

## 26. UNITED NATIONS ENVIRONMENTAL PROGRAMME (UNEP)

### 26.1 Water Resources Management Policies and Actions

UNEP has revised its Water Policy and Strategy to address new and emerging challenges in water resources management. The main purpose of the Water Policy and Strategy is to facilitate a coordinated, effective and expeditious implementation of UNEP mandated freshwater<sup>410</sup> functions. The overall goal is to contribute substantively to environmental sustainability in the management of all water resources, utilising integrated ecosystems approaches, as a contribution to the internationally agreed targets and goals relevant to water and socio-economic development.<sup>411</sup> Below shows the conceptual and operational principles for UNEP to implement its water mandates:<sup>412</sup>

- Conceptual principles:
  - Promote ecosystem-based approaches
  - Contribute to sound economic and social development, including poverty reduction, through integrated assessment and management of water resources and associated ecosystems
  - Address risks
- Operational principles
  - Build national and regional capacity: implementing the Bali Strategic Plan
  - Build on existing programmes and partnerships and form new partnerships
  - Promote multi-stakeholder participation

UNEP activities in the area of freshwater are organised into three key components: assessment, management and cooperation towards mainstreaming environmental considerations into integrated water resources management.

#### *Component 1 of the integrated water resources management - Assessment*

This is to build the knowledge base with regard to water resources and related ecosystems constitute the primary mechanism for developing, implementing and evaluating appropriate management measures that take into account the needs of the environment and society. Such assessments must focus on water resources themselves - in terms both of quantity and quality - but must also include the assessment of related ecosystems.

Assessment of water resources has three main functions at the national, regional and global levels:

- to provide a knowledge base from which to develop, manage, monitor and evaluate water resources programmes and to encourage the integration of sustainable water resources management into development policies and process;
- to raise awareness and inform stakeholders (including the public) of water resources issues and concerns, including demands;

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<sup>410</sup> "Freshwater" mentioned in the "Water Policy and Strategy" covers surface waters, groundwater, wetlands, inland (i.e. non-coastal) saline waters and the freshwater / coastal interface. Referenced to [http://www.unep.org/Themes/freshwater/Documents/Water\\_and\\_Cities\\_Final.pdf](http://www.unep.org/Themes/freshwater/Documents/Water_and_Cities_Final.pdf), page 3

<sup>411</sup> Extracted from the official website of UNEP, [http://www.unep.org/Themes/Freshwater/Policy\\_And\\_Strategy/index.asp](http://www.unep.org/Themes/Freshwater/Policy_And_Strategy/index.asp)

<sup>412</sup> [http://www.unep.org/Themes/freshwater/Documents/Water\\_and\\_Cities\\_Final.pdf](http://www.unep.org/Themes/freshwater/Documents/Water_and_Cities_Final.pdf), page 10-13

- to assess threats, trends and emerging issues with respect to which future action may be needed.<sup>413</sup>

*Component 2 of the integrated water resources management - Management*

To reach the objectives of UNEP water programme, integrated water resources management would be implemented. It is a process which promotes the coordinated development and management of water, land and related resources in order to maximise economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems.

Within an integrated water resources management framework, there are three pillars within which UNEP will focus its actions to address the technical and governance perspectives:

- The enabling environment, i.e., the general framework of national and international policies and strategies, legislation, financing mechanisms and the dissemination of information for water resources management stakeholders. This framework enables all stakeholders to play appropriate roles in the sustainable development and management of the resources.
- The institutional functions that allow effective interaction between various administrative levels and stakeholders. Collaborative mechanisms and forums are needed to facilitate cross-sectoral integration and stakeholder participation so that the integration of environmental water management functions into an overall water resources management framework is strengthened.
- Management instruments, i.e. operational instruments for effective planning, regulation, implementation, monitoring and enforcement. With such instruments, decision-makers will be able to make informed choices between actions. These choices must be based on agreed policies, available resources, environmental impacts and social and economic consequences. Management instruments also include practical and technical guidance and technologies for water resources management, including at the local level.<sup>414</sup>

*Component 3 of the integrated water resources management - Cooperation<sup>415</sup>*

UNEP provides strategic coordination for and help mobilise actions and partnerships at various levels. The cooperation mechanisms are at national, regional, subregional and global levels.

