



**Governing Council  
of the United Nations  
Environment Programme**

Distr.: General  
1 December 2006

Original: English



**Twenty-fourth session of the Governing Council/  
Global Ministerial Environment Forum**  
Nairobi, 5-9 February 2007  
Item 4 (e) of the provisional agenda\*

**Policy issues: International environmental governance**

**International environmental governance**

**Report of the Executive Director**

**Addendum**

**Strengthening the scientific base of the United Nations  
Environment Programme: Environment Watch Strategy:  
Vision 2020**

*Summary*

The present report has been prepared in response to paragraph 9 of Governing Council decision 23/1 II, which called upon the Executive Director to update the Environment Watch proposal, to submit the updated version to Governments for comments and report thereon to the Governing Council/Global Ministerial Environment Forum at its ninth special session. The Council did not take any decision on the matter at that session but, in the ensuing discussion, several representatives endorsed the need for further consultations in order to clarify how the Environment Watch system might meet the needs of Governments and relate to existing national, regional and global structures. It was generally felt by the representatives that the Environment Watch required further improvement before it would be ready to be considered for approval by the Governing Council. This report responds to those comments and includes: a proposed Environment Watch Strategy: Vision 2020; information on how the strategy will be implemented by building on the existing programmatic directions of the United Nations Environment Programme (UNEP), documented achievements and activities under way; clarifications of expected contributions from and benefits for Governments and partners; clarifications of how the Environment Watch strategy may relate to existing national, regional and global structures; and suggested actions for consideration by the Council/Forum as part of its wider deliberations on international environmental governance.

\* UNEP/GC/24/1.

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## **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, it also identified the need for more efficient environmental activities within the United Nations system.<sup>1</sup> A key area of concern was the need for strengthened environmental scientific knowledge and assessment.

Environmental science and technology were also recognized as vital for attainment of development goals.<sup>2</sup> 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. Cooperation in the field of knowledge is a key vehicle for enhanced coherence, as shared knowledge promotes concerted action.

2. The President of the General Assembly initiated, as follow-up to the Summit, an informal consultative process on the institutional framework for United Nations environmental activities. During the consultation, broad support was evidenced among Member States for strengthening UNEP and its coordinating role in environmental issues, including strengthening the scientific capacity of UNEP and, in particular, its assessment and early warning activities.<sup>3</sup> A number of delegations mentioned that a lack of sufficient funding may have hampered UNEP potential in this area. The development of the Environmental Watch, the UNEP Global Environment Outlook process and the workings of the Intergovernmental Panel on Climate Change (IPCC) 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 a multi-scaled 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 can be strengthened through a system of networking drawing on existing bodies, including academic institutions and the centres of excellence and the scientific competence of specialized agencies and the scientific subsidiary bodies of the multilateral environmental agreements.

4. 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. Such efforts, however, require a consensus-based strategic, targeted, multi-year and system-wide approach. The current report presents progress made towards developing such an approach. The report proposes that the Governing Council/Global Ministerial Environment Forum should give consideration to the draft Environment Watch Strategy: Vision 2020, a targeted long-term strategy for keeping the environmental situation under review.

### **B. Strengthening the scientific base of UNEP: consensus points**

5. 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.<sup>4</sup> In order to meet this need the Council/Forum initiated a broad-based consultative process on strengthening the scientific base of UNEP.<sup>5</sup>

6. It was recognized in 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. Such knowledge needs to reflect the interlinkages between countries, between different environmental challenges and between environment and development.

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

<sup>2</sup> Ibid., para. 60.

<sup>3</sup> Its deliberations are presented in the co-chairs' summary.

<sup>4</sup> 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.

<sup>5</sup> It engaged more than 100 Governments and 50 partners in written submissions and face-to-face dialogue (see also <http://science.unep.org>).

Improved cooperation and synergy among Governments, United Nations bodies, multilateral environmental agreements and regional environmental forums, and scientific and academic institutions and enhanced networking among national and regional institutions are 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;
- (b) *Improved quantity, quality, inter-operability 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 among environmental assessments so as not to overburden the scientific and policy community with competing processes.

7. The findings of the Science Initiative have helped to refocus the UNEP programme of work, notably its subprogramme 1 on early warning and assessment. The subprogramme is now focused on three mutually supportive areas: assessments and early warning; data management and networking; and capacity-building. The Global Environment Outlook process has been further enhanced. It now combines the widely regarded, bottom-up participatory Global Environment Outlook process with elements from well-substantiated scientific assessment processes such as the Millennium Ecosystem Assessment and expanded ad-hoc intergovernmental and multi-stakeholder consultations. The Executive Director of UNEP also felt it was necessary, however, to put in place a more systematic approach to international cooperation in this field, and to this end he proposed the development of an Environment Watch framework.<sup>6</sup>

8. Up-to-date information on the continuing process to strengthen the scientific base of UNEP is available on the Science Initiative website (<http://science.unep.org>). The site reports on the evolution of the Environment Watch proposal and presents feedback from the consultative process. Pilot activities on environmental information networking are described in more detail. Finally, an overview of technology support and capacity-building needs is presented.

### C. Environment Watch consultative process

9. The first Environment Watch proposal was presented to the Council/Forum at its twenty-third session, in February 2005.<sup>7</sup> The Council/Forum requested the Executive Director to develop the proposal further in consultation with Governments and other stakeholders.<sup>8</sup> An updated proposal and a questionnaire were prepared and reviewed by Governments and partners through written submissions and consultations. The resulting updated proposal,<sup>9</sup> which presented the architecture of an Environment Watch system was considered by the UNEP Governing Council at its ninth special session in February 2006.

10. Several representatives at the special session endorsed the need for further consultations in order to clarify how the Environment Watch system might meet the needs of Governments and relate to existing national, regional and global structures such as the European Environmental Information and Observation Network (EIONET), the African Environment Information Network (AEIN) and the Global Earth Observation System of Systems (GEOSS). Some concern was expressed at the current complexity of the system and the need for further development to ensure that it was user-friendly and met the need to reduce national reporting burdens and avoid duplication. Several representatives supported incremental development of the system, perhaps starting with a few pilot schemes.

