

Water Policy and Strategy of UNEP



Photo Credit: Fotohannes/Shutterstock



CONTENTS

Foreword	iii
Summary	1
I. Introduction	3
II. UNEP mandates on water	6
III. Goal and objectives	9
IV. Strategic principles	10
A. Conceptual principles	10
B. Operational principles	12
V. Freshwater-coastal interface	14
VI. Freshwater strategy	15
VII. Key components for freshwater	16
A. Assessment	16
B. Management	18
C. Cooperation	20
VIII. Operationalizing the strategy in the UNEP programme of work	26
IX. Monitoring the water policy and strategy	26
Appendices	28
I. Areas of programmatic action in freshwater	28
II. Thematic areas of strategic action	33



Photo Credit: Jim Work/Sillpictures

Acronyms

GEF	Global Environment Facility
GEMS	Global Environmental Monitoring System
IWRM	Integrated Water Resources Management
UCC-Water	UNEP Collaborating Centre on Water and Environment
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme

Foreword



Equitable and sustainable management of water is a major global challenge yet necessary to meet the Millennium Development Goals. About one third of the world's population lives in countries with moderate to high water stress. With current projected human population growth, industrial development and the expansion of irrigated agriculture in the next two decades, water demand will rise to levels that will make the task of providing water for human well-being more difficult.

The challenge of water demand will be compounded in some regions by water availability and water supply issues linked with climate change--not least as a result of the melting away of glaciers in mountain ranges like the Andes and the Himalayas and the impact on the flows of important river systems.

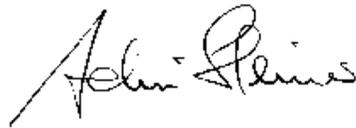
A coordinated response to this challenge is required. Existing incentives have not spawned broad investments in water. There are diverse and often conflicting interests in the provision and management of water. The institutional mechanisms for delivering sustainable water management appear inadequate. Yet the world can no longer afford to relegate action on water to the fringes.

It is for these reasons, and for the goal of achieving equitable water resources management, that the world's governments asked the United Nations Environment Programme (UNEP) to develop a water policy that offers policy guidelines, incentives and institutional and substantive responses to the challenge of meeting our water needs.

This policy provides the broad strategic directions for UNEP's actions in the field of freshwater, while considering the crucial linkages between the fresh and saltwater environments.

The strategy positions the environment programme of the United Nations to provide a set of advisory service packages needed to promote ecosystem approaches in integrated water resources management, at global, regional and national level. The strategy also positions the United Nations Environment Programme to provide strong and coordinated leadership in meeting the ecosystem based objectives of integrated water resources management.

Implementing the strategy will require significant investment in partnerships and leveraging resources. I am sure that in the coming years, this policy and strategy, together with efforts from our partners in government, the financial sector, non-governmental organizations, and civil society, will provide a very strong foundation for achieving the goal of sustainable water management and development.

A handwritten signature in black ink, reading "Achim Steiner". The signature is fluid and cursive, with a long, sweeping underline that extends to the left.

Achim Steiner

Executive Director, United Nations Environment Programme
Under-Secretary-General, United Nations

Summary

1. Since the creation of UNEP, water has played a key role in its programming. In fact, the Regional Seas Programme was one of its first flagship initiatives and remains today a strong keystone programme for UNEP. Since the United Nations Conference on Environment and Development took place in Rio de Janeiro in 1992, the issues related to freshwater resources management have taken on an increasingly prominent role in the international arena. UNEP has reacted to this through various initiatives and activities. The importance of freshwater issues continues to rise at the local, national, subregional, regional and global levels as elaborated upon in the Millennium Development Goals, the World Summit on Sustainable Development, the Commission on Sustainable Development and other forums. UNEP must continue to evolve its programming to address such freshwater issues and has thus developed the present policy and strategy.

2. The UNEP water policy and strategy as it relates to freshwater is outlined in the annex to the present report. UNEP starts from the premise that the water policy is defined by the mandates of UNEP as requested by the UNEP Governing Council and the United Nations General Assembly and is also guided by other relevant international bodies and forums (e.g., Agenda 21, the World Summit on Sustainable Development and the Commission on Sustainable Development). Taking into consideration the guidance of relevant forums and the specific mandates of the Governing Council the overall goal for the UNEP water policy and strategy is: to contribute substantively to environmental sustainability in the management of water resources, utilizing integrated ecosystems approaches, as a contribution to the internationally agreed targets and goals relevant to water and socio-economic development. The freshwater strategy is herein elaborated through a set of principles designed to focus UNEP work by outlining the conceptual considerations - ecosystems-based approaches, sound economic and social considerations and addressing risk-and operational means - building capacity, partnerships and stakeholder participation-through which UNEP will implement its water-related activities.

3. As pointed out in chapters II and IV of the annex, UNEP mandates on oceans and coasts and their associated strategies are provided through the

Global Programme of Action on Land-based Activities and the regional seas conventions and action plans. In the light of that fact, the present document does not attempt further to elaborate a strategy on oceans and coasts, but specifically focuses instead on freshwater issues. Nonetheless, this freshwater policy and strategy, as do the GPA and Regional Seas Programme, recognizes the freshwater-coastal link and UNEP will work to address that linkage from both the upstream (freshwater) and downstream (coasts and oceans) ends.

4. Three key components of UNEP freshwater work are identified as assessment, management and cooperation and are tied together within a framework of integrated water resources management (IWRM). As IWRM has many elements, UNEP, with full consideration of the multi-dimensional and multi-institutional approach of IWRM, will focus on mainstreaming environmental considerations into IWRM at the regional, subregional, national and local levels, as well as on upscaling such considerations to the work of other actors involved in national poverty reduction strategies and sustainable development planning.

5. The UNEP water policy and strategy as set out in the annex to the present report will be in operation for a six-year period from 2007 through 2012 and will be operationalized through the UNEP biennial programme of work. Implementation of the policy and strategy will be monitored by the Governing Council against the expected accomplishments and indicators outlined in appendix I to the policy and strategy. Recommendations for review of the water policy and strategy will be made prior to 2012.

I. Introduction

1. In 2000, the international community agreed on a selected set of goals in association with the Millennium Declaration.¹ The Declaration provides a blueprint for poverty reduction and accelerated development and was further elaborated in the 2005 World Summit Outcome.² Only one of the Millennium Development Goals – goal 7, and specifically its targets 9 and 10 – directly concerns water and sanitation. The achievement of all the Millennium Development Goals, however, hinges on the quality and quantity of available water as water plays a disproportionately powerful role through its impact on, among other things, food production and security, hygiene, sanitation and health and maintenance of ecosystem services.

2. Equitable and sustainable management of both freshwater³ and coastal and marine waters is a major challenge for all water users, particularly the poor. According to the World Water Development Report (2003), concerns about the world water crisis include doubling of the number of poor people without adequate water and sanitation; a growing gap between rich and poor and urban and rural populations in water and sanitation services; the rising cost of water-related disasters; declining quality of water resources and ecosystems; under financing of the water sector; rising pressures on water resources; increasing agricultural and industrial water demand and pollution; and the need to strengthen water governance.

3. Since its establishment, the United Nations Environment Programme (UNEP) has worked in the area of water resources assessment and management, promoting the application of collaborative approaches to water resources management. After over 30 years, water remains one of the main priorities of UNEP.

4. Many international forums have devoted significant time and effort to developing mandates, goals, objectives and targets for water resources

¹ United Nations General Assembly resolution 55/2.

² General Assembly resolution 60/1.

³ The term freshwater in this policy and strategy includes surface waters, ground-water, wetlands, inland (i.e., non-coastal) saline waters and the freshwater/coastal interface.



Photo Credit: K.Thomas/Shillpictures

management. These forums include the UNEP Governing Council; the United Nations Conference on Environment and Development, the outcome of which was Agenda 21;⁴ the Millennium Summit,⁵ the World Summit on Sustainable Development,⁶ and the twelfth and thirteenth sessions of the United Nations Commission on Sustainable Development. Those forums have indicated, and in the case of the Governing Council defined, what should be the mandates and responsibilities of UNEP with respect to water.

5. Implementing those mandates rather than developing new ones is the task ahead, that is, moving from planning to action.

6. In developing the water policy and strategy, UNEP took into consideration the fact that at its twenty-third session the UNEP Governing Council/Global Ministerial Environment Forum also adopted the Bali Strategic Plan for Technology Support and Capacity-building.⁷ Therefore, the implementation of the mandated functions of UNEP in the area of water, particularly at the national and regional levels, will be an integral component of the coherent, UNEP-wide delivery of the Bali Strategic Plan. In their activities at the regional and national levels UNEP and its partners will strive to be mutually supportive and contribute to strengthening national environmental management capacities and to mainstreaming the environment into economic and social development (i.e., into national strategies for poverty reduction and sustainable development).

