

Environmental Checklist: 15. Roads and Railways (1)

Category	Environmental Item	Main Check Items	Confirmation of Environmental Considerations
1 Permits and Explanation	(1) EIA and Environmental Permits	<p>Have EIA reports been officially completed?</p> <p>Have EIA reports been approved by authorities of the host country's government?</p> <p>Have EIA reports been unconditionally approved? If conditions are imposed on the approval of EIA reports, are the conditions satisfied?</p> <p>In addition to the above approvals, have other required environmental permits been obtained from the appropriate regulatory authorities of the host country's government?</p>	
	(2) Explanation to the Public	<p>Are contents of the project and the potential impacts adequately explained to the public based on appropriate procedures, including information disclosure? Is understanding obtained from the public?</p> <p>Are proper responses made to comments from the public and regulatory authorities?</p>	
2 Mitigation Measures	(1) Air Quality	<p>Is there a possibility that air pollutants emitted from various sources, such as vehicle traffic will affect ambient air quality? Does ambient air quality comply with the country's ambient air quality standards?</p> <p>Where industrial areas already exist near the route, is there a possibility that the project will make air pollution worse?</p>	
	(2) Water Quality	<p>Is there a possibility that soil runoff from the bare lands resulting from earthmoving activities, such as cutting and filling will cause water quality degradation in downstream water areas?</p> <p>Is there a possibility that surface runoff from roads will contaminate water sources, such as groundwater?</p> <p>Do effluents from various facilities, such as stations and parking areas/service areas comply with the country's effluent standards and ambient water quality standards? Is there a possibility that the effluents will cause areas that do not comply with the country's ambient water quality standards?</p>	
	(3) Noise and Vibration	<p>Do noise and vibrations from vehicle and train traffic comply with the country's standards?</p>	
3 Natural Environment	(1) Protected Areas	<p>Is the project site located in protected areas designated by the country's laws or international treaties and conventions? Is there a possibility that the project will affect the protected areas?</p>	

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Category	Environmental Item	Main Check Items	Confirmation of Environmental Considerations
3 Natural Environment	(2) Ecosystem	<p>Does the project site encompass primeval forests, tropical rain forests, ecologically valuable habitats (e.g., coral reefs, mangroves, or tidal flats)?</p> <p>Does the project site encompass the protected habitats of endangered species designated by the country's laws or international treaties and conventions?</p> <p>If significant ecological impacts are anticipated, are adequate protection measures taken to reduce the impacts on the ecosystem?</p> <p>Are adequate protection measures taken to prevent impacts, such as disruption of migration routes, habitat fragmentation, and traffic accident of wildlife and livestock?</p> <p>Is there a possibility that installation of roads will cause impacts, such as destruction of forest, poaching, desertification, reduction in wetland areas, and disturbance of ecosystems due to introduction of exotic (non-native invasive) species and pests? Are adequate measures for preventing such impacts considered?</p> <p>In cases where the project site is located at undeveloped areas, is there a possibility that the new development will result in extensive loss of natural environments?</p>	
	(3) Hydrology	<p>Is there a possibility that alteration of topographic features and installation of structures, such as tunnels will adversely affect surface water and groundwater flows?</p>	
	(4) Topography and Geology	<p>Is there a soft ground on the route that may cause slope failures or landslides? Are adequate measures considered to prevent slope failures or landslides, where needed?</p> <p>Is there a possibility that civil works, such as cutting and filling will cause slope failures or landslides? Are adequate measures considered to prevent slope failures or landslides?</p> <p>Is there a possibility that soil runoff will result from cut and fill areas, waste soil disposal sites, and borrow sites? Are adequate measures taken to prevent soil runoff?</p>	

