



Distr.: General
25 February 2016

Original: English



**United Nations
Environment Assembly of the
United Nations Environment
Programme**

**United Nations Environment Assembly of the
United Nations Environment Programme
Second session**

Nairobi, 23–27 May 2016

Item 4 (f) of the provisional agenda*

**International environmental policy and
governance issues: ecosystem-based adaptation**

Resolution 1/8: ecosystem-based adaptation

Report of the Executive Director

Summary

By its resolution 1/8, on ecosystem-based adaptation, the United Nations Environment Assembly requested the Executive Director of the United Nations Environment Programme (UNEP) to:

- Support developing countries in the development and implementation of community-based, national and regional ecosystem-based adaptation programmes in partnership with Governments and other relevant stakeholders (para. 1).
- Continue collaboration with the United Nations Development Programme (UNDP) and other relevant partners to integrate ecosystems as a key element in national adaptation planning processes according to the guidelines of the United Nations Framework Convention on Climate Change, taking into account guidance developed under the Convention on Biological Diversity (para. 5).
- Report on the implementation of the resolution to the United Nations Environment Assembly at its second session (para. 7).

The implementation of paragraphs 1 and 5 of resolution 1/8 is described in section I of the present report.

The resolution also encouraged or invited countries to:

- Include ecosystem-based adaptation and community-based adaptation in their national policies according to their national circumstances and priorities (para. 2).
- Consider, in the implementation of ecosystem-based adaptation and community-based adaptation measures, indigenous, local and traditional knowledge systems and practices (para. 3).

* UNEP/EA.2/1.

- Take ecosystems into consideration in their development planning, including climate change adaptation policies and plans (para. 4).

The resolution called on countries in a position to do so to support climate change adaptation programmes and policies that take into account ecosystems (para. 6).

The implementation of paragraphs 2, 3, 4 and 6 of resolution 1/8 is described in section II.

Section III describes the lessons learned and the way forward in the light of the implementation of resolution 1/8.

I. Implementation by UNEP with its partners

A. Implementation of ecosystem-based adaptation

1. Ecosystem-based adaptation is defined as the sustainable management, protection, restoration or transformation of biodiversity and ecosystem services as part of an overall adaptation strategy to help people adapt to climate change. The UNEP ecosystem-based adaptation flagship programme, launched in 2010, is part of the UNEP climate change subprogramme and hence is anchored in the UNEP medium-term strategy for the period 2010–2014. Resolution 1/8 increased the momentum and raised the profile of existing UNEP ecosystem-based adaptation initiatives and activities.

2. Since June 2014, UNEP has supported the implementation of ecosystem-based adaptation in many developing countries on various scales and in diverse ecosystem settings, including mountains, river basins, drylands, urban areas and coastal areas. UNEP has been supporting 47 countries in Africa, Asia-Pacific and Latin America and the Caribbean. Projects support, inter alia, policy development, the capacity to implement ecosystem-based adaptation and synergies with work on community-based adaptation and disaster risk reduction. The work has been carried out in collaboration with various other United Nations entities and non-governmental organizations. Most in-country ecosystem-based adaptation work has been undertaken with the support of United Nations country teams in the context of the “Delivering as one” initiative. A range of tools have been developed, including on decision support and vulnerability impact assessments. The results of the work have been disseminated through a variety of channels, including publications, meetings and websites. Contributions have been made to the global debate on the future of ecosystem-based adaptation. Examples of UNEP support for countries are provided in section II.

3. In partnership with the Governments of China, Mauritania, Nepal and Seychelles, UNEP established a South-South collaboration platform to enhance capacity development, knowledge and technology relevant to ecosystem-based adaptation in order to build and promote resilience to climate change.

4. UNEP is supporting countries in Africa, Asia and Latin America in the implementation of ecosystem-based adaptation in mountain ecosystems. With support from the German Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety, and in partnership with UNDP and the International Union for the Conservation of Nature, UNEP has been working to implement ecosystem-based adaptation at the local and national levels in mountainous regions of Nepal, Peru and Uganda. UNEP, working with national and provincial governments and local partners in Afghanistan, applied a landscape-based ecosystems approach in building livelihood resilience relevant to climate risks in mountain areas. The *Africa Mountains Atlas*, launched at the fifteenth session of the African Ministerial Conference on the Environment in Egypt in 2015, provides decision makers and practitioners with information on the status of mountain ecosystems in Africa.