7. The main purpose of the UNEP water policy and strategy is to facilitate a coordinated, effective and expeditious implementation of UNEP mandated freshwater functions. In the context of the Bali Strategic Plan, the

⁴ Report of the United Nations Conference on Environment and Development, Rio de Janeiro, 3–14 June 1992 (United Nations publication, Sales No. E.93.I.8 and corrigenda), vol. I: Resolutions adopted by the Conference, resolution 1, annex II.

⁵ The Millennium Summit was held from 6 to 8 September 2000 as part of the Millennium Assembly (fifty-fifth General Assembly session) under the overall theme “the role of the United Nations in the twenty-first century” and consisted of plenary meetings and four interactive round-table sessions held concurrently with the plenary meetings.

⁶ Report of the World Summit on Sustainable Development, Johannesburg, South Africa, 26 August–4 September 2002 (United Nations publication, Sales No. E.03.II.A.1 and corrigendum).

⁷ UNEP/IEG/3/4, annex.

implementation imperative has become even more urgent.

8. To meet the implementation imperative, UNEP has developed the present water policy and strategy along the following lines:

- (a) Identifying UNEP mandates on water;
- (b) Defining a set of strategic principles to focus the work of UNEP;
- (c) Identifying key components of UNEP freshwater activities;
- (d) Elaborating mechanisms for operationalization and monitoring progress.



Photo Credit: Jim Work/Shillpictures

II. UNEP mandates on water

9. UNEP water policy is defined in part by the overall mandate of UNEP as set forth in the resolutions of the United Nations General Assembly and the UNEP mission to provide leadership and encourage partnership in caring for the environment by inspiring, informing and enabling nations and people to improve their quality of life without compromising that of future generations.

10. In 1997, the UNEP Governing Council adopted the Nairobi Declaration on the Role and Mandate of the United Nations Environment Programme,⁸ in which it further elaborated the mandate of UNEP to include in particular the roles agreed in chapters 17 (oceans) and 18 (freshwater) of Agenda 21.

11. Decisions of the Governing Council/Global Ministerial Environment Forum at its eighteenth, nineteenth, twentieth and twenty-second sessions set forth programmes calling for UNEP work on coral reefs, integrated coastal area and river basin management and the control of marine pollution from land-based activities. At its nineteenth session and its fifth special session, the Council/Forum also requested UNEP to place a high priority on freshwater and to assist developing countries in strengthening their capacities to assess freshwater and develop and implement integrated water resources management plans through regional cooperation. At its twenty-third session, the Council/Forum further defined elements of a freshwater policy, for example, groundwater policy, that were lacking in previous policies and strategies. The Governing Council also provided mandates⁹ on technology transfer for water resources management and pollution control, urban and rural sanitation, groundwater and promoting corporate social responsibility, all of which have important contributions to make to integrated water resources management.

12. In 2000, the international community identified key development priorities through the establishment of goals associated with the Millennium

⁸ Governing Council decision 19/1, annex.

⁹ Governing Council decisions 10/19, 11/7, 13/19, 21/1, 22/2, 22/6, 22/7, 23/2.

Declaration (Millennium Development Goals). Primary global priorities were identified to be the reduction of poverty and hunger, improvement of human health and achievement of environmental sustainability.

13. In recognition of the seriousness of the freshwater situation in many parts of the world, and of the fact that improved water management is essential for achieving broader economic development goals, in 2002 the participants at the World Summit for Sustainable Development adopted a target calling for the development of integrated water resources management and water efficiency plans by 2005.

14. At its eighth special session, the UNEP Governing Council/Global Ministerial Environment Forum adopted the Jeju Initiative, in which it “stressed that integrated water resource management (IWRM) incorporating an ecosystem approach is a key building block for achieving the water, sanitation and human settlement targets ... for promoting economic growth and achieving targets on health and poverty reduction.”¹⁰

15. At its twenty-third session, the Council/Forum adopted the Bali Strategic Plan for Technology Support and Capacity-building in order to facilitate the strengthening of the capacity of the Governments of developing countries and countries with economies in transition to, among other things, achieve their environmental goals, comply with international agreements and implement the programmatic goals set by the Governing Council and other internationally agreed development goals. The Bali Strategic Plan includes indicative thematic areas in which efforts in technology transfer and capacity-building are to be addressed. Those relevant to water include freshwater, pollution, chemicals, waste management, conservation of wetlands, transboundary conservation and sustainable management of natural resources, environmental emergency preparedness and response, sanitation, oceans and seas and coastal areas and land and forest ecosystems.

16. At its thirteenth session, the United Nations Commission on Sustainable Development called on Governments and the United Nations system, among other things, to accelerate the provision of technical and



Photo Credit: Ron Gilling/Stillpictures

¹⁰ Report of the United Nations Governing Council/Global Ministerial Environment Forum on the work of its eighth special session (UNEP/GCSS.VIII/8), annex II, para. 5.

financial assistance to countries in the preparation of nationally owned integrated water resources management and water-efficiency plans tailored to country-specific needs. Additionally, at its ninth special session, the UNEP Governing Council/Global Ministerial Environment Forum adopted the Strategic Approach to International Chemicals Management (SAICM) which calls for, among other things, the integration of chemicals management issues into policies for food safety, water and marine ecosystem management.

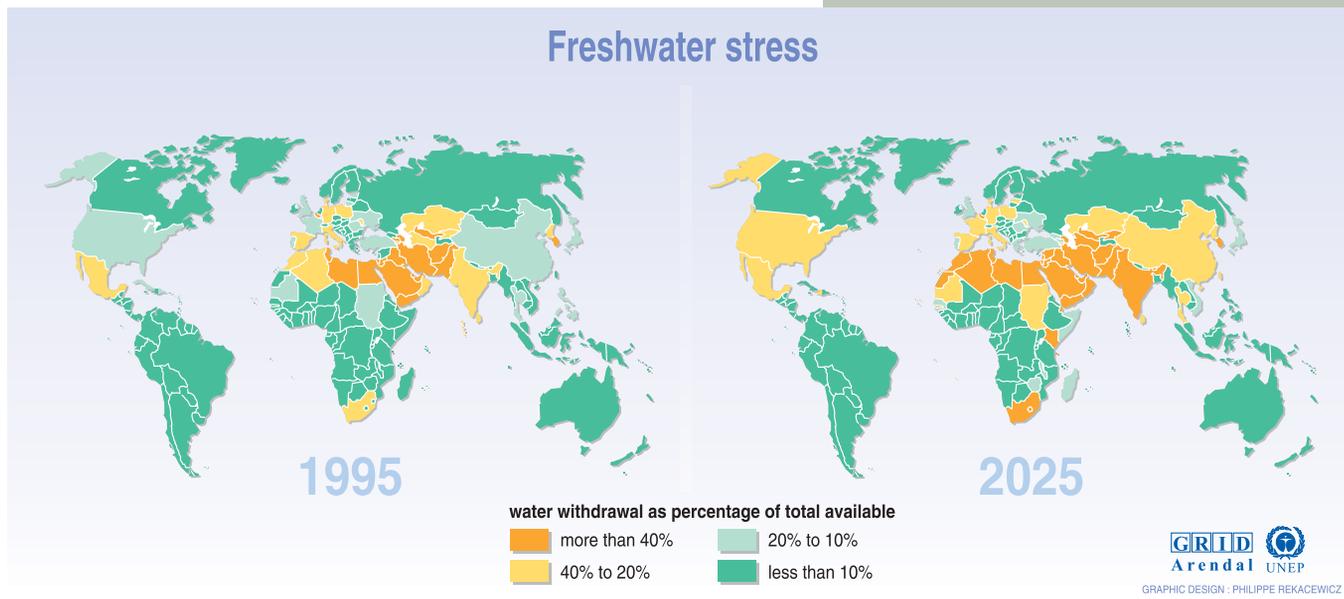
17. UNEP has been given a lead role in environmental issues as they relate to the sustainable development of oceans and coasts. That role is implemented in particular through the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities and the regional seas programmes, each of which has its own strategic planning and workplan development processes. In the field of freshwater, the overall direction for UNEP has been defined by the Governing Council decisions noted above and is further guided by the resolutions of the various intergovernmental forums also noted above. These decisions of the Governing Council/Global Ministerial Environment Forum and other resolutions thereby constitute the UNEP freshwater policy. Following the mandate of decision 23/2 of the Governing Council/Global Ministerial Environment Forum, the present document, in the following chapters, presents a strategy for implementing that policy.