National level: UNEP assists countries where national capacities are limited.

Regional and subregional level: Coordination of UNEP water-related activities at the regional and subregional levels will be achieved through strengthened and reinforced UNEP regional offices, regional seas programmes, out-posted offices and other mechanisms already in place.

Global level: UNEP will support system-wide efforts to maximise United Nations

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<sup>413</sup> Extracted from [http://www.unep.org/Themes/freshwater/Documents/Water\\_and\\_Cities\\_Final.pdf](http://www.unep.org/Themes/freshwater/Documents/Water_and_Cities_Final.pdf), page 16-17

<sup>414</sup> Extracted from [http://www.unep.org/Themes/freshwater/Documents/Water\\_and\\_Cities\\_Final.pdf](http://www.unep.org/Themes/freshwater/Documents/Water_and_Cities_Final.pdf), page 15, 20

<sup>415</sup> Extracted from [http://www.unep.org/Themes/freshwater/Documents/Water\\_and\\_Cities\\_Final.pdf](http://www.unep.org/Themes/freshwater/Documents/Water_and_Cities_Final.pdf), page 21-22, 24

impact while at the same time respecting the mandates and relative strengths and capacities of the various agencies in the United Nations system. UNEP will work closely through UN-Water and with the United Nations Environment Management Group.

## 26.2 Environmental Evaluation/SEA in UNEP

During the 1990s, UNEP developed a training resource manual incorporating a module on SEA in response to continued requests to UNEP for assistance, information and training in SEA, particularly from developing countries.

In 2004, UNEP has also published “Environmental Impact Assessment and Strategic Environmental Assessment: Towards an Integrated Approach” which is intended as a resource document for those involved in SEA practice, training and professional development. This document emphasises concepts, procedures and tools in current use or those that are potentially relevant for several purposes: integrated impact assessment; implementing EIA and SEA as tiered systems; and adopting a differentiated approach to SEA of development policies, plans and programmes that recognises how they differ.<sup>416</sup>

While SEA is increasingly used, there is also renewed interest amongst the major international financing institutions and aid agencies in using SEA to assist them deal with the demands of the “poverty” agenda.

In order to achieve the Millennium Development Goals (MDGs), there is a need of an integrated, cross-sectoral and comprehensive approach, referred as “integrated assessment”, to ensure that sustainability aspects are incorporated into policy design and decision-making. This encourages the evolution of EIA/SEA to the application of integrated assessment of environmental, economic, and social effects at the level of planning, programming and policy-making.

Two main types of integration can be identified. First, there is ‘vertical’ integration with emphasis on the integration of EIA with other tools within the development process, for example upstream SEA, project-level EIA, then application of environmental management systems to operational facilities. Second, is ‘horizontal’ integration of different impact types within a specific assessment, whether SEA or EIA.<sup>417</sup>

For example, UNEP has prepared a manual on integrated assessment of trade-related policies<sup>418</sup> to help policy-makers and practitioners examine the economic, environmental and social effects of trade policy and trade liberalisation.

Another approach promoted by UNEP is Integrated Coastal Area and River Basin Management. Each demonstration projects aimed to undertake a series of steps which have much in common with the principles of SEA as well as good planning.<sup>419 420</sup> More

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<sup>416</sup> Extracted from the “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](http://www.iied.org/Gov/spa/documents/SEAbook/Chapter4_Oct04.pdf), pages 130-133

<sup>417</sup> Referenced to the “Environmental Impact Assessment and Strategic Environmental Assessment: Towards an Integrated Approach”, by Husseln Abaza, DTIE-ETB, UNEP, 2004,  
<http://www.unep.ch/etb/publications/EnvImpAss/textONUBr.pdf>, pages 4, 12, 133

<sup>418</sup> The Manual can be obtained at <http://www.unep.ch/etb/publications/etbBriefs/UNEPAssess.pdf>

<sup>419</sup> Extracted from the “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](http://www.iied.org/Gov/spa/documents/SEAbook/Chapter4_Oct04.pdf), pages 130-133

information will be presented in section 26.3.

