

22. WORLD BANK

22.1 Water Resources Management Policies and Actions

In World Bank (the Bank), water resources management, being one of the important elements for its lending, covers the development of surface and groundwater resources for urban, rural, agriculture, energy, mining and industrial uses, as well as the protection of surface and groundwater sources, pollution control, watershed management, control of water weeds, and restoration of degraded ecosystems such as lakes and wetlands.³⁵³

In 2000, the Bank issued the document “Operational Policies on Water Resources Management (OP4.07)”³⁵⁴ with the key elements shown as follows:

- Development of a comprehensive framework for designing water resources investments, policies and institutions – Within this framework, when the borrower develops and allocates water resources, it considers cross-sectoral impacts in a regional setting (e.g. a river basin).
- Adoption of pricing and incentive policies to achieve cost recovery, water conservation and better allocation of water resources.
- Decentralisation of water services delivery which involves users who plan and manage water projects; and stakeholders who contribute to policy formulation – The Bank recognises that a variety of organisations, namely private firms, financially autonomous entities and community organisations, may contribute to decentralising water delivery functions. Therefore, the Bank supports projects that introduce different forms of decentralised management, focusing on the division of responsibilities among the public and private entities involved.
- Restoration and preservation of aquatic ecosystems and guarding against overexploitation of groundwater resources, giving priority to the provision of adequate water and sanitation services for the poor.
- Avoidance of water-logging and salinity problems associated with irrigation investments by (i) monitoring water tables and implementing drainage networks where necessary, and (ii) adopting best management practices to control water pollution.
- Establishment of strong legal and regulatory frameworks to ensure that social concerns are met, environmental resources are protected, and monopoly pricing is prevented – The Bank requires legislation or other appropriate arrangements to establish effective coordination and allocation procedures for interstate water resources.

Besides providing funding on water resources management to assist countries to improve their environment, the Bank also organised different events to gather people

³⁵³ Extracted from full document of “Water Resources and Environment Technical Note C.3”,

[http://Inweb18.worldbank.org/ESSD/ardext.nsf/18ByDocName/EnvironmentalFlowAssessment-NOTEC3EnvironmentalFlowsFloodFlows/\\$FILE/NoteC3EnvironmentalFlowAssessment2003.pdf](http://Inweb18.worldbank.org/ESSD/ardext.nsf/18ByDocName/EnvironmentalFlowAssessment-NOTEC3EnvironmentalFlowsFloodFlows/$FILE/NoteC3EnvironmentalFlowAssessment2003.pdf), page 5

³⁵⁴ Full text can be found at

<http://wbln0018.worldbank.org/Institutional/Manuals/OpManual.nsf/whatnewvirt/7BA37D4B8EA4B67B8525672C007D07E2?OpenDocument>.

around the world to discuss and share their experience on water resources management in their countries. For instance, the Bank has organised a programme named “Water Week 2007³⁵⁵” in early 2007, having the main theme as “Water Forum: Sustainability and Growth”. Participants were gathered to discuss and explore challenges and options for good water management and water services into the future.



Source: Website of World Bank³⁵⁶



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³⁵⁵ Details on the “Water Week” can be found at <http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTWRM/0,,contentMDK:21257705~pagePK:210058~piPK:210062~theSitePK:337240,00.html>.

³⁵⁶ Extracted from the website of World Bank, <http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTWRM/0,,contentMDK:20441075~hiPK:1307449~menuPK:1304847~pagePK:148956~piPK:216618~theSitePK:337240,00.html>

³⁵⁷ Extracted from the website of World Bank, <http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTWRM/0,,contentMDK:21213332~pagePK:210058~piPK:210062~theSitePK:337240,00.html>

22.2 Environmental Evaluation/SEA in World Bank

The Bank has first introduced an environmental assessment (EA) policy, Operational Directive (OD) 4.01 in 1989. This policy was then converted in 1999 into a new format: the Operational Policy/Bank Procedure (OP/BP 4.01).³⁵⁸ The OP/BP 4.01 states the **administrative** requirement for the Borrower to conduct **sectoral and regional EA** for a strategy, policy, plan, programme or a series of projects for a specific region/sector.³⁵⁹