5. As part of its efforts to strengthen the resilience of coastal communities in the face of climate change, UNEP is building the capacity of those communities to undertake vulnerability impact assessments and to improve planning and decision-making in respect of ecosystem-based adaptation. UNEP work in Grenada and Seychelles is supported by the European Commission. UNEP is also supporting ecosystem-based adaptation measures in coastal parts of Cambodia, Djibouti, Fiji, Haiti and the United Republic of Tanzania. This work is undertaken in partnership with the national Governments, the United Nations Human Settlements Programme (UN-Habitat), the Food and Agriculture Organization of the United Nations, UNDP and non-governmental organizations. A coastal risk assessment methodology was applied in Haiti to demonstrate the role of coastal marine habitats in reducing exposure to coastal hazards.

6. UNEP is supporting Rwanda, Comoros and the Dominican Republic in their efforts to employ ecosystem-based adaptation to reduce vulnerability to climate change in watershed areas. Flood and drought management tools are being tested in the Volta, Lake Victoria and Chao Phraya catchments.
7. UNEP is promoting food security in Madagascar and Peru by promoting the use of local climate-resilient rice in Madagascar and cultivars of local *Chenopodium quinoa Willd* in Peru. In the Zambezi River basin, shared by Malawi, Mozambique and Zambia, UNEP is catalysing the adoption of ecosystem-based solutions to transboundary climate-change-induced risks, especially food insecurity.
8. UNEP has established the Ecosystem-based Adaptation for Food Security Assembly as the first inclusive pan-African policy framework and implementation platform that brings together key stakeholders and actors along the entire value chain of ecosystem-based-adaptation-driven agriculture. The Assembly aims to foster partnerships that bridge gaps in financing, commercialization, technology transfer and techniques while holistically optimizing the entire value chain. It was established after the second Africa Ecosystem-Based Adaptation for Food Security Conference, convened by UNEP in July 2015.
9. UNEP is developing a portfolio of work on ecosystem-based adaptation in urban areas. To date, most ecosystem-based adaptation has been undertaken in rural areas. Nevertheless, ecosystem-based adaptation measures both within and around cities can strengthen the resilience of urban communities. UNEP, in liaison and collaboration with relevant Governments and partners, is developing proposals for ecosystem-based adaptation in urban areas in Bhutan, Cambodia, El Salvador, Jamaica, the Lao People's Democratic Republic, Mexico and Myanmar. The aim of the urban ecosystem-based adaptation work is to reduce the vulnerability of communities living in cities to the effects of climate change through the integration of ecosystem-based adaptation into urban planning in the medium to long term.
10. UNEP is also working with Member States and other partners to promote ecosystem-based adaptation and disaster risk reduction in global and national biodiversity strategies, plans and programmes. The Conference of the Parties to the Convention on Biological Diversity, at its twelfth meeting, in October 2014, adopted decision XII/20 to link biodiversity, climate change and disaster risk reduction, explicitly promoting ecosystem-based approaches to climate change-related efforts and disaster risk reduction. At its twelfth meeting, the Conference of the Contracting Parties to the Convention on Wetlands of International Importance especially as Waterfowl Habitat (Ramsar Convention) adopted resolution XII/13, by which it called for the integration of climate change and disaster risk reduction into wetlands management. UNEP supported Member States as well as the secretariats of the Convention on Biological Diversity and the Ramsar Convention with technical inputs and best practices. Both decisions will have direct national implications for the integration of biodiversity conservation and climate change and disaster risk reduction into development planning and programming.

