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International environmental governance

**Strengthening the scientific base of UNEP: Environment Watch
strategy: Vision 2020**

Note by the Executive Director

Summary

The present report has been prepared in response to paragraph 7 of Governing Council decision 24/1 III, which called upon the Executive Director to consult Governments, other United Nations bodies, financial institutions including the Global Environment Facility, the private sector and civil society, multilateral environmental agreements, and the scientific community, including global observing systems and other partners, with a view to improving further the proposed Environment Watch strategy. It further requested the Executive Director to report back to the Governing Council at its twenty-fifth session with a revised proposal that should include component cost estimates for work proposed for the biennium 2010–2011.

The present report presents the updated Environment Watch strategy as an integral component of the implementation of the UNEP medium-term strategy. The revised and updated strategy has its primary focus on capacity-building to provide environmental information for policy setting and decision-making. It takes into account the comments received from the consultative process and elaborates on how it supports the implementation of the Bali Strategic Plan for Technology Support and Capacity-building and the "Delivering as One" initiative at the national level. The strategy also includes an indicative costing.

* UNEP/GC.25/1.

I. Background: environmental science for development

A. United Nations system-wide coherence and reform: the role of environmental science

1. At the 2005 World Summit, Governments recognized that enhanced United Nations system-wide coherence was vital for the attainment of development goals. In this context, they also identified the need for more efficient environmental activities within the United Nations system.¹ A key area of concern was the need for strengthened environmental scientific knowledge and assessment. Environmental science and technology were also recognized as vital.² The focus by the Summit on the need to strengthen environmental scientific knowledge in the context of development and system-wide coherence is well placed, as shared knowledge promotes concerted action.

2. As a follow-up to the Summit, the President of the General Assembly initiated an informal consultative process on the institutional framework for United Nations environmental activities. During the consultation, broad support was evinced among Member States for strengthening the United Nations Environment Programme (UNEP) and its coordinating role in environmental issues, including strengthening the scientific capacity of UNEP and, in particular, its assessment and early warning activities.³ Development of Environment Watch, the UNEP Global Environment Outlook process and the workings of the Intergovernmental Panel on Climate Change were identified as meriting further consideration.

3. The question of how to develop a stronger scientific and analytical capacity in monitoring, assessing and reporting on critical environmental trends was also considered by the Secretary-General's High-level Panel on System-wide Coherence in the areas of development, humanitarian assistance and the environment. As a programme committed to United Nations reform, a key challenge for UNEP is to serve as the environmental early warning mechanism of the international community and to monitor, assess and report on the state of the global environment as recommended by the Panel. Rapid delivery of information on critical environmental trends requires an information infrastructure that can support such deliveries. Such an infrastructure is not yet in place in many parts of the world. The Panel, therefore, recommended that the role of UNEP in this area could be strengthened through a system of networks drawing on existing bodies, including academic institutions and centres of excellence, specialized agencies and the scientific subsidiary bodies of the multilateral environmental agreements.

4. In 2002, the UNEP Governing Council/Global Ministerial Environment Forum (hereinafter referred to as the "Council/Forum") acknowledged that increasing complexity of environmental degradation required an enhanced capacity for scientific assessment and monitoring and for the provision of early warnings to Governments.⁴ To meet this need the Council/Forum initiated a broad-based consultative process on strengthening the scientific base of UNEP.

5. It was recognized during the consultative process that knowledge about current and plausible future environmental changes was critical for environmental decision-making, including for the mainstreaming of environmental concerns into development. It was further recognized that such knowledge needed to reflect the interlinkages between countries, between environmental challenges and between environment and development. Improved cooperation and synergies between Governments, United Nations bodies, multilateral environmental agreements and regional environmental forums, and between scientific and academic institutions, together with enhanced networking between national and regional institutions were required to meet the following core set of needs:

(a) Enhanced national capacities in developing countries and countries with economies in transition for data collection and analysis and for environmental monitoring and integrated assessment;

1 General Assembly resolution 60/1 of 16 September 2005, para. 169.

2 Ibid., para. 60.

3 Its deliberations are presented in the co-chairs' summary.

4 See paragraph 8 (e) of the report of the Open-ended Intergovernmental Group of Ministers or Their Representatives on International Environmental Governance, as adopted in decision SSVII/1.

(b) Improved quantity, quality, interoperability and accessibility of data and information for most environmental issues, including for early warning related to natural disasters;

(c) Strengthened interaction between science and policy, in particular by strengthening the credibility, timeliness, legitimacy, relevance of and complementarity between environmental assessments so as not to overburden the scientific and policy community with competing processes.

6. The Environment Watch strategy evolved as a proposed response to the aforementioned needs. The present report describes the consultative process undertaken in 2007–2008 to improve further the strategy, in particular, by enhancing the scope and content of its revised version through the implementation of the UNEP medium-term strategy; its relationship to the Bali Strategic Plan for Technology Support and Capacity-building and the "Delivering as One" initiative; its functional approach and components, and cost estimates. The suggested action is contained in document UNEP/GC.25/3 on international environmental governance.

B. Environment Watch consultative process 2004–2008

7. The first Environment Watch proposal was presented to the Council/Forum at its twenty-third session, in February 2005.⁵ The Council/Forum requested the Executive Director to develop the proposal further in consultation with Governments and other stakeholders.⁶ An updated proposal and a questionnaire were prepared and reviewed by Governments and partners through written submissions and consultations. The resulting updated proposal⁷ presented the architecture of an Environment Watch system and was considered by the UNEP Governing Council at its ninth special session, in February 2006. Representatives then expressed the view that the Environment Watch system required further improvement before it could be considered for approval by the Governing Council. At the same time, however, representatives acknowledged that the importance of capacity-building and technology support in the areas described under Environment Watch was such that they should not be held up by the continuing consideration of the Environment Watch system. Capacity-building and technology support are accorded the highest priority in the updated strategy.