Sectoral EA shall address issues early in the process of decision-making, in order to eliminate environmentally damaging alternatives and reduce the information requirement for project level EA. **Regional EA** (e.g. for an urban area, a watershed or a coastal zone) shall adopt a spatial and area-wide approach to development planning. It is acknowledged to have useful potential for addressing cumulative effects.³⁶⁰ Both types of EA (i) evaluate and compare the impacts against the alternative options, (ii) assess legal and institutional aspects relevant to the issues and impacts, and (iii) recommend broad measures to strengthen environmental management in the sector.³⁶¹

The EAs take into account (i) the natural environment (including air, water and land), (ii) human health and safety, (iii) social aspects (including voluntary resettlement, indigenous peoples and cultural property), and (iv) transboundary and global environmental aspects (including climate change, ozone-depleting substances, pollution of international waters, and adverse impacts on biodiversity).³⁶²

In order to decide the nature and extent of the EAs to be carried out, the process begins with environmental screening at the time when a strategy, policy, plan, programme or a series of projects is identified. While determining the nature and magnitude of the potential environmental and social impacts of the strategy, policy, plan, programme or a series of projects, it is assigned to one of the following four environmental categories:³⁶³

³⁵⁸ Extracted from the website of World Bank,

<http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/ENVIRONMENT/EXTENVASS/0,,contentMDK:20482652~menuPK:1182600~pagePK:148956~piPK:216618~theSitePK:407988,00.html>.

³⁵⁹ Strategic Environmental Assessment: A sourcebook and reference guide to international experience, Barry Dalal-Clayton and Barry Sadler, 2004, http://www.iied.org/Gov/spa/documents/SEAbook/Chapter4_Oct04.pdf, page 113

³⁶⁰ Strategic Environmental Assessment: A sourcebook and reference guide to international experience, Barry Dalal-Clayton and Barry Sadler, 2004, http://www.iied.org/Gov/spa/documents/SEAbook/Chapter4_Oct04.pdf, page 114

³⁶¹ OP/BC 4.01, Annex A,

<http://wbln0018.worldbank.org/Institutional/Manuals/OpManual.nsf/8e4afd05557f6161852566c70078f44b/adfa44de7dc526678525672c007d0973?OpenDocument>

³⁶² OP/BC 4.01,

<http://wbln0018.worldbank.org/Institutional/Manuals/OpManual.nsf/tocall/9367A2A9D9DAEED38525672C007D0972?OpenDocument>, originated from the web site of the World Bank

³⁶³ Extracted from "Pollution Prevention and Abatement Handbook" by World Bank Group under the section "Environmental Assessment Process",

[http://www.ifc.org/ifcext/enviro.nsf/AttachmentsByTitle/p_ppah_basicEAP/\\$FILE/HandbookTheEnvironmentalAssessmentProcess.pdf#search=%22Environmental%20Assessment%20%22OD%204.01%20%22%22](http://www.ifc.org/ifcext/enviro.nsf/AttachmentsByTitle/p_ppah_basicEAP/$FILE/HandbookTheEnvironmentalAssessmentProcess.pdf#search=%22Environmental%20Assessment%20%22OD%204.01%20%22%22), page 22

Category A: likely to have significant adverse environmental impacts that are sensitive, diverse or unprecedented. These impacts may affect an area broader than the sites or facilities subject to physical works. Borrowers are required to conduct an EA in the form of sectoral or regional EA.

Category B: likely to have potential adverse environmental impacts but are less adverse than those of Category A. Borrowers are required to conduct an EA in forms of Project Appraisal Document and Project Information Document, while the scope of EA is narrower than that of Category A.

Category C: likely to have minimal or no adverse environmental impacts. No EA is required.