UNEP has also introduced an ambitious project to develop and test a framework for integrated assessment and planning for sustainable development in partnership with a number of developing and transitional countries. It aims to strengthen and improve existing plans and planning processes through a series of pilot or demonstration projects. These will incorporate an integrated assessment of critical issues and linkages of poverty, trade, environment and sustainable development in selected sectors or regions.<sup>421</sup>

As mentioned, SEA is increasingly used in the UNEP activities. There is also renewed interest amongst the major international financing institutions and aid agencies in using SEA to assist them deal with the demands of the "poverty" agenda. Besides, the UNEP published "Environmental Impact Assessment and Strategic Environmental Assessment: Towards an Integrated Approach" in 2004 which encourages the evolution of EIA/SEA to the application of "integrated assessment" of environmental, economic, and social effects at the level of planning, programming and policy-making. For example, UNEP has prepared manuals on integrated assessment of trade-related policies and integrated coastal area and river basin management.

A four-part framework an integrated assessment is described as follows.

- Step 1: Identifying the purpose - establishing appropriate parameters for integrated assessment.
- Step 2: Designing an integrated assessment - key issues to be decided at the beginning of the process: timing of assessment, stakeholder and public participation and appropriate methodology and indicators.
- Step 3: Use of methods and techniques - selecting those that support the particular priorities of the user.
- Step 4: Integrated policy response - ranging from the macroeconomic, such as changes in fiscal and monetary policies, to the microeconomic, including environmental and social policy.<sup>422</sup>

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<sup>420</sup> A guideline for the approach of Integrated Coastal Area and River Basin Management can be obtained at <http://www.ucc-water.org/Freshco/Docs/ICARM-Guidelines.pdf>

<sup>421</sup> Extracted from the "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/SEAbok/Chapter4\\_Oct04.pdf](http://www.iied.org/Gov/spa/documents/SEAbok/Chapter4_Oct04.pdf), pages 130-133

<sup>422</sup> Extracted from the "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/SEAbok/Chapter4\\_Oct04.pdf](http://www.iied.org/Gov/spa/documents/SEAbok/Chapter4_Oct04.pdf), pages 130-133

### 26.3 Environmental Evaluation/SEA on Water Resources Management in UNEP

SEA is increasingly used in the UNEP activities including those related to water resources management. The UNEP published “Environmental Impact Assessment and Strategic Environmental Assessment: Towards an Integrated Approach” in 2004 which encourages the evolution of EIA/SEA to the application of “integrated assessment” of environmental, economic, and social effects at the level of planning, programming and policy-making.

As mentioned in section 26.2, UNEP promoted Integrated Coastal Area and River Basin Management (ICARM) and in 1999, a conceptual framework and planning guidelines for ICARM was developed.

Steps in Integrated Coastal Area and River Basin Management are also described as follows.

- Step 1: Assessment and data/information management
- Development of an environmental and socio-economic profile.
  - Establishment of a computer-based database for environmental and socio-economic conditions.
  - Use of remote sensing techniques and GIS system.
  - Definition of management scope.
- Step 2: Identification of conflicts and opportunities
- Development of environment-development scenarios.
  - Environmental carrying capacity analysis.
- Step 3: Plan and strategy development
- Identification of management goals and objectives.
  - Analysis of alternative management strategy.
  - Establishment of a strategic action plan (SAP).
- Step 4: Implementation of plan and strategy
- Regulation, control and legislation.
  - Application of economic instruments.
  - Development of programmes for public awareness.
  - Capacity building and education.
  - Environmental impact assessment.
  - Strategic environmental assessment – for the developed SAP.
  - Economic evaluation of costs and benefits.
- Step 5: Monitoring and evaluation<sup>423</sup>

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<sup>423</sup> Extracted from the “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](http://www.iied.org/Gov/spa/documents/SEAbook/Chapter4_Oct04.pdf), pages 132

