

4. KOREA

4.1 Water Resources Management Policies and Actions

In Korea, the Ministry of Environment (MOE) has proposed the Water Environment Management Master Plan in 2006, which presents the government's policy directions for 2006 - 2015. The Plan aims to promote ecologically healthy water environment to ensure high quality. It serves as (i) the framework for planning a nationwide Water Environment Management policy to secure a safe water environment, encompassing the rivers, lakes, estuaries and coast; (ii) the guidelines concerning to other water environment plan established by other parties (including government bodies and smaller management unit).

The core indicators for the Plan are:

- Maintain the nationwide quality of 85% of the water at high levels under the revised Water Quality Conservation Act.
- Restore 25% of non-natural streams into natural streams.
- Create 30% of the buffer zones purchased in the upper streams of water supply sources as Riverine Ecobelt.
- Increase the items, e.g. total coliform group, lead and cadmium, in the basic criteria for public health.

The Plan presents policy directions for eight areas, including:

- (i) Creation of ecologically healthy water environment
 - A framework for assessing the health of aquatic ecosystem shall be created through conducting basic surveys of aquatic ecosystem (2007) and developing indicators that enable the assessment of the health of aquatic ecosystem
 - Recovery of the health of aquatic ecosystem through the stream corridor restoration
 - Development of a buffer zone management master plan to manager the buffer zones systematically
 - Creation of Riverine Ecobelt by using purchased lands. It will connect water body and buffer zones to enhance the health aquatic ecosystem.
 - Creation of a framework for the appropriate management of buffer zones and the reinforcing post-management
- (ii) Protection of water quality against harmful substances
 - Database construction for toxic substances affecting aquatic ecosystem
 - Increase the number of criteria for specific water quality hazard to the level set by EU (2015)
 - Introduction of the Whole Effluent Toxicity methods
 - Application of advanced industrial wastewater control systems
- (iii) Application of advanced water quality standards and assessment methods
 - Reinforcement of human health water quality standards (such as lead and cadmium)
 - Introduction of various water quality assessments using bio-indicator species, depending on water quality levels
 - Setting the fecal coliform group, among total coliform groups, as a criteria item, which is highly dependent on water pollution of excrement

- Making water quality standards more comprehensible and systematic, e.g. using grading to describe the water quality, from Very Good to Very Poor
 - Adjusting required limits for each grade of COD_{Mn} (i.e. the amount of Chemical Oxygen Demand by using Manganese during the grading test) in a lake
 - Providing a characteristic description and the use of each water quality condition to enhance public understanding
 - Laying down a comprehensive assessment strategy that takes into account ecosystem characteristics, physicochemical aspects, and the use of water
- (iv) Reinforcing the national water quality policy for the lakes, coast and estuaries
- Water Environment Management plans that take into account lake environment assessment
 - Environmentally friendly management of lakes that no longer supply water to promote their multiple use (as a green zone or ecological space)
 - Reinforcing the management of pollutants deteriorating the water quality in upper basin of water supply source lakes
 - Tightening the control water pollution originating from the upper basin into half-closed bays
 - Conducting basic surveys and developing an integrated modelling system that considers characteristics of estuaries
 - Implementing model projects for improving estuarine water quality
- (v) Full implementation of the total water pollution load management system (TWPLMS)
- Applying the system to all rivers and streams
 - Increasing target criteria items for their application to the TWPLMS in next stage
 - Creating a framework to introduce tradeable permit system
- (vi) Focusing the management of non-point sources and pollutants coming from livestock farms
- Developing the best non-point source control models applied to representative model watersheds
 - Promotion of surveys and research projects to tighten the control of non-point source pollutants originating from upland
 - Implementation of non-point source projects for urban areas and roads
 - Promoting fundamental measures to reduce the consumption of fertiliser and the production of livestock excretion
 - Expansion of public livestock excretion treatment facilities and increasing its efficiency
- (vii) Improving the functions of water cycle and reinforcing water demand management
- (viii) Rationlising the investment in environmental infrastructures (e.g. wastewater treatment, sewerage treatment and sewer pipe) and enhancing investment efficiency⁴³

⁴³ Full document of the "Water Environment Management Master Plan" can be obtained at the official website of the Ministry of Environment, http://eng.me.go.kr/docs/publication/publication_detail.html?idx=24&mcode=B. The paragraphs are extracted from page 1-10