8. The Executive Director held another multi-stakeholder consultation with interested partners and agencies (as detailed at <http://www.unep.org/scienceinitiative>) and proposed, based on those consultations, to shift the focus of the Environment Watch proposal from a system to a multi-year strategy up to the year 2020. The strategy was presented to the Council/Forum at its twenty-fourth session, in February 2007. In response, the Council/Forum approved decision 24/1 III, which called upon the Executive Director to hold wide consultations with a view to improving further the proposed Environment Watch strategy as an integral part of the wider strategic vision of UNEP and to report back to the Governing Council at its twenty-fifth session with a revised proposal that should include component cost estimates for work proposed for the biennium 2010–2011.

C. Findings of the Environment Watch consultative process 2007-2008

9. In 2007 and 2008, the Executive Director held further multi-stakeholder consultations with Governments, other United Nations bodies, financial institutions including the Global Environment Facility, the private sector and civil society, multilateral environmental agreements, the scientific community including global observing systems, and other partners to refine the strategy further.

10. More than 400 Governments and institutions were contacted to provide views, with 53 submissions received. An detailed analysis of the comments received (see <http://www.unep.org/scienceinitiative>) from the various stakeholders highlighted the following key points:

(a) The Environment Watch strategy should be consistent with the objectives, expected outcomes and organizational structure for implementation of the six cross-cutting thematic priorities outlined in the UNEP medium-term strategy. The strategy should provide the needed scientific knowledge and assessments to UNEP divisions for implementation of the six cross-cutting thematic priorities, in addition to responding to the expressed needs of Governments for the same. The strategy

5 See document UNEP/GC.23/3 and annex II to document UNEP/GC.23/INF/18.

6 Governing Council decision 23/1.

7 See document UNEP/GCSS.IX/3/Add.2.

should have clear linkages with implementation of the Bali Strategic Plan in the developing countries, countries with economies in transition and small island States;

(b) The strategy should be developed taking cognizance of the links between environment and sustainable development and should be an incremental multi-year strategy;

(c) The strategy should build on the comparative advantages of UNEP in the areas of environmental science and assessments vis-à-vis other relevant entities at the international, regional and national levels. UNEP should play a coordinating and integrating role and not duplicate others' efforts in these areas;

(d) UNEP must identify gaps in environmental science and assessments at the international, regional, subregional and national levels and help to build appropriate scientific and other capacities to fill the gaps. UNEP must add value to the efforts of others;

(e) The strategy must entrench the environment-related knowledge and practices of indigenous groups, women and the poor. Building up their knowledge and raising their awareness should be accorded high priority in the development and implementation of the strategy. The effects of environmental changes on those sectors should be taken into account in developing the strategy;

(f) UNEP should put in place a UNEP-wide internal mechanism for implementing the strategy, with adequate human and other resources. Development and implementation of the strategy may require a dedicated internal UNEP entity. UNEP internal capacity should be assessed and strengthened, as needed;

(g) UNEP must develop an implementation road map and specific indicators for the results to be achieved;

(h) UNEP must provide cost estimates for implementation of the strategy within the overall parameters of the programme of work (2010–2011). The necessary resources must be acquired and clearly earmarked to implement the strategy.

D. UNEP medium-term strategy and integration of the Environment Watch strategy

11. The principal responsibility for the environment within the United Nations system is vested with UNEP, as reaffirmed by General Assembly resolution 62/195 of 19 December 2007. The Governing Council by its decision 24/9 requested the preparation of a UNEP medium-term strategy for 2010–2013 with a clearly defined vision, objectives, priorities, impact measures and a robust mechanism for review by Governments.

12. In response, the Executive Director prepared the medium-term strategy 2010–2013 and a corresponding draft programme of work and budget for 2010–2011 (in line with Governing Council decision SS.X/3) based upon six thematic cross-cutting thematic priorities. At the same time, the operational structure of UNEP is largely left unchanged and a matrix management approach has been adopted. This approach aims at strengthening results-based management, increasing management accountability for programme delivery and resource utilization, while at the same time ensuring that relevant thematic expertise benefits the entire programme of work.

13. Implementation of the six cross-cutting thematic priorities⁸ requires expertise across a spectrum of functional disciplines, such as environmental science, economics, law and outreach. The revised strategy has taken these programme changes fully into account and the strategy has been re-designed to ensure a perfect fit with the new matrix structure. UNEP will deliver on the six cross-cutting thematic priorities through its programmes of work by drawing on the capacity and expertise of UNEP divisions and regional offices.

14. Environmental science and assessments constitute a core competency and responsibility of UNEP. Scientific information and assessment-related work will be an integral component of all six cross-cutting thematic priorities and will be underpinned by relevant, reliable and timely data that are fundamental to the need to measure environmental change. This in turn depends on technology support,

⁸ The medium-term strategy for UNEP over the period 2010–2013 has defined the following six cross-cutting thematic priorities: climate change; disasters and conflicts; ecosystem management; environmental governance; harmful substances and hazardous waste; resource efficiency – sustainable consumption and production.

capacity-building, networking and strategic partnerships. Implementation of the Environment Watch strategy will provide the strategic guidance to implement the medium-term strategy by mainstreaming scientific assessment into the six cross-cutting thematic priorities thereby strengthening the scientific base of UNEP and bringing greater coherence to UNEP scientific assessment work.

II. Revised Environment Watch strategy

15. The strategy is designed to achieve, as its primary objective, enhanced institutional, scientific and technological infrastructures and capacities for cooperation in keeping the state of the environment under review and providing timely, accurate, credible, relevant and consistent environmental data and information across all six cross-cutting thematic priorities of the medium-term strategy and taking national priorities into account within the framework of the “Delivering as One” initiative.

16. The strategy is based on five interrelated functional components:

- (a) Capacity-building and technology support;
- (b) Assessment;
- (c) Early warning, monitoring and observation;
- (d) Environmental indicators, data support and information-sharing;
- (e) Networking and partnerships.