III. Goal and objectives

18. Taking into account the mandates noted above, the overall goal of the UNEP water policy and strategy is to contribute substantively to environmental sustainability in the management of all water resources, utilizing integrated ecosystems approaches, as a contribution to the internationally agreed targets and goals relevant to water and socio-economic development.

19. The objectives of the UNEP water policy and strategy, distilled from its mandates, are:

- (a) Improved assessment and awareness of water issues;
- (b) Improved environmental management of basins, coastal and marine waters, including the identification of linkages with ongoing international processes;
- (c) Improved cooperation in the water sector.



Source: Global environment outlook 2000 (GEO), UNEP, Earthscan, London, 1999.

IV. Strategic principles

20. As UNEP continues to move towards implementing its water mandates and the goal and objectives above, it will be directed by the following conceptual and operational principles, which will focus its work.

A. Conceptual principles

1. Promote ecosystem-based approaches

21. UNEP activities take as reference ecosystem-based approaches. Ecosystem-based approaches factor in the full range of terrestrial and aquatic ecosystems, looking at a hydrological basin as a whole in both its upstream and downstream dimensions, including, among other things, specific ecosystems such as forests, land, wetlands, urban ecosystems and coastal zones. Similarly, the interface between freshwater and coastal ecosystems must also be taken into consideration in management plans for both types of systems. Ecosystem approaches recognize the social, cultural, economic and environmental needs for sustainable water resources management. Such needs include maintaining biodiversity and the health of the environment through consideration of environmental flows and recognizing the regulatory functions of ecosystems (e.g., wetlands) and their capacity for water recharge, as well as their role as buffers against extreme events and the impacts of urbanization. Taking into account these ecosystem considerations, UNEP will work to ensure that the full hydrological cycle (including superficial water recharge) within each hydrological basin is taken into consideration in environmental assessment and management plans.



Photo Credit: R. Bala /Stillpictures

2. **Contribute to sound economic and social development, including poverty reduction, through integrated assessment and management of water resources and associated ecosystems**

22. As stated in the Jeju Initiative, a contribution to the twelfth session of the Commission on Sustainable Development emanating from the eighth special session of the UNEP Governing Council/Global Ministerial Environment Forum, water is a vital resource for human life and health, ecosystems management, and for economic development and must be managed as such. Maintaining the health of ecosystem services is of particular importance to the poor, as is preventing the degradation caused by unsustainable natural resource management practices. A shift is needed away from supply-side policies to integrated supply- and demand-management approaches which incorporate the value of the multiple uses of water while protecting ecosystem services. Consequently, UNEP will promote the greater use of economic and social instruments and technological improvements to promote the efficient and equitable use of water. Such instruments should manage demand and generate new revenue for expanding water services to the poor through the protection of water supplies, with resultant improvements in health care, cost savings and, through environmentally sound management (including reuse), the treatment and disposal of wastewater. In particular, the promotion of environmentally sound management practices will include the development, adoption and use of tools (e.g., environmental impact assessments and stakeholder dialogue) for sustainable development and management of water-related infrastructure such as hydropower and sanitation facilities.

23. In this connection, policies and technologies which reduce demand and increase available supplies (e.g., recycling, reuse and alternative sources) will be promoted in urban and rural settings. Also, policies which promote cleaner production techniques and environmentally sustainable technologies which promote efficient water use and reduce pollution will be encouraged. Where privatization of water services is implemented according to national priorities, it should be carefully reviewed and considered to ensure that the necessary legal, regulatory and institutional frameworks are in place to protect natural resources and that the poor are not further disadvantaged.



Photo Credit: Luftbild Betram/Shillpictures



Photo Credit: Jim Work/Stillpictures

3. Address risks

24. Extreme hydrological events such as floods and droughts, other natural and man-made hazards and accidental pollution of water bodies pose major risks to growth and sustainable development. Additionally, climate change and variability may exacerbate extreme events or require long-term planning for effects such as sea-level rise. These events should be addressed in the context of an integrated approach to water resources management geared towards developing prevention and preparedness measures, together with risk mitigation and disaster reduction strategies, and towards strengthening the prevention and control of pollution resulting from wastewater, solid wastes and industrial and agricultural activities. UNEP will contribute within its mandate to implementing the Hyogo Framework for Action 2005–2015: Building the Resilience of Nations and Communities to Disasters,¹¹ which was adopted at the World Conference on Disaster Reduction held from 18 to 22 January 2005 in Kobe, Hyogo, Japan.

B. Operational principles

1. Build national and regional capacity: implementing the Bali Strategic Plan

25. The Bali Strategic Plan for Technology Support and Capacity-building provides further guidance for the implementation of the UNEP water policy and strategy, particularly as it relates to coordinated action and cooperation with all relevant partners at the national and regional levels. Technology and capacity-building support by UNEP for the continuing efforts of national Governments and other actors will be based on national and regional assessments of needs (utilizing existing assessments wherever possible). Activities will be linked with efforts already in progress and integrated with other sustainable development initiatives, building on existing capacities. Existing coordinating mechanisms such as the United Nations Development Group, the 2004 UNEP/United Nations Development Programme (UNDP) memorandum of understanding and the resident coordinator system will be utilized to the fullest extent possible to avoid duplication of efforts.

¹¹ See A/CONF/206/6 and Corr.1, chap. I, resolution 2.

2. Build on existing programmes and partnerships and form new partnerships

26. Partnership is essential for addressing complex and interlinked water issues. Neither UNEP nor any other organization can alone fully support Governments in meeting the monumental mandates and challenges described above. That being the case, UNEP will build on existing programmes and partnerships and at the same time establish new ones where appropriate. UNEP, as the principal body within the United Nations system in the field of environment, will work closely with other United Nations agencies through UN-Water and with regional bodies, municipal authorities, scientific institutions, non-governmental organizations, the private sector and relevant sectoral ministries to ensure that ecosystem-based approaches are fully integrated into water resources management.

27. The use of established programmes and partnerships within UNEP will continue to be evaluated for effectiveness and built upon as appropriate. These include, among other things, the Partnership for Development of Environmental Law and Institutions in Africa, for legislative assistance; the Global Environmental Monitoring System (GEMS) Water programme for assessment; secretariats of the multilateral environmental agreements; the Global Environment Outlook; the International Environmental Technology Centre, for technology innovations; the International Waters Portfolio of the Global Environment Facility (GEF); the Rainwater Partnership, the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities, the coral reefs programme and the regional seas programmes.

3. Promote multi-stakeholder participation

28. Participation by all stakeholders is fundamental to sustainable water resources management. Active consultation and transparency significantly increase the likelihood of the sound development and implementation of water resources management initiatives. UNEP will promote the inclusion of all relevant stakeholders in water resources planning and management, including infrastructure development, with a particular emphasis on women and indigenous groups as they are often the most adversely affected by unsustainable management.



Photo Credit: Ron Gilling/Stillpictures

V. Freshwater-coastal interface



Photo Credit: Sinopictures/CNS/Stillpictures

29. In recent years, the Governing Council, and therefore the UNEP secretariat, has focused its attention on the downstream parts of hydrological basins, (i.e., coasts and further on into the oceans). The Regional Seas Programme was one of the first UNEP programmes and remains an important component of the UNEP water programme. More recently, this role has been strengthened through programmes such as the Global Programme of Action, support to small island developing States within the framework of the Programme of Action for the Sustainable Development of Small Island Developing States¹² and the Mauritius Strategy for the Further Implementation of the Programme of Action for the Sustainable Development of Small Island Developing States¹³ and attention to coral reef issues through cooperation with the International Coral Reef Initiative and the International Coral Reef Action Network.

30. These coastal and ocean programmes are governed by their own intergovernmental processes such as the intergovernmental review meetings of the Global Programme of Action or the conferences of parties or intergovernmental meetings of the regional seas conventions and action plans. These intergovernmental processes define the policies, strategies and programmes of work of the coasts, oceans, islands and coral reef programmes to which UNEP contributes and will continue to be a strong and integral part of a broader UNEP water programme.

31. Given the above, the present document does not attempt to further define a policy or strategy for oceans and coasts, but instead focuses specifically on freshwater, giving due consideration to interactions between freshwater and the coastal and marine environments.

¹² Report of the Global Conference on the Sustainable Development of Small Island Developing States, Bridgetown, Barbados, 25 April–6 May 1994 (United Nations publication, Sales No. E.94.I.18 and corrigenda), chap. I, resolution 1, annex II.