11. A number of representatives noted the need for more clarity on the role of focal points, particularly at the national level, and the arrangements for their funding. If the system were to have a strong national and regional component, experts from developing countries would have to play a major role to enable them to assist in building national capacity. Coordination with the Bali Strategic Plan for Technology Support and Capacity-building<sup>10</sup> and twinning arrangements between focal points in different regional networks would assist technical and institutional capacity-building. It was generally felt by the representatives that the Environment Watch system required further improvement before it was ready to be considered for approval by the Governing Council. Representatives, however, expressed the view that the importance of capacity-building and technology support in that area were such that they should not be held up by the continuing consideration of the Environment Watch system.

<sup>6</sup> See document UNEP/GC.23/3 and annex 2 of document UNEP/GC.23/INF/18.

<sup>7</sup> See document UNEP/GC.23/3 and annex 2 of document UNEP/GC.23/INF/18.

<sup>8</sup> Decision GC.23/1.

<sup>9</sup> See document UNEP/GCSS.IX/3/Add.2.

<sup>10</sup> UNEP/GC.23/6/Add.1.

## II. Revised Environment Watch Proposal: Vision 2020

12. The Executive Director has undertaken further consultations and deliberations with a view to clarifying the points raised by Governments in the Council/Forum. The consultations include: an informal global expert group meeting on environmental information networking;<sup>11</sup> informal regional expert group meetings on environmental information networking; an expert meeting on tools for capacity-building in the context of Bali Strategic Plan; and informal bilateral consultations with interested partners and agencies (for more information see the website <http://science.unep.org>).

13. The Executive Director proposes on the basis of these consultations to shift the focus of the Environment Watch proposal from a system to a multi-year strategy. The proposed targeted multi-year strategy, Environment Watch Strategy: Vision 2020, is attached in the annex to the present report and illustrated in figure 1 below. It sets out a bottom-up and incremental approach to achieving by 2020 enhanced institutional, scientific and technological infrastructures and capacities for cooperation on keeping the state of the environment under review and providing timely, accurate, credible, relevant and consistent environmental data and information for environmental governance.

14. The strategy is generic and based on three tried and tested approaches: capacity-building and technology support; networking and information-sharing; and assessments. The presentation of these approaches below documents how the strategy builds on the existing programmatic directions of UNEP, documented achievements and continuing activities. The implementation of the Environment Watch strategy requires a collective commitment by Governments and partners. Efforts are needed to oversee its effective implementation. South-South, North-North, South-North and North-South cooperation is needed in the areas of information and experience exchange, of assessments and of capacity-building and technology support. The Governing Council may wish to consider the strategy in accordance with the suggested actions contained in document UNEP/GC/24/3 and indicated in section F of this chapter.

### A. Capacity-building and technology support

15. 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*. Expected accomplishment (c)<sup>12</sup> and the corresponding planned outputs of subprogramme 1 of the proposed biennial programme for 2008–2009<sup>13</sup> are designed to contribute to implementation of the strategy.

16. In 2005 the Council/Forum highlighted the need to continue improving the quantity and quality of environmental data and statistics, and called upon Governments to undertake national networking for data collection and dissemination and to provide data of high quality and credibility.<sup>14</sup> Generally speaking, the developed countries have well-established environmental information infrastructures and capacities and they are well advanced in regional cooperation and networking, although further work is still often needed in this area. Most developing countries and countries with economies in transition, however, lack such capacity.

17. The Executive Director has been consulting Governments on their national situation analysis and capacity-building needs as they relate to the Environment Watch system and the Bali Strategic Plan. A questionnaire to this effect was circulated to Governments in 2005 and to date 45 responses have been received. A second round of communications with non-respondents has been initiated. Following a preliminary analysis of the feedback, the following technology-support and capacity-building needs have been identified:

- (a) Integrated and thematic environmental assessment methodologies and approaches for better reporting;
- (b) Establishment and management of environmental information networks and support via external partnerships;

<sup>11</sup> Hosted on 22 and 23 May 2006 by the European Environment Agency (EEA) at its headquarters in Copenhagen. The consultation identified key elements of best practices and experience with regional and national networking structures. Participants considered a set of draft guidelines on networking structures and recommended that the guidelines should be generic in nature and not too prescriptive.

<sup>12</sup> Enhanced institutional and technological capacity in developing countries and countries with economies in transition for data-collection, research analysis, monitoring environmental assessment early warning, networking and partnerships.

<sup>13</sup> UNEP/GC/24/9.

<sup>14</sup> Governing Council decision 23/6.

- (c) Acquisition and use of modern information and communications technologies, including equipment and trained personnel;
- (d) Access to geo-referenced and remotely sensed data and use of geographic information systems (GIS);
- (e) Data collection and management in compliance with established International Standards Organization (ISO) standards;
- (f) Database and website development and management;
- (g) Information access, exchange, communications and outreach for decision-makers and the public; and
- (h) Resource mobilization strategies and development of project concepts and proposals for donor consideration.

18. The first strategic objective outlined above 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: Information for decision-making: the role of science, monitoring and assessment. The strategic objective would be achieved through following three main targets outlined below.

#### **1. Web-based learning platform**

19. The first target under this strategic objective is to develop a web-based learning platform to keep the environment under review, which is to be ready in a prototype form by 2008 and fully operational by 2010. The learning platform will be connected to learning platforms for other capacity-building activities in UNEP and the wider United Nations system. It will support capacity-building and -support efforts mounted in response to requests from Governments.

20. The platform will consist of a toolbox containing manuals, procedures, guidelines, training materials, best practices and necessary standards and technologies for monitoring, data-quality assurance, data management, assessment, networking, early warning and exchange of data and information. Such tools have already been developed by UNEP or partners in processes such as the Global Environment Outlook, the Millennium Ecosystem Assessment, the development of data interoperability standards and AEIN,<sup>15</sup> but access to these tools needs to be enhanced. The tools will be downloaded free of charge together with information on how and where they could be applied in the light of experience with their use and their customization to different circumstances.