A summary table for the water resources management policies and actions and SEA status in UNEP is presented in **Exhibit UNEP-1**:

Exhibit UNEP-1 Summary of Water Resources Management (WRM) Policies and Actions and SEA status in UNEP	
(a) WRM Policies and Actions	
WRM Policies and Actions	Policies <ul style="list-style-type: none"> <li>Water Policy and Strategy</li> </ul> Actions <ul style="list-style-type: none"> <li>N/A</li> </ul>
Guidance/Legislations in WRM	N/A
(b) Environmental Evaluations / SEA Status in WRM Policies and Actions	
Type of Assessment	SEA
Requirement Mechanisms	Administrative
Legislation for Environmental Evaluation / SEA	N/A
Applications	Policies, Plans and Programmes



Traditional well<sup>424</sup>



Greater Mekong Sub-region<sup>425</sup>

<sup>424</sup> Source: <http://www.unep.org/dewa/water/GroundWater/English/GWhmEng/GwPhase2/Archive/Intro.asp>

<sup>425</sup> Source: <http://www.rrcap.unep.org/sef-gms/sef-letter-2.htm>

## 26.4 Analysis and Conclusions

### *WRM Policies*

UNEP has revised its Water Policy and Strategy to address new and emerging challenges in water resources management. The main purpose of the Water Policy and Strategy is to facilitate a coordinated, effective and expeditious implementation of UNEP mandated freshwater functions. The overall goal is to contribute substantively to environmental sustainability in the management of all water resources, utilising integrated ecosystems approaches, as a contribution to the internationally agreed targets and goals relevant to water and socio-economic development. UNEP activities in the area of freshwater are organised into three key components: assessment, management and cooperation towards mainstreaming environmental considerations into integrated water resources management.

Unlike a country or city, UNEP is an institution providing support to improve their water resources according to developing countries' WRM policies. No direct comparison is made between Hong Kong's WRM policies with that of the UNEP.

### *EE/SEA*

In UNEP, SEA is increasingly used in its activities. There is also renewed interest amongst the major international financing institutions and aid agencies in using SEA to assist them deal with the demands of the "poverty" agenda. Besides, the UNEP published "Environmental Impact Assessment and Strategic Environmental Assessment: Towards an Integrated Approach" in 2004 which encourages the evolution of EIA/SEA to the application of "integrated assessment" of environmental, economic, and social effects at the level of planning, programming and policy-making.

While in Hong Kong, there are both statutory and non-statutory systems for PPP projects. 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.



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

Example UNEP-1	UNEP Water and Sanitation Projects "Support for Environmental Management of the Iraqi Marshlands" <sup>426</sup>
<b>Description of the Project</b>	<p>In May 1991, UNEP's Governing Council took a decision to further strengthen UNEP's role in sustainable urban and freshwater basin management by calling for the creation of an International Environmental Technology Centre (IETC).<sup>427</sup></p> <p>IETC's water and sanitation initiatives aim to improve sustainable access to safe drinking water and basic sanitation. The main initiative in water and sanitation is the Support for Environmental Management of the Iraqi Marshlands project.<sup>428</sup></p> <p>The development goal of the Iraqi Marshlands project is to support the sustainable management and restoration of the Iraqi Marshlands, and the immediate objectives include:</p> <ul style="list-style-type: none"> <li>• To monitor and assess baseline characteristics of the marshland conditions, to provide objective and up-to-date information, and to disseminate tools needed for assessment and management</li> <li>• To build capacity of Iraqi decision makers and community representatives on aspects of marshland management, including: policy and institutional aspects, technical subjects, and analytical tools</li> <li>• To identify EST options that are suitable for immediate provision of drinking water and sanitation, as well as wetland management, and to implement them on a pilot basis</li> <li>• To identify needs for additional strategy formulation and coordination for the development of long term marshland management plan, based on pilot results and cross-sectoral dialogue<sup>429</sup></li> </ul>
<b>Benefit of the Project</b>	<p>The following benefits of the UNEP Iraqi Marshlands Project can be identified:</p> <ul style="list-style-type: none"> <li>• The Environmental Sound Technologies (EST) on drinking water provision, sanitation provision and wetland restoration are being introduced and implemented, making use of Iraqi expertise</li> <li>• Access to safe drinking water provision has been made available for the benefit of up to 22,000 people. Water treatment facilities with a total capacity of 750 cubic meters per day and water distribution facilities consisting of 23 kilometers of water distribution pipes and 127 common distribution taps had been newly installed</li> <li>• Some displaced residents are returning to the site areas, partly because of drinking the increasing availability of water through this project. Thus, possibilities for rebuilding life in the Marshes are increasing</li> <li>• A sanitation system pilot project has been implemented in the community of</li> </ul>

