UPL, SPPL); (iv) undertake day-to-day implementation supervision activities; (v) prepare semi-annual environmental safeguards monitoring reports for all subprojects under the implementing agency's purview; and (vi) coordinate the grievance redress mechanism. The consultants' role will also include training of IAs and PIUs on implementation of the EARF, and training for contractors in preparing contract-specific EMPs, applying modern construction techniques and ensuring compliance with EHS requirements as defined in the IFC EHS Guidelines.

98. **The provincial and district environmental protection agencies (DLHs)** in Central Sulawesi are the relevant authorities to ensure that all subprojects comply with the national legal and regulatory framework for environmental safeguards. The DLHs have the responsibility for screening and categorizing subproject in accordance with Indonesia's Law No. 32/2009 on Environmental Protection and Management and Minister of Environment Regulation No. 5/2012, the approval of UKL/UPL including issuance of environmental permits, and the supervision of compliance with approved plans and issued permits during subproject implementation.

99. The **Asian Development Bank** (ADB) is responsible to ensure that the EARR and all its subprojects comply with ADB's Safeguard Policy Statement. ADB will monitor and supervise overall EARR implementation including screening and categorization, IEE preparation, and oversee compliance with all SPS/EARF requirements. Specifically, ADB will:

- review and approve environmental categorization and IEEs (including EMPs);
- conduct site visits for subprojects with unanticipated adverse environmental or social impacts;

- conduct supervision missions with detailed review by ADB's safeguard specialists/officers or consultants for subprojects for category B projects;
- review the semiannual monitoring reports submitted by the EAs (through the PMC) to ensure that adverse impacts and risks are mitigated as planned and that necessary corrective actions have been identified are being implemented and being monitored;
- work with the IAs and PIUs to rectify to the extent possible any failures to comply with their safeguard commitments, as covenanted in the legal agreements, and exercise remedies to reestablish compliance as appropriate; and
- prepare an EARR completion report that assess whether the objective and desired outcomes of the EARF have been achieved and all subprojects supported under the project comply with ADB's SPS.

Legal Framework and Regulatory Requirements in Indonesia

Indonesia has a number of laws regarding environmental protection and management including:

- Law 2/2013: Acquisition of Land for Development in the Public Interest
- Law 32/2009: Environmental Protection and Management
- Law 22/2009: Traffic and Road – relevant reference for vehicle and road traffic management
- Law 18/2008: Waste Management – general legislation and regulation regarding waste management
- Law 26/2007: Spatial Planning Law
- Law 13/2003: Workforce – relevant for workforce issues
- Law 7/2004: Water Resources – hydrological impact assessment within the assessment area
- Law 5/1990: Conservation of Living Natural Resources and their Ecosystems.
- Law 41/1999: Forestry
- Law 19/ 2009: Ratification of Stockholm Conservation on Persistence Organic Pollutants

These laws are accompanied by various minister and provincial decrees and regulations, including:

- Ministry of Land and Spatial Planning 6/2015: Technical Guidelines for Land Acquisition – Standard operating procedure to conduct land acquisition for public interest development.
- Ministry of Health 492/MENKES/PER/VIV/2010: Qualification of Drinking Water Quality – drinking water parameters and measures to manage environmental impact to drinking water sources.
- Ministry of Health Regulation 416/1990: Water Quality.
- Ministry of Health Decree 876 / MENKES / SK / VIII / 2001 technical guideline for analysis of environmental health impact
- Ministry of Public Works 14/PRT/M/2013: Standards and Guidelines for procurement Construction Work and Consulting Services.
- Ministry of Public Works 03/2013: Regarding Implementation of Infrastructure and Waste Facility in Household Waste Management and Household-like Waste Management.
- Ministry of Public Works 45/1990: Water Quality Control in Water Resources – relevant for water quality control and monitoring review.

Environmental protection and management ministerial decrees include:

- State Minister for the Environment Decree Number 13, year 1995, on Standard Quality of Emission of Stationary Source.
- State Minister for Environment Decree Number 48, year 1996, on Noise Level Standard.
- State Minister for the Environment Decree Number 49, year 1996, on standard of Vibration Level.
- State Minister for the Environment Decree Number 45, year 1990, on standard Index of Air Pollutant.
- Ministry of Environment 15/2013: Measurement, Reporting and Verification of Climate Change Mitigation.
- Ministry of Environment 7/2010: Competence Certification of AMDAL Preparation and Training Requirements for AMDAL Preparation.
- Ministry of Environment 5/2008: AMDAL evaluator Working Guidelines – relevant

reference for reviewing AMDAL document compliance.
- Ministry of Environment 21/2008, Emission Standard Quality of Stationary Sources – Thermal Power Plan.

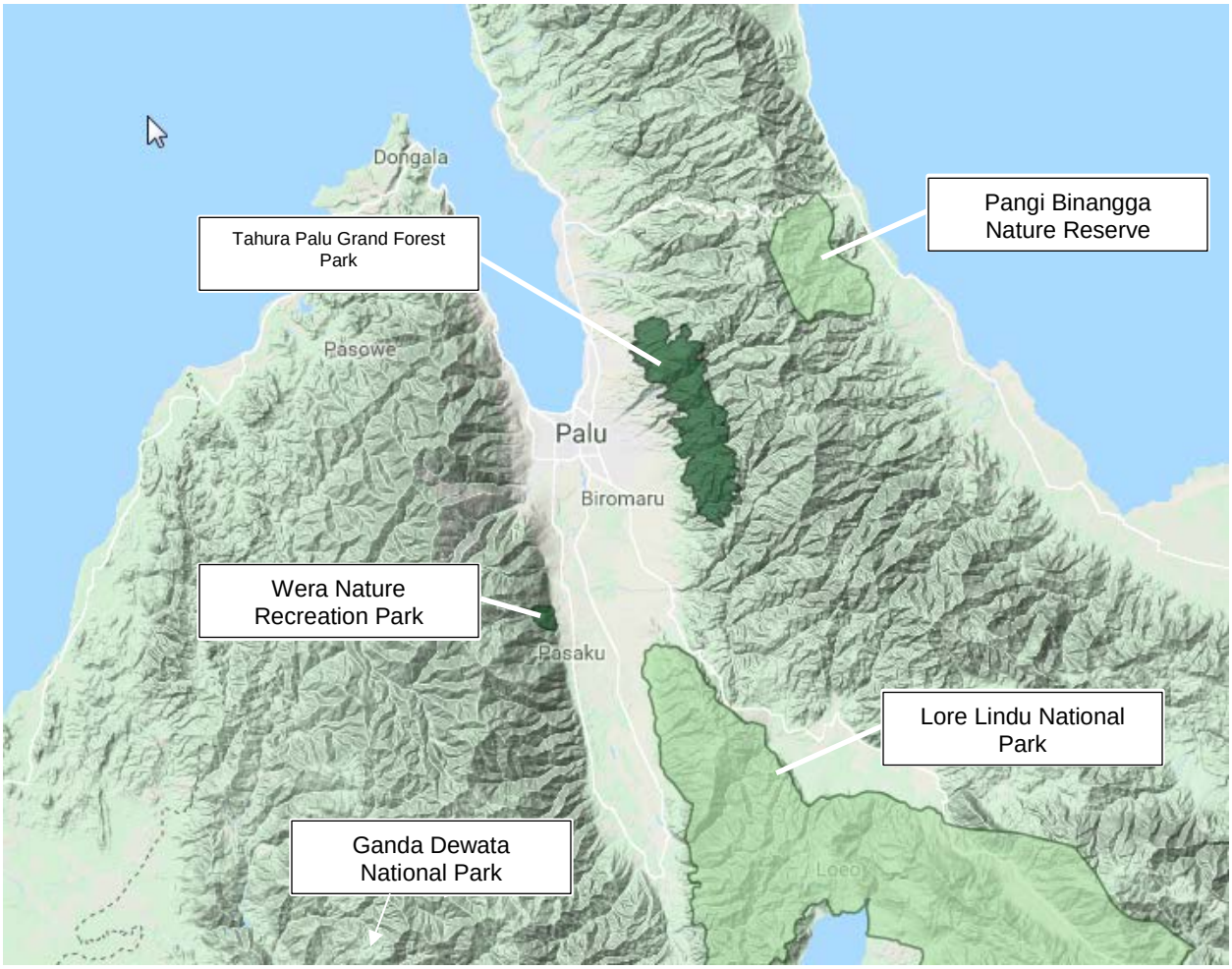
Environmental protection and management government regulations include:
- Government Regulation 101/2013: Hazardous Waste Management
- Government Regulation 81/2012: Household Waste Management and Household-like Waste Management
- Government Regulation 43/2008: Groundwater – groundwater management and pollution control review
- Government Regulation 26/2008: National Spatial Plan
- Government Regulation 16/2004: Land Use – relevant for land use and land acquisition review
- Government Regulation 41/1999: Air Pollution Control – air quality
- Government Regulation 82/2001: Water Quality Management and Water Pollution Control – surface water quality
- Government Regulation 7/1999: Flora Fauna Conservation –biodiversity
- Government regulation 18/ 1999, in conjunction to government Regulation 85/1995: Management of Dangerous and Poisonous Materials.