21. The platform will support training courses, including virtual on-line training, for practitioners and trainers in the use by UNEP and partners of methodologies contained in the toolbox. It will provide access to a pool of trainers, practitioners and collaborating centres to which countries and partners may turn as and when needed.

#### **2. National environmental infrastructures and capacities**

22. The second target is to support, upon request, the enhancement of national environmental information infrastructures and capacities, including a focal point and a web-based national environmental information node for a network of institutions and experts with capacities in environmental science, monitoring and assessments in 45 countries by 2012 and 100 countries by 2018.

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<sup>15</sup> To this end, UNEP working with collaborating partners in northern, southern and western Africa, has developed guidelines, manuals and a data and information management system, the Africa Environment Outlook environment information system (AEO-EIS) ([http://gridnairobi.unep.org/aeo\\_prototype/index.asp](http://gridnairobi.unep.org/aeo_prototype/index.asp)), in support of capacity-building workshops.

23. The activities will be based on the experience gained by UNEP itself from existing programme activities such as AEIN,<sup>16</sup> as well as available experience gathered by other regional and national networks in both developed and developing countries. The environmental information exchange network<sup>17</sup> that has been under development in the United States of America since 2005 is a point in case. Experience can also be drawn from similar initiatives taking place in other federal States, such as Australia,<sup>18</sup> Brazil<sup>19</sup> and India.<sup>20</sup>

24. Consequently, a key approach under the strategy is to support the establishment of national environmental information networks of internet-based technical structures, experts and institutions responsible for the collection, management and analysis of environmentally relevant data and information. The national network would often be connected through a national focal point or node, which in turn connects to regional and worldwide networks. National experts and institutions may also be linked to international thematic networks.

25. Current practices relating to the location of national focal points or nodes vary considerably. Some are located in environment agencies, others are part of the environment ministry; some are in centralized national administrations, whereas others operate in decentralized, sometimes federal, systems. It is for countries to decide on the administrative arrangement that suits them best.

26. Efforts will also include a web-based national environmental information portal attached to the focal point, in order to increase access to national data, information, reports and real-time data, including alerts and early warnings provided by the Government. Such a focal point and portal would serve as the node in the international exchange of data and information and help meet international reporting obligations and significantly reduce national reporting burdens.

27. Efforts will also include supporting national approaches to: monitoring, including the use of global observations such as satellite images and GIS; data management; early warning; and environmental assessments. The assessments would draw data, information and expertise from the national network. Experience shows that the formation of national and regional networks is an enabling factor in the production of producing national state-of-the-environment and outlook reports.<sup>21</sup>

28. Capacity-building efforts by UNEP will normally be conducted in a regional or subregional context, as is the case for AEIN, so as to facilitate South-South cooperation and the exchange of data and experiences. Initiatives to this effect are already under way in several regions (see also subsection 2 of section B of this chapter below, on regional networking). Support will be provided through activities under the UNEP programme of work in the form of partnership agreements between the Government, UNEP and any consortium partners and collaborating centres. Efforts will be part of the wider UNEP and United Nations efforts, including those of the United Nations Development Programme (UNDP), at country level. Support activities will build on existing network and focal point arrangements, including national focal points in the Global Environmental Information Exchange Network (Infoterra) as appropriate and relevant.

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<sup>16</sup> The pilot phase of the Africa Environment Information Network (AEIN), which included 12 countries, is now completed. It aimed at strengthening national organizational networking and capacities related to the management of data and information for integrated environmental assessment. The network was launched by the African Ministerial Conference on the Environment (AMCEN), which, in paragraph 13 of the Kampala Declaration on the Environment for Development, adopted on 5 July 2002, approved the establishment of a comprehensive environmental information network to promote access to and harmonization of data in the African region and to act as a basis for tracking environmental changes using quantitative environmental indicators focusing on national needs. The Executive Director of UNEP was requested by AMCEN, as later confirmed by the UNEP Council/Forum, decision 22/9 of 7 February 2003 to coordinate the initiative in close collaboration with partners. This first phase was supported by counterpart funding from the Governments of Ireland and Norway. Based on the experience from the pilot phase, by paragraph (c) of its decision 6 adopted on 26 May 2006, AMCEN endorsed an extension of AEIN to include 38 countries. The Executive Director has now initiated the second pilot phase of AEIN.

<sup>17</sup> The exchange network helps the Environmental Protection Agency (EPA), federal states, ethnic groups, territories and regulated facilities exchange environmental information more efficiently. This new approach to data exchange is providing local governments, interest groups and the public at large with a wide range of new benefits, including saved money and resources; better information and better decisions; new data exchanges between states and EPA; improved data quality; and access to real-time data. This internet-based network is voluntary and based on formal agreements among the partners (see also <http://www.exchangenetwork.net>).

<sup>18</sup> Environmental Resources Information Network (ERIN), see <http://www.deh.gov.au/erin/index.html>.

<sup>19</sup> Sistema Nacional de Informação sobre o Meio Ambiente (SINIMA), see <http://www2.ibama.gov.br/~cni/sinima.htm>.

<sup>20</sup> Environmental Information System (ENVIS), see <http://www.envfor.nic.in/envis/envis.html>.

<sup>21</sup> The pilot phase of AEIN enabled countries such as Burkina Faso, Egypt, Ethiopia, Gabon and Seychelles to prepare their first comprehensive national environment outlook reports.

### 3. Geographically balanced participation in UNEP-administered networks and assessments

29. The third target is to support the participation of experts in international environmental networks and assessments administered by UNEP, including through fellowships, to ensure a fully geographically balanced representation in such processes by 2020. It will include support for the participation of experts and university students, including through fellowships in international environmental networks and assessment processes. North-South and South-South scientific exchanges as envisaged under the Bali Strategic Plan would also be considered. The infrastructure development outlined above will be important for supporting the participation of experts from developing and transition countries in international environmental networks and assessments administered by UNEP.

### 4. Contribution from Governments and partners

30. Governments will be invited to identify their own capacity-building needs and to work with partners in order incrementally to enhance their own environmental knowledge and information infrastructures and capacities. Efforts of this nature include all countries and should be aimed at both addressing national and local information needs and at promoting shared responsibility for providing the international community with timely and accurate core environmental data and information. Other United Nations agencies such as UNDP, financial institutions such as the Global Environment Facility, the World Bank, regional banks and national development assistance agencies and collaborating centres will be invited to form partnerships with UNEP and contribute to regional and national efforts to meet the needs of developing countries and countries with economies in transition in a coherent manner.