B. Tools, guidelines and publications

11. UNEP has, as part of its work on ecosystem-based adaptation since June 2014, produced a number of publications, guidelines and tools. Some key outputs include:
- (a) *Microfinance for Ecosystem-Based Adaptation: Options, Costs and Benefits* (July 2014);
 - (b) *A Strategic Framework to Ecologically Respond to ENSO¹ in the Greater Horn of Africa* (December 2014);
 - (c) *Andean Agriculture in the Face of Climate Change* (December 2014);
 - (d) *Mainstreaming Ecosystem-Based Adaptation into Policy and Financing Frameworks* (March 2015), a training manual commissioned by the Government of Uganda;
 - (e) *Manual for Implementing Ecosystem-Based Adaptation in the Mount Elgon Ecosystem of Uganda* (March 2015);
 - (f) *Guidance on Integrating Ecosystem Considerations into Climate Change Vulnerability and Impact Assessment to Inform Ecosystem-Based Adaptation* (April 2015);
 - (g) *Towards a Comprehensive Strategic Framework to Upscale and Outscale Ecosystem-Based-Adaptation-Driven Agriculture in Africa* (2015);

¹ El Niño Southern Oscillation.

(h) *Introduction to Ecosystem-Based Adaptation: A Nature-Based Response to Climate Change* (October 2015);

(i) *Making the Case for Ecosystem-Based Adaptation: The Global Mountain Ecosystem-Based Adaptation Programme in Nepal, Peru and Uganda* (December 2015);

(j) *Introduction to options for ecosystem-based adaptation in coastal environments - a guide for environmental managers and planners: Assessing Climate Change Readiness in Seychelles: Implications for Ecosystem-Based Adaptation Mainstreaming and Marine Spatial Planning* (December 2015).

12. The outputs listed above have been disseminated through various avenues and platforms. Various partners have requested access to them, particularly tools and guidelines that have been used for training and capacity development. Governments have provided feedback on reports that UNEP has disseminated on ecosystem-based adaptation.

C. Dissemination and awareness-raising

13. UNEP provided support for and participated in the ninth international conference on community-based adaptation, which took place in Nairobi in April 2015 and was attended by over 400 participants from over 90 countries. Prior to the conference, 35 participants visited UNEP projects on ecosystem-based adaptation and community-based adaptation in Kenya's Mau Forest to learn from the communities there. UNEP led a session at the conference on evaluating the effectiveness of ecosystem-based adaptation.

14. In Latin America, the UNEP Regional Gateway for Technology Transfer and Climate Change Action (REGATTA) has established an online community-of-practice network focused on ecosystem-based adaptation (<http://www.cambioclimatico-regatta.org/index.php/en/>), whose members have provided information clarifying the relationship between ecosystems and community-based adaptation approaches.

15. In the Asia-Pacific region, the UNEP Asia Pacific Adaptation Network organized a workshop under the "Ecosystem-based Adaptation through South-South Cooperation" project, funded by the Global Environment Facility (GEF), to support African and Asia-Pacific countries in the mainstreaming of ecosystem-based adaptation into planning and financing processes. The workshop took place in Kuala Lumpur from 30 September to 3 October 2014.

16. Through its programme for ecosystem-based adaptation for food security in Africa, UNEP organized a second food security conference (see para. 8 above) to promote ecosystem-based approaches to food production, storage, preservation and other value-adding processes to improve food security, link farmers to markets and create green jobs along the agricultural value chain. As a result, the African Union Commission has identified agriculture driven by ecosystem-based adaptation as a priority mechanism for enhancing food security with a view to achieving the 2025 Vision on the Comprehensive Africa Agriculture Development Programme.

17. UNEP, together with the Partnership for Environment and Disaster Risk Reduction and the Centres for Natural Resources and Development network (a global consortium of 15 universities), organized an international science-policy workshop entitled "Ecosystem-based Disaster Risk Reduction and Climate Change Adaptation: Guiding Development Policies in the Twenty-First Century" from 16 to 18 June 2014 in Bogor, Indonesia. Over 70 researchers, policymakers and practitioners gathered to discuss how integrated ecosystem-based adaptation and disaster risk reduction could guide sustainable development policies and practice. Based on the presentations at the workshop, the Partnership is preparing a second compilation for early 2016 to document relevant knowledge, practices and lessons.

18. UNEP, in collaboration with the Convention on Biological Diversity, held an awareness-raising and technical workshop entitled "Ecosystem-based Approaches to Climate Change Adaptation and Disaster Risk Reduction" in Johannesburg, South Africa, from 28 September to 2 October 2015. The workshop brought together practitioners, policymakers and donors working on issues related to ecosystem-based adaptation and in particular disaster risk reduction.