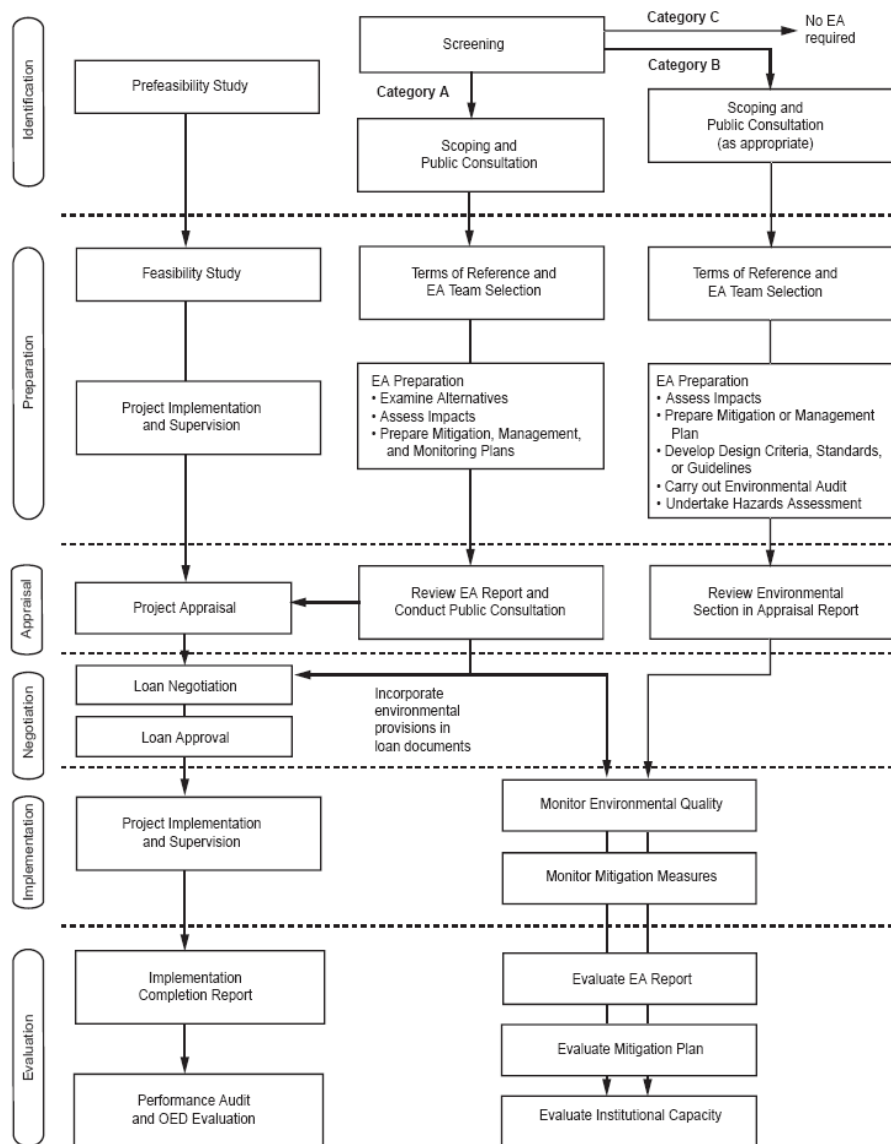
Category FI: involves investment of Bank funds through a financial intermediary, in subprojects that may result in adverse environmental impacts.³⁶⁴

The Banks's SEA process is presented in **Exhibit WB-1**.

³⁶⁴ OP/BP 4.01, Section 8,

<http://wbIn0018.worldbank.org/Institutional/Manuals/OpManual.nsf/tocall/9367A2A9D9DAEED38525672C007D0972?OpenDocument>, , originated from the web site of the World Bank

Exhibit WB-1 Overall process flowchart for Environmental Assessment



Stage 1: Screening – to decide the nature and extent of the EA to be carried out, and to determine which Category the proposal belongs to.

Stage 2: Scoping and Development of Terms of Reference (TOR) – to identify key issues and develop the TOR for the EA.

Stage 3: Preparing the Environmental Assessment Report (public consultation is required throughout the preparation of EA report) – this depends on which category the proposal refers to.