Presidential Decrees include:
- Presidential Decree 71/2012: Implementation of Land Acquisition for Development of the Public Interest Facility. Amended through 40/2014, 99/2014 and 30/2015.
- Presidential Decree 15/2015: Establishment of Ministry of Public Works and Housing for 2014-19.
- Presidential Decree 185/2014: Acceleration of Water and Sanitation provision.
- Presidential Decree 71/2012: National Greenhouse Gases Inventory
- Presidential Decree 61/2011: Greenhouse Gas Emission Reduction National Action Plan

Legally Protected Sites, Key Biodiversity Areas (Central Sulawesi)

The area in Central Sulawesi is rich in biodiversity. Several sites have been identified as Key Biodiversity Areas (KBA) based on the presence of significant populations of globally threatened species, and significant populations of endemic species known only to be found in a limited area. The area also includes several legally protected sites as designated by the Ministry of Environment and Forestry of the Republic of Indonesia. All these sites are presented below.
No activity supported by the EARR will be allowed to encroach on these legally protected and/or ecologically sensitive sites. This shall be ensured through the screening process described in the EARF.

Legally Protected Sites (as defined by the Ministry of Environment and Forestry)



Note: Extracted from IBAT for Business (accessed on 8 November 2018)

Tahura Palu Grand Forest Park

- IUCN Management Category: VI
- Status: Designated
- Type of Designation: National
- Governance Type: Sub-national ministry or agency
- Management Authority: Pemerintah Daerah Provinsi Sulawesi Tengah

Pangi Binangga Nature Reserve

- IUCN Management Category: Ia
- Size: 60.0 km²
- Status: Designated
- Type of Designation: National
- Governance Type: Federal or national ministry or agency
- Management Authority: Balai Konservasi Sumber Daya Alam Sulawesi Tengah

Lore Lindu National Park

- IUCN Management Category: II
- Size: 2179.92 km²
- Status: Designated
- Type of Designation: National
- Governance Type: Federal or national ministry or agency
- Management Authority: Balai Besar Taman Nasional Lore Lindu

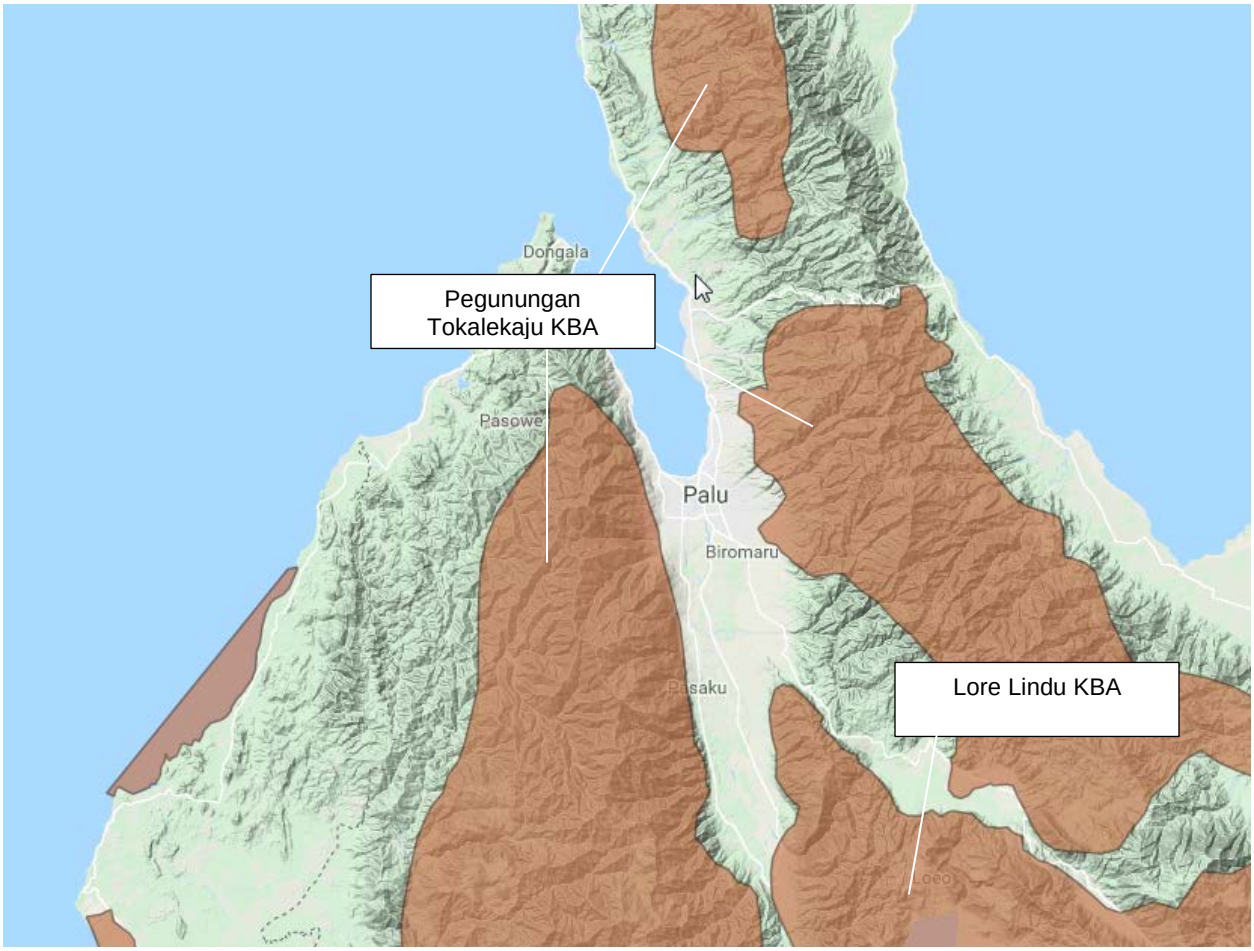
Ganda Dewata National Park

- IUCN Management Category: II
- Status: Designated
- Type of Designation: National
- Governance Type: Federal or national ministry or agency
- Management Authority: Balai Besar Konservasi Sumber Daya Alam Sulawesi Selatan

Wera Nature Recreation Park

- IUCN Management Category: V
- Status: Designated
- Type of Designation: National
- Governance Type: Federal or national ministry or agency
- Management Authority: Balai Konservasi Sumber Daya Alam Sulawesi Tengah

Key Biodiversity Areas



Note: Extracted from IBAT for Business (accessed on 8 November 2018)

Pegunungan Tokalekaju KBA (Area: 400577 ha)

This site has been identified as an Important Bird and Biodiversity Area and Key Biodiversity Area based on the presence of: (i) Significant populations of globally threatened species; and (ii) Significant populations of endemic species known only to be found in a limited area.