### 5. Benefits for Governments and partners

31. The primary benefits to countries will be enhanced national capacities for collecting, managing, analysing and disseminating environmental data and information for decision-making. This will stem from increased sharing of advice, tools, processes, expertise and experience within and among countries, particularly at the regional level. This will lead to improved availability, timeliness, accuracy, credibility, relevance and consistency of environmental data, information, reports, alerts and early warnings at the national level. In turn this will improve the knowledge base for natural resource accounting, including the value of ecosystem services; decision-making regarding mitigation of and adaptation to environmental change; mainstreaming of environmental considerations into development for the enhancement of human well-being; poverty reduction; dealing with post-conflict and disaster situations; implementing multilateral environmental agreements and achieving national and international development goals.

32. Enhanced infrastructure and capacity will also contribute to the gathering of priority data and information by countries in concerted efforts across the world, which will then report these data and information once so that they can be used an infinite number of times by the international community. This will significantly reduce national reporting burdens. These benefits are not hypothetical, but are actually being enjoyed by many countries already. This boosted capacity will enhance the sharing of advice, tools, processes, expertise and experience among Governments and partners in the area of data collection and management and in the production and dissemination of relevant information and assessments. It will improve the quality of indicators, early warning and assessments provided by UNEP and other international partners.

## B. Networking and information exchange

33. The second objective of the strategy is: *to connect national, international, scientific and technical capacities and efforts to keep the state of the environment under review and to promote the exchange of priority environmental data and information*. Expected accomplishment (b)<sup>22</sup> and the corresponding planned outputs of subprogramme 1 of the proposed biennial programme for 2008–2009 are designed to contribute to the implementation of the strategy. 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 for: *supporting scientific exchanges and establishment of environmental and interdisciplinary networks*.

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<sup>22</sup> Greater participation of partner institutions in UNEP-supported networks and improved exchange of available environmental data and information for assessment processes, early warning systems and decision making.

34. Given the richness and diversity of regional and national environmental information networks, the Executive Director considers it important to exchange information and experiences globally among Governments and other stakeholders. Accordingly, the present working document is supported by an information paper (UNEP/GC/24/INF/12) on case studies of regional and national networking.

35. UNEP has limited capacity to collect and manage large quantities of data. A worldwide approach to enhancing the availability of data therefore has to be based on the principle of networking and shared responsibilities between Governments and international organizations. This is an underlying assumption for the following three main targets, outlined below.

### 1. Web-based information platform

36. The first target under this objective is to develop a web-based information platform of complementary, up-to-date, coherent and quality-assured priority data and information, indicators, early warning and alert services, to be ready in a prototype form by 2008 and fully operational by 2012. The data platform will be connected to the learning platform and the assessment platform described below. It will support the development of and co-evolve with the worldwide environmental information network.

37. The platform will draw data and information from scientific research, earth observations, data collection, assessments, indicators and information networks, including UNEP experience gathered over more than 20 years through its network of Global Resource Information Database (GRID) centres, and will be supported by a search tool called ecoMundus,<sup>23</sup> formerly known as UNEP.Net. The services provided by the network of GRID centres, such as the Global Environment Outlook data portals, will be enhanced. The platform will be based on cooperation with key partners from intergovernmental organizations and national and non-governmental technical and scientific institutions. It will also include the private sector, as exemplified by the partnership between UNEP and Google Earth. Priority dataflows will be established in response to key indicators for measuring progress towards international goals and targets.

### 2. Regional environmental networks

38. Incrementally enhanced regional environmental information networks, comprising nodes and focal points of national environmental information networks and networks of thematic and functional institutions and experts, are to be operational in pilot form in all United Nations regions by 2010 and fully operational in all United Nations regions in 2019. The regional networks will consist of focal points or nodes of national environmental networks as appropriate and nodes of existing regional centres and experts. 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.

39. Regional networks currently under development or consideration with support from UNEP include the second phase of AEIN, which will cover a total of 38 countries. In addition, a regional meeting on environmental information networking in West Asia was held in Bahrain from 12 to 14 September 2006. The meeting recommended the establishment of 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. The West Asia environmental information network would also be linked inter-regionally with the North Africa component of AEIN, to form a League of Arab States Environmental Information Network. This network is subject to approval by the Council of Arab Ministers Responsible for the Environment (CAMRE) at its meeting scheduled for December 2006. Four countries in the region (Bahrain, Jordan, Kuwait and the Syrian Arab Republic) have been identified for national network pilot projects.

40. A subregional environmental information network meeting was held for South-East Asia from 28 to 30 November 2006. A total of 11 countries were invited to discuss how to strengthen national organizational networking and capacities related to the management of data and information for integrated environmental assessment. This meeting is to be followed by a regional consultation for Latin America and the Caribbean in early 2007. All regional consultations on networking include a component on the environmental information discovery mechanism, ecoMundus, which will help ensure interoperability within nodes of the networks.

<sup>23</sup> See the website <http://www.unep.org/ecomundus>.

### 3. Worldwide information network

41. The third target is to develop incrementally a worldwide environmental information network comprising nodes and focal points of regional, thematic and – as appropriate – national environmental information networks and partner institutions, to be operational in pilot form by 2010 and fully operational in 2020.

42. The network will link up 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.<sup>24</sup> National environmental information networks may, by virtue of their size or geographical or political circumstances, wish to be linked directly to the worldwide network.

43. Existing thematic environmental information networks may also wish to link up with the worldwide network. Such networks may also represent thematic links to institutions in the regional and national networks. Thematic networks could cover specific functions<sup>25</sup> or thematic areas such as: atmosphere and climate;<sup>26</sup> land and desertification;<sup>27</sup> freshwater;<sup>28</sup> marine ecosystems; and biodiversity. Agreement concluded between organizational network nodes and the UNEP secretariat would detail the roles and responsibilities of each of the institutions in the network.