¹³ Report of the International Meeting to Review the Implementation of the Programme of Action for the Sustainable Development of Small Island Developing States, Port Louis, Mauritius, 10–14 January 2005 (United Nations publication, Sales No. E.05.II.A.4 and corrigendum), chap. I, resolution 1, annex II.

32. With the recognition that water occurs in a continuum from freshwater through the coastal zone to the ocean, an important element of the UNEP freshwater strategy relates to the development of concepts and mechanisms for the linked management of freshwater resources and coastal waters. Freshwater resources play an important role in the coastal environment and to some degree coastal developments affect upstream freshwater resources. Depending on the scale, upstream/downstream integration according to national priorities may include integrated river basin-coastal area management planning or building in effective mechanisms for coordinated freshwater and coastal zone management. UNEP, as the secretariat for GPA and several Regional Seas programmes, will ensure that the implementation of the freshwater strategy complements the implementation of GPA and Regional Seas action plans and conventions and vice versa.¹⁴

VI. Freshwater strategy

33. The overall objectives of the UNEP water programme are noted in chapter III above. For freshwater, these objectives will be implemented within the overall framework of integrated water resources management and efficiency plans. The term integrated water resources management as defined by the Global Water Partnership¹⁵ and used in this policy and strategy is a process which promotes the coordinated development and management of water, land and related resources in order to maximize economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems.

34. Integrated water resources management involves a wide range of elements – laws and regulations, policies, stakeholder participation, management plans, etc. – and incorporates scientific, technological, economic, cultural and social considerations. Integrated water resources management is thus designed and implemented from the standpoint of



Photo Credit: T. Milse/Stillpictures

¹⁴ In addition to the Global Programme of Action (www.gpa.unep.org), UNEP also supports the FreshCo Partnership (www.ucc-water.org/Freshco) and the White Water to Blue Water Initiative (www.ww2bw.org).

¹⁵ Global Water Partnership Technical Advisory Committee, TEC Background Paper No. 4: Integrated Water Resources Management (Stockholm: Global Water Partnership, 2000), p. 22.

multiple objectives (including the allocation and management of water resources and water infrastructure) rather than from the single objective of environmental protection.

35. Although holistic integrated water resources management planning and implementation is key to tying together these elements, it must be noted that an integrated water resources management plan is not a pre-requisite for UNEP action and assistance. Many countries are in need of immediate action including technology support and capacity-building to enable the review of existing policies, laws, management practices (e.g., water resource allocation) and environmentally sound infrastructure development. Such identified needs already provide a basis for UNEP support; an integrated water resources management planning process can continue on a parallel track to provide for longer-term incorporation of water-related considerations into national poverty reduction strategies and sustainable development plans.

VII. Key components for freshwater

36. UNEP activities in the area of freshwater are organized into three key components: assessment; management; and cooperation towards mainstreaming environmental considerations into integrated water resources management. These three mutually supportive and interconnected components provide the basis for supporting an environmentally focused approach to integrated water resources management process at the national, subregional, regional and global levels.

37. The three components are described below and are further elaborated upon in appendix I to the present document, which describes areas of programmatic action, expected accomplishments and the comparative advantage of UNEP in each such area.

A. Assessment

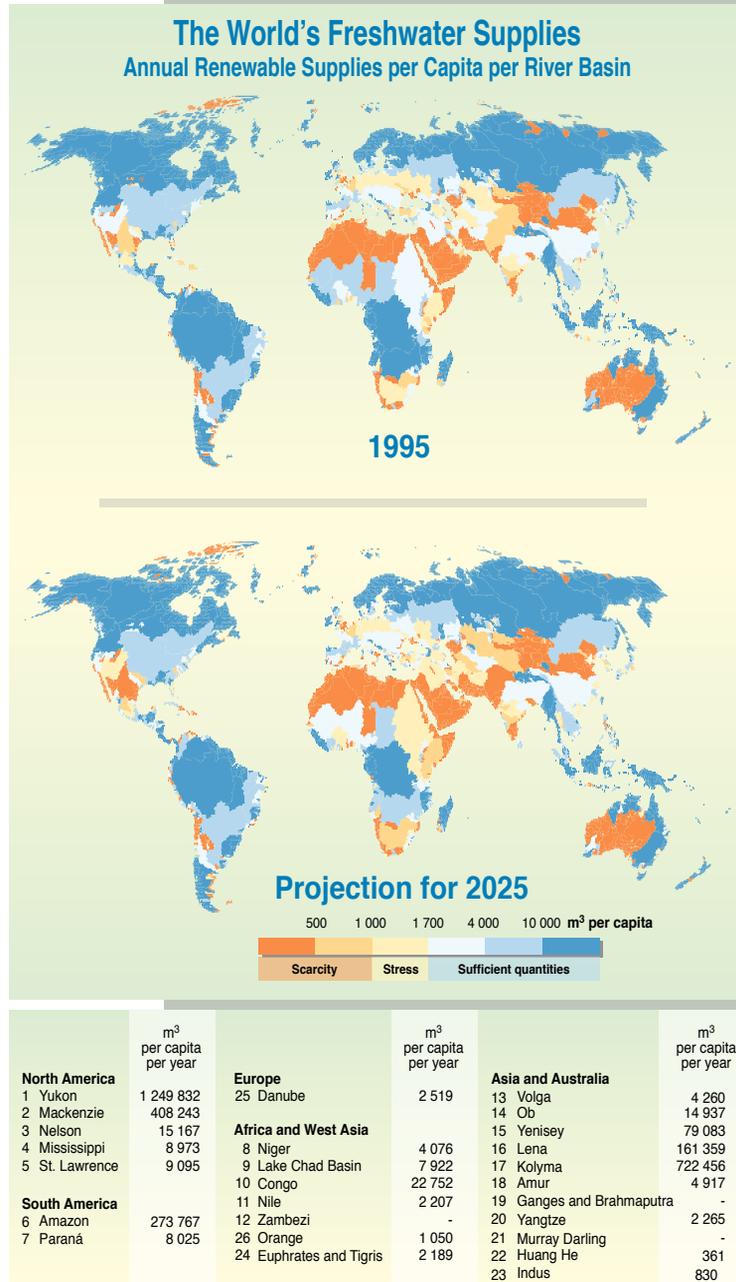
38. Assessments which build the knowledge base with regard to water resources and related ecosystems constitute the primary mechanism for developing, implementing and evaluating appropriate management measures

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.

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

- (a) To provide a knowledge base from which to develop, manage, monitor and evaluate water resources programmes and to encourage the integration of sustainable water resource management into development policies and processes;
- (b) To raise awareness and inform stakeholders (including the public) of water resource issues and concerns, including demand;
- (c) To assess threats, trends and emerging issues with respect to which future action may be needed.

40. Effective water resources management – policy, planning and implementation – depends on an accurate and scientifically credible knowledge base regarding water resources, water demand and relevant socio-economic factors. A sound knowledge base allows the formulation of management plans which are specific on the local, national, subregional and basin-wide levels and is also a basis for action programmes. Likewise, monitoring of water-related ecosystem conditions within an area being managed under a water resources plan can result in feedback to decision-makers that enables them to modify the plan to allow for the assessment of the value of the hydrological services of ecosystems and of water resources and to maximize sustainable use. Water resource assessments at the subregional, regional and global levels can inform regional and global decision-makers and the public, who can then better guide action programmes.



Source: Revenga et al. 2000, from Pilot Analysis of Global Ecosystems: Freshwater Systems.



Photo Credit: Sinopictures/CNS/Stillpictures

41. To inform stakeholders, assessments must be clear and tailored to specific audiences while maintaining their scientific integrity. The information flowing from assessments must facilitate and enable interaction and participation by all sectors of society in the making of informed choices and decisions about managing water resources. As noted above, awareness of the interconnectivity of water-related ecosystems is imperative to providing stakeholders with an understanding that enables the establishment of ecosystem-based water policies which fully reflect the economic, social and environmental value of water as a resource.

42. The assessment component of UNEP water-related activities water will provide information on threats, trends and emerging issues. Threats from natural water-related hazards and threats to water resources are not static. Assessments of new and emerging areas must also be at the core of UNEP work. Such assessments will provide information on the environmental aspects of the world water situation. Information on trends and possible alternative scenarios can assist in anticipating problems and in taking timely corrective action. Assessment is also at the heart of an ecosystem-based approach as impacts of concern in one ecosystem can be telltale signs of impending disaster in other interconnected ecosystems. The assessment component will include assessments of potential threats from climate change to ensure that management plans can include climate change adaptation measures.