Taxonomic group	Species	Common name	IUCN Red List Category
Birds	Cacatua sulphurea	Yellow-crested Cockatoo	CR
Birds	Ducula pickeringii	Grey Imperial-pigeon	VU
Birds	Macrocephalon maleo	Maleo	EN
Invertebrates	Euploea cordelia	Cordelia's Crow	VU
Invertebrates	Euploea magou	The Magou	VU
Mammals	Ailurops ursinus	Bear Cuscus	VU

Taxonomic group	Species	Common name	IUCN Red List Category
Mammals	Bubalus depressicornis	Lowland Anoa	EN
Mammals	Bubalus quarlesi	Mountain Anoa	EN
Mammals	Echiothrix centrosa	Central Sulawesi Echiothrix	VU
Mammals	Haeromys minahassae	Lowland Sulawesi Haeromys	VU
Mammals	Harpyionycteris celebensis	Sulawesi Harpy Fruit Bat	VU
Mammals	Macaca hecki	Heck's Macaque	VU
Mammals	Macaca tonkeana	Tonkean Macaque	VU
Mammals	Macrogalidia musschenbroekii	Sulawesi Palm Civet	VU
Mammals	Margaretamys beccarii	Spiny Lowland Margaretamys	VU
Mammals	Rousettus bidens	Manado Rousette	VU
Mammals	Rubrisciurus rubriventer	Sulawesi Giant Squirrel	VU
Mammals	Strigocuscus celebensis	Small Sulawesi Cuscus	VU
Mammals	Tarsius dentatus	Dian's Tarsier	VU
Mammals	Tarsius tarsier	Spectral Tarsier	VU
Plants	Elattostachys erythrocarpum		VU
Plants	Santalum album	Sandalwood	VU
Reptiles	Amyda cartilaginea	Southeast Asian Softshell Turtle	VU
Reptiles	Indotestudo forstenii	Travancore Tortoise	EN
Reptiles	Leucocephalon yuwonoi	Sulawesi Forest Turtle	CR

Lore Lindu KBA (Area: 255390 ha)

This site has been identified as an Important Bird and Biodiversity Area and Key Biodiversity Area based on the presence of: (i) Significant populations of globally threatened species; and (ii) Significant populations of endemic species known only to be found in a limited area.

Taxonomic group	Species	Common name	IUCN Red List Category
Amphibians	Limnonectes heinrichi		VU
Birds	Aramidopsis plateni	Snoring Rail	VU
Birds	Cacatua sulphurea	Yellow-crested Cockatoo	CR

Birds	Eurostopodus diabolicus	Heinrich's Nightjar	VU
Birds	Gymnocrex rosenbergii	Blue-faced Rail	VU
Birds	Macrocephalon maleo	Maleo	EN
Birds	Ninox ios	Cinnabar Boobook	VU
Birds	Rhabdotorrhinus exarhatus	Sulawesi Hornbill	VU
Birds	Rhyticeros cassidix	Knobbed Hornbill	VU
Birds	Tyto inexspectata	Minahassa Masked-owl	VU
Fishes	Xenopoecilus sarasinorum		EN
Mammals	Ailurops ursinus	Bear Cuscus	VU
Mammals	Babyrousa celebensis	Sulawesi Babirusa	VU
Mammals	Bubalus depressicornis	Lowland Anoa	EN
Mammals	Bubalus quarlesi	Mountain Anoa	EN
Mammals	Bunomys prolatus	Tambusisi Bunomys	EN
Mammals	Echiothrix centrosa	Central Sulawesi Echiothrix	VU
Mammals	Echiothrix leucura	Northern Sulawesi Echiothrix	EN
Mammals	Eropeplus canus	Sulawesi Soft-furred Rat	VU
Mammals	Haeromys minahassae	Lowland Sulawesi Haeromys	VU
Mammals	Harpyionycteris celebensis	Sulawesi Harpy Fruit Bat	VU
Mammals	Hyosciurus ileile	Lowland Long-nosed Squirrel	VU
Mammals	Macaca tonkeana	Tonkean Macaque	VU
Mammals	Macrogalidia musschenbroekii	Sulawesi Palm Civet	VU
Mammals	Margaretamys beccarii	Spiny Lowland Margaretamys	VU
Mammals	Maxomys wattsi	Watts’s Sulawesi Maxomys	EN
Mammals	Rattus xanthurus	Northeastern Xanthurus Rat	VU
Mammals	Rousettus bidens	Manado Rousette	VU
Mammals	Rubrisciurus rubriventer	Sulawesi Giant Squirrel	VU
Mammals	Strigocuscus celebensis	Small Sulawesi Cuscus	VU
Mammals	Tarsius dentatus	Dian's Tarsier	VU
Mammals	Tarsius tarsier	Spectral Tarsier	VU

Plants	Myristica kjellbergii		VU
Plants	Taxus wallichiana	Himalayan Yew	EN
Plants	Vatica flavovirens		CR
Reptiles	Amyda cartilaginea	Southeast Asian Softshell Turtle	VU
Reptiles	Cuora amboinensis	Southeast Asian Box Turtle	VU
Reptiles	Indotestudo forstenii	Travancore Tortoise	EN
Reptiles	Leucocephalon yuwonoi	Sulawesi Forest Turtle	CR
Reptiles	Ophiophagus hannah	King Cobra	VU

Subproject Environmental Screening Form – Transport Subsector

INSTRUCTIONS: This checklist is to be completed to support the environmental categorization of subprojects.

Subproject Name:	
Location:	
Date:	
Person Preparing the Checklist:	
Signature	

Complete Part 1 and Part 2 below to support the assignment of screening category

Environmental Category Check (√) the appropriate type.

- ❑ **ADB Category A**
- ❑ **ADB Category B**
- ❑ **ADB Category C**

PART 1: SCREENING BASED INDONESIA PROCEDURE (based on Law No. 32/2009 on Environmental Protection and Management)

Check (√) the appropriate type.

	AMDAL Type Project
	UKL/UPL Type Project
	SPPL Type Project

Is categorization confirmed by provincial or district DLH?

- ❑ No -> indicate likely date of classification by DLH: _____
- ❑ Yes -> attached DLH confirmation letter

PART 2: SCREENING BASED ON ENVIRONMENTAL FACTORS – Environmental Checklists

Read and delete: Complete the Rapid Environment Assessment Checklist for subproject (Table 2). Provide a summary of the results in Table 1. Include any relevant issues and concerns.

Box 1: Summary

Table 1: Rapid Environment Assessment (REA) Checklist

Screening Questions	Yes	No	Remarks
A. Project Siting Is any of the roads 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 any of the rural roads 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?			

Screening Questions	Yes	No	Remarks
▪ increased noise and air pollution resulting from traffic volume?			
▪ increased risk of water pollution from oil, grease and fuel spills, and other materials from vehicles using the road?			
▪ social conflicts if workers from other regions or countries are hired?			
▪ large population influx during project construction and operation that causes increased burden on social infrastructure and services (such as water supply and sanitation systems)?			
▪ 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?			
▪ 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.			

Table 2: Preliminary Climate Risk Screening

Screening Questions		Score	Remarks [19]
Location and Design of project	Is siting and/or routing of the project (or its components) likely to be affected by climate conditions including extreme weather-related events such as floods, droughts, storms, landslides?		
	Would the project design (e.g. the clearance for bridges) need to consider any hydro-meteorological parameters (e.g., sea-level, peak river flow, reliable water level, peak wind speed etc)?		
Materials and Maintenance	Would weather, current and likely future climate conditions (e.g. prevailing humidity level, temperature contrast between hot summer days and cold winter days, exposure to wind and humidity hydro-meteorological parameters likely affect the selection of project inputs over the life of project outputs (e.g. construction material)?		
	Would weather, current and likely future climate conditions, and related extreme events likely affect the maintenance (scheduling and cost) of project output(s)?		
Performance of project outputs	Would weather/climate conditions, and related extreme events likely affect the performance (e.g. annual power production) of project output(s) (e.g. hydro-power generation facilities) throughout their design life time?		

[19] If possible, provide details on the sensitivity of project components to climate conditions, such as how climate parameters are considered in design standards for infrastructure components, how changes in key climate parameters and sea level might affect the siting/routing of project, the selection of construction material and/or scheduling, performances and/or the maintenance cost/scheduling of project outputs.