### 4. Contribution from Governments and partners

44. Countries, regional bodies or institutions which join the regional or worldwide network will be expected to use an interoperable web-based data platform, to make agreed sets of data and information available to regional and global networks and to conduct their monitoring, reporting and assessment processes in accordance with agreed technical guidelines and standards, thus ensuring compatibility of the shared data and information. Countries will be encouraged to designate experts who can take part in regional and global cooperation to ensure the effective management of the international environmental information infrastructure.

45. It is envisaged that existing regional networks may want to contribute to the implementation of the Environment Watch strategy. The European Environment Agency (EEA) has already indicated to the Executive Director that its national focal points have requested it to coordinate Environment Watch-related activities for the EEA member and collaborating countries. It is envisaged that the European Environmental Information and Observation Network (EIONET),<sup>29</sup> may become one of the regional environmental information networks in a worldwide network. EEA may then, subject to the approval of EEA member countries, wish to be the regional focal point for these countries in the network. This could be formalized through a memorandum of understanding between the EEA and UNEP secretariats, which would detail the roles and responsibilities of each of the agencies in such an arrangement.

46. Similarly, it is envisaged that AEIN may wish to become the Africa network component of the worldwide network. UNEP or any other designated focal point would then, subject to the approval of AMCEN, be the regional focal point for these countries in the Environment Watch strategy. Possible modalities will be discussed with AEIN pilot countries. The Executive Director is also currently holding consultations in other regions as well in order to identify their needs when it comes to environmental networking. This includes exploring the possibilities for pilot activities similar to those in Africa.

<sup>24</sup> The Global Climate Observing System (GCOS), the Global Ocean Observing System (GOOS), the Global Terrestrial Observing System (GTOS) and the Global Earth Observation System of Systems (GEOSS), which is being developed through a 10-year implementation plan to be completed by 2015 as overseen by the intergovernmental Group on Earth Observations.

<sup>25</sup> Such as the network of GRID centres.

<sup>26</sup> Such as the network under the World Climate Research Programme.

<sup>27</sup> Including the Global Land Cover Network (GLCN) jointly coordinated by the Food and Agriculture Organization of the United Nations (FAO) and UNEP and the network of Consultative Group on International Agricultural Research (CGIAR) centres.

<sup>28</sup> Including the network of the freshwater component of the Global Environmental Monitoring System (GEMS-Water).

<sup>29</sup> EIONET aims to provide timely and quality-assured data and information and expertise for assessing the state of environment in Europe and the pressures acting upon it. It serves as a basis for decision-making on measures for protection of the environment and for monitoring the effectiveness of the measures taken. Established by the European Council in 1994, EIONET now consists of the EEA itself, five European topic centres and a network of around 900 experts from 37 countries in over 300 environment agencies and institutes at national level. These agencies include those hosting the national focal points. The national focal points coordinate the national networks, consisting of numerous national reference centres with expertise in specific areas of environmental information (for more information, see <http://www.eionet.europa.eu>).

## 5. Benefits for Governments and partners

47. Networking and information exchange will facilitate the identification of priority flows of data and information to be collected and reported on a single occasion by countries in concerted efforts across the world and then to be used repeatedly for, among other things, core sets of international environmental indicators, reports and assessments to be prepared by UNEP and other international partners. In turn, this will improve the availability, timeliness, accuracy, credibility, relevance and consistency of environmental data, information, reports, alerts and early warnings at international level. This improved access to, and exchange of, environmental data and information at reduced transaction costs will enhance international cooperation in environmental governance and support the attainment of national and international development goals.

48. On the information dissemination and outreach front, the strategy will contribute towards the vision of building an information society that has free and open access to timely data and information on the environment to support decision-making at the relevant level. The World Summit on the Information Society, held in Geneva in 2003 and Tunis in 2005, adopted the Geneva Plan of Action and the Tunis Agenda for the Information Society, both of which refer to the need for technical cooperation and enhancing the capacity of countries, particularly developing countries, in using information and communication technology (ICT) tools for environmental management and disaster early-warning. In fact, "E-environment" – or the application of such tools in environmental work – is one of the action lines of the Geneva Plan of Action in which UNEP is listed as a facilitator. The engagement of the private sector, particularly the ICT sector, is critical to bridging the digital divide by improving the information infrastructure and contributing towards building a strong skills base, particularly in environmental institutions across all sectors.

## C. Assessment

49. The third 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*. Expected accomplishment (a)<sup>30</sup> and the corresponding planned outputs of subprogramme 1 of the proposed Environment Fund budget, which relates to the proposed biennial programme and support for 2008–2009, is designed to contribute to the implementation of the strategy. The strategic objective and the planned programmatic activities will contribute to the implementation of the relevant parts of the Bali Strategic Plan, in particular its call in chapter IV, section F, for *support to environmental assessments at regional and subregional level*. The strategic objective would be achieved through the following three main targets outlined below.

### 1. Web-based assessment platform

50. The first target under this objective is to develop a web-based assessment platform which will provide an overview of the thematic and geographical coverage and scope of environmental assessments as a basis for prioritization of future assessment needs, to be ready in prototype form by 2008 and to be fully operational by 2010.

51. The assessment platform will be connected to the learning platform and the information platform. It will be based on a web-accessible database called the Prototype Environmental Reporting and Assessment Landscape (PEARL), which has been established to track assessment processes, their related mandates and their outputs such as reports, technical studies, policy briefs, synopses, vital graphics and maps. A significant proportion of the development effort has been focused on compiling metadata, namely, information about information. The inventory includes information about assessments undertaken by UNEP, other United Nations agencies, international and regional organizations and Governments. The geographical scope extends, therefore, from the global to the city and district level. Much remains to be done, however, at the national level and a thorough mapping of the assessment landscape in a number of pilot countries is planned.