17. The five components of the strategy are set out in more detail below. Specific time-bound targets are outlined within each functional component and indicated in the chart in annex I. Sound science and assessment and capacity development under the strategy must respond to the needs expressed by Governments, within available resources for understanding the causes and consequences of environmental phenomena, setting policy priorities, technological support and national capacity-building, and designing programmatic interventions in accordance with the Bali Strategic Plan and the "Delivering as One" initiative. The implementation of the Environment Watch strategy requires a collective commitment by Governments and partners, together with South-South, North-North and North-South cooperation. Attention is drawn to linkages between the Environment Watch strategy and the Bali Strategic Plan, particularly Section F on information for Decision-making.

A. Capacity-building and technology support

18. The first objective of the strategy is to build national institutional and technological capacity in developing countries and countries with economies in transition for collecting, managing, analysing and disseminating environmental data and information for decision-making in support of national development goals. The strategic objective and the planned programmatic activities will contribute to the implementation of the relevant parts of the Bali Strategic Plan, in particular chapter IV, section F, on information for decision-making and the role of science, monitoring and assessment. The objective will be achieved in line with the three main targets outlined below.

1. Strengthened national environmental information infrastructures and capacities

19. The first target is to support, upon request and subject to available resources, the strengthening of national environmental information infrastructures and capacities. This is a major target that relates to section F of the Bali Strategic Plan and elaborates on the types of capacity-development interventions that will be undertaken at the national level within the framework of the medium-term strategy, as part of the “Delivering as One” initiative.

20. The triennial comprehensive policy review of operational activities for development of the United Nations system (General Assembly resolution 62/208) reinforces the need for and support to increased programmatic coherence of United Nations operations and the United Nations development assistance framework as a key instrument for the efficient and effective coordination of the operational activities for development of the United Nations system.

21. The Bali Strategic Plan calls upon UNEP to strengthen its engagement in developing countries and countries in transition in the fields of technology support and capacity-building in which UNEP has demonstrated comparative advantage and expertise. UNEP engagement at the country level must be based on national and regional priorities and take into account the obligations of national Governments with regard to international agreements.

22. The UNEP medium-term strategy for 2010–2013 stresses, among other things, that UNEP will focus on significantly enhancing delivery of the objectives of the Bali Strategic Plan. Enhanced implementation will be pursued through a number of processes and partnerships that include:

- (a) Strengthening the role of regional offices to facilitate UNEP-wide integrated support to countries and better linking its activities at the global, regional and country levels;
- (b) Increasing UNEP involvement in the United Nations Development Group and endeavouring to strengthen the environmental sustainability component of the United Nations country documents, i.e., the United Nations development assistance framework;⁹
- (c) Developing tools and training on environmental sustainability for other United Nations entities;
- (d) Working with and through the United Nations Resident Coordinator, playing an active role within United Nations country teams and relevant inter-agency groups;
- (e) Enhancing the partnership between UNEP and the United Nations Development Programme.

23. The functional components of the Environment Watch strategy are essential for building national capacities to provide environmental information for policy-setting and decision-making towards meeting national developmental goals and priorities. For example, in the area of climate change, the incorporation of adaptation planning, financing and cost-effective preventative actions into national development processes must be supported by scientific information, integrated climate impact assessments and local climate data.

24. From the country perspective, UNEP will work as a member of the United Nations country team to implement relevant components of the Environment Watch strategy within the programmatic framework of the country's United Nations development assistance framework. The aim (or suggested framework output) will be to build national capacities to keep the environment under review which, typically, will entail attaining specific objectives such as:

- (a) To provide regularly the public, the Government and decision makers with accurate, timely and accessible information about the condition of and outlook for the environment;
- (b) To facilitate the development of, and review and report on, an agreed set of national environmental indicators;
- (c) To provide early warning of potential problems and emerging issues;
- (d) To report on the effectiveness of policies and programmes designed to respond to environmental change, including progress towards achieving environmental standards and targets and contribute to the assessment of the country's progress towards achieving environmental sustainability (as stated in the seventh Millennium Development Goal);
- (e) To contribute to the assessment of the country's progress in protecting biological diversity and maintaining ecological processes and systems;
- (f) To establish a mechanism for integrating environmental information with social and economic information, thereby laying the groundwork for incorporating environmental considerations into long-term, ecologically sustainable economic and social policies;
- (g) To identify gaps in knowledge of environmental conditions and trends and recommend strategies for research and monitoring to fill these gaps;
- (h) To satisfy international environmental reporting obligations;
- (i) To help decision makers to make informed judgments about the broad environmental consequences of social, economic and environmental policies and plans.

⁹ A United Nations development assistance framework will typically have a number of broadly defined outcomes that support national development priorities and goals. Each outcome is achieved through the implementation of several outputs. Output delivery is achieved by United Nations agencies and programmes committing funds and working in conjunction with national institutions.

25. To attain these objectives, the national-level environmental knowledge infrastructure needs to integrate policy, data, information systems, networks, technologies, methodologies, institutions and experts in a coherent way and build capacities within the relevant stakeholder institutions.

26. Preparation of the plan of engagement by the United Nations country team and efforts to review a country's analytic work are ideal entry points to consider the need for additional environmental assessment and supporting measures to keep the environmental situation under continuous review as a key element of attaining national development goals and priorities.

27. Clearly, countries' development needs vary and, since the common country assessment coupled with joint strategy meetings of the United Nations country teams will identify these needs through a multi-stakeholder consultative process, it is not appropriate to prejudge the outcome of these processes. Based, however, on analyses of United Nations development assistance frameworks currently being implemented, various needs assessment exercises, and past programme delivery experience of UNEP at the country level in response to requests from Governments, it is possible to define a generic set of services that UNEP could offer, in cooperation with its strategic partners, to support a framework output aimed at building national capacities to keep the environmental situation under review. These proposed service packages are described in table 1. They are indicative of the types of capacity-development interventions likely to be needed and where UNEP has a role to play.

28. The service package will be delivered, however, by the United Nations country team with UNEP as a member and making a financial contribution. The service packages will obviously vary in both content and cost, depending on the size of the country and the level of capacity-development support needed. It should be noted that any given service package is one component of a UNEP-wide set of services that support the delivery of other outputs within a United Nations development assistance framework.