Options for answers and corresponding score are provided below:

Response	Score
Not Likely	0
Likely	1
Very Likely	2

Responses when added that provide a score of 0 will be considered low risk project. If adding all responses will result to a score of 1-4 and that no score of 2 was given to any single response, the project will be assigned a medium risk category. A total score of 5 or more (which include providing a score of 1 in all responses) or a 2 in any single response, will be categorized as high-risk project.

Result of Initial Screening (Low, Medium, High): _____

Other **Comments**:

_____

_____

Subproject Environmental Screening Form – Urban Development

INSTRUCTIONS: This checklist is to be completed to support the environmental categorization of subprojects.

Subproject Name:	
Location:	
Date:	
Person Preparing the Checklist:	
Signature	

Complete Part 1 and Part 2 below to support the assignment of screening category

Environmental Category Check (√) the appropriate type.

- ❑ **ADB Category A**
- ❑ **ADB Category B**
- ❑ **ADB Category C**

PART 1: SCREENING BASED INDONESIA PROCEDURE (based on Law No. 32/2009 on Environmental Protection and Management)

Check (√) the appropriate type.

	AMDAL Type Project
	UKL/UPL Type Project
	SPPL Type Project

Is categorization confirmed by provincial or district DHL?

- ❑ No -> indicate likely date of classification by DHL: _____
- ❑ Yes -> attached DHL confirmation letter

PART 2: SCREENING BASED ON ENVIRONMENTAL FACTORS – Environmental Checklists

Read and delete: Complete the Rapid Environment Assessment Checklist for subproject (Table 2). Provide a summary of the results in Table 1. Include any relevant issues and concerns.

Box 1: Summary

Table 1: Rapid Environment Assessment (REA) Checklist

Screening Questions	Yes	No	Remarks
A. Project Siting Is the project area…			
▪ Densely populated?			
▪ Heavy with development activities?			
▪ Adjacent to or within any environmentally sensitive areas?			
• Cultural heritage site			
• Protected Area			
• Wetland			
• Mangrove			

Screening Questions	Yes	No	Remarks
• Estuarine			
• Buffer zone of protected area			
• Special area for protecting biodiversity			
• Bay			
B. Potential Environmental Impacts Will the Project cause…			
▪ impacts on the sustainability of associated sanitation and solid waste disposal systems and their interactions with other urban services.			
▪ deterioration of surrounding environmental conditions due to rapid urban population growth, commercial and industrial activity, and increased waste generation to the point that both manmade and natural systems are overloaded and the capacities to manage these systems are overwhelmed?			
▪ degradation of land and ecosystems (e.g. loss of wetlands and wild lands, coastal zones, watersheds and forests)?			
▪ dislocation or involuntary resettlement of people?			
▪ disproportionate impacts on the poor, women and children, Indigenous Peoples or other vulnerable group?			
▪ degradation of cultural property, and loss of cultural heritage and tourism revenues?			
▪ occupation of low-lying lands, floodplains and steep hillsides by squatters and low-income groups, and their exposure to increased health hazards and risks due to pollutive industries?			
▪ water resource problems (e.g. depletion/degradation of available water supply, deterioration for surface and ground water quality, and pollution of receiving waters?			
▪ air pollution due to urban emissions?			
▪ risks and vulnerabilities related to occupational health and safety due to physical, chemical and biological hazards during project construction and operation?			
▪ road blocking and temporary flooding due to land excavation during rainy season?			
▪ noise and dust from construction activities?			
▪ traffic disturbances due to construction material transport and wastes?			

Screening Questions	Yes	No	Remarks
▪ temporary silt runoff due to construction?			
▪ hazards to public health due to ambient, household and occupational pollution, thermal inversion, and smog formation?			
▪ water depletion and/or degradation?			
▪ overpaying of ground water, leading to land subsidence, lowered ground water table, and salinization?			
▪ contamination of surface and ground waters due to improper waste disposal?			
▪ pollution of receiving waters resulting in amenity losses, fisheries and marine resource depletion, and health problems?			
▪ large population influx during project construction and operation that causes increased burden on social infrastructure and services (such as water supply and sanitation systems)?			
▪ social conflicts if workers from other regions or countries are hired?			
▪ 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 operation and construction?			
▪ community safety risks due to both accidental and natural hazards, 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?			

Table 2: Preliminary Climate Risk Screening

Screening Questions		Score	Remarks [20]
Location and Design of project	Is siting and/or routing of the project (or its components) likely to be affected by climate conditions including extreme weather-related events such as floods, droughts, storms, landslides?		
	Would the project design (e.g. the clearance for bridges) need to consider any hydro-meteorological parameters (e.g., sea-level, peak river flow, reliable water level, peak wind speed etc)?		
Materials and Maintenance	Would weather, current and likely future climate conditions (e.g. prevailing humidity level, temperature contrast between hot summer days and cold winter days, exposure to wind and humidity hydro-meteorological parameters likely affect the selection of project inputs over the life of project outputs (e.g. construction material)?		
	Would weather, current and likely future climate conditions, and related extreme events likely affect the maintenance (scheduling and cost) of project output(s)?		
Performance of project outputs	Would weather/climate conditions, and related extreme events likely affect the performance (e.g. annual power production) of project output(s) (e.g. hydro-power generation facilities) throughout their design life time?		

Options for answers and corresponding score are provided below:

Response	Score
Not Likely	0
Likely	1
Very Likely	2

Responses when added that provide a score of 0 will be considered low risk project. If adding all responses will result to a score of 1-4 and that no score of 2 was given to any single response, the project will be assigned a medium risk category. A total score of 5 or more (which include providing a score of 1 in all responses) or a 2 in any single response, will be categorized as high-risk project.

Result of Initial Screening (Low, Medium, High):_____

Other **Comments**:

_____

_____

Prepared by: _____

[20] If possible, provide details on the sensitivity of project components to climate conditions, such as how climate parameters are considered in design standards for infrastructure components, how changes in key climate parameters and sea level might affect the siting/routing of project, the selection of construction material and/or scheduling, performances and/or the maintenance cost/scheduling of project outputs.

Subproject Environmental Screening Form – Water Supply

INSTRUCTIONS: This checklist is to be completed to support the environmental categorization of subprojects.

Subproject Name:	
Location:	
Date:	
Person Preparing the Checklist:	
Signature	

Complete Part 1 and Part 2 below to support the assignment of screening category

Environmental Category Check (√) the appropriate type.

- ❑ **ADB Category A**
- ❑ **ADB Category B**
- ❑ **ADB Category C**

PART 1: SCREENING BASED INDONESIA PROCEDURE (based on Law No. 32/2009 on Environmental Protection and Management)

Check (√) the appropriate type.

	AMDAL Type Project
	UKL/UPL Type Project
	SPPL Type Project

Is categorization confirmed by provincial or district DHL?

- ❑ No -> indicate likely date of classification by DHL: _____
- ❑ Yes -> attached DHL confirmation letter

PART 2: SCREENING BASED ON ENVIRONMENTAL FACTORS – Environmental Checklists

Read and delete: Complete the Rapid Environment Assessment Checklist for subproject (Table 2). Provide a summary of the results in Table 1. Include any relevant issues and concerns.