<sup>426</sup> Full document can be obtained at

[http://www.maff.go.jp/inwepf/documents/steering/strategic\\_action\\_plan.pdf](http://www.maff.go.jp/inwepf/documents/steering/strategic_action_plan.pdf). Paragraphs are extracted from page 2, 4-5, 7.

<sup>427</sup> Extracted from "Foundation of IETC (1990-1992)", <http://www.unep.or.jp/ietc/background/Index.asp>

<sup>428</sup> Extracted from "Water and Sanitation - Projects" from the website of UNEP,

<http://www.unep.or.jp/ietc/WS/projects.asp>

<sup>429</sup> Extracted from "OBJECTIVES - Development Goal and Key Immediate Objectives",

[http://marshlands.unep.or.jp/default.asp?site=marshlands&page\\_id=C3C2F2E0-F3BC-455E-846E-6BCE7BD959AE](http://marshlands.unep.or.jp/default.asp?site=marshlands&page_id=C3C2F2E0-F3BC-455E-846E-6BCE7BD959AE)

Example UNEP-1	UNEP Water and Sanitation Projects "Support for Environmental Management of the Iraqi Marshlands" <sup>426</sup>
	<p>Al-Chibayish. The EST which constructed wetlands aims to serve approximately 170 inhabitants, who face health hazards from discharges of untreated wastewater to a nearby canal</p> <ul style="list-style-type: none"> <li>• Wetland rehabilitation and reconstruction initiatives are being implemented in cooperation with the Centre for the Restoration of Iraqi Marshlands (CRIM) of the Ministry of Water Resources (MOWR)</li> <li>• Operation and management experience by the Iraqi staff on the water provision facilities has been accumulated for more than a year</li> <li>• Input is being provided for a long-term management plan to benefit people and ecosystems in Southern Iraq. This input includes: <ul style="list-style-type: none"> <li>• Experience with suitable management options</li> <li>• Recognition of local communities as stakeholders</li> <li>• Assessment of policy and institution needs</li> <li>• Identification of evolving and emerging Iraqi institutions associated with marshlands management</li> <li>• Provision of analyzed data, gathered through water quality testing, satellite image analysis, and remote sensing</li> </ul> </li> <li>• The capacity and knowledge of Iraqi decision-makers, technical experts, and community members are being enhanced. Policy and institutional elements, technical knowledge, community engagement, and analytical methods are among the aspects being addressed</li> <li>• Employment opportunities related to assessment, pilot applications, awareness raising, and monitoring are being developed at professional and community levels</li> <li>• Coordination of donor-supported activities and domestically led activities inside the Marshlands is being facilitated to foster cooperation while minimizing duplication</li> <li>• The project has generated and shared extensive data (water quality, satellite image analysis, and remote sensing) and experience on suitable options (what options work where, and how) and policy and institutional needs assessments, which serve as input for long-term management plan formulation to benefit the people of Southern Iraq and ecosystem<sup>430</sup></li> </ul>

<sup>430</sup> Extracted from "BENEFITS - Expected Project Benefits and Beneficiaries", [http://marshlands.unep.or.jp/default.asp?site=marshlands&page\\_id=7F7DF7CE-D345-4B14-899C-C9FEA2463258](http://marshlands.unep.or.jp/default.asp?site=marshlands&page_id=7F7DF7CE-D345-4B14-899C-C9FEA2463258)