

Environmental Checklist: 22. Irrigation Projects (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) Water Quality	<p>Are considerations given to water pollution of the surrounding water bodies, such as rivers and groundwater by the effluents or leachates from irrigation ponds? Are adequate use/disposal standards for chemicals, such as fertilizers and agrochemicals established? Is a framework established to increase awareness of the standards among farmers?</p> <p>Do effluents and ambient water quality of the surrounding water bodies comply with the country's effluent standards and ambient water quality standards?</p>	
	(2) Soil Contamination	<p>Is there a possibility that impacts in irrigated lands, such as salinization of soils will result?</p> <p>Are adequate measures taken to prevent soil contamination of irrigated lands by agrochemicals, heavy metals and other hazardous substances?</p>	
	(3) Subsidence	<p>In the case of extraction of a large volume of groundwater, is there a possibility that the extraction of groundwater will cause subsidence?</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>	

Environmental Checklist: 22. Irrigation Projects (2)

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>Is there a possibility that the amount of water (e.g., surface water, groundwater) used by the project will adversely affect aquatic environments, such as rivers? Are adequate measures taken to reduce the impacts on aquatic environments, such as aquatic organisms?</p> <p>Is there a possibility that installation of structures, such as intake weirs will block the movement of the migratory fish species (such as salmon, trout and eel that move between rivers and the sea for spawning)? Are adequate measures taken to reduce the impacts on these species?</p>	
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>	

Environmental Checklist: 22. Irrigation Projects (3)

Category	Environmental Item	Main Check Items	Confirmation of Environmental Considerations
4 Social Environment	(2) Living and Livelihood	<p>Is there a possibility that the project will adversely affect the living conditions of inhabitants? Are adequate measures considered to reduce the impacts, if necessary?</p> <p>Are proper allotments, such as water rights allotment in the project area made?</p> <p>Is there a possibility that the allotments will result in inequitable distribution or usurpation of water rights and available resources?</p> <p>Is there a possibility that the amount of water used (surface water, groundwater) by the project will adversely the downstream fisheries and water uses?</p> <p>Is there a possibility that water-borne or water-related diseases (e.g., schistosomiasis, malaria, filariasis) will be introduced? Is adequate consideration given to public health education, if necessary?</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>	
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>	

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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>For the projects including construction of large-scale weirs, reservoirs, and dams, where necessary, pertinent items described in the Dams and Reservoirs checklist should also be checked.</p>	
	Note on Using Environmental Checklist	<p>If necessary, the impacts to transboundary or global issues should be confirmed (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.