52. To date, over 830 metadata records and over 500 full texts of assessment reports have been added to the system. Key assessment processes such as the Global Environment Outlook, the Millennium Ecosystem Assessment and the Global International Waters Assessment have been fully mapped and many others are partially mapped. Several national environmental authorities have contributed to the inventory of national assessment processes and reports. The beta version of the system is available online at the website <http://www.unep.org/pearl>. The technical development of the system is an open-ended task: For now, the data can be browsed but the search-and-retrieve function is still under development. It is planned to include visualization tools as an aid for decision-making when

<sup>30</sup> Participatory, policy-relevant and scientifically credible environmental assessments.

the search function is operational. This will help identify potential gaps, overlaps and synchronization opportunities in the assessment landscape.

## 2. Coherent environmental assessment approach

53. The second target is, by 2009, to develop a coherent environmental assessment approach which will codify different assessment methodologies, ranging from environmental impact assessments to international environmental assessments, as these both complement and contribute to development assessments. The approach would include a refined conceptual and analytical framework with an improved understanding of the linkages between macro-economic concepts, ecosystem services and human well-being. It will be developed in close consultation with relevant assessment partners.

## 3. Structured worldwide assessment partnership

54. The third target is to establish a structured world-wide environmental assessment partnership by 2010 for undertaking mutually supportive cutting-edge assessment processes involving scientists, partners and decision-makers in response to needs identified by decision-makers. The partnership would explore the possibility of the improved synchronization of assessments at the same scale and the staggering of assessments at different 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. The structured partnership would focus on preparing the following set of mutually supportive assessments processes:

(a) Annual yearbook for decision-makers to inform them of recent environmental developments, emerging issues, and environmental indicators, including an environmental index;

(b) Periodic global assessment in the form of the Global Environment Outlook, on the state of knowledge with respect to key environmental challenges and their interlinkages, plausible futures and response measures. It could, among other things, serve as a basis for deliberations by the Governing Council/Global Ministerial Environment Forum, possibly at its special sessions, on strategic and programmatic directions for UNEP;

(c) Dynamic set of thematic environmental assessments of global significance on atmosphere and climate; land<sup>31</sup> freshwater<sup>32</sup> and marine ecosystems;<sup>33</sup> biodiversity; polar areas; and cross-cutting thematic issues related to the environment and human well-being. These will respond to requests from the Council/Forum and other intergovernmental forums. The assessments will serve as a basis for consideration by the Council/Forum of the effectiveness of United Nations system-wide environmental activities and governance;

(d) Regional and subregional environmental assessment reports on 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.

## 4. Contribution from Governments and partners

55. Countries, regional bodies, institutions and experts would be invited to contribute to the preparation of assessments in a more structured manner. Government and civil society decision-makers will be expected to play an active role in scoping the assessments and to identify key questions that need to be considered by experts. They would also be invited to review assessments and, in particular, to consider policy-relevant assessment findings and to assist in translating those into strategic directions and actions related to mitigation of and adaptation to environmental change. Scientific experts and institutions will be invited to contribute their expertise to efforts to assess the current state of knowledge and plausible future trends related to the interaction between the environment and society and to identify policy relevant findings without being policy-prescriptive. The current in-kind contribution from these communities is substantial and represents a significant component of the total cost of many major international assessments, such as for instance the fourth Global Environment Outlook process and the Millennium Ecosystem Assessment. Governments, monitoring and observing systems and scientific institutions will be invited to contribute data, information and modelling to such processes. Governments and financial institutions would also be invited to contribute financially.

<sup>31</sup> Such as the International Assessment on Agricultural Science and Technology for Development (IAASTD) and the Land Degradation Assessment in Drylands (LADA).

<sup>32</sup> Such as the World Water Development Report (WWDR).

<sup>33</sup> Such as the regular process on assessment of the global marine environment established by the United Nations General Assembly.

## 5. **Benefits for Governments and partners**

56. A more coherent and policy-relevant assessment landscape would contribute to the enhancement of environmental governance for the mitigation of and adaptation to environmental change at all scales. The current landscape seems to be somewhat over-populated, which would seem to suggest an inefficient use of scarce assessment resources. A more strategic approach to assessments would also help avoid overburdening the scientific community in terms of in-kind contributions to assessments. Furthermore, it may serve as a more efficient tool for identifying research and monitoring priorities. The improved synchronization of assessments at the same scale and staggering of assessments at different scales may also enhance the cost-efficiency of international assessments, as they would be better placed to draw upon and synthesize findings of assessments at a lower scale.

## D. **Implementation and financial and administrative implications**

57. The Environment Watch Strategy: Vision 2020 will be implemented by the UNEP Executive Director through the programme of work in close cooperation with Governments and a consortium of international organizations and financial institutions. Capacity-building and technology support to developing countries and countries with economies in transition will be provided by UNEP or a partner in the consortium, subject to availability of funds.

58. The Executive Director is committed to directing staff time and available Environment Fund and extrabudgetary resources for activities under the relevant parts of the programme of work (in particular subprogramme 1, on early warning and assessment) towards the implementation of the strategy. The implementation rate of the strategy will be subject to the availability of such funds. It is estimated that the targets outlined in the strategy are within reach within the current financial situation of UNEP. 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.

## E. **Overall expected benefits and opportunities**

59. The voluntary enhancement of environmental information infrastructures and capacities through the Environment Watch Strategy will generate a number of benefits for countries and partners at all levels. Governments and partners will, however, have to contribute to the implementation of the strategy individually and collectively in order to harvest the benefits. The ultimate, overarching benefit of the strategy will be environmental sustainability.

60. The increasing complexity of environmental degradation processes requires adaptive environmental governance, to guide efforts to mitigate and adapt to environmental change. Adaptive governance in turn requires environmental information infrastructures which can provide timely responses to needs by decision-makers for quality-assured data and credible information.

61. Development efforts, including poverty reduction, and humanitarian assistance need to take full account of knowledge about the contribution of environment and ecosystem services to the enhancement of human well-being. Investing in infrastructures and capacities for environmental knowledge and information is therefore also an investment in sustainable development.

### 1. **Capitalizing on rapid developments in information and communication technology**

62. Never before in human history has society been better equipped to share knowledge and information. This is due to the rapid developments in information and communication technologies, in particular the internet and its ability through open source standards, computer power and the increasing ability of communication technologies to transfer large amounts of information at high speed. The international community needs to take full advantage of these developments in its efforts to enhance environmental governance.