Stage 4: EA Review and Project Appraisal – the borrower shall submit the draft report to the Bank for review and proceed to appraisal.³⁶⁵

³⁶⁵ Referenced to the “Pollution Prevention and Abatement handbook” by the World Bank Group under the section “The Environmental Assessment Process”, [http://www.ifc.org/ifcext/enviro.nsf/AttachmentsByTitle/p_ppah_basicEAP/\\$FILE/HandbookTheEnvironmentalAssessmentProcess.pdf](http://www.ifc.org/ifcext/enviro.nsf/AttachmentsByTitle/p_ppah_basicEAP/$FILE/HandbookTheEnvironmentalAssessmentProcess.pdf), page 22-25

22.3 Environmental Evaluation/SEA on Water Resources Management in World Bank

The OP4.07 complements with the Operational Policy/Bank Procedure (OP/BP 4.01)³⁶⁶ “Environmental Assessment (EA)”, which states the **administrative** requirement for the Borrower to conduct **sectoral and regional EA** for a strategy, policy, plan, programme or a series of projects for a specific region/sector.³⁶⁷

Thus, for any policy, plan or programme related to water resources management follows the requirements of OP/BP 4.01 as such an EA should be carried out depending on the impact significance, and is classified as one of the category – A, B, C and FI. Detailed description on SEA on Water Resources Management can be referred to Section 22.2.

A summary table for the water resources management policies and actions and SEA status in World Bank is presented in **Exhibit WB-2**.

Exhibit WB-1 Summary of Water Resources Management (WRM) Policies and Actions and SEA Status in World Bank	
(a) WRM Policies and Actions	
WRM Policies and Actions	Policies: <ul style="list-style-type: none"> ● Operational Policies on Water Resources Management (OP4.07) Actions: <ul style="list-style-type: none"> ● Water Week 2007 ● Water Forum: Sustainability and Growth
Guidance/Legislations for WRM	N/A
(b) Environmental Evaluations / SEA Status in WRM Policies and Actions	
Type of Assessment	Sectoral / Regional Environmental Assessment
Requirement Mechanisms	Administrative
Legislation for Environmental Evaluation / SEA	Operational Policy / Bank Procedure (OP / BP 4.01)
Applications	Policies, Plans and Programmes

³⁶⁶ Details of OP/BP 4.01 can be found in

<http://wbln0018.worldbank.org/Institutional/Manuals/OpManual.nsf/tocall/9367A2A9D9DAEED38525672C007D0972?OpenDocument>.

³⁶⁷ Strategic Environmental Assessment: A sourcebook and reference guide to international experience, Barry Dalal-Clayton and Barry Sadler, 2004, http://www.iied.org/Gov/spa/documents/SEAbook/Chapter4_Oct04.pdf, page 113

22.4 Analysis and Conclusions

WRM Policies

The World Bank has issued a document “Operational Policies on Water Resources Management (OP4.07), which provides a comprehensive framework for the borrowers to develop and allocate their countries’ water resources in a cost-effective way; to avoid water-logging and salinity problems; and to establish a legal and regulatory frameworks. Apart from providing funding, the Bank will also arrange activities, like conferences, for countries over the world to gather and share their ways and information on protecting the water resources.

Unlike a country or city, the World Bank is an institution providing loans for borrowers to improve their water resources according to their own WRM policies. No direct comparison is made between Hong Kong’s WRM policies with that of the World Bank.

EE/SEA

For the SEA/EE system of the Bank, it is administratively required for the borrowers of the Bank to conduct environmental assessment for policies, plans and programmes under the OP/BP 4.01. All sectors, including water resources management, should follow the procedures stated in the OP/BP 4.01. Four categories for an initiated proposal, namely Category A, B, C and FI, are defined in the Bank. Generally, a proposal should have a preliminary screening to see which category it refers to, and to decide what to do next for the decision-making process. Category A and B refer to those proposals that are likely to have significant and less significant adverse environmental impacts respectively. An environmental assessment should be conducted for both categories, but a more in-depth analysis including consideration of alternatives should be carried out for Category A.

In our opinion, the Bank’s categorisation of PPP proposals based on environmental impact significance through a preliminary screening process may be a merit which Hong Kong’s SEA/EE system can adopt or learn from.