Table 1

Description of capacity-development service packages required to implement Environment Watch at the national level

Framework outcome: An enabling policy framework to support an effective system for environmental management and ecosystem conservation is established ¹⁰		
Framework output: Strengthened national capacity to keep the environmental situation under review ¹¹		
Service package	Description of capacity-development services	Outputs
SP-1 (Basic or entry-level engagement)	<p>Incorporation of environmental considerations in common country assessment in framework preparatory phase</p> <p>Review of existing environmental monitoring systems</p> <p>Basic training on integrated environmental assessment; rapid environmental assessment and environmental indicator development</p> <p>Identification of institutional data providers</p> <p>Basic institutional cooperation arrangements</p>	<p>Country environmental summary</p> <p>National environment outlook</p> <p>Basic set of (3–5) environmental indicators</p> <p>Resource base of trainers</p> <p>Pilot national environmental information network</p>
SP-2 (Moderate engagement)	<p>SP-1 +</p> <p>Strengthened national assessment processes and engagement in regional and subregional</p>	<p>Assessments on national priority issues e.g., climate impact assessment</p> <p>Ecosystems assessment</p>

¹⁰ Outcome extracted from Rwanda development assistance framework 2008–2012. This broad outcome is supported by an additional five specific outputs.

¹¹ In the Rwanda framework, this output is articulated as an information management system for natural resources and the set of capacity-development services needed to deliver this system would approximate to service package No. 2.

Framework output: Strengthened national capacity to keep the environmental situation under review ¹¹		
Service package	Description of capacity-development services	Outputs
	<p>processes</p> <p>Strengthened environmental monitoring and observing systems covering priority issues and engagement in global and regional early warning systems</p> <p>Training on additional assessment processes (City outlooks, strategic environmental assessment, environmental impact assessment, ecosystem assessment, etc.); information systems/web; remote sensing/geographic information systems</p> <p>Strengthened national data collection systems</p> <p>Strengthened cooperation on building a national spatial data infrastructure</p> <p>Support to a pilot technology supported learning programme for national clients</p> <p>Strengthened engagement in regional and subregional information networks (South-South and North-South cooperation)</p> <p>Mainstreaming of environment into other sectors</p>	<p>Thematic assessments (water, marine, etc.) depending on key national priorities</p> <p>City environment outlook</p> <p>Other assessment products (strategic environmental assessment, environment impact assessment, etc.)</p> <p>Expanded set of (6–15) environmental indicators including city-level indicators</p> <p>Expanded resource base of trainers</p> <p>National atlas of environmental change</p> <p>Pilot national spatial data infrastructure</p> <p>Pilot environmental knowledge platform</p> <p>Operational information network</p>
<p>SP-3 (Full engagement)</p>	<p>SP-2 +</p> <p>Full engagement in global and regional assessment processes</p> <p>Fully operational data collection systems</p> <p>Advanced training programme (based on specialist needs)</p> <p>Full engagement in global and regional monitoring and early warning systems</p> <p>Fully operational data and information-sharing mechanisms</p> <p>Fully operational national spatial data infrastructure</p> <p>Full engagement in global and regional information networks</p>	<p>Coherent assessment framework consisting of a set of assessment processes covering priority issues (land, water, marine, ecosystems, climate, disasters, etc.)</p> <p>Core set of national and city environmental indicators, atlas products, specialized data sets, etc.</p> <p>Set of monitoring and observation systems to generate priority data flows to support indicators of environmental change</p> <p>National trainers network and environmental e-learning centre</p> <p>Set of websites, portals and information systems to facilitate data- and information-sharing</p> <p>National spatial data infrastructure</p> <p>Operational environmental knowledge platform</p> <p>Sustainable national environmental information network</p>

2. Geographically balanced participation in UNEP-administered assessments

29. The second target is to support the participation of experts in international environmental assessments administered by UNEP, ensuring geographical balance. It will include support for the participation of young scientists, including through fellowships. North-South and South-South scientific exchanges as envisaged under the Bali Strategic Plan will also be considered.

3. Web-based capacity-development platform

30. The third target under this strategic objective is to develop an operational, web-based, capacity-development platform by 2012. The platform will cover all six areas of the medium-term strategy by integrating training courses and resources across UNEP, the wider United Nations system and partner institutions as appropriate. The platform will incorporate an e-learning component offering courses and training modules in an e-learning format.

31. The platform will facilitate access to a structured set of training courses and resources such as manuals, procedures, guidelines, best practices, standards, tools, and technologies for monitoring, data-quality assurance, data management, assessment, networking, early warning and exchange of data and information. It will also provide access to a global pool of trainers. Online communities of practice will foster post-training collaboration among practitioners and collaborating centres. The platform will also facilitate the sharing of best practice and experience across all six cross-cutting thematic priorities. For example, information and experience must be disseminated and exchanged at the global and regional levels between decision makers and stakeholders to increase resource efficiency.

E. Assessment

32. The second objective of the strategy is to enhance the interaction between scientists and decision makers through timely, credible, legitimate and relevant assessments of the state of and outlook for the environment. The planned programmatic activities will contribute to the implementation of the medium-term strategy and the relevant parts of the Bali Strategic Plan, in particular its call in chapter IV, section F, for support to environmental assessments at the regional and subregional levels. The objective will be achieved through the three main targets of a coherent assessment approach, a structured set of multi-scaled assessments and a web-based assessment landscape platform.

33. The following five principles will guide the assessments:

- (a) Policy relevance;
- (b) Scientific credibility;
- (c) Legitimacy;
- (d) Capacity-building and networking;
- (e) Participation and consultation.

