

Rapid Environmental Assessment (REA) Checklist**Instructions:**

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

Country/Project Title: Sector Division:

Screening Questions	Yes	No	Remarks
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			
• 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?			

Screening Questions	Yes	No	Remarks
<ul style="list-style-type: none"> ▪ interference with other utilities and blocking of access to buildings; nuisance to neighboring areas due to noise, smell, and influx of insects, rodents, etc.? 			
<ul style="list-style-type: none"> ▪ dislocation or involuntary resettlement of people? 			
<ul style="list-style-type: none"> ▪ disproportionate impacts on the poor, women and children, Indigenous Peoples or other vulnerable groups? 			
<ul style="list-style-type: none"> ▪ impairment of downstream water quality due to inadequate sewage treatment or release of untreated sewage? 			
<ul style="list-style-type: none"> ▪ overflows and flooding of neighboring properties with raw sewage? 			
<ul style="list-style-type: none"> ▪ environmental pollution due to inadequate sludge disposal or industrial waste discharges illegally disposed in sewers? 			
<ul style="list-style-type: none"> ▪ noise and vibration due to blasting and other civil works? 			
<ul style="list-style-type: none"> ▪ risks and vulnerabilities related to occupational health and safety due to physical, chemical, and biological hazards during project construction and operation? 			
<ul style="list-style-type: none"> ▪ discharge of hazardous materials into sewers, resulting in damage to sewer system and danger to workers? 			
<ul style="list-style-type: none"> ▪ inadequate buffer zone around pumping and treatment plants to alleviate noise and other possible nuisances, and protect facilities? 			
<ul style="list-style-type: none"> ▪ road blocking and temporary flooding due to land excavation during the rainy season? 			
<ul style="list-style-type: none"> ▪ noise and dust from construction activities? 			
<ul style="list-style-type: none"> ▪ traffic disturbances due to construction material transport and wastes? 			
<ul style="list-style-type: none"> ▪ temporary silt runoff due to construction? 			
<ul style="list-style-type: none"> ▪ hazards to public health due to overflow flooding, and groundwater pollution due to failure of sewerage system? 			
<ul style="list-style-type: none"> ▪ deterioration of water quality due to inadequate sludge disposal or direct discharge of untreated sewage water? 			
<ul style="list-style-type: none"> ▪ contamination of surface and ground waters due to sludge disposal on land? 			

Screening Questions	Yes	No	Remarks
<ul style="list-style-type: none"> ▪ 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? 			
<ul style="list-style-type: none"> ▪ large population increase during project construction and operation that causes increased burden on social infrastructure (such as sanitation system)? 			
<ul style="list-style-type: none"> ▪ social conflicts between construction workers from other areas and community workers? 			
<ul style="list-style-type: none"> ▪ 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? 			
<ul style="list-style-type: none"> ▪ 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? 			

Climate Change and Disaster Risk Questions	Yes	No	Remarks
<p>The following questions are not for environmental categorization. They are included in this checklist to help identify potential climate and disaster risks.</p>			
<ul style="list-style-type: none"> ▪ Is the Project area subject to hazards such as earthquakes, floods, landslides, tropical cyclone winds, storm surges, tsunami or volcanic eruptions and climate changes (see Appendix I)? 			
<ul style="list-style-type: none"> ▪ Could changes in precipitation, temperature, salinity, or extreme events over the Project lifespan affect its sustainability or cost? 			
<ul style="list-style-type: none"> ▪ Are there any demographic or socio-economic aspects of the Project area that are already vulnerable (e.g. high incidence of marginalized populations, rural-urban migrants, illegal settlements, ethnic minorities, women or children)? 			
<ul style="list-style-type: none"> ▪ Could the Project potentially increase the climate or disaster vulnerability of the surrounding area (e.g., increasing traffic or housing in areas that will be more prone to flooding, by encouraging settlement in earthquake zones)? 			

Appendix I: Environments, Hazards and Climate Changes

Environment	Natural Hazards and Climate Change
Arid/Semi-arid and desert environments	Low erratic rainfall of up to 500 mm rainfall per annum with periodic droughts and high rainfall variability. Low vegetative cover. Resilient ecosystems & complex pastoral and systems, but medium certainty that 10–20% of drylands degraded; 10-30% projected decrease in water availability in next 40 years; projected increase in drought duration and severity under climate change. Increased mobilization of sand dunes and other soils as vegetation cover declines; likely overall decrease in agricultural productivity, with rain-fed agriculture yield reduced by 30% or more by 2020. Earthquakes and other geophysical hazards may also occur in these environments.
Humid and sub-humid plains, foothills and hill country	More than 500 mm precipitation/yr. Resilient ecosystems & complex human pastoral and cropping systems. 10-30% projected decrease in water availability in next 40 years; projected increase in droughts, heatwaves and floods; increased erosion of loess-mantled landscapes by wind and water; increased gully erosion; landslides likely on steeper slopes. Likely overall decrease in agricultural productivity & compromised food production from variability, with rain-fed agriculture yield reduced by 30% or more by 2020. Increased incidence of forest and agriculture-based insect infestations. Earthquakes and other geophysical hazards may also occur in these environments.
River valleys/deltas and estuaries and other low-lying coastal areas	River basins, deltas and estuaries in low-lying areas are vulnerable to riverine floods, storm surges associated with tropical cyclones/typhoons and sea level rise; natural (and human-induced) subsidence resulting from sediment compaction and ground water extraction; liquefaction of soft sediments as result of earthquake ground shaking. Tsunami possible/likely on some coasts. Lowland agri-business and subsistence farming in these regions at significant risk.
Small islands	Small islands generally have land areas of less than 10,000km ² in area, though Papua New Guinea and Timor with much larger land areas are commonly included in lists of small island developing states. Low-lying islands are especially vulnerable to storm surge, tsunami and sea-level rise and, frequently, coastal erosion, with coral reefs threatened by ocean warming in some areas. Sea level rise is likely to threaten the limited ground water resources. High islands often experience high rainfall intensities, frequent landslides and tectonic environments in which landslides and earthquakes are not uncommon with (occasional) volcanic eruptions. Small islands may have low adaptive capacity and high adaptation costs relative to GDP.
Mountain ecosystems	Accelerated glacial melting, rockfalls/landslides and glacial lake outburst floods, leading to increased debris flows, river bank erosion and floods and more extensive outwash plains and, possibly, more frequent wind erosion in intermontane valleys. Enhanced snow melt and fluctuating stream flows may produce seasonal floods and droughts. Melting of permafrost in some environments. Faunal and floral species migration. Earthquakes, landslides and other geophysical hazards may also occur in these environments.
Volcanic environments	Recently active volcanoes (erupted in last 10,000 years – see www.volcano.si.edu). Often fertile soils with intensive agriculture and landslides on steep slopes. Subject to earthquakes and volcanic eruptions including pyroclastic flows and mudflows/lahars and/or gas emissions and occasionally widespread ashfall.