Box 1: Summary

Table 1: Rapid Environment Assessment (REA) Checklist

Screening Questions	Yes	No	Remarks
A. Project Siting Is the project area…			
▪ Densely populated?			
▪ Heavy with development activities?			
▪ Adjacent to or within any environmentally sensitive areas?			
• Cultural heritage site			
• Protected Area			
• Wetland			
• Mangrove			
• Estuarine			

Screening Questions	Yes	No	Remarks
• Buffer zone of protected area			
• Special area for protecting biodiversity			
• Bay			
B. Potential Environmental Impacts Will the Project cause…			
▪ pollution of raw water supply from upstream wastewater discharge from communities, industries, agriculture, and soil erosion runoff?			
▪ impairment of historical/cultural monuments/areas and loss/damage to these sites?			
▪ hazard of land subsidence caused by excessive ground water pumping?			
▪ social conflicts arising from displacement of communities?			
▪ conflicts in abstraction of raw water for water supply with other beneficial water uses for surface and ground waters?			
▪ unsatisfactory raw water supply (e.g. excessive pathogens or mineral constituents)?			
▪ delivery of unsafe water to distribution system?			
▪ inadequate protection of intake works or wells, leading to pollution of water supply?			
▪ over pumping of ground water, leading to salinization and ground subsidence?			
▪ excessive algal growth in storage reservoir?			
▪ increase in production of sewage beyond capabilities of community facilities?			
▪ inadequate disposal of sludge from water treatment plants?			
▪ inadequate buffer zone around pumping and treatment plants to alleviate noise and other possible nuisances and protect facilities?			
▪ impairments associated with transmission lines and access roads?			
▪ health hazards arising from inadequate design of facilities for receiving, storing, and handling of chlorine and other hazardous chemicals. ▪	▪	▪	▪
▪ health and safety hazards to workers from handling and management of chlorine used for disinfection, other contaminants, and biological and physical hazards during project construction and operation?			

Screening Questions	Yes	No	Remarks
▪ dislocation or involuntary resettlement of people?			
▪ disproportionate impacts on the poor, women and children, Indigenous Peoples or other vulnerable groups?			
▪ noise and dust from construction activities?			
▪ increased road traffic due to interference of construction activities?			
▪ continuing soil erosion/silt runoff from construction operations?			
▪ delivery of unsafe water due to poor O&M treatment processes (especially mud accumulations in filters) and inadequate chlorination due to lack of adequate monitoring of chlorine residuals in distribution systems?			
▪ delivery of water to distribution system, which is corrosive due to inadequate attention to feeding of corrective chemicals?			
▪ accidental leakage of chlorine gas?			
▪ excessive abstraction of water affecting downstream water users?			
▪ competing uses of water?			
▪ increased sewage flow due to increased water supply			
▪ increased volume of sullage (wastewater from cooking and washing) and sludge from wastewater treatment plant			
▪ large population influx during project construction and operation that causes increased burden on social infrastructure and services (such as water supply and sanitation systems)?			
▪ social conflicts if workers from other regions or countries are hired?			
▪ 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 operation and construction?			
▪ community safety risks due to both accidental and natural hazards, 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?			

Table 2: Preliminary Climate Risk Screening

Screening Questions		Score	Remarks [21]
Location and Design of project	Is siting and/or routing of the project (or its components) likely to be affected by climate conditions including extreme weather-related events such as floods, droughts, storms, landslides?		
	Would the project design (e.g. the clearance for bridges) need to consider any hydro-meteorological parameters (e.g., sea-level, peak river flow, reliable water level, peak wind speed etc)?		
Materials and Maintenance	Would weather, current and likely future climate conditions (e.g. prevailing humidity level, temperature contrast between hot summer days and cold winter days, exposure to wind and humidity hydro-meteorological parameters likely affect the selection of project inputs over the life of project outputs (e.g. construction material)?		
	Would weather, current and likely future climate conditions, and related extreme events likely affect the maintenance (scheduling and cost) of project output(s)?		
Performance of project outputs	Would weather/climate conditions, and related extreme events likely affect the performance (e.g. annual power production) of project output(s) (e.g. hydro-power generation facilities) throughout their design life time?		

Options for answers and corresponding score are provided below:

Response	Score
Not Likely	0
Likely	1
Very Likely	2

Responses when added that provide a score of 0 will be considered low risk project. If adding all responses will result to a score of 1-4 and that no score of 2 was given to any single response, the project will be assigned a medium risk category. A total score of 5 or more (which include providing a score of 1 in all responses) or a 2 in any single response, will be categorized as high-risk project.

Result of Initial Screening (Low, Medium, High): _____

Other **Comments**:

_____

_____

[21] If possible, provide details on the sensitivity of project components to climate conditions, such as how climate parameters are considered in design standards for infrastructure components, how changes in key climate parameters and sea level might affect the siting/routing of project, the selection of construction material and/or scheduling, performances and/or the maintenance cost/scheduling of project outputs.

Subproject Environmental Screening Form – Wastewater Treatment

INSTRUCTIONS: This checklist is to be completed to support the environmental categorization of subprojects.

Subproject Name:	
Location:	
Date:	
Person Preparing the Checklist:	
Signature	

Complete Part 1 and Part 2 below to support the assignment of screening category

Environmental Category Check (√) the appropriate type.

- ❑ **ADB Category A**
- ❑ **ADB Category B**
- ❑ **ADB Category C**

PART 1: SCREENING BASED INDONESIA PROCEDURE (based on Law No. 32/2009 on Environmental Protection and Management)

Check (√) the appropriate type.

	AMDAL Type Project
	UKL/UPL Type Project
	SPPL Type Project

Is categorization confirmed by provincial or district DHL?

- ❑ No -> indicate likely date of classification by DHL: _____
- ❑ Yes -> attached DHL confirmation letter

PART 2: SCREENING BASED ON ENVIRONMENTAL FACTORS – Environmental Checklists

Read and delete: Complete the Rapid Environment Assessment Checklist for subproject (Table 2). Provide a summary of the results in Table 1. Include any relevant issues and concerns.

Box 1: Summary

Table 1: Rapid Environment Assessment (REA) Checklist

Screening Questions	Yes	No	Remarks
B. Project Siting Is the project area…			
▪ Densely populated?			
▪ Heavy with development activities?			
▪ Adjacent to or within any environmentally sensitive areas?			
• Cultural heritage site			
• Protected Area			
• Wetland			
• Mangrove			
• Estuarine			

Screening Questions	Yes	No	Remarks
• Buffer zone of protected area			
• Special area for protecting biodiversity			
• Bay			
A. Potential Environmental Impacts Will the Project cause…			
▪ impairment of historical/cultural monuments/areas and loss/damage to these sites?			
▪ interference with other utilities and blocking of access to buildings; nuisance to neighboring areas due to noise, smell, and influx of insects, rodents, etc.?			
▪ dislocation or involuntary resettlement of people?			
▪ disproportionate impacts on the poor, women and children, Indigenous Peoples or other vulnerable groups?			
▪ impairment of downstream water quality due to inadequate sewage treatment or release of untreated sewage?			
▪ overflows and flooding of neighboring properties with raw sewage?			
▪ environmental pollution due to inadequate sludge disposal or industrial waste discharges illegally disposed in sewers?			
▪ noise and vibration due to blasting and other civil works?			
▪ risks and vulnerabilities related to occupational health and safety due to physical, chemical, and biological hazards during project construction and operation?			
▪ discharge of hazardous materials into sewers, resulting in damage to sewer system and danger to workers?			
▪ inadequate buffer zone around pumping and treatment plants to alleviate noise and other possible nuisances, and protect facilities?			
▪ road blocking and temporary flooding due to land excavation during the rainy season?			
▪ noise and dust from construction activities?			
▪ traffic disturbances due to construction material transport and wastes?			
▪ temporary silt runoff due to construction?			

Screening Questions	Yes	No	Remarks
▪ hazards to public health due to overflow flooding, and groundwater pollution due to failure of sewerage system?			
▪ deterioration of water quality due to inadequate sludge disposal or direct discharge of untreated sewage water?			
▪ contamination of surface and ground waters due to sludge disposal on land?			
▪ health and safety hazards to workers from toxic gases and hazardous materials which maybe contained in confined areas, sewage flow and exposure to pathogens in untreated sewage and unstabilized sludge?			
▪ large population increase during project construction and operation that causes increased burden on social infrastructure (such as sanitation system)?			
▪ social conflicts between construction workers from other areas and community workers?			
▪ 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?			
▪ community safety risks due to both accidental and natural hazards, 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?			