1. Coherent assessment approach

34. The first target is, by 2010, to develop a coherent environmental assessment approach that will encompass various assessment methodologies, ranging from environmental impact assessments to international environmental assessments, as these both complement and contribute to development of assessments. This will be done across the six focal areas of the medium-term strategy. The approach would include a refined conceptual and analytical framework with an improved understanding of the linkages between macroeconomic concepts, ecosystem services and human well-being. It will be developed in close consultation with relevant assessment partners. Document UNEP/GC.25/4/Add.1 provides an overview of the international assessment landscape based on two in-depth reviews contained in documents UNEP/GC.25/INF/12 and UNEP/GC.25/INF/12/Add.1 and makes recommendations on enhancing coherence.

2. Structured set of multi-scaled assessments

35. The second target is to move toward a structured set of world-wide environmental assessments by 2020 (based on recommendations contained in document UNEP/GC.25/4/Add.1) for undertaking mutually supportive, cutting-edge assessment processes involving scientists, partners and decision makers in response to needs identified by decision makers. Issues to be considered would include improved synchronization of assessments at the same scale and the staggering of assessments at various

scales with a view to boosting the cost efficiency of international assessments, as they would then be better placed to draw upon and synthesize the findings of assessments at lower scales.

36. The structured set of assessments would focus on preparing the following set of mutually supportive assessment processes, with UNEP playing a lead or supporting role:

(a) Periodic global assessment in the form of the Global Environment Outlook, on the state of knowledge in respect of key environmental challenges and their interlinkages, plausible futures and response measures. Document UNEP/GC.25/4/Add.1 outlines possible options for the development of a new global assessment of environmental change, building on the past Global Environment Outlook process (in response to decision SS.X/5), and document UNEP/GC.25/INF/11 provides a synthesis of policy lessons from recent global environmental assessments. Document UNEP/GC.23/4 contains a summary of issues emanating from the activities of UNEP in the area of assessment, monitoring and early warning. The impact of *Global Environment Outlook: Environment for Development* is discussed in document UNEP/GC.24/INF/13. The comprehensive global assessment will serve as a basis for deliberations by the Governing Council/Global Ministerial Environment Forum, on strategic and programmatic directions for UNEP beyond 2013;

(b) A dynamic set of thematic environmental assessments across the six cross-cutting thematic priorities of the medium-term strategy. For example, environmental outlooks related to resource efficiency (subprogramme 6) and chemicals (subprogramme 5) are already envisaged for the 2010–2011 programme of work. Such assessments will serve as a basis for consideration by the Council/Forum of the effectiveness of United Nations system-wide environmental activities and governance;

(c) Regional and subregional environmental assessments of environmental challenges and emerging issues in response to requests from ministerial forums serviced by UNEP, which will serve as a basis for their decision-making;

(d) National and sub-national assessments, as discussed under chapter II, section A, above.

37. Priorities for global assessments will be set by the Council/Forum and other international governing bodies such as the conferences of the Parties to multilateral environmental agreements, as appropriate. Regional ministerial forums and related intergovernmental forums will set priorities for assessments at the regional and subregional levels. National Governments will set priorities for national-level assessments, while at the subnational level priorities will be set by local government structures such as municipalities in the case of city-level assessments.

3. Web-based assessment landscape platform

38. The third target under this objective is to develop and populate a web-based assessment platform that will provide an overview of the thematic and geographical coverage and scope of environmental assessments as a basis for prioritizing future assessment needs, to be ready in prototype form by 2008 and to be fully operational by 2012. Its purpose will be to track assessment processes and their related mandates and to provide access to their published outputs such as reports, technical studies, policy briefs, synopses, vital graphics and maps.

39. To date, over 2,400 full texts of assessment reports have been added to the system. Over 60 key global, regional and subregional assessments have been fully mapped and some 160 countries have been surveyed to map assessment processes at the national level. The findings of these two mapping exercises are outlined in documents UNEP/GC.25/INF/12 and UNEP/GC.25/INF/12/Add.1, respectively. Document UNEP/GC.25/4/Add.1 provides a synopsis of the international assessment landscape with recommendations. Future work on mapping the assessment landscape will track systematically environmental assessments across the six priority areas.

F. Early warning, monitoring and observation

40. The third objective of the strategy is to address systematically early warning of emerging environmental issues and threats by integrating environmental observation, assessment and monitoring functions, together with effective and timely dissemination of information in an easy-to-understand format to a broad range of users. The strategic objective and the planned programmatic activities will contribute to the Bali Strategic Plan (support for the assessment and early warning of emerging environmental issues) and will be achieved through the target set out below.

1. Coherent early warning approach

41. Early warning is the provision of timely and effective information, through identified institutions, that enables Governments and civil society to take action to avoid or reduce their exposure to a potential environmental risk and prepare for effective response. A coherent approach to early warning will integrate the following elements: observing and monitoring; detection and screening; analysis and assessment; compilation and communication of alert messages; and actions and responses.

42. UNEP early warning functions are based on the four strategic principles of scientific reliability and credibility, policy relevance, international cooperation and related capacity development.

43. UNEP will focus on the early warning of significant emerging environmental issues and threats in the medium and longer-term, or slow-onset environmental issues – incremental and cumulative environmental changes that may receive little attention in their early phases but which, over time, may emerge as full-blown crises. It will not be an early warning system for natural hazards such as earthquakes and tsunamis. Special attention will be paid to vulnerability and risk analysis of critical ecosystems and human well-being. Within the medium-term strategy priority areas, initial emphasis will be laid on the areas of climate change and adaptation, disasters and conflicts and ecosystems management, linking with relevant areas of environmental governance.

44. The early warning approach will be supported by a global environment alert service, providing online access to dynamic information about current environmental changes. Specifications for a global environment alert service have been developed and the service will be ready by 2010. It will consist of three components that will provide information for decision-making: near real-time environmental change information, environmental hot spots alerts and environmental science alerts. The service will build upon several tools and partnerships developed by UNEP over the years with the addition of new tools as needed.

45. Critical partners for attaining this vision include: the global earth observing systems and processes, including their national components (e.g., the Global Earth Observing System of Systems and the Global Terrestrial, Climate and Ocean Observing Systems;¹² the Global Monitoring for Environment and Security initiative, and others); the scientific community and development agencies. The early warning function will support the work of the UNEP Chief Scientist to bring emerging issues to the attention of Governments and other relevant stakeholders.