4.2 Environmental Evaluation/SEA in Korea

In Korea, it is a statutory requirement under the Framework Act on Environmental Policy (FAEP)⁴⁴ that an SEA-like system called Prior Environmental Review System (PERS) should be conducted at the planning stage for various development plans and programmes that require decision making. The PERS is considered as a SEA-like system for plans and programmes, but in general, policy is not covered.⁴⁵

Prior to the PERS, development plans with potential environmental impacts were discussed at the ministerial level according to a provision that required prior consultation with the Minister of Environment. Examples of such development plans include:

- New land-use plans – introduced under the National Territory Usage Management Act
- Rural development plans – introduced under the Special Act on Rural Development
- Plans affected the use of sea resources – introduced under the Act on Prevention of Ocean Pollution
- Other regional development plans.

Since the introduction of PERS in 1993, the PERS has consolidated its legal basis by an amendment of the Framework Act on Environmental Policy (FAEP) in 1999 and 2003, and has been applied to some of the major administrative plans and programmes ever since.⁴⁶ Given the limitations of the current PERS and the benefits of SEA, the FAEP (Article 25, 26, 27 and 28) was amended in 2004 and approved in May 2005 mainly on:

- extending the list of plans and programmes subject to PERS;
- stipulation of implementation of PERS at an early stage to enhance its effects in decision making; and
- enhancement of public participation and disclosure.

Coverage of Plan

Other than the development plans mentioned above covered by PERS, there are other plans added for the coverage of PERS, including: designation of an agro-industrial complex, which didn't have a legal basis for prior consultation in relevant laws, ten administration plans including development plans for hot springs; and development plans led by the private sector in preservation zones, which was excluded from the Prime Minister decree.

⁴⁴ Framework Act of Environmental Policy (FAEP),

http://siteresources.worldbank.org/INTEAPREGTOPENVIRONMENT/Resources/Korea_Act_on_PERS_2002.doc, originated from the web site of the World Bank

⁴⁵ Referenced to "Environmental Impact Assessment Regulations and Strategic Environmental Assessment Requirements – Practices and Lessons Learned in East and Southeast Asia" by the Environment and Social Development Unit (EASES), April 2006,

<http://siteresources.worldbank.org/INTEAPREGTOPENVIRONMENT/Resources/EIA&SEA-regional-review.pdf>, pages 42-46 – Annex 6 Korea

⁴⁶ Extracted from "International Experience and Perspective in SEA - Final Program" coordinated by Urszula A. Rzezot under the section "SEA legislation and Policy",

http://www.iaia.org/non_members/conference/SEA%20Prague/p%2011-36%20Stream%20A.pdf#search=%22Plans%20and%20Programs%20SEA%2CKorea%22, page 16)

General Workflow of PERS

- The heads of administrative agencies that establish, permit, or approve administrative plans are to consult with the Minister of Environment or the head of the local environmental agency on the matter of environmental validity review
- The heads of governmental bodies that establishes or approves administrative plans must fill in the basic forms / individual forms, and submit to the Minister of Environment or the head of the regional environmental office. Basic forms must be submitted for all administrative development plans due for environmental validity previews and must include items such as project purpose, current land usage, and present distribution of preservation areas. Individual forms cover specific ecological characteristics, the current level and types of pollutants, and environmental impact projection and reduction plans.

The PERS system can cancel or downsize plans when the environmental impact is deemed serious in terms of quality and quantity. It can also force the project operator to present countermeasures to minimise environmental impacts.⁴⁷



Daecheonghosu (Lake)⁴⁸



Paldang Dam⁴⁹

⁴⁷ Referenced to “Environmental Impact Assessment Regulations and Strategic Environmental Assessment Requirements – Practices and Lessons Learned in East and Southeast Asia” by the Environment and Social Development Unit (EASES), April 2006,
<http://siteresources.worldbank.org/INTEAPREGTOPENVIRONMENT/Resources/EIA&SEA-regional-review.pdf>,
pages 42-46 – Annex 6 Korea

⁴⁸ Source: <http://tour.metro.daejeon.kr/english/goodsights/theightsights/daecheonghosu.jsp>

⁴⁹ Source: http://english.seoul.go.kr/gover/initiatives/inti_14wat_0101.htm

4.3 Environmental Evaluation/SEA on Water Resources Management in Korea

It is a statutory requirement in Korea under the Framework Act on Environmental Policy (FAEP) that an SEA-like system called Prior Environmental Review System (PERS) should be conducted at the planning stage for various development plans and programmes including the sector of water resource management that require decision making.