Table 2: Preliminary Climate Risk Screening

Screening Questions		Score	Remarks [22]
Location and Design of project	Is siting and/or routing of the project (or its components) likely to be affected by climate conditions including extreme weather-related events such as floods, droughts, storms, landslides?		
	Would the project design (e.g. the clearance for bridges) need to consider any hydro-meteorological parameters (e.g., sea-level, peak river flow, reliable water level, peak wind speed etc)?		
Materials and Maintenance	Would weather, current and likely future climate conditions (e.g. prevailing humidity level, temperature contrast between hot summer days and cold winter days, exposure to wind and humidity hydro-meteorological parameters likely affect the		

[22] If possible, provide details on the sensitivity of project components to climate conditions, such as how climate parameters are considered in design standards for infrastructure components, how changes in key climate parameters and sea level might affect the siting/routing of project, the selection of construction material and/or scheduling, performances and/or the maintenance cost/scheduling of project outputs.

	selection of project inputs over the life of project outputs (e.g. construction material)?		
	Would weather, current and likely future climate conditions, and related extreme events likely affect the maintenance (scheduling and cost) of project output(s)?		
Performance of project outputs	Would weather/climate conditions, and related extreme events likely affect the performance (e.g. annual power production) of project output(s) (e.g. hydro-power generation facilities) throughout their design life time?		

Options for answers and corresponding score are provided below:

Response	Score
Not Likely	0
Likely	1
Very Likely	2

Responses when added that provide a score of 0 will be considered low risk project. If adding all responses will result to a score of 1-4 and that no score of 2 was given to any single response, the project will be assigned a medium risk category. A total score of 5 or more (which include providing a score of 1 in all responses) or a 2 in any single response, will be categorized as high-risk project.

Result of Initial Screening (Low, Medium, High): _____

Other **Comments**:

_____

_____

Subproject Environmental Screening Form – Irrigation

INSTRUCTIONS: This checklist is to be completed to support the environmental categorization of subprojects.

Subproject Name:	
Location:	
Date:	
Person Preparing the Checklist:	
Signature	

Complete Part 1 and Part 2 below to support the assignment of screening category

Environmental Category Check (√) the appropriate type.

- ❑ **ADB Category A**
- ❑ **ADB Category B**
- ❑ **ADB Category C**

PART 1: SCREENING BASED INDONESIA PROCEDURE (based on Law No. 32/2009 on Environmental Protection and Management)

Check (√) the appropriate type.

	AMDAL Type Project
	UKL/UPL Type Project
	SPPL Type Project

Is categorization confirmed by provincial or district DHL?

- ❑ No -> indicate likely date of classification by DHL: _____
- ❑ Yes -> attached DHL confirmation letter

PART 2: SCREENING BASED ON ENVIRONMENTAL FACTORS – Environmental Checklists

Read and delete: Complete the Rapid Environment Assessment Checklist for subproject (Table 2). Provide a summary of the results in Table 1. Include any relevant issues and concerns.

Box 1: Summary

Table 1: Rapid Environment Assessment (REA) Checklist

Screening Questions	Yes	No	Remarks
A. Project Siting Is the Project area adjacent to or within any of the following environmentally sensitive areas?			
▪ Protected Area			
▪ Wetland			
▪ Mangrove			
▪ Estuarine			
▪ Buffer zone of protected area			
▪ Special area for protecting biodiversity			
B. Potential Environmental Impacts Will the Project cause…			

Screening Questions	Yes	No	Remarks
▪ loss of precious ecological values (e.g. result of encroachment into forests/swamplands or historical/cultural buildings/areas, disruption of hydrology of natural waterways, regional flooding, and drainage hazards)?			
▪ conflicts in water supply rights and related social conflicts?			
▪ impediments to movements of people and animals?			
▪ potential ecological problems due to increased soil erosion and siltation, leading to decreased stream capacity?			
▪ Insufficient drainage leading to salinity intrusion?			
▪ over pumping of groundwater, leading to salinization and ground subsidence?			
▪ impairment of downstream water quality and therefore, impairment of downstream beneficial uses of water?			
▪ dislocation or involuntary resettlement of people?			
▪ disproportionate impacts on the poor, women and children, Indigenous Peoples or other vulnerable groups?			
▪ potential social conflicts arising from land tenure and land use issues?			
▪ soil erosion before compaction and lining of canals?			
▪ noise from construction equipment?			
▪ dust during construction?			
▪ waterlogging and soil salinization due to inadequate drainage and farm management?			
▪ leaching of soil nutrients and changes in soil characteristics due to excessive application of irrigation water?			
▪ reduction of downstream water supply during peak seasons?			
▪ soil pollution, polluted farm runoff and groundwater, and public health risks due to excessive application of fertilizers and pesticides?			
▪ soil erosion (furrow, surface)?			
▪ scouring of canals?			
▪ clogging of canals by sediments?			
▪ clogging of canals by weeds?			

Screening Questions	Yes	No	Remarks
▪ seawater intrusion into downstream freshwater systems?			
▪ introduction of increase in incidence of waterborne or water related diseases?			
▪ dangers to a safe and healthy working environment due to physical, chemical and biological hazards during project construction and operation?			
▪ large population influx during project construction and operation that causes increased burden on social infrastructure and services (such as water supply and sanitation systems)?			
▪ social conflicts if workers from other regions or countries are hired?			
▪ 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?			
▪ community safety risks due to both accidental and natural hazards, especially where the structural elements or components of the project (e.g., irrigation dams) 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?			

Table 2: Preliminary Climate Risk Screening

Screening Questions		Score	Remarks [23]
Location and Design of project	Is siting and/or routing of the project (or its components) likely to be affected by climate conditions including extreme weather-related events such as floods, droughts, storms, landslides?		
	Would the project design (e.g. the clearance for bridges) need to consider any hydro-meteorological parameters (e.g., sea-level, peak river flow, reliable water level, peak wind speed etc)?		
Materials and Maintenance	Would weather, current and likely future climate conditions (e.g. prevailing humidity level, temperature contrast between hot summer days and cold winter days, exposure to wind and humidity hydro-meteorological parameters likely affect the selection of project inputs over the life of project outputs (e.g. construction material)?		
	Would weather, current and likely future climate conditions, and related extreme events likely affect the maintenance (scheduling and cost) of project output(s)?		
Performance of project outputs	Would weather/climate conditions, and related extreme events likely affect the performance (e.g. annual power production) of project output(s) (e.g. hydro-power generation facilities) throughout their design life time?		

Options for answers and corresponding score are provided below:

Response	Score
Not Likely	0
Likely	1
Very Likely	2

Responses when added that provide a score of 0 will be considered low risk project. If adding all responses will result to a score of 1-4 and that no score of 2 was given to any single response, the project will be assigned a medium risk category. A total score of 5 or more (which include providing a score of 1 in all responses) or a 2 in any single response, will be categorized as high-risk project.

Result of Initial Screening (Low, Medium, High): _____

Other Comments:_____
_____

[23] If possible, provide details on the sensitivity of project components to climate conditions, such as how climate parameters are considered in design standards for infrastructure components, how changes in key climate parameters and sea level might affect the siting/routing of project, the selection of construction material and/or scheduling, performances and/or the maintenance cost/scheduling of project outputs.

Subproject Environmental Screening Form – Buildings

INSTRUCTIONS: This checklist is to be completed to support the environmental categorization of subprojects.

Subproject Name:	
Location:	
Date:	
Person Preparing the Checklist:	
Signature	

Complete Part 1 and Part 2 below to support the assignment of screening category

Environmental Category Check (√) the appropriate type.

- ❑ **ADB Category A**
- ❑ **ADB Category B**
- ❑ **ADB Category C**

PART 1: SCREENING BASED INDONESIA PROCEDURE (based on Law No. 32/2009 on Environmental Protection and Management)

Check (√) the appropriate type.

	AMDAL Type Project
	UKL/UPL Type Project
	SPPL Type Project

Is categorization confirmed by provincial or district DHL?

- ❑ No -> indicate likely date of classification by DHL: _____
- ❑ Yes -> attached DHL confirmation letter

PART 2: SCREENING BASED ON ENVIRONMENTAL FACTORS – Environmental Checklists

Read and delete: Complete the Rapid Environment Assessment Checklist for subproject (Table 2). Provide a summary of the results in Table 1. Include any relevant issues and concerns.