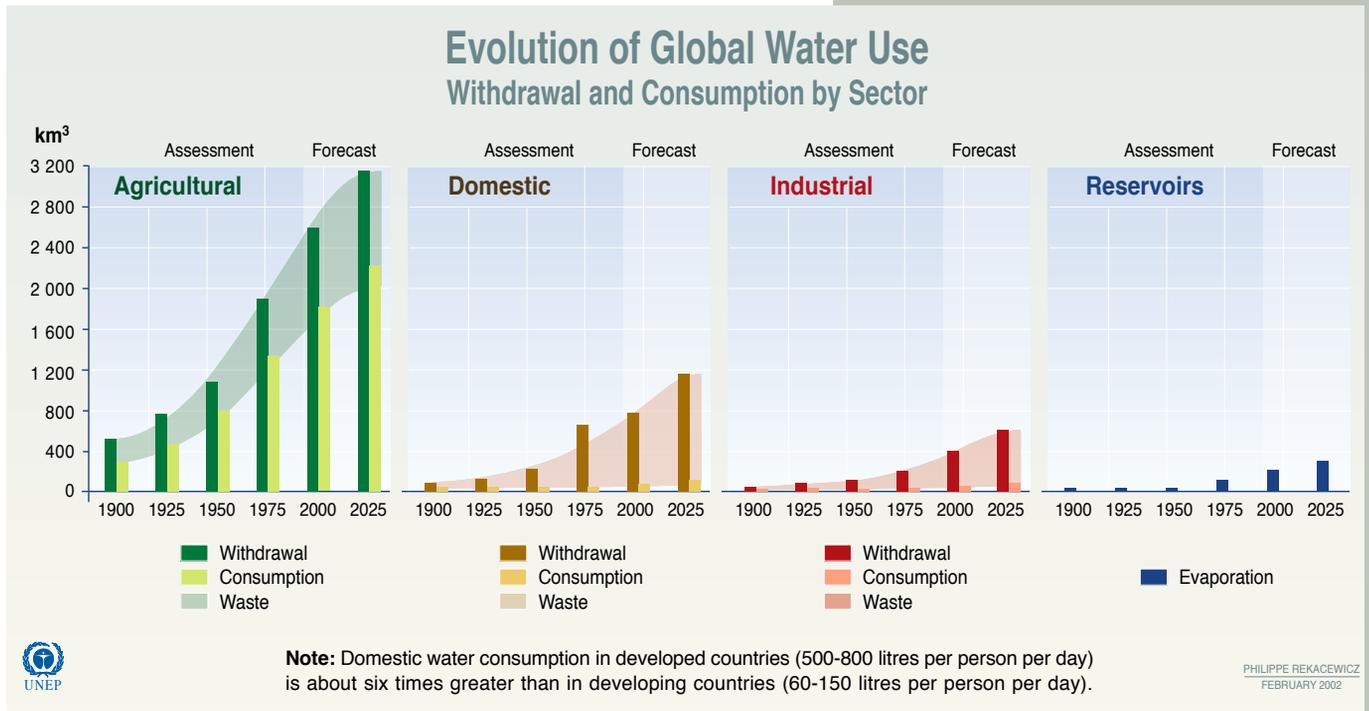
B. Management

43. Integrated water resources management provides an ecosystem-based approach to water resource management which encompasses both water quality and quantity. It builds on the interconnectivity between the various components of the natural resource base, i.e., of ecosystems, and links it with the institutional, social and economic elements of water resource management to provide the integrated management framework needed to deal with the particular problems related to the sustainable maintenance of ecosystems and the services which they provide.

44. Integrated water resources management also encompasses technical and governance perspectives. The technical perspective combines interactions between land, groundwater, surface water and marine resources and recognizes that such interactions can be further complicated by urbanization

with respect to quality as well as quantity and the requirements of ecosystems. The environmental governance perspective includes two key elements: cross-sectoral integration in water resources management; and the integration of all stakeholders in the planning and decision-making process.

45. Cross-sectoral integration makes the institutional linkages between the sectors using or affecting water resources and water-related ecosystems and implies that water-related developments within all economic and social sectors must be taken into account in the overall management of water resources. Thus, water resources policy must be integrated into local and national economic and sectoral policies. This means recognizing the value of water with its social implications and addressing its risks while at the same time ensuring that sustainable management of water resources is effectively integrated into the social and development pathway which is adopted.



46. Stakeholder integration ensures that actors such as water users, local and national authorities, regional and subregional bodies and institutions and United Nations and international financial institutions are involved in decision making and management. Stakeholders will vary according to the management and planning level considered. Indigenous peoples, women, and the poor in particular have knowledge to bring which can provide new and innovative ideas for management and efficiency plans.

47. 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:

- (a) 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 resource management stakeholders. This framework enables all stakeholders to play appropriate roles in the sustainable development and management of the resource;
- (b) 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;
- (c) 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 resource management, including at the local (e.g., urban) level.

C. Cooperation

48. The present section outlines cooperation mechanisms at the national, regional, subregional and global levels through which UNEP will deliver

on the environmental assessment and management components described above. At each level, the avenues for cooperation with various partners are identified to ensure that a coordinated policy and strategic framework goes hand-in-hand with a coordinated delivery framework for joint actions with partners. There are also some common cooperation mechanisms which UNEP will follow at all levels, including an emphasis on United Nations system-wide cooperation in policy, strategy and implementation and on the need to engage international financial institutions wherever appropriate and possible so as to maximize impact and assist developing countries and countries with economies in transition.

1. National level

49. National Governments, having committed themselves to the Plan of Implementation of the World Summit on Sustainable Development, have primary responsibility for implementing the 2005 integrated water resources management target. That being the case, political will is necessary to ensure coordinated national action, accompanied by the allocation of domestic resources. The United Nations system has also committed itself to assisting countries where national capacities are limited. Effectiveness of action at the national level and the need for national ownership require that national Governments give sustained direction to the United Nations system on their needs and the system's responses to those needs.

50. As noted in section B of chapter IV above on operational principles, the Bali Strategic Plan provides supplementary guidance for increasing effectiveness at the country level in the areas of technology support and capacity-building. That starting point for improving effectiveness must be the development of a coherent UNEP programme for Governments, to be carried out in cooperation with relevant partners (in particular through United Nations country teams) and clearly based on national priorities and national needs, i.e., demand-driven. On the basis of an identification of those needs, UNEP will work with partners to support national technology support and capacity-building to deliver implementation of the water policy and strategy where requested by Governments.



Photo Credit: Sean Sprague/Shutterstock

51. Response to Governments' requests for technology support and capacity-building at the national level will be responded to in cooperation with partners and in particular with other United Nations agencies, for example through the common country assessment/United Nations Development Assistance Framework system, and will make full use of the UNEP/UNDP memorandum of understanding. The Secretary-General, in his report entitled "In larger freedom: towards security, development and human rights for all"¹⁶ prepared for the 2005 World Summit, emphasizes that the United Nations as a whole needs a more integrated structure for environmental standard-setting and that regional activities at the country level should benefit from synergies, on both normative and operational aspects, between United Nations agencies, making optimal use of their comparative advantages to realize an integrated approach¹⁷. Consequently, programme coherence between all United Nations agencies, Government agencies, national institutions and donors working in a particular country is essential. Also, the Bali Strategic Plan and its implementation as outlined by UNEP in document UNEP/GCSS.IX/3/Add.1, should be considered in tandem with the water policy and strategy.

52. National implementation will focus on the importance of sustainable water resources management for poverty reduction. That being the case, UNEP will work with others to build national capacity to integrate water resources management into national poverty reduction strategies and sustainable development plans. Recognizing also the key role of cities, UNEP will work to integrate water resources management issues into city development strategies. It will also provide normative assistance and support for policy development to both developed and developing countries to promote integrated water resources management for sustainable development worldwide.