Concerns of preservation of water-quality environment, availability of tap-water and sewage systems, and water pollutions are all considered in the FAEP. Details of the requirements should refer to section 4.2.

A summary table for both the water resources management policies and Actions and SEA status in Korea is presented in **Exhibit KR-1**:

Exhibit KR-1 Summary of Water Resources Management (WRM) Policies and Actions and SEA status in Korea	
(a) WRM Policies and Actions	
WRM Policies and Actions	Policies <ul style="list-style-type: none"> ● Water Environment Management Master Plan Actions <ul style="list-style-type: none"> ● N/A
Guidance/Legislations in WRM	N/A
(b) Environmental Evaluations / SEA Status in WRM Policies and Actions	
Type of Assessment	Prior Environmental Review System (PERS)
Requirement Mechanisms	Statutory
Legislation for Environmental Evaluation / SEA	Framework Act on Environmental Policy (FAEP)
Applications	Plans and Programmes

4.4 Analysis and Conclusions

WRM Policies

In Korea, the Water Environment Management Master Plan presents the current government's policy. The Plan aims to promote ecologically healthy water environment to ensure high quality, which focuses on water protection, quality standards, pollution management and demand management.

Compared to Korea, Hong Kong's two main sources of water are from rainfall from natural catchment and supply from Guangdong. It is Water Supplies Department's (WSD) scope of work to cover the whole process from the collection of natural yield from rainfall, the reception of raw water from Guangdong to the provision of a supply with a quality of accepted international standards to the users' taps. WSD also supplies sea water for flushing purposes to over 80% of the population. For protection against flooding, sewage collection, treatment and disposal, it is under Drainage Services Department's (DSD) jurisdiction.

For the sustainable development of Hong Kong, WSD has initiated a *Total Water Management programme* comprising key elements of new water resources, water reclamation, water conservation and water resources protection and management was initiated for better utilization of the different water resources.

EE/SEA

Regarding SEA/EE requirements in Korea, it is a statutory requirement in Korea under the Framework Act on Environmental Policy (FAEP) that an SEA-like system called Prior Environmental Review System (PERS) should be conducted at the planning stage for various development plans and programmes, including the WRM sector, that require decision making.

At present, there are both statutory and non-statutory systems for PPP projects in Hong Kong. While the statutory requirements govern primarily large scale development projects (i.e. over 20 ha of area or population over 100,000), the administrative counterpart has been applied to land use planning, transportation and sectoral PPP. It may be a logical next step to consider:

- Combining the administrative requirements into the statutory system; and
- Providing further specific SEA requirements under the category of water resources management

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

Example KR-1	Plan to Foster the Water Industry ⁵⁰
Description of the Plan	<p>The Plan provides an analysis of the trends within the domestic and foreign water industry, and aims to double the size of the water industry, as well as promote the growth of two water corporations as among the global 'top ten' firms in the water industry by year 2016.</p> <p>It has set out five main challenges as follows:</p> <ul style="list-style-type: none"> ● Structurally reorganise the waterworks services ● Improve relevant infrastructure ● Improve core technology and train experts in the field ● Strengthen export capacity of bottled water ● Foster a global brand in bottled water
Process of the Plan	<p>Scenario of water privatisation process in Korea:</p> <ul style="list-style-type: none"> ● Stage 1: Introduction of Public-private Partnerships (PPPs) and Public Corporations ● Stage 2: Competition between several public corporations, private companies and Trade Negotiation Committees (TNCs) ● Stage 3: Monopoly of Water Market by "winner" of competition
Outcome of the Plan	<p>There is no concrete outcome of the Plan yet.</p>

⁵⁰ Extracted from "Problems of Water Privatization and Responses in Korea"
http://www.waterjustice.org/uploads/attachments/8_BRIEFER-%20Water%20Privatization-%20KOREA.pdf,
 Pages 1,4