Box 1: Summary

Table 1: Rapid Environment Assessment (REA) Checklist

Screening Questions	Yes	No	Remarks
A. Project Siting Is the project area adjacent to or within any of the following areas?			
▪ Underground utilities			
▪ Cultural heritage site			
▪ Protected Area			
▪ Wetland			
▪ Mangrove			
▪ Estuarine			
▪ Buffer zone of protected area			

Screening Questions	Yes	No	Remarks
▪ Special area for protecting biodiversity			
▪ Bay			
B. Potential Environmental Impacts Will the Project cause…			
▪ Encroachment on historical/cultural areas?			
▪ Encroachment on precious ecology (e.g. sensitive or protected areas)?			
▪ Impacts on the sustainability of associated sanitation and solid waste disposal systems?			
▪ Dislocation or involuntary resettlement of people?			
▪ Disproportionate impacts on the poor, women and children, Indigenous Peoples, or other vulnerable groups?			
▪ Accident risks associated with increased vehicular traffic, leading to loss of life?			
▪ Increased noise and air pollution resulting from increased traffic volume?			
▪ Occupational and community health and safety risks?			
▪ Risks and vulnerabilities related to occupational health and safety due to physical, chemical, biological, and radiological hazards during project construction and operation?			
▪ Generation of dust in sensitive areas during construction?			
▪ Requirements for disposal of fill, excavation, and/or spoil materials?			
▪ Noise and vibration due to blasting and other civil works?			
▪ Long-term impacts on groundwater flows as result of needing to drain the project site prior to construction?			
▪ Long-term impacts on local hydrology as a result of building hard surfaces in or near the building?			

Screening Questions	Yes	No	Remarks
▪ Large population influx during project construction and operation that causes increased burden on social infrastructure and services (such as water supply and sanitation systems)?			
▪ Social conflicts if workers from other regions or countries are hired?			
▪ Risks to community safety caused by fire, electric shock, or failure of the building's safety features during operation?			
▪ Risks to community health and safety caused by management and disposal of waste?			
▪ Community safety risks due to both accidental and natural hazards, 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?			

Table 2: Preliminary Climate Risk Screening

Screening Questions		Score	Remarks [24]
Location and Design of project	Is siting and/or routing of the project (or its components) likely to be affected by climate conditions including extreme weather-related events such as floods, droughts, storms, landslides?		
	Would the project design (e.g. the clearance for bridges) need to consider any hydro-meteorological parameters (e.g., sea-level, peak river flow, reliable water level, peak wind speed etc)?		
Materials and Maintenance	Would weather, current and likely future climate conditions (e.g. prevailing humidity level, temperature contrast between hot summer days and cold winter days, exposure to wind and humidity hydro-meteorological parameters likely affect the selection of project inputs over the life of project outputs (e.g. construction material)?		
	Would weather, current and likely future climate conditions, and related extreme events likely affect the maintenance (scheduling and cost) of project output(s)?		
Performance of project outputs	Would weather/climate conditions, and related extreme events likely affect the performance (e.g. annual power production) of project output(s) (e.g. hydro-power generation facilities) throughout their design life time?		

Options for answers and corresponding score are provided below:

Response	Score
Not Likely	0
Likely	1
Very Likely	2

Responses when added that provide a score of 0 will be considered low risk project. If adding all responses will result to a score of 1-4 and that no score of 2 was given to any single response, the project will be assigned a medium risk category. A total score of 5 or more (which include providing a score of 1 in all responses) or a 2 in any single response, will be categorized as high-risk project.

Result of Initial Screening (Low, Medium, High): _____

Other Comments:

_____

_____

[24] If possible, provide details on the sensitivity of project components to climate conditions, such as how climate parameters are considered in design standards for infrastructure components, how changes in key climate parameters and sea level might affect the siting/routing of project, the selection of construction material and/or scheduling, performances and/or the maintenance cost/scheduling of project outputs.

Subproject Environmental Screening Form – Ports

INSTRUCTIONS: This checklist is to be completed to support the environmental categorization of subprojects.

Subproject Name:	
Location:	
Date:	
Person Preparing the Checklist:	
Signature	

Complete Part 1 and Part 2 below to support the assignment of screening category

Environmental Category Check (√) the appropriate type.

- ❑ **ADB Category A**
- ❑ **ADB Category B**
- ❑ **ADB Category C**

PART 1: SCREENING BASED INDONESIA PROCEDURE (based on Law No. 32/2009 on Environmental Protection and Management)

Check (√) the appropriate type.

	AMDAL Type Project
	UKL/UPL Type Project
	SPPL Type Project

Is categorization confirmed by provincial or district DHL?

- ❑ No -> indicate likely date of classification by DHL: _____
- ❑ Yes -> attached DHL confirmation letter

PART 2: SCREENING BASED ON ENVIRONMENTAL FACTORS – Environmental Checklists

Read and delete: Complete the Rapid Environment Assessment Checklist for subproject (Table 2). Provide a summary of the results in Table 1. Include any relevant issues and concerns.

Box 1: Summary

Table 1: Rapid Environment Assessment (REA) Checklist

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 precious ecology resulting in loss or damage to fisheries and fragile coastal habitats such as coral reefs, mangroves, and seagrass beds?			
▪ short-term increase in turbidity and sunlight penetration as well as changes in sediment pattern and flows at dredging site?			
▪ removal and disturbance of aquatic flora and fauna at dredging site?			
▪ deterioration of water quality due to silt runoff and sanitary wastes from worker-based camps and chemicals used in construction?			
▪ alteration of bottom surface and modifications to bathymetry, causing changes in tidal bore, river circulation, species diversity, and salinity?			
▪ changes in sediment pattern and littoral drift that may cause beach erosion of neighboring areas?			
▪ modification of terrestrial habitat by upland disposal of dredged material or covering of potential archaeological sites with dredge spoil?			
▪ short-term air quality degradation due to dredging-related operations?			
▪ noise and vibration due to blasting and other civil works?			
▪ risks and vulnerabilities related to occupational health and safety due to physical, chemical, biological, and radiological hazards during project construction and operation?			
▪ dislocation or involuntary resettlement of people?			
▪ 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?			
▪ social conflicts if construction depletes local fishery resources on which communities depend for subsistence?			
▪ poor sanitation and solid waste disposal in construction camps and work sites, and possible transmission of communicable diseases from workers to local populations (such as STI's and HIV/AIDS)?			

Screening Questions	Yes	No	Remarks
▪ social concerns relating to local inconveniences associated with port operation (e.g. increased volume of port traffic, greater risk of accidents, communicable disease transmission)?			
▪ deterioration of water quality due to ship (e.g. ballast water, oil waste, lubricant and fuel spills, sewage) and waterfront industry discharges?			
▪ increased noise and air pollution resulting from airborne emissions (e.g. gas, smoke, fumes) from maneuvering and berthing ships and the waterfront industry?			
▪ large population increase during project construction and operation that causes increased burden on social infrastructure and services (such as water supply and sanitation systems)?			
▪ social conflicts especially when workers from other areas are hired?			
▪ 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?			
▪ community safety risks due to both accidental and natural hazards, 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?			

Table 2: Preliminary Climate Risk Screening

Screening Questions		Score	Remarks [1]
Location and Design of project	Is siting and/or routing of the project (or its components) likely to be affected by climate conditions including extreme weather-related events such as floods, droughts, storms, landslides?		
	Would the project design (e.g. the clearance for bridges) need to consider any hydro-meteorological parameters (e.g., sea-level, peak river flow, reliable water level, peak wind speed etc)?		
Materials and Maintenance	Would weather, current and likely future climate conditions (e.g. prevailing humidity level, temperature contrast between hot summer days and cold winter days, exposure to wind and		

[1] If possible, provide details on the sensitivity of project components to climate conditions, such as how climate parameters are considered in design standards for infrastructure components, how changes in key climate parameters and sea level might affect the siting/routing of project, the selection of construction material and/or scheduling, performances and/or the maintenance cost/scheduling of project outputs.

	humidity hydro-meteorological parameters likely affect the selection of project inputs over the life of project outputs (e.g. construction material)?		
	Would weather, current and likely future climate conditions, and related extreme events likely affect the maintenance (scheduling and cost) of project output(s)?		
Performance of project outputs	Would weather/climate conditions, and related extreme events likely affect the performance (e.g. annual power production) of project output(s) (e.g. hydro-power generation facilities) throughout their design life time?		

