



Contributions of the United Nations Environment Programme (UNEP) towards achieving the Strategic Plan of Biodiversity (2011–2020) and the Aichi biodiversity targets



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biodiversity targets

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138 countries supported to achieve the Aichi biodiversity targets

7 sub-programmes of UNEP contribute to achieving Aichi biodiversity targets

63 countries supported in actions to ratify the Nagoya Protocol and its implementation

More than **110** projects supported through the GEF portfolio

All **20** Aichi biodiversity targets receiving attention

141 projects underway to support CBD strategic plan

Actions delivered through more than **80** partnerships

82 countries receive support to revise/
update/review the NBSAPs

65 countries
participate in the
Biosafety Clearing
House Phase II
project

58 countries
supported to
use ecosystem
approach in
sectoral planning
and processes

More than **1.3**
million twitter
impressions on
world wildlife day

More than **1** Billion
dollar benefits
from ecosystems
identified in 4
countries

7 biodiversity
related conventions
targeted to enhance
cooperation and
synergies

17 countries
completed valuation
of their ecosystems

Executive Summary

The United Nations Environment Programme (UNEP) is committed to supporting Parties to the Convention on Biological Diversity (CBD) in their efforts to achieving the Strategic Plan of Biodiversity (2011-2020) and the Aichi biodiversity targets.

With more than one hundred projects spread across more than one hundred and twenty countries, UNEP's contribution to the CBD, specifically in achieving the twenty Aichi targets, is the key focus of this report for information and consideration by the Parties to the CBD as well as the Member States of UNEP.

It is noteworthy to mention that the UNEP's Medium Term Strategy and Programme of Work are in close alignment with the priorities of not just the CBD but also other biodiversity related conventions with regard to programmatic issues related to biodiversity.

Introduction

The United Nations Environment Programme (UNEP) is responsible for leading and coordinating action on environmental matters within the United Nations system. The mandate for UNEP derives from General Assembly resolution 2997 (XXVII). The Governing Council of UNEP further clarified the mandate of UNEP in its decision 19/1, setting out the Nairobi Declaration on the Role and Mandate of the United Nations Environment Programme, which was subsequently endorsed by the General Assembly in the annex to its resolution S/19-2 in 1987, and further reaffirmed by resolutions 53/242 in 1999 and 66/288 and 67/213 in 2012.¹

The objective pursued by UNEP over the period 2014–2017 is to catalyse a transition towards low-carbon, low-emission, resource-efficient and equitable development based on the protection and sustainable use of ecosystem services, coherent and improved environmental governance and the reduction of environmental risks. The ultimate goal is to contribute to the wellbeing of current and future generations and the attainment of global environmental goals. The organization's strategy for achieving this objective is contingent on its ability to catalyse change among member States in their efforts to achieve progress on environmental issues.

UNEP has hosted the Convention on Biological Diversity since its adoption by the Member States of the United Nations in 1992 during the United Nations Conference on Environment and Development (Earth Summit).

In recognition of its contribution to advancing the global environmental agenda, UNEP was elevated to a fully-fledged United Nations entity in 2012, with universal membership by the United Nations Member States, through a decision adopted at the United Nations Conference on Sustainable Development, held in Rio de Janeiro in 2012.² Since its establishment in 1974, UNEP has focused on issues of conservation, sustainable management of ecosystems and biodiversity and ensuring appropriate and equitable use of the Earth's resources through a number of actions and programmes at local, national, regional and global levels.

¹ Document A/71/6 (Prog.11), 2016.

² Paragraph 88 of the outcome document of the United Nations Conference on Environment and Development, "The future we want". Available from: <http://www.unep.org/rio20/portals/24180/Docs/727The%20Future%20We%20Want%2019%20June%201230pm.pdf>.

UNEP also contributed significantly to the development and implementation of the Strategic Plan for Biodiversity 2011–2020 of the Convention on Biological Diversity and also of the Aichi Biodiversity Targets.³ The present report summarizes actions by UNEP over the last three years focusing on its contributions to attainment of the global biodiversity targets (the Aichi targets).

UNEP hopes that the parties to the Convention on Biological Diversity recognize its contributions to the issue of biodiversity and support efforts to strengthen cooperation with UNEP, with a view not only to achieving the Convention's objectives but also to supporting UNEP in implementing the 2030 Agenda for Sustainable Development and those Sustainable Development Goals that focus on the contributions of ecosystems and biodiversity to sustainable development.

³ <https://www.cbd.int/sp/>.

UNEP programme of work

UNEP will carry out its work within the context of seven priority areas for the biennium 2016–2017:⁴

- a. Climate change;
- b. Disasters and conflicts;
- c. Ecosystem management;
- d. Environmental governance;
- e. Chemicals and waste;
- f. Resource efficiency and sustainable consumption and production; and
- g. Environment under review.

Climate change: Within the framework of the United Nations approach to climate change, UNEP will work with Member States and other partners – including the private sector – to build the resilience of countries to climate change through ecosystem-based and other supporting adaptation approaches; to promote the transfer and use of energy efficiency and renewable energy technologies for low emission development; and to support the planning and implementation of initiatives to reduce emissions from deforestation and forest degradation.

Disasters and conflicts: As a part of United Nations system-wide strategies for natural and human-caused disaster risk reduction and preparedness, crisis response and recovery, UNEP will build national capacity to use sustainable natural resource and environmental management to reduce the risk of natural and human-caused disasters and bring in the environmental dimension in support of the conflict prevention mandates exercised by other United Nations entities; and to support sustainable recovery from natural and human-caused disasters. The subprogramme will integrate a gender perspective in the design and implementation of all phases of risk management.