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Category	Environmental Item	Main Check Items	Confirmation of Environmental Considerations
4 Social Environment	(1) Resettlement	<p>Is involuntary resettlement caused by project implementation? If involuntary resettlement is caused, are efforts made to minimize the impacts caused by the resettlement?</p> <p>Is adequate explanation on relocation and compensation given to affected persons prior to resettlement?</p> <p>Is the resettlement plan, including proper compensation, restoration of livelihoods and living standards developed based on socioeconomic studies on resettlement?</p> <p>Does the resettlement plan pay particular attention to vulnerable groups or persons, including women, children, the elderly, people below the poverty line, ethnic minorities, and indigenous peoples?</p> <p>Are agreements with the affected persons obtained prior to resettlement?</p> <p>Is the organizational framework established to properly implement resettlement? Are the capacity and budget secured to implement the plan?</p> <p>Is a plan developed to monitor the impacts of resettlement?</p>	
	(2) Living and Livelihood	<p>Where roads or railways are newly installed, is there a possibility that the project will affect the existing means of transportation and the associated workers? Is there a possibility that the project will cause significant impacts, such as extensive alteration of existing land uses, changes in sources of livelihood, or unemployment? Are adequate measures considered for preventing these impacts?</p> <p>Is there a possibility that the project will adversely affect the living conditions of inhabitants other than the affected inhabitants? Are adequate measures considered to reduce the impacts, if necessary?</p> <p>Is there a possibility that diseases, including communicable diseases, such as HIV will be introduced due to immigration of workers associated with the project? Are adequate considerations given to public health, if necessary?</p> <p>Is there a possibility that the project will adversely affect road traffic in the surrounding areas (e.g., by causing increases in traffic congestion and traffic accidents)?</p> <p>Is there a possibility that roads and railways will cause impede the movement of inhabitants?</p> <p>Is there a possibility that structures associated with roads (such as bridges) will cause a sun shading and radio interference?</p>	
	(3) Heritage	<p>Is there a possibility that the project will damage the local archeological, historical, cultural, and religious heritage sites? Are adequate measures considered to protect these sites in accordance with the country's laws?</p>	
	(4) Landscape	<p>Is there a possibility that the project will adversely affect the local landscape? Are necessary measures taken?</p>	

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Category	Environmental Item	Main Check Items	Confirmation of Environmental Considerations
4 Social Environment	(5) Ethnic Minorities and Indigenous Peoples	<p>Where ethnic minorities and indigenous peoples are living in the rights-of-way, are considerations given to reduce the impacts on culture and lifestyle of ethnic minorities and indigenous peoples?</p> <p>Does the project comply with the country's laws for rights of ethnic minorities and indigenous peoples?</p>	
5 Others	(1) Impacts during Construction	<p>Are adequate measures considered to reduce impacts during construction (e.g., noise, vibrations, turbid water, dust, exhaust gases, and wastes)?</p> <p>If construction activities adversely affect the natural environment (ecosystem), are adequate measures considered to reduce impacts?</p> <p>If construction activities adversely affect the social environment, are adequate measures considered to reduce impacts?</p> <p>If necessary, is health and safety education (e.g., traffic safety, public health) provided for project personnel, including workers?</p>	
	(2) Monitoring	<p>Does the proponent develop and implement monitoring program for the environmental items that are considered to have potential impacts?</p> <p>Are the items, methods and frequencies included in the monitoring program judged to be appropriate?</p> <p>Does the proponent establish an adequate monitoring framework (organization, personnel, equipment, and adequate budget to sustain the monitoring framework)?</p> <p>Are any regulatory requirements pertaining to the monitoring report system identified, such as the format and frequency of reports from the proponent to the regulatory authorities?</p>	
6 Note	Reference to Checklist of Other Sectors	<p>Where necessary, pertinent items described in the Forestry Projects checklist should also be checked (e.g., projects including large areas of deforestation).</p> <p>Where necessary, pertinent items described in the Power Transmission and Distribution Lines checklist should also be checked (e.g., projects including installation of power transmission lines and/or electric distribution facilities).</p>	
	Note on Using Environmental Checklist	<p>If necessary, the impacts to transboundary or global issues should be confirmed, if necessary (e.g., the project includes factors that may cause problems, such as transboundary waste treatment, acid rain, destruction of the ozone layer, or global warming).</p>	

1) Regarding the term "Country's Standards" mentioned in the above table, in the event that environmental standards in the country where the project is located diverge significantly from international standards, appropriate environmental considerations are made, if necessary.

In cases where local environmental regulations are yet to be established in some areas, considerations should be made based on comparisons with appropriate standards of other countries (including Japan' experience).

2) Environmental checklist provides general environmental items to be checked. It may be necessary to add or delete an item taking into account the characteristics of the project and the particular circumstances of the country and locality in which it is located.