2. Regional and subregional levels

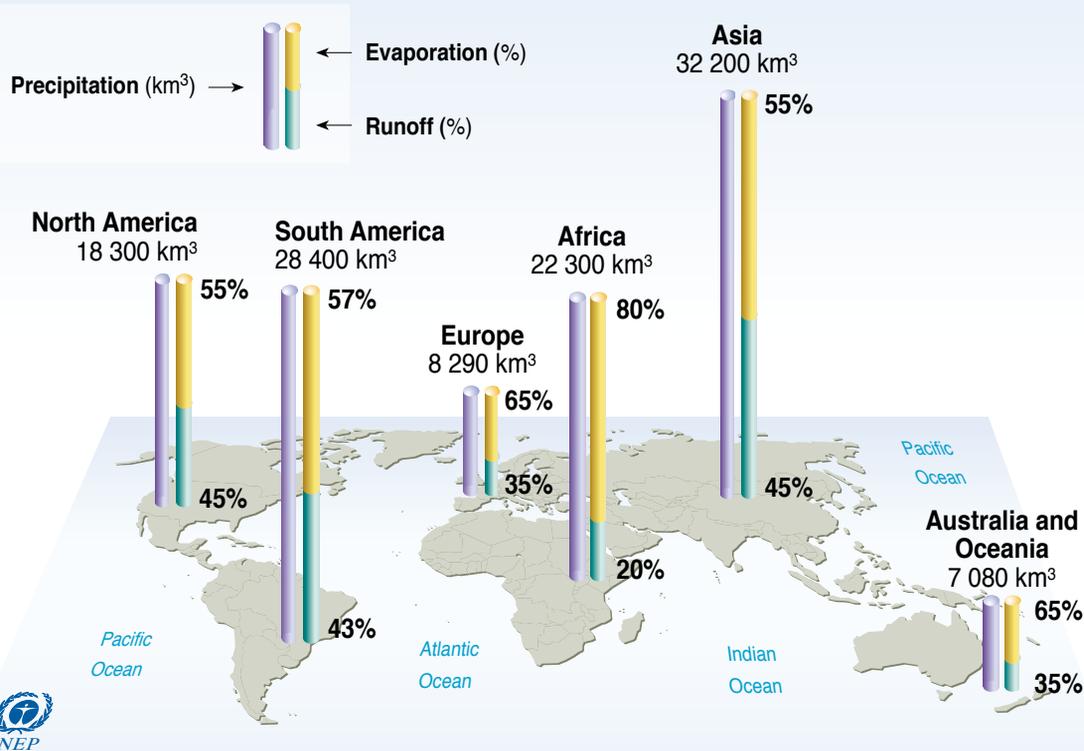
53. Coordination of UNEP water-related activities at the regional and subregional levels will be achieved through strengthened and reinforced UNEP regional offices, regional seas programmes, out-posted offices and other mechanisms already in place. Consistent with national-level implementation of the water policy and strategy, technology support and capacity-building

¹⁶ A/59/2005 and Add.1, Add.2 and Add.3.

¹⁷ Ibid., para. 212. See also *ibid.*, annex, subpara. 8 (i).

efforts at the regional and subregional levels will also follow the Bali Strategic Plan. UNEP activities will also support regional and subregional strategies defined by intergovernmental bodies, including hydrological basin organizations. UNEP will implement the water policy and strategy through its cooperative frameworks with environmental ministerial forums, such as the African Ministerial Conference on the Environment, the Council of Arab

The World's Surface Water Precipitation, Evaporation and Runoff by Region



Source: Peter H. Gleick, *Water in Crisis*, New York Oxford University Press, 1993.



Photo Credit: S. Ziese/Stillpictures

Ministers Responsible for the Environment and the Forum of Ministers of the Environment of Latin America and the Caribbean, regional ministerial forums on water, such as the African Ministers' Council on Water, the African Union and other forums and processes such as the New Partnership for Africa's Development, as well as through relevant regional multilateral environmental agreements. UNEP will promote the formation and strengthening of regional networks for information exchange, capacity-building and catalyzing South-South cooperation. It will also support the formation of networks at the ecoregional level and for catalysing North-South cooperation.

54. As hydrological basins often cross states, progress toward sustainable development goals may require cooperation among the basin countries. For these transboundary water resources, riparian countries may consider the establishment of regional or subregional arrangements, taking into account national conditions as well as the characteristics of the overall basin, within an economic, social and environmental context. UNEP, in cooperation with other relevant institutions and funding sources may provide capacity-building on the coordination, evaluation and management of the environmental aspects of the transboundary water resources, if requested by all of the riparian countries.

3. Global level

55. As the principal body within the United Nations system in the field of environment, UNEP will support system-wide efforts to integrate its activities into a cohesive and complementary programme to maximize United Nations impact while at the same time respecting the mandates and relative strengths and capacities of the various agencies in the United Nations system.

56. In so doing, UNEP will work closely through UN-Water and with the United Nations Environment Management Group to ensure that ecosystem approaches are fully taken into account in United Nations and intergovernmental policy discussions on water resources. Efforts will be made to encourage the secretariats of relevant multilateral environmental agreements to promote integrated water resources management within their mandates.

57. To address specific issues, collaborative arrangements for the implementation of the UNEP water policy and strategy will be made with specialized programmes and institutions including civil society; the autonomous secretariats of multilateral environmental agreements; UNDP, through its memorandum of understanding with UNEP; the United Nations Development Group; the United Nations Human Settlements Programme (UN-Habitat); the International Maritime Organization; the Food and Agriculture Organization of the United Nations; the World Conservation Union (IUCN); the United Nations Institute for Training and Research; the World Bank, in particular within the framework of GEF; the International Monetary Fund; the International Oceanographic Commission of the United Nations Educational, Scientific and Cultural Organization (UNESCO); the World Meteorological Organization; the International Council of Scientific Unions; the World Water Assessment Programme. With respect to global observing systems, collaboration between UNEP (for example through its GEMS Water programme) and the World Health Organization, the World Meteorological Organization and UNESCO will serve to strengthen environmental monitoring and assessments.

58. UNEP, UN-Habitat and the World Health Organization have a particularly important role to play in dealing with the integrated issues of water, sanitation and human settlements in accordance with the decisions adopted by the Commission on Sustainable Development at its thirteenth session.

59. UNEP will build a clearinghouse mechanism through the Bali Strategic Plan which will complement existing mechanisms such as the Global Water Partnership Toolbox, the UNESCO Water Portal, the United Nations Commission on Sustainable Development's web-based best practices database, Water Action and Networking Database (Commission on Sustainable Development-WAND), and Cap-Net, the UNDP network for capacity-building in sustainable water management. This clearinghouse will promote synergy and shared learning, reduce duplication of efforts with other agencies and match delivery to demand.

60. UNEP will forge and strengthen partnerships at the global level with major groups as a means of drawing on the range of available mechanisms and expertise to promote the sustainable management and use of water

resources and to identify best-practice responses to environment-related freshwater issues. This will include working through existing international partnerships such as the World Water Council, the Water Alliance, the World Water Forum and its ministerial conference, the Rainwater Partnership and the Global Water Partnership and will also include forming other relevant partnerships as necessary.

VIII. Operationalizing the strategy in the UNEP programme of work

61. Every two years, UNEP presents its biennial programme of work, including expected accomplishments, indicators of achievement and specific activities and outputs, and its budget to the Governing Council/Global Ministerial Environment Forum at its regular session. The biennial programme of work is drafted by the secretariat and reviewed by the member States before final debate and adoption by the Council/Forum. The present policy and strategy will provide direction to the secretariat in its drafting of the programmes of work for the period 2007–2012.

62. Appendices I and II of the present policy and strategy provide specific direction to the UNEP secretariat for the development of its programme of work by describing topical focal areas and the relevant areas in which UNEP has a comparative advantage in the environmental field.

63. UNEP will work to ensure that UNEP-implemented water projects funded by GEF and other sources create maximum synergies and complementarities with the projects and activities carried out under the water policy and strategy. Additionally, UNEP will seek extra-budgetary funding, in particular through partnerships with donors, to maximize implementation of the water policy and strategy.

IX. Monitoring the water policy and strategy

64. UNEP will regularly monitor implementation of the water policy and strategy through its internal monitoring procedures. The overall expected accomplishments and indicators for each of the components of the strategy

are described in appendix I and will be elaborated upon through the biennial UNEP programme of work. As the water policy and strategy will guide the development of the programme of work and UNEP already uses the results-based Integrated Monitoring and Documentation Information System (IMIDIS) for monitoring implementation of the programme of work, consistent with the intrinsic principle of building on what already exists, UNEP will use IMIDIS to provide day-to-day monitoring of the water policy and strategy and for the development of annual and biennial United Nations reporting.

65. Formal qualitative implementation reports will be provided to Governments at the regular sessions of the UNEP Governing Council and will be used to gauge progress made towards the stated goal and objectives elaborated through the three main components of assessment, management and cooperation and in accordance with the appendix I indicators. Regional, intergovernmental and other forums will further facilitate continuous and systematic reviews.

66. Two years prior to the expiry of this policy and strategy (2010), the secretariat will prepare a draft, updated policy and strategy for the subsequent six-year term of 2013-2018. That draft will be circulated at the regular session of the Governing Council/Global Ministerial Environment Forum in 2011, such that a final draft may be circulated no later than September 2012 for consideration by the Council/Forum in 2013. Should circumstances warrant an earlier update of the policy and strategy to account for unforeseen and emerging issues during the six-year term of the water policy and strategy, the Governing Council/Global Ministerial Environment Forum may wish to mandate that such an update be prepared.