G. Environmental indicators, data support and information-sharing

46. The fourth objective of the strategy is to identify and mobilize the priority data flows needed to support the publication of a set of global, regional, national and city-level indicators across the six thematic areas of the medium-term strategy and to facilitate access to environmental knowledge by building the necessary capacity at the national and regional levels. The strategic objective will be achieved through the two targets set out below.

1. Coherent approach towards environmental data and indicators

47. The first target under this objective is to move towards a coherent set of environmental indicators that is supported by reliable, relevant and timely data. To keep the environment under review and prepare timely early warnings on emerging environmental issues and change, UNEP and member States need to have access to and make regular use of specific data flows and measured parameters that describe the state and trends of the Earth's surface and atmosphere. These will be targeted to medium-term strategy priority areas, and include, among others, the Normalized Difference Vegetation Index or similar, and global and regional land cover and land change maps updated on a regular basis for change detection and early warning purposes; biodiversity and natural and protected area databases; population trends, including on human migration and incorporating gender-disaggregated categories; the world glacier and coral reef databases for climate change and sensitive ecosystems; freshwater consumption and freshwater quality.

48. Better indicators are needed in support of the seventh Millennium Development Goal and for monitoring environmental sustainability under the "Delivering as One" initiative country programming

12 These are the Global Climate Observing System, the Global Ocean Observing System, the Global Terrestrial Observing System and the Global Earth Observation System of Systems. The latter is being developed through a 10-year implementation plan to be completed by 2015 as overseen by the intergovernmental Group on Earth Observations.

process. UNEP will build on its expertise and existing data repositories and will realign its partnerships, networks and platforms to build national capacity in critical data and indicator areas, as called for under section F of the Bali Strategic Plan.

49. Within UNEP, core environmental data and indicators underpin global and thematic integrated environmental assessments, including the Global Marine Assessment, future comprehensive global environmental assessments, the UNEP Year Book and other UNEP products, within the context of the priority areas of the medium-term strategy.

50. With accelerating global environmental change, UNEP needs a faster way to report on the planet in an integrated way across all the thematic areas covered by other assessment processes, such as climate change, biodiversity, water, food, forests, fisheries, oceans, soils, desertification and land use, giving snapshots of the global impact of human society and the rate of erosion of the various kinds of environmental capital. UNEP will provide an annual overview of the global environmental situation through an environmental index ranked by country. No index is perfect but UNEP will seek to select one or more by 2010 to communicate the message of environmental responsibility and good performance.

51. Few of the new specific data needs can be met internally and the success of this objective will depend upon long-term partnerships with numerous data providers and analysts, such as the UNEP World Conservation Monitoring Centre, the United Nations Educational, Scientific and Cultural Organization, the Food and Agriculture Organization of the United Nations, the Global Environment Monitoring Centre Water Programme, the United Nations Statistics Division, the United Nations Population Division, the United Nations Population Fund, the Office of the United Nations High Commissioner for Refugees and the International Organization for Migration. UNEP will also realign its partnerships, networks and platforms to build national capacity in critical data and indicator areas, as called for under section F of the Bali Strategic Plan.

2. Information access and sharing

52. The rapid developments in information and communication technologies, in particular the internet, offer a unique opportunity for enhancing environmental knowledge and information infrastructure through capacity-building and cooperation. The second target under this objective is to provide access to information and data through open channels that capitalize on new information and communication technologies such as Web 2.0 that will support environmental decision-making processes. Facilitating access to environmental knowledge is consistent with the catalytic role of UNEP in keeping the world environmental situation under review.

53. UNEP will promote the automation of environmental data collection at the relevant level to support environmental assessment and reporting and the compilation of environmental indicators through the provision of technology support tools developed in conjunction with technical partners, and make these data available in electronic form. Promoting the adoption of standards, technologies and methods that facilitate interoperability and information-sharing will be accorded priority and this will shape future technology support and capacity-building.

H. Networking and partnerships

54. The fifth objective of the strategy is to connect national, international, scientific and technical capacities and efforts to keep the state of the environment under review. The strategic objective and the planned programmatic activities will contribute to the implementation of the relevant portions of the Bali Strategic Plan, in particular its call in chapter IV, section F, to support scientific exchanges, establish environmental and interdisciplinary networks and promote coherent partnerships. The strategic objective will be achieved through the two main targets outlined below.

1. Coherent environmental and interdisciplinary networks

55. The first target is to link incrementally relevant thematic and geographically oriented networks at various levels, including regional, multidisciplinary, thematic and, as appropriate, national environmental information networks and partner institutions, working towards a highly connected system by 2020. These networking structures will support activities undertaken across the four functional areas described above.

56. The exercise will link nodes and focal points of existing regional environmental information networks and partner institutions, such as United Nations specialized agencies and other international organizations, subsidiary scientific bodies of multilateral environmental agreements, scientific institutions and observing systems. The establishment of national environmental information networks will be undertaken within the framework of the “Delivering as One” initiative and is described in greater detail under section A of chapter II.

57. Incrementally enhanced regional environmental information networks are to be operational in pilot form in all United Nations regions by 2013. Agreements concluded between the organizational network focal points or nodes and the regional focal point designated by the UNEP secretariat would detail the roles and responsibilities of each of the institutions in the network.

58. Regional networks currently under development or consideration with support from UNEP include the second phase of the Africa Environmental Information Network, which will cover more than half of the countries in Africa. Most of Europe is currently served by the European Environment Information and Observation Network under the auspices of the European Environment Agency. Efforts are under way to establish a West Asia environmental information network, which would comprise two subregional components, one for the Gulf Cooperation Council countries and the other for the Mashreq countries. A subregional environmental information network is also under development for South-East Asia.