19. In addition, UNEP has held or will hold the following events on ecosystem-based adaptation:

(a) "Ecosystem-based Adaptation: Contributing to the Post-2015 Development Agenda" (Pyeongchang, Republic of Korea, 9 October 2014);

(b) International Tropical Marine Ecosystems Management Symposium (Bohol, Philippines, 25–28 February 2016) (sharing of practical experiences among national planners and practitioners on marine spatial planning for coastal ecosystem-based adaptation; organized jointly with the International Coral Reef Initiative);

(c) International Meeting of the Ecosystem-based Adaptation Community of Practice (Lima, 26–27 February 2015);

(d) Third Global Technical Workshop on Ecosystem-based Adaptation Learning for the Global Mountain Ecosystem-based Adaptation Programme (Lunahuana, Cañete, Peru, 25–30 May 2015);

(e) Regional workshops to assist small island developing States with integrating coastal ecosystem-based adaptation into national policy and planning (Grenada, 23–26 February 2016, and Seychelles, 8–10 March 2016)

20. UNEP, through its Global Universities Partnership on Environment for Sustainability, together with Cologne University of Applied Sciences, Germany, launched the massive open online course entitled “Disasters and Ecosystems: Resilience in a Changing Climate”. The first of its kind, the course is an outcome of the longstanding collaboration between UNEP and the Centre for Natural Resources and Development, a consortium of 11 universities from around the world that is coordinated by Cologne University of Applied Sciences.

21. Through these awareness-raising initiatives, UNEP has received from various stakeholders, including Governments, expressions of interest in not just working on ecosystem-based adaptation issues but also mainstreaming ecosystem-based adaptation into policy initiatives. In addition, new partnerships brokered through these events have enhanced the profile and relevance of the work on ecosystem-based adaptation.

D. Support for countries seeking access to climate financing

22. UNEP continues to support developing countries in their efforts to obtain funding for ecosystem-based adaptation from various global funding portfolios. Twenty-one countries have obtained funding from the Global Environment Facility for the integration of ecosystem-based adaptation into national adaptation planning processes. Under the UNEP/UNDP National Adaptation Programme Global Support Programme, Bhutan, Cambodia, the Lao People’s Democratic Republic and Myanmar have received GEF funding for the implementation of a regional project entitled “Building Climate Resilience of Urban Systems through Ecosystem-Based Adaptation in the Asia-Pacific region”.

23. With funding acquired through UNEP from the Adaptation Fund, Cambodia is utilizing an ecosystem approach to forests and the services they provide to local communities seeking to improve resilience to climate change. UNEP is promoting the establishment of microfinancing for ecosystem-based adaptation in Colombia and Peru. It is also exploring the possibility of funding for ecosystem-based adaptation from the Green Climate Fund.

II. Status of ecosystem-based adaptation in countries

24. Following the adoption of resolution 1/8, a survey of Member States was undertaken through the Committee of Permanent Representatives to determine the extent to which ecosystem-based adaptation was being implemented at the country level. A total of 67 countries responded. Response rates were highest from Africa, followed by Asia, Europe and finally West Asia. Twenty-seven per cent of the responses were from small island developing States. The 47 countries indicating that they were undertaking ecosystem-based adaptation at the national level reported that most of their ecosystem-based adaptation activities were taking place in rural settings, while the rest were in urban settings. Regarding ecosystem-based adaptation data and tools, 53 countries were using available data and tools, while the rest were using a combination of climate and biodiversity data and natural resources management plans and had performed vulnerability impact assessments. At least 46 countries reported having applied modelling or decision-making support tools to their ecosystem-based adaptation work. Fifty-one countries had policies, plans and strategies that included ecosystem-based adaptation directly or indirectly, while 16 countries did not. Most of the ecosystem-based adaptation activities in the countries were taking place mainly in terrestrial ecosystems (40 countries) while the rest were taking place in terrestrial and/or aquatic ecosystems. UNEP is conducting further analytical work to promote a better understanding of the relationship

between ecosystem-based adaptation and other adaptation options and the need to ensure that all adaptation actions take ecosystems into account.