Photo Credit: Rodger De la Harpe/Sillpictures

Appendix I

Areas of programmatic action in freshwater

Expected accomplishment	Indicators	Areas of UNEP comparative advantage
Component 1: Assessment^{1*}		
1.1. Provide knowledge base		
<ul style="list-style-type: none"> • Integrated assessments address environmental aspects of water and support national development planning and policy (e.g., poverty reduction strategy papers, United Nations development assistance frameworks). • Policy relevant environmental assessments and environmental profiles are developed for integrated water resource management (IWRM) priority setting and monitoring effectiveness of management initiatives, as well as for compliance and enforcement. • Technology-support and capacity-building for environmental assessment of water resources is provided at the regional, subregional and national levels. • Socio-economic valuation of water-related ecosystem services as a tool for decision making is fully integrated into water resource development and management scenarios. • Regional, subregional, national and local stakeholders are able to carry out assessments aimed at the restoration of degraded surface and groundwater related ecosystems. • Relevant regional organizations are assisted (upon request) to develop and maintain regionally harmonized water databases and assessment reports, paying due attention to freshwater-coastal interaction, transboundary waters and groundwater. 	<ul style="list-style-type: none"> • Integrated water resources management processes and plans are based on scientific, economic and rational priority setting and are revised based on continuous monitoring and adjustment. • Priority consideration is given to the socio-economic value of water-related ecosystem services in national development plans, as a tool for decision making. • Environmental profiles are used in setting priorities and for implementation of the Bali Strategic Plan on Technology Support and Capacity-building needs assessments. • Environmental assessments are conducted for ecosystem restoration. • Regional water basin environmental issues are well understood and acted upon by relevant actors. • Regional water resource assessment methodologies are based on comprehensive, high-quality data sets. 	<ul style="list-style-type: none"> • Identification or development of integrated assessment methods on water quality and quantity issues and related ecosystems • Assistance in the development of integrated assessments at the national, regional and global levels (not only methods, but actual assessments) • Support for the development of national environmental profiles • Capacity-building for socio-economic assessments to assess value water-related ecosystem services for incorporation into national development planning • Assistance in the development of institutional frameworks to translate assessment results into policy • Identification or development of methodologies and building of capacity for surface and groundwater ecosystem restoration for ecosystems degraded by natural or human induced impacts • National and regional capacity-building on the use of environmental assessment methodologies for integrated water resources management planning, implementation and monitoring – including for transboundary water resources when requested

1 * Actions under components 1 and 2 will be undertaken cooperatively with partners as indicated in component 3.

Expected accomplishment	Indicators	Areas of UNEP comparative advantage
1.2 Raise awareness and inform stakeholders of water resources issues		
<ul style="list-style-type: none"> • Decision makers and other stakeholders are made aware of the importance of integrated water resources management for achievement of MDGs, and in particular poverty reduction. • Increased awareness among stakeholders of the value of water resources and the interlinkages between related ecosystems (e.g., freshwater-coastal) and their related ecosystem services • Long-term macro-economic consequences and progress in non-action areas (e.g., health, poverty, hunger) are monitored • Improved access to water resource environmental assessment information • All relevant actors support well-defined national environmental priorities impacting on socio-economic development 	<ul style="list-style-type: none"> • Stakeholders are actively engaged in IWRM processes and make valuable contributions to ensure that in accommodating competing uses the overall benefit of such uses to society, particularly to the poor, is taken into consideration. • IWRM plans address freshwater-coast interlinkages, groundwater and water resource augmentation (e.g., rainwater). • Poverty reduction strategy papers, common country assessments and United Nations development assistance frameworks include environmental water resource concerns. 	<ul style="list-style-type: none"> • Development of tailored integrated water assessments (including social and economic information) for specific audiences, including for the development of poverty reduction strategy papers and United Nations development assistance frameworks • Promotion of understanding of the interlinkages between freshwater and coasts • Promotion of better understanding of groundwater and water resource augmentation (e.g., rainwater) in an IWRM context • Identification and development of an environmental water resources information database, including information on relevant clean technologies • Disseminate information and guidelines on surface- and groundwater quality and the safe reuse of treated wastewater • Identification and dissemination of traditional knowledge and best practices
1.3 Provide information on threats, trends and emerging issues		
<ul style="list-style-type: none"> • The global community is informed on primary and emerging threats to the environmental integrity of water resources. • Dialogue forums are provided on trends and emerging issues that affect the environmental aspects of water resources. • The environmental state of global water resources is kept under review and the international community, all stakeholders and the general public are well informed. • Alternative environmental scenarios for water resources management are developed. 	<ul style="list-style-type: none"> • Integrated water resources management processes and plans take into account natural disasters (such as hurricanes, droughts and floods) climate change and climate change adaptation. • Alternative water resource development scenarios (e.g., hydropower, desalinization) and their environmental impacts are assessed in the context of local and national development strategies. • Water resource scenarios consider relevance of related ecosystem services. • Environmental aspects of global water resources and related emerging issues are discussed at global forums. 	<ul style="list-style-type: none"> • In cooperation with others, collection and dissemination of information on threats, trends and emerging issues such as climate variability, urbanization, water infrastructure, desertification, deforestation, etc. • Development of scenarios on impacts of threats to water resources to ensure that IWRM includes contingencies • Expansion of availability and use of information on environmental flows and their relevance to IWRM • Development and dissemination of global state-of-water resource reports (e.g., Global Environment Outlook)

Expected accomplishment	Indicators	Areas of UNEP comparative advantage
Component 2: Management		
2.1 Create enabling environment		
<ul style="list-style-type: none"> • National environmental legislative and policy frameworks are developed to support IWRM plans and processes. • IWRM financing mechanisms for ecosystems services will be created taking into consideration national priorities. • Regionally differentiated IWRM environmental policies and legislative frameworks are developed, built upon the structure and foundation of the UNEP water policy and strategy. • National IWRM plans are supportive of wider regional/river basin management plans (including for transboundary water resources). • Policy and legislative frameworks including the valuation of ecosystem services as a tool for decision making are supported for the management of transboundary water resources, where requested by all relevant parties. • Application of ecosystem approaches as an overarching policy and programmatic framework for IWRM with all partners is enhanced. 	<ul style="list-style-type: none"> • Environmental components of IWRM plans are solid and defensible and well grounded in national development frameworks. • National financing options and funding levels in support of environmental components of IWRM are increased. • The value of water resources for both human and environmental purposes is incorporated into national development strategies. • Regional entities and commissions have environmentally sound legislative and policy frameworks for the joint management of water resources. • Regional IWRM plans give due consideration to the value of ecosystem services. • Global environmental frameworks for water resources management are founded in IWRM. 	<ul style="list-style-type: none"> • Provision of policy support for the incorporation of environmental aspects of water resources management and the economic value of water-related ecosystems into national poverty reduction strategy papers and sustainable development plans • Capacity-building in payments for ecosystem services • Provision of guidance and technical and legal support to Governments on environmental aspects of IWRM, including on the relevance of freshwater-coast interlinkages • Promotion of integration of GEF-supported international water projects into national sustainable development planning • Provision of legislative and policy support for the development or implementation of IWRM-based transboundary basin management initiatives, where requested by all relevant riparian Governments
2.2 Institutional functions		
<ul style="list-style-type: none"> • National institutions are strengthened and reformed to address the full range of environmental issues associated with IWRM. • Relevant national institutions consult with each other on environmental aspects of water resource management issues as part of their core operations. • Local, national and regional inter-institutional dialogues on key water resource management issues including all relevant stakeholders are facilitated where requested. • Cooperation and networking between institutions across relevant sectors (including freshwater and coastal sectors) at the national, subregional, regional and global levels on environmental aspects of water resources is increased. • IWRM plans contain practical guidance on cross-sectoral integration of relevant institutions within the context of national and sectoral development plans and goals. 	<ul style="list-style-type: none"> • National institutional mandates and work plans accommodate the environmental aspects of water resource management. • Recommendations of national, regional/subregional and global dialogues are incorporated into IWRM plans. • Institutional capacity is developed to address transboundary water concerns. 	<ul style="list-style-type: none"> • Strengthening of and support for reform of national environmental institutions and regional cooperative mechanisms for water resources • Facilitation of inter-institutional dialogue meetings on environmental aspects of IWRM at the local, national and regional levels • Facilitation of creation of institutional mechanisms to allow all stakeholders to contribute to IWRM • Assistance to interested and concerned Governments in establishing dialogue mechanisms to enable stakeholders to interact on the freshwater-coast interface • Support for capacity building of regional/subregional institutions that address environmental aspects of IWRM collectively