Options for answers and corresponding score are provided below:

Response	Score
Not Likely	0
Likely	1
Very Likely	2

Responses when added that provide a score of 0 will be considered low risk project. If adding all responses will result to a score of 1-4 and that no score of 2 was given to any single response, the project will be assigned a medium risk category. A total score of 5 or more (which include providing a score of 1 in all responses) or a 2 in any single response, will be categorized as high-risk project.

Result of Initial Screening (Low, Medium, High): _____

Other Comments: _____
_____

Outline of an Initial Environmental Examination Report

This outline is part of the Safeguard Requirements 1. An IEE is required for all environment B projects. Its level of detail and comprehensiveness is commensurate with the significance of potential environmental impacts and risks. A typical IEE report contains the following major elements. The substantive aspects of this outline will guide the preparation of IEE 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 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 subproject; 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 includes drawings and maps showing the project's layout and components, the project site, and the project's area of influence.

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. 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), 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; 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.

F. 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

This section describes the grievance redress framework (both informal and formal channels), setting out the time frame and mechanisms for resolving complaints about environmental performance.

I. Environmental Management Plan

This section deals with the set 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 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

(c) provides links to any other mitigation plans (for example, for involuntary resettlement, Indigenous Peoples, or emergency response) required for the project.

(ii) Monitoring:

(d) 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

(e) 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:

(f) specifies the implementation schedule showing phasing and coordination with overall project implementation;
(g) 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
(h) 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.

Environmental Monitoring Report Outline

I. INTRODUCTION

A. Report Purpose and Rationale

B. Project Objective and Components

II. PROJECT IMPLEMENTATION PROGRESS

Using most recent project progress report, describe status of project implementation, including full list of contracts, status of contract implementation, name of contractors, availability of site-EMPs.

III. INSTITUTIONAL SETUP AND RESPONSIBILITIES FOR EMP IMPLEMENTATION AND SUPERVISION

C. Institutional responsibilities for environmental management

Describe institutional arrangements and responsibilities for EMP implementation, monitoring, and reporting, defining roles and capacities of CPIU, Implementation Consultant, Contractors. (Table format appropriate)

D. Incorporation of Environmental Requirements into Project Contractual Arrangements

Define manner by which EMP requirements are incorporated into contractual arrangements, such as with contractors or other parties.
Indicate when CEMPs were submitted by Contractors, and when these were approved by Engineer/Supervision Consultant (Table format appropriate).

IV. COMPLIANCE WITH ENVIRONMENT RELATED PROJECT COVENANTS

List all environment related loan covenants, and assess project's compliance with the covenants (Table format is appropriate, with concluding statement on compliance or non-compliance, and corrective actions as needed)

V. ENVIRONMENTAL MITIGATIONS MEASURES IMPLEMENTED IN THE REPORTING PERIOD

Summarize main mitigation/protection measures implemented in the reporting period (narrative section). Structure in accordance to phases (detailed design, construction preparation, construction, and operation).
Include EMP table or updated EMP table if applicable. Assess compliance of environmental management activities with the original or updated EMP. For that purpose, include an additional column in the EMP entitled "Implementation status and compliance". E.g. is provided below:

Impact Factor/ Stage	Potential Impacts and/or Issues	Mitigation Measures defined in the EMP	***NEW COLUMN Implementation status and compliance with EMP***
Pre-construction Phase			
1. Design Stage	Establishing CPIU	• An environmental management unit (EMU) will be established within CPIU	*EMU established in CPIU, consisting of xxx persons.*

Impact Factor/ Stage	Potential Impacts and/or Issues	Mitigation Measures defined in the EMP	***NEW COLUMN Implementation status and compliance with EMP***
			➔ *Complied with*
	…	• …	…
3. Biding and Construction Preparation	Bidding documents and contractors' qualifications	• Environmental section will be included in the TOR for bidders. • Environmental clauses for contractors in reference to the EMP and monitoring plan will be included in the construction and supply contracts.	*Environmental section was included in TOR for bidders, environmental clauses were included in contracts (see chapter xxx).* ➔ *Complied with*
	Environmental operation and supervision manual	• Contractors will be required to prepare an environmental operation and supervision manual, for approval by PIC.	*6 out of 7 contractors have prepared manuals, submitted to the respective IA. Contractor xxx was requested to prepare a manual, to be submitted by end of xxx 2016.* ➔ *Partly complied with*
	…	…	…
Construction Phase			
1. Soil Erosion	Excavation	• Strip and stockpile topsoil, build retaining walls where necessary before dumping. • Provide temporary detention ponds or containment to control silt runoff. • Construct intercepting ditches and chutes to prevent outside runoff entering disposal sites, and divert runoff from sites to existing drainage or ponds.	*Soil erosion protection measures are implemented at each site, fully complying with the measures defined in this EMP.* ➔ *Complied with*
	…	…	… ➔ *Not complied with. Corrective action plan developed.*
Commissioning Phase			
…	…	…	…
Operation Phase			
…	…	…	… ➔ *Not yet due*

VI. ENVIRONMENTAL MONITORING

E. Monitoring plan and responsibilities

Present the monitoring plan as defined in the EMP or adjusted monitoring plan. Describe monitoring responsibilities. Differentiate between internal and external/compliance monitoring responsibilities.

F. Environmental quality targets, sampling and analytical methods

Describe environmental quality targets for the different sites and environmental media (e.g. effluent quality standards, ambient air, noise, water quality standards etc). Define analytical methods applied for monitoring.

G. Monitoring Results

1. Emission Discharge (Source) Monitoring Results (if relevant)

a. Results

Table format is appropriate. Discharge levels should be compared to the relevant discharge standards and/or performance indicators noted in the EMP. Any non-compliance should be highlighted for attention and follow-up.

b. Assessment

Discharge levels should be compared to baseline conditions (if baseline data is available) and described in qualitative terms. Additional explanatory comments should be provided as necessary. Possible reasons for non-compliance should be identified.

2. Ambient Monitoring Program

a. Results

Table format is appropriate. Ambient environmental conditions should be compared to the relevant ambient standards and/or performance indicators noted in the EMP. Any non-compliance should be highlighted for attention and follow-up.

b. Assessment

Ambient environmental conditions should be compared to the baseline conditions (if baseline data is available) and described in qualitative terms. Additional explanatory comments should be provided as necessary. Possible reasons for non-compliance should be identified.

VII. PUBLIC CONSULTATION, GRIEVANCE REDRESS MECHANISM

Describe mechanisms established to address and redress public complaints and grievances. Summarize grievances received, if any, and measures implemented to redress them. Describe public consultation activities during the reporting period. Confirm compliance with consultation plan defined in the IEE/EMP, or justify deviation from this plan. Present planned consultation activities in next reporting period.

VIII. HEALTH AND SAFETY

Describe health and safety management arrangements at project and contract level, including safety supervision and reporting procedures, people assigned (table format appropriate), training provided (table format appropriate), full list of fatal and serious occupational accidents including reference to minutes of investigation report meetings (to be attached).

IX. INSTITUTIONAL STRENGTHENING AND TRAINING

Present training activities conducted in the reporting period (Table format appropriate). Compare training activities with approved training plan defined in EMP/PAM, if any. Present planned training and institutional strengthening activities in next reporting period.

X. KEY ENVIRONMENTAL ISSUES

H. Key Issues Identified, Actions Taken, Additional Actions Required

Include a concise and clearly articulated table that lists (i) all observed non-compliances with the approved EMP or SEMP (both at project and contract level), (ii) corrective actions taken; (iii) implementation responsibility and timeframe.

XI. CONCLUSION

I. Overall Progress of Implementation of Environmental Management Measures
J. Problems Identified and Actions Recommended

XII. APPENDICES

1. Site Inspection / Monitoring Reports
2. Monitoring Results
3. Accidents/Incident investigation meeting minutes
4. Photographs
5. Others