25. There are several country initiatives through which ecosystem-based adaptation has directly or indirectly influenced policy changes at the national level. In Peru, the UNEP ecosystem-based adaptation Mountain Project, in tandem with the UNDP Biodiversity Finance Initiative, influenced the Government's inclusion of both ecosystem-based adaptation and biodiversity considerations in the country's new policy guidelines for public investment in biodiversity and ecosystem services. In October 2015, the Executive Office of the President of the United States of America issued a memorandum requesting the incorporation of ecosystem services into federal decision-making. This memorandum recognizes that nature provides vital contributions to economic and social well-being, including to climate resilience. The work of UNEP on ecosystem-based adaptation contributed to the Brazilian Government's decision to integrate ecosystem-based adaptation into its national adaptation planning process. Fiji, the Solomon Islands and Vanuatu are collaborating with the Secretariat of the Pacific Regional Environment Programme on a new initiative, launched in November 2015 and entitled "Pacific Ecosystem-based Adaptation to Climate Change", to use ecosystem-based adaptation to build the resilience of urban areas in the face of climate change in these small island developing States.

III. Lessons learned and the way forward

26. Ecosystem-based adaptation is now widely accepted as an important approach to climate change adaptation because of its usefulness in both satisfying immediate needs and building safety nets and resilience for the future. Originally developed in the framework of the Convention on Biological Diversity, it was subsequently adopted as one of three UNEP flagship climate programmes, accepted within the Framework Convention on Climate Change and endorsed by multinational and environmental and conservation organizations as well as other United Nations entities such as UNDP. The Global Environment Facility and the Adaptation Fund recognize the importance of ecosystem-based adaptation and support projects having the approach as a central component. Sixty-seven Member States have reported to UNEP on their ecosystem-based adaptation activities, while a growing number of countries have also mentioned ecosystem-based adaptation as a preferred adaptation approach in their intended nationally determined contributions, national adaptation plans and national adaptation plans of action under the Framework Convention on Climate Change.

27. The ecosystem-based adaptation work undertaken in many countries indicates that ecosystem-based adaptation is critical for achieving the Sustainable Development Goals and the aims of the 2030 Agenda for Sustainable Development in a changing climate. Work to date shows that ecosystem-based adaptation can provide climate-resilient, sustainable, nature-based solutions to many of the challenges that the Goals seek to address. For instance, ecosystem-based adaptation is closely linked to Goal 2, on ending hunger, as it focuses on biodiversity in wild seeds and livestock breeds that are more adaptable in a changing climate. It is also closely linked to Goal 11, on making cities inclusive, safe, resilient and sustainable, as it looks at protected watershed areas that provide a regular supply of water for urban areas and downstream cities. With regard to Goal 13, on combating climate change and its impacts, the conservation and restoration of vital ecosystems have played a major role in reducing disaster risk to communities, particularly in areas expected to be affected by climate change, such as coastal zones and mountainous areas. Lastly, ecosystem-based adaptation is pivotal to Goal 14, on conserving and sustainably using life below water, and Goal 15, on the sustainable use of life on land, since most ecosystem-based adaptation interventions to date have demonstrated that managing and transforming ecosystems can contribute to the conservation and sustainable use of marine and terrestrial ecosystems and their biodiversity.

28. There is a significant opportunity for more countries to implement ecosystem-based adaptation, and for scaling up the implementation of ecosystem-based adaptation beyond the site level-activities that have characterized many projects to date. Ecosystem-based adaptation must be implemented across multiple ecosystems and in new locations such as urban areas. Most importantly, there is now an opportunity to integrate ecosystem-based adaptation into overall adaptation strategies through the national adaptation planning process.

29. Ecosystem-based adaptation is most effective when integrated into an overarching approach to adaptation that includes the right balance of measures. This may involve integrating ecosystem-based adaptation into community-based approaches to adaptation and addressing the governance and equity aspects of adaptation. Most significantly, ecosystem-based adaptation often needs to be combined with engineering or technological approaches through "grey-green" or "hybrid" measures.

30. UNEP will use the lessons learned from its experience to inform its work as it goes forward. Ecosystem-based adaptation will remain a key component of the next UNEP medium-term strategy and programme of work. UNEP will seek to disseminate its understanding of ecosystem-based adaptation as a key component within overall adaptation strategies, supporting countries in their efforts to integrate ecosystem-based adaptation into their adaptation policies and plans in order to foster climate-resilient development.