### 2. **Supporting the multilateral environmental agreements**

63. Enhanced environmental information infrastructures and capacities will also support efforts to implement and monitor the effectiveness of multilateral environmental agreements. The infrastructure would also enhance the work of the scientific and technical advisory bodies of those agreements, by providing them with data and assessments in accordance with their needs, gathering and disseminating their advice and facilitating cooperation among them.

64. The need for improved environmental information at multiple scales, and in particular at the sub-global level, is becoming increasingly apparent through the work of the subsidiary scientific advisory bodies of the conventions. The need for multi-scale information on ecosystem change and the role of ecosystem services was highlighted by, among other processes, the Millennium Ecosystem Assessment. The Environment Watch strategy: Vision 2020 is designed to meet this need. The strategy can help mobilize partners in joint follow-up the Millennium Ecosystem Assessment at multiple scales and in particular at the sub-global level, such as through further sub-global assessments. It can also help meet the needs for scientific information for decision-making as identified in various initiatives, such as the consultative process on an international mechanism of scientific expertise on biodiversity.

### **3. Enhancing the effectiveness of environmental programmes and projects of international agencies and the Global Environment Facility**

65. By setting in place an enhanced, multi-scale environmental knowledge and information infrastructure and building the related capacities, the sustainability of the environmental programmes and projects of the Global Environment Facility, UNEP, UNDP, the World Bank and other international and bilateral agencies will be correspondingly enhanced. This infrastructure and capacity will, among other things, ensure the provision of assessments and baseline data for the formulation and implementation of these programmes and projects. They will also help in capturing and making use of the data which they generate and facilitate the evaluation and monitoring of their impact.

66. The strengthened infrastructure and capacity will also be critical for enhancing environmental institutions which can help ensure the sustained mainstreaming of environmental considerations into development programmes and projects supported by the United Nations and financial institutions. They will also enhance the sustainability of efforts to ensure the contribution of environment and ecosystem services to poverty-reduction efforts and will, in addition, enhance capacities for post-conflict and post-disaster environmental assessments and their contribution to wider humanitarian assistance efforts.

### **4. Science and earth observations**

67. Environment Watch partners will benefit from the findings of scientific initiatives under the International Council for Science (ICSU), the United Nations Educational, Scientific and Cultural Organization (UNESCO), the United Nations University and other institutions. Partners will also be among the users of earth observations and will benefit from the science and architecture development under the Group on Earth Observations<sup>34</sup> and its development of a Global Earth Observation System of Systems (GEOSS). GEOSS will be well placed to contribute global data to the Environment Watch partners. Several United Nations agencies, including UNEP and the global observing systems,<sup>35</sup> are contributing to development of the system.

68. The global observing systems and the science institutions may for their part benefit from an enhanced environmental information infrastructure and capacity. These could facilitate their interaction with and feed-back from the policy community. The institutions could also capitalize on conceptual developments under the strategy. Environmental assessments may help showcase earth observations and science and place them in a policy perspective. Aggregation and distribution of data may be facilitated through the information networks. In addition, capacity-building will enable countries to make direct use of earth observations and scientific findings. The Governing Council/Global Ministerial Environment Forum and the Group on Earth Observations have an invaluable opportunity to ensure that the two systems co-evolve in a manner in which they complement and support each other. Cooperation could be formalized through a memorandum of understanding between the GEOSS and UNEP secretariats, which would detail the roles and responsibilities of the GEOSS implementation plan and the Environment Watch strategy.

<sup>34</sup> The Group on Earth Observations is an intergovernmental mechanism established to develop a 10-year implementation plan for building a coordinated, comprehensive and sustained Global Earth Observation System of Systems (GEOSS). The focus of the Group is on advancing the GEOSS concept across the nine social benefit areas, developing the architecture and data policy required for GEOSS, further developing the science underpinning GEOSS, promoting sustained interactions with users of Earth observations and ensuring that the global capacity to produce and use Earth observations is developed.

<sup>35</sup> Including GCOS, GOOS and GTOS.

**F. Suggested action by the Council to strengthen the scientific base of UNEP**

69. The resulting actions on strengthening the scientific base of UNEP, which are to be suggested to the Governing Council, will form part of the wider actions on International Environmental Governance. These actions, being part of an omnibus suggested action by the Council, are contained in the report of the Executive Director on International Environmental Governance (document UNEP/GC/24/3).

70. The specific actions to be considered by the Council include an expression of appreciation for the valuable inputs provided by Governments and other stakeholders; a reference to one of the recommendations contained in the unedited report of the Secretary-General's High-Level Panel on United Nations System-wide Coherence in the Areas of Development, Humanitarian Assistance and the Environment, entitled "Delivering as One" (also refer to document UNEP/GC/24/11/Add.1); enhancing infrastructures and capacities which can sustain cooperation in a globalizing world; welcoming the draft strategy presented in the annex to the present report; requesting the Executive Director, while implementing the approved programme of work, to consult Member States and partners with a view to further improving the strategy as an integral part of the wider strategic vision of UNEP and to solicit support from them in developing partnerships with UNEP to implement such a strategy.

## Annex

### **Draft Environment Watch Strategy: Vision 2020**

#### **A. Vision 2020**

The strategy is designed to pursue the following vision:

*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 for environmental governance.*

#### **B. Expected results and benefits**

The strategy is expected to generate the following results and benefits:

(a) Enhanced national and international institutional, scientific and technological capacities for keeping the environment under review through sharing of advice, tools, processes, expertise and experience in the area of data collection and management and in the production and dissemination of relevant information and assessments;

(b) 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 and for United Nations Environment Programme (UNEP) reports and assessments;

(c) Improved availability, timeliness, accuracy, credibility, relevance and consistency of environmental data, information, reports, alerts and early warnings at national and international level;

(d) 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; poverty reduction; tackling post-conflict and disaster situations; implementing multilateral environmental agreements and attaining national and international development goals.

#### **C. Strategic objectives**

The strategy is designed to pursue the following three overarching objectives.