2. Strategic partnerships

59. The second target is to develop by 2013 a coherent matrix of partnerships that will support activities undertaken across the five functional components described above and intersecting with the six UNEP subprogrammes. This will include developing a North-South programme, including engaging centres of excellence in the North with a wide range of national and regional partners and organizations in the South, especially in the areas of environmental data, information and assessment. Facilitating South-South cooperation as one of the key mechanisms for implementing capacity-building and technology support projects on the ground will entail engaging with a wide range of partners and organizations. This is consistent with the implementation of the Bali Strategic Plan, the medium-term strategy and the “Delivering as One” initiative.

60. Strategic partners will be drawn from various organizational sectors as appropriate. For example, in the “Delivering as One” initiative at the national level, key partners will be other United Nations agencies and programmes that constitute the United Nations country teams. Other strategic partners may also be engaged, however, depending on the outputs to be delivered. For example, in developing tools to access environmental knowledge, private sector corporations in the information technology sector will have a comparative advantage in the development and customization of technical tools. Several institutions, such as the European Environment Agency, the Inter-American Biodiversity Information Network and the International Council for Science, which already have a comparative advantage in the area of networking, will be key partners for UNEP in moving forward on the networking target.

III. Monitoring and evaluation of the Environment Watch strategy

61. National-level implementation of the strategy will be monitored through the annual United Nations development assistance framework review and evaluation processes (see <http://www.undg.org>), and the evaluation of UNEP subprogrammes. The monitoring and evaluation of the overall strategy, including supranational implementation, will be done through the Council/Forum and UNEP internal programme and project monitoring procedures. The chart in annex I outlines the targets to be met within given time frames from 2009 to 2020.

IV. Expected benefits

62. The implementation of the Environment Watch strategy is expected to yield the following benefits and added value:

- (a) Strategic and coherent implementation of the medium-term strategy through the mainstreaming of sound science in the 2010–2011 programme of work;

- (b) Strategic long-term direction for strengthened scientific assessments undertaken across the six cross-cutting thematic priorities and the linking of assessment and early warning activities across the various levels from global to local, for example:
- (i) Improved and better coordinated multilateral environmental agreement reporting;
 - (ii) Improved capacity to develop and exchange information relevant to identify potential climate change impacts and possible priority areas for adaptation focus;
 - (iii) Risk reduction for environmental disasters (droughts, hazardous wastes and harmful substances) through improved access to information on potential hot spots;
 - (iv) Better understanding of ecosystems services and human well-being through development of data and information systems that cross sectors.
- (c) Enhanced UNEP engagement in country programming processes that support the “Delivering as One” initiative and added value to United Nations-wide activities at the country level. In particular, UNEP can exercise its convening power and comparative advantage as the United Nations authority responsible for the environment to strengthen the environmental sustainability dimension of United Nations development assistance frameworks.
- (d) Coherent set of scientific assessment tools made available to member States and strengthened ability by UNEP to sustain this benefit;
- (e) Strengthened delivery of the Bali Strategic Plan, notably section F on information for decision-making, across the six cross-cutting thematic priorities and at various geographical levels;
- (f) Agreed value standards in the areas of scientific assessment, monitoring and observing, early warning, indicators, data collection, information-sharing and use of relevant technologies;
- (g) Capacity-development support tools and systems that once developed and applied in one country can be replicated in others, thereby achieving economies of scale;
- (h) Enhanced national and international institutional, scientific and technological capacities for keeping the environment under review by sharing advice, tools, processes, expertise and experience in data collection and management and in the production and dissemination of relevant information and assessments;
- (i) Identification of international priority flows of data and information to be collected and reported once by countries in concerted efforts across the world and to be used on repeated occasions, including for the preparation of a core set of environmental indicators for reporting on the implementation of multilateral environmental agreements and for UNEP reports and assessments;
- (j) Improved availability, timeliness, accuracy, credibility, relevance and consistency of environmental data, information, reports, alerts and early warnings at the national and international levels;
- (k) Improved access to and exchange of environmental data and information at reduced transaction costs for the purposes of national reporting; natural resource accounting, including the value of ecosystem services; decision-making relating to the mitigation of and adaptation to environmental change; mainstreaming of environmental considerations into development activities for the enhancement of human well-being; and poverty reduction; tackling post-conflict and disaster situations; implementing multilateral environmental agreements and attaining national and international development goals.

V. Estimated cost of strategy

63. Decision 24/1 III called upon the Executive Director to report back to the Governing Council at its twenty-fifth session with a revised proposal that should include component cost estimates for work proposed for the biennium 2010–2011. The following assumptions are made as the basis for costing the Environment Watch strategy:

- (a) Good science and assessments are essential for sound decision-making on all environment-related issues and sustainable development strategies at the national, regional and global levels. Assessments carried out in each of the six focal areas of the medium-term strategy will be underpinned by sound science and reliable and timely data that will be shared and used to construct indicators of environmental change. Networking structures, strategic partnerships and capacity development will support these activities;
- (b) UNEP has the comparative advantage within the United Nations on environmental matters and is well placed to engage as a member of United Nations country teams on the development and implementation of United Nations development assistance frameworks;
- (c) Proper modalities for working at the national level in conjunction with other United Nations agencies under the “One United Nations” initiative and United Nations development assistance frameworks will be produced. The national implementation of the strategy will have shared ownership involving the United Nations country team and the host Government. National needs will be identified through the framework preparatory process;
- (d) At the global and regional levels, the strategy should not be a stand-alone UNEP initiative but must link up with what is already being done or is planned by other partners – national, regional and international – across the various functional components of the strategy. The Environment Management Group will be an important conduit for inter-agency cooperation on implementation of the strategy;
- (e) The cost estimates for developing and implementing the strategy should be developed and aggregated through a bottom-up approach, beginning at the national level. The implementation approach should be incremental, beginning with a set of chosen pilot countries in consultation with the UNEP regional offices and other stakeholders. The estimates should then be projected and aggregated at the regional and global levels to develop the full estimated costs of developing and implementing the strategy over the biennium 2010–2011 and beyond;
- (f) The sustainability of the strategy must be a prime consideration for keeping the environment under constant review.