22.5 Examples of Water Resources Management Policies / Actions or their Environmental Evaluation/SEA

Example WB-1 Philippines - Water Districts Development Project Environmental Assessment Summary ³⁶⁸	
Type of Study	SEA, administrative under Operational Directive 4.01 for World Bank; and "Administrative Order 36" in the Philippines
Description of Study	The project is related to the financial investments in sewerage, drainage and on-site sanitation in five cities in the Philippines, namely, Davao, Cagayan de Oro, Dagupan, Cotabato city and Calamb. The primary objective of this project is to provide a cost-effective centralisation for wastewater collection, treatment and disposal.
Summary of Alternatives	Three options were considered: <ul style="list-style-type: none"> • Anaerobic/facultative Ponds • Modified lagoon systems • Mechanical treatment
Scope of Assessment/ Study	For Davao City, the environmental evaluations were considered under two stages, as listed below: Under Construction Stage, the evaluation parameters considered in the study include: <ul style="list-style-type: none"> • Air quality (ambient concentration of suspended particulates) • Water quality (surface runoff) • Noise (caused by pipe-laying and operation of heavy equipment) • Socio-economic • Ecological effects (no rare, endemic species of flora and fauna in the area) • No action alternative During Operation Stage, the evaluation parameters considered in the study include: <ul style="list-style-type: none"> • Air Quality (occasional odour nuisance) • Water Quality • Socio-economic • Sludge Disposal
Environmental Measures	Mitigation plan during both the construction and operation stages has been proposed. During Construction Stage: <ul style="list-style-type: none"> • Have a careful construction plan on working hours, material storage and workers' safety • Use temporary facilities / equipments to minimise the impacts, e.g. erecting temporary sound barriers to reduce noise During Operation Stage: <ul style="list-style-type: none"> • Have a careful design on the maintenance and monitoring programme, e.g. using upgraded laboratory facilities for regular analysis • Establish specific zoning, e.g. noise zones, greenbelt zones
Outcome of Study	Among the three options, the "modified lagoon systems" option was selected for the following reasons: <ul style="list-style-type: none"> • It required the minimum overall pond area • It produced the least amount of odour

³⁶⁸ Details of the report can be found at <http://go.worldbank.org/06V70RNMS0>, page 3, 5, 8-10, 12-13

Example WB-1 Philippines - Water Districts Development Project Environmental Assessment Summary³⁶⁸	
	<ul style="list-style-type: none">● It can meet the effluent quality criteria of the Department of Environment and Natural Resources, including fecal coliform reduction● It can minimise sludge production rate● It can maximise the potential to use surrounding land for recreational purposes

Example WB-2 Odra River Basin Flood Protection Project³⁶⁹	
Type of Study	Environmental Assessment (EA), Category A (administrative under OP 4.01)
Description of Study	This project aims at flood protection of the Middle Odra valley, and reduction of the frequency and severity of flooding in the project area. The EA focuses in the use of water resources of an international waterway, the scope of the expected impacts from construction and operation, the resettlement of two villages and the potential impacts on different areas.
Summary of Alternatives	The alternatives considered in the study include: <ol style="list-style-type: none"> 1) "Without project" scenario – continuous recurrent flooding occurred 2) "With project" scenario <ol style="list-style-type: none"> a. Raise the dikes along the river b. Construct reservoirs on the tributaries of the Odra c. Raise dikes in combination with a "dry" polder at Raciborz
Scope of Assessment/ Study	The evaluation parameters considered in the study include: <ul style="list-style-type: none"> ● Climate ● Geology ● Demography ● Economic activities ● Land use ● Agriculture ● Infrastructure and communications ● Navigation ● Tourism and recreation ● Biodiversity ● Cultural environment
Environmental Measures	<ul style="list-style-type: none"> ● Prepare several plans, e.g. "Resettlement Action Plan (RAP)" for the affected residents living in the project area and "Forest Management Plan" ● Reduce damage to forest by optimizing reservoir ● Establish different zoning, e.g. buffer zone
Outcome of Study	"With project" scenario has been chosen, which consists of 4 components, they are: <p>Component A – Construction of Raciborz Dry Polder</p> <p>Component B – Modernization of Wroclaw Floodway System</p> <p>Component C – Improvement of flood management, monitoring, evaluation and supervision of the Environmental Management Plan (EMP) and RAP</p> <p>Component D – Project management, technical assistance and training</p>

³⁶⁹ Detailed of the report of Example 2 can be found at <http://go.worldbank.org/GVS69773M0>, page 4-5, 15, 17-19, 36, 96-101