##### **1. 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**

The strategic objective would be achieved through the following undertakings:

(a) Developing a web-based learning platform to keep the environment under review, to be ready in prototype form by 2008 and fully operational by 2010;

(b) Supporting upon request the enhancement of national environmental information infrastructures and capacities, including through the establishment of a focal point and a web-based national environmental information node for a network of institutions and experts with capacities in environmental science, monitoring and assessments in 45 countries by 2012 and 100 countries by 2018;

(c) Supporting the participation of experts in international environmental networks and assessments administered by UNEP, including through fellowships, aiming to ensure a geographically balanced representation in such processes by 2020.

**2. To connect national, international, scientific and technical capacities and efforts to keep the state of environment under review and to promote the exchange of priority environmental data and information**

The strategic objective would be achieved through the following undertakings:

(a) Developing a web-based information platform of complementary, up-to-date, coherent and quality-assured priority data and information, indicators and early-warning and alert services, to be ready in prototype form by 2008 and fully operational by 2012;

(b) Incrementally enhancing regional environmental information networks comprising nodes and focal points of national environmental information networks and networks of thematic and functional institutions and experts, to be ready in pilot form in all United Nations regions by 2010 and fully operational in all United Nations regions by 2019;

(c) Incrementally developing a worldwide environmental information network comprising nodes and focal points of regional, thematic and, as appropriate, national environmental information networks and partner institutions, to be ready in pilot form by 2010 and fully operational by 2020.

**3. 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 strategic objective would be achieved through the following undertakings:

(a) Developing a web-based assessment platform which will provide an overview of the thematic and geographic coverage and scope of environmental assessments as a basis for the prioritization of future assessment needs, to be ready in prototype form by 2008 and fully operational by 2010;

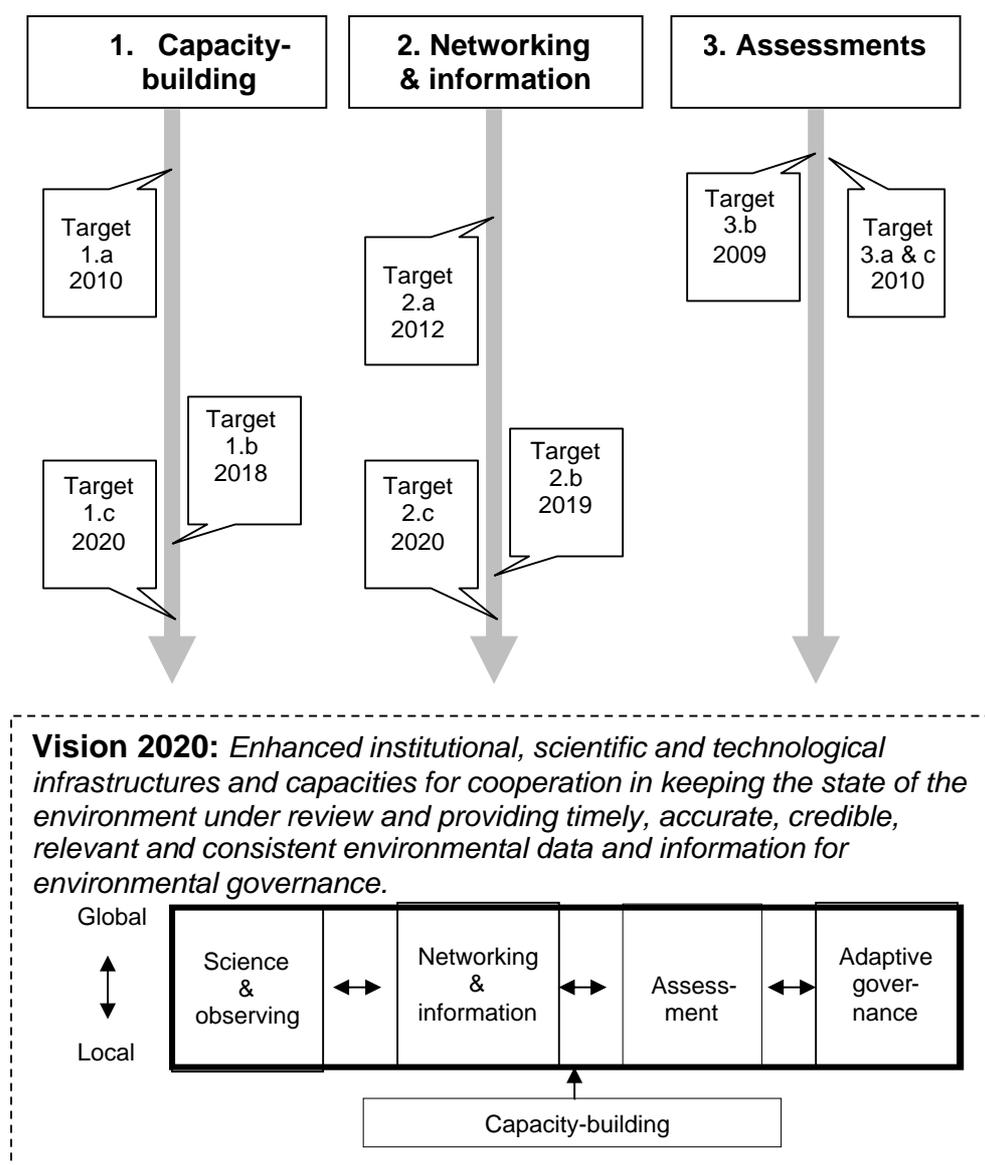
(b) Developing by 2009 a coherent environmental assessment approach which will codify different assessment methodologies, ranging from environmental impact assessments to international environmental assessments;

(c) Establishing a structured worldwide environmental assessment partnership by 2010 for the conduct of mutually supportive cutting-edge assessment processes involving scientists, partners and decision-makers in response to needs identified by decision-makers.

**D. Implementation**

During implementation of the approved programme of work, the strategy will be further improved by the Executive Director of UNEP in close cooperation with Governments and a consortium of international organizations and financial institutions. Capacity-building and technology support to developing countries and countries with economies in transition will be provided by UNEP or a partner in the consortium, subject to the availability of funds.

## Environment Watch Strategy



**Figure 1.** Environment Watch Strategy: Vision 2020 (target numbering as in annex I)