64. The Environment Watch strategy will be implemented by the Executive Director through the programme of work in close cooperation with Governments, United Nations partners and a consortium of international organizations and financial institutions.

65. The implementation of the strategy at the national level will be fully incorporated in the United Nations development assistance frameworks of countries that are in the process of initiating multi-stakeholder consultative processes with United Nations country teams to develop new frameworks that normally have a five-year cycle.

66. It is anticipated that UNEP would have to contribute 20 per cent of the estimated cost of delivery of any given service package. The other members of the country team and donors active in the country would also be expected to contribute as appropriate.

67. The estimated costs of implementing the strategy as a set of well defined service packages (see table 1) supporting an framework output in small, medium and large countries are summarized in table 2. The cost estimates are based on environmental components of existing frameworks and United Nations system-wide capacity-development interventions over the past two bienniums.

Table 2

Implementing Environment Watch at the national level: estimated costs in millions of United States dollars of delivering capacity-development service packages in countries of varying sizes across a five-year time frame (estimated UNEP contribution shown in parentheses)

Framework output: Strengthened national capacity to keep the environmental situation under review ¹³			
Service package	Small	Medium	Large
SP-1 (Basic or entry-level engagement)	1.5 (0.3)	3.0 (0.6)	6.0 (1.1)
SP-2 (Moderate engagement)	4.0 (0.7)	8.0 (1.4)	16.0 (2.8)
SP-3 (Full engagement)	6.0 (1.1)	12.0 (2.2)	24.0 (4.4)

68. Currently, the UNEP approved budget is insufficient to support sustained engagement in all country programming processes under frameworks. If UNEP is to engage further in the “Delivering as One” initiative in the future then additional resources will be needed to support its contribution to the environmental components of all frameworks that will be rolled out in 2010 and 2011. Some 27–34 new frameworks come on stream each year. While it is difficult at this early stage to quantify the level of engagement of UNEP in these forthcoming frameworks, nearly all of the countries are known and therefore it is possible to estimate the level of capacity-development engagement and its associated cost that is also dependent on the size of the country. It is proposed to carry out a more detailed costing exercise as part of the development of a detailed implementation plan for Environment Watch in 2010–2011. For the purpose of engaging in the development of a new framework, UNEP will be required to co-finance the specific outputs which it will help to deliver as a member of the country team. Table 3 gives a very conservative estimate of the additional cost to UNEP assuming a credible level of engagement in about 50 per cent of all new framework roll-out countries in 2010.

Table 3

Estimated cost in millions of United States dollars (shown in parentheses) of basic and moderate engagement by UNEP over five years in 18 countries having new frameworks rolled out in 2010

Framework output: Strengthened national capacity to keep the environmental situation under review			
Service package	Small	Medium	Large
SP-1 (Basic or entry-level engagement)	6 countries (1.8)	4 countries (2.4)	1 country (1.1)
SP-2 (Moderate engagement)	4 countries (2.8)	2 countries (2.8)	
SP-3 (Full engagement)	1 country (1.1)		
Total estimated cost: 12 million			

69. With at least 34 countries expected to roll out new frameworks in 2010 and 2011, it will not be possible for UNEP to engage in all countries. It will be necessary to select some countries based on established criteria. For example, selection criteria might include such factors as:

- (a) A critical mass of environmental hot spots that are threatened is included in the country territory (implying that it would be prudent not to exceed a threshold where the environment cannot be restored);
- (b) The country has a legislative infrastructure that calls for mechanisms to keep the environment under review but some elements have not been implemented or need strengthening;

¹³ In the Rwanda development assistance framework, this sample output is listed as output 1.2 (information management system for natural resources) with a total cost of \$3,555,000, of which UNEP has committed itself to providing \$650,000. Rwanda is classified as a small country and based on the assumption that, at a very minimum, capacity-development service package No. 2 would be required to implement this system. The associated cost is estimated at \$4 million, of which UNEP would be expected to provide \$700,000. The other figures in the table are either aggregated or disaggregated estimates based on the Rwanda estimate.

(c) National development plans and strategies include environmental dimensions that emphasize the importance of keeping the environment under review;

(d) Scientific capacity and political will exists, supplemented by a spirit of cooperation with international partners and neighbouring countries.

70. The implementation of relevant components of the strategy at the supranational level will be funded through UNEP approved programme of work for the 2010–2011 biennium, subject to available resources. In each of the six cross-cutting thematic priorities, scientific assessments and early warning will be carried out at the global, regional or subregional levels, as already reflected in the draft programme of work 2010–2011. Table 4 provides estimated costs in millions of United States dollars of implementing the five functional components of the strategy, which are already included within the 2010–2011 programme of work based on the outputs and budget estimates (includes staff, overheads and activities) presented to the Council/Forum in document UNEP/GC.25/12.

Table 4

Estimated cost of implementing Environment Watch strategy within the UNEP programme of work 2010–2011

Subprogramme Component area	CC	DC	EM	EG	HS	RE	Total
Capacity-building and technology support	4.7	3.3	5.0	14.4	3.4	2.0	32.8
Assessment	4.7	3.8	5.7	12.9	2.2	4.0	33.3
Early warning, monitoring and observation	4.7	2.9	4.4	4.8	1.1	2.0	19.9
Environmental indicators, data support and information sharing	2.3	3.3	5.0	7.2	2.2	4.0	24.0
Networking and partnerships	3.1	1.0	1.9	4.8	2.2	1.3	13.3
Totals	19.5	14.3	21.0	44.1	11.1	13.3	123.3
Grand total biennium 2010–2011	123.3						

71. The strategy will be progressively implemented through the approved programmes of work. The implementation rate of the strategy will be subject to the content of the approved programmes of work and the availability of funds. It is hoped that a targeted, multi-year, intergovernmentally approved strategy may attract increased investments in the Environment Fund, enabling targets to be reached earlier than scheduled. The Council/Forum may wish to call upon countries, partners and financial institutions to contribute to the implementation of the strategy.

Environment Watch Strategy