Expected accomplishment	Indicators	Areas of UNEP comparative advantage
2.3 Management instruments		
<ul style="list-style-type: none"> Environmental guidelines, methods and other tools and operational instruments for IWRM are developed and made available at the national, regional and global levels. Coordinated environmental technical support and capacity-building are provided at the national, subregional, and regional levels in the use of IWRM instruments. Innovative and environmentally sustainable technologies are available for IWRM. Conservation finance mechanisms and instruments are actively incorporated into IWRM. 	<ul style="list-style-type: none"> Ecosystem services, conservation finance and water resources valuation are integral aspects of IWRM planning and processes. Water resource managers have the necessary environmental technologies, technical and management tools at their disposal to implement IWRM. IWRM and water efficiency planning at the national, subregional and regional levels are implemented in a technically sound manner. 	<ul style="list-style-type: none"> Identification and promotion of the development and transfer of low-cost technologies, including water efficiency and alternative water supplies such as desalinization, wastewater reuse, pollution prevention and rainwater harvesting Identification and promotion of operational instruments to support protection and rehabilitation of basins and their ecosystems Identification or development of guidelines for: <ul style="list-style-type: none"> prevention and preparedness guidelines, together with risk mitigation and disaster reduction, including early-warning systems for water resources; consideration of interconnected ecosystems (e.g., land, forests), including freshwater-coast interlinkages; capacity-building for monitoring compliance and enforcement; financing ecosystem-based approaches to IWRM
Component 3: Cooperation		
3.1 National level		
<ul style="list-style-type: none"> Ongoing national IWRM processes include integration and mainstreaming of environmental considerations in cooperation with other development partners. National Governments express political will, commitment and ownership of national IWRM processes and plans. National environmental policies and mechanisms for IWRM are communicated to the local (city) level. UNEP work to promote environmental aspects of IWRM at the country level under the Bali Strategic Plan umbrella is fully aligned with that of other actors (in particular other United Nations agency partners). Where previously absent, national IWRM processes are initiated with fully integrated environmental components and in cooperation with other development partners. 	<ul style="list-style-type: none"> National IWRM planning and processes include strong environmental considerations. National budgets reflect commitment to IWRM. United Nations support at the national level in the context of the United Nations Development Group is delivered in a coherent fashion. Cities embrace national IWRM environmental principles and practices applied at the local level. 	<ul style="list-style-type: none"> Evaluation of environmental capacity needs in cooperation with development partners for water resources management Catalysing and facilitation of IWRM environmental capacity at the national level within the framework of the Bali Strategic Plan (through workshops and guidelines) for assessment and management Technical environmental workshops and guidance that improve knowledge and access to innovative and appropriate technologies Promotion of integration of UNEP-supported water activities at the national level with those of other actors such as the United Nations, GEF, bilateral donors and development banks National level environment-related water resource management initiatives implemented in the context of the UNEP/UNDP memorandum of understanding

Expected accomplishment	Indicators	Areas of UNEP comparative advantage
3.2 Regional and subregional levels		
<ul style="list-style-type: none"> • Regional networks are strengthened to deliver regionally consistent and mutually supportive IWRM programmes that contain strong environmental components and considerations. • Environmental aspects of IWRM are incorporated into ongoing or newly initiated regional and subregional processes in cooperation with other development partners, regional networks and intergovernmental institutions. • Cooperative frameworks are provided, where requested by all relevant parties, for dialogue on transboundary waters and infrastructure development (e.g., hydropower). 	<ul style="list-style-type: none"> • Regional and subregional networks and institutions incorporate components of UNEP water policy and strategy into IWRM plans and processes. • National Governments and other stakeholders at the regional and subregional levels strive to reach consensus on management of transboundary waters. 	<ul style="list-style-type: none"> • Support to regional networks (e.g., African Ministers' Council on Water, Council of Arab Ministers Responsible for the Environment) in their efforts to promote integrated water resources management • Provision of institutional and technical capacity-building for the environmental management of shared basins and aquifers where requested, including the freshwater-coast interface and consideration of economic factors
3.3 Global level		
<ul style="list-style-type: none"> • Environmental aspects of UN-Water are strengthened through UNEP contribution. • Global coordinating mechanisms (e.g., multilateral environmental agreements) benefit from UNEP support to their water resources initiatives and programmes. • Global progress towards IWRM plan development and implementation is monitored, in particular environmental aspects. 	<ul style="list-style-type: none"> • Global actions in water resources avoid duplication and maximize complementarity of activities. • Relevant multilateral environmental agreements develop water programmes tailored to their specific needs and complementary initiatives are undertaken between relevant multilateral environmental agreements. • Global IWRM indicators and monitoring schemes are developed and include clear environmental aspects. 	<ul style="list-style-type: none"> • Provision of support for environmental water resource management as a contribution to UN-Water, the United Nations International Decade for Action, "Water for Life", 2005–2015, the Global Water Partnership and other relevant global organizations and active participation in promoting ecosystems-based approaches to water resources management • Work with UN-Water and other development partners to monitor progress towards the World Summit on Sustainable Development IWRM 2005 target that includes environmental considerations • Consistent with the Bali Strategic Plan, development of a database and clearinghouse mechanism of relevant UNEP activities worldwide in the field of environmental capacity-building • Support for the secretariats of multilateral environmental agreements in promoting the values and components of the UNEP water policy and strategy

Appendix II

Thematic areas for strategic action

Strategic principle	Thematic areas	Relevant UNEP programmes and initiatives
Promote ecosystem-based approaches	Groundwater (including groundwater/surfacewater connectivity)	Global Environment Monitoring System (GEMS) Water Global International Waters Assessment Iraqi Marshlands
	Ecosystem restoration	
	Freshwater-coastal linkage	GPA/Regional Seas Fresh-Co partnership UNEP Collaborating Centre on Water and Environment (UCC-Water) Collaboration through UN-Water White Water to Blue Water coral reef programme
	Environmental flows: quality and quantity issues	GEMS Water Global International Waters Assessment UCC-Water
	Water resource augmentation (e.g., rainwater and desalinization)	Rainwater Partnership Pilot demonstration projects
	Transboundary water resources management	Regional Seas UCC-Water

Strategic principle	Thematic areas	Relevant UNEP programmes and initiatives
Contribute to sound economic and social development, including poverty reduction	Sanitation, wastewater collection, reuse and reallocation	Global Programme of Action for Land-based Activities Regional Seas Nairobi River Basin Project
	Mainstreaming of environment into development processes	Poverty and Environment programme Pro-Poor Markets for Ecosystems Initiative UCC-Water Bali Strategic Plan Jeju Initiative
	Environmentally sustainable technologies	Bali Strategic Plan – Technology Support component Pilot Demonstration Projects on: Sanitation and Wastewater Management; Drinking water provision; Eco-towns and integrated solid waste management
	Legal instruments	Partnership for Development of Environmental Law and Institutions in Africa
	Water demand management and water conservation	UCC-Water Resource augmentation -3Rs principle and tapping alternative resources
	Dams and hydropower	
	Infrastructure development for water resources management	
	Water and the Millennium Development Goals	Poverty and Environment programme Rainwater Harvesting
Address risks	Adaptation to climate variability	Awareness and Preparedness of Emergencies at Local Level
	Extreme hydrological events	Post Conflict and Disaster Management
	Water pollution control	Managed aquifer recharge with rainwater as an adaptation to climate change
	Environment and security –post disaster management Disaster prevention and risk management	Multilateral environmental agreement support UNEP/United Nations Industrial Development Organization
	Waste management /Cleaner production	network of national cleaner production centres
	Chemicals	Strategic Approach to International Chemicals Management

Strategic principle	Thematic areas	Relevant UNEP programmes and initiatives
Build national and regional capacity	Technology transfer	Bali Strategic Plan China –Africa capacity-building programme UCC-Water
	South-south cooperation	
	Water sector capacity-building needs assessment needs	Bali Strategic Plan UNEP/UNDP memorandum of understanding UCC-Water
Build on existing programmes and partnerships and form new partnerships	Legal instruments	Partnership for Development of Environmental Law and Institutions in Africa
	Rainwater harvesting	Rainwater Partnership
	Urban water resources	Cities Alliance Sustainable Cities Programme Wastewater management
Promote multi-stakeholder participation	Gender and water	Gender and Water task force Global Water Partnership/Global Water Alliance
	Intergovernmental/inter-stakeholder dialogue	UCC-Water