Ecosystem management: With a view to mainstreaming the ecosystem approach in policymaking and implementation processes, facilitating the reversal of ecosystem degradation and addressing the challenge of food security and water quality, UNEP seeks to promote the proper management of biodiversity, in particular at the ecosystem level. UNEP will catalyse the maintenance of natural capital and the protection and sustainable use of ecosystems, with the aim of promoting integrated and cross-sectoral approaches so as to boost the resilience and productivity of interdependent landscapes and their associated ecosystems and species. To that end, UNEP will promote integrated land and water management approaches that help strengthen and restore the resilience and productivity of terrestrial and aquatic systems, thereby maintaining natural ecological processes that support food production systems and maintain water quantity and quality; promote the management of coasts and marine

⁴ In its decision 26/9, the Governing Council requested UNEP to prepare for adoption in 2013 a medium-term strategy for the period 2014–2017 to guide the organization's work with Governments, partners and other stakeholders.

systems to ensure that ecosystem services are restored or maintained; and help strengthen the enabling environment for ecosystems, including transboundary ecosystems, at the request of all concerned countries. Implementation of the programme will be carried out in consultation with the secretariats of the biodiversity-related multilateral environmental agreements and will include the provision of support to countries in creating an enabling environment for the implementation of ecosystem and biodiversity-related agreements, paying particular attention to the Aichi Biodiversity Targets and the Strategic Plan for Biodiversity 2011–2020 under the Convention on Biological Diversity. UNEP will also encourage countries to integrate biodiversity values into national development planning and poverty reduction strategies and planning processes.

Environmental governance: UNEP will improve coherence and synergy in environmental governance, in collaboration with other United Nations agencies, by providing support to the United Nations system and entities of multilateral environmental agreements, taking advantage of United Nations coordination mechanisms to increase the coordination of actions on environmental policies and programmes within the United Nations system and multilateral environmental agreements; by helping countries, upon their request, to strengthen their environmental institutions and laws and implement their national environmental policies, ensuring the integration of gender perspectives; and by helping to increase the integration of environmental sustainability in national and regional policies and plans, based on demand from countries, and taking into account gender perspectives.

A key area of its work in this priority area is the provision of support to countries in developing and reporting on the environmental aspects of the Sustainable Development Goals. UNEP will strengthen the science-policy interface in carrying out this work. It will also work towards facilitating, where appropriate, the increased participation of stakeholders in environmental decision-making processes and ensuring access to justice along the lines of Principle 10 of the Rio Declaration on Environment and Development.

Chemicals and waste: As a part of system-wide efforts by the United Nations and in close collaboration with the entities involved in the Strategic Approach to International Chemicals Management, the Minamata Convention on Mercury and the secretariats of the other chemicals and waste-related multilateral environmental agreements, UNEP will work to lessen the environmental and human health impacts of chemicals and waste. It will also step up its efforts to support countries in building their capacities for the sound management of chemicals and waste, including e-waste, in order to help them achieve, by 2020, sound management of chemicals throughout their life cycle.

Resource efficiency and sustainable consumption and production: UNEP will promote government policy reform, changes in private sector management practices, and increased consumer awareness (taking into consideration gender differences) as a means of reducing the impact of economic growth on resource depletion and environmental degradation. Following the adoption by the United Nations Conference on Sustainable Development of the 10-year framework of programmes on sustainable consumption and production patterns, UNEP, which has been designated as the secretariat of the 10-year framework, will prioritize support for this work. It will provide support to countries willing to engage in such a transition in designing the appropriate policy mix and sharing experiences, best practices and knowledge.

UNEP will work with its network of partners to strengthen the scientific basis for decision-making, and support governments, cities and other local authorities in designing and implementing tools and policies to increase resource efficiency, including sustainable consumption and production and green economy practices, in the context of sustainable development and poverty eradication; to promote the application of life-cycle and environmental management approaches, with a view to improving resource efficiency in sectoral policymaking and in business and financial operations along global value chains, using public-private partnerships as a key delivery mechanism; and to promote the adoption of consumption-related policies and tools by public institutions and private organizations, and increase consumer awareness of more sustainable lifestyles.

Environment under review: Keeping the global environmental situation under review in a systematic and coordinated way and providing early warning on emerging issues for informed decision-making by policymakers and the general public constitute one of the core mandates of UNEP. To this end, UNEP aims to enhance the integrated assessment, interpretation and coherence of environmental, economic and social information with a view to assessing the state of the environment, identifying emerging issues and contributing data with a view to tracking progress towards environmental sustainability, including targets such as the Aichi Biodiversity Targets, and to facilitating global policymaking. The global environmental goals used in the preparation of the fifth report in the Global Environment Outlook series will continue to serve as a basis for assessing the state of the environment, and guidance will be taken from the Global Gender and Environment Outlook in providing the relevant gender data and indicators.

Strategic Plan for Biodiversity 2011–2020

In decision X/2, adopted at its tenth meeting in October 2010, the Conference of the Parties to the Convention on Biological Diversity adopted a revised and updated strategic plan for biodiversity, including the Aichi Biodiversity Targets, for the period 2011-2020. This plan provides an overarching framework on biodiversity, not only for the biodiversity-related conventions, but for the entire United Nations system and all other partners engaged in biodiversity management and policy development.

As elaborated under decision X/2, the Strategic Plan includes 20 headline targets for 2015 or 2020 (the Aichi Biodiversity Targets), organized under five strategic goals. The goals and targets comprise both aspirations for achievement at the global level; and a flexible framework for the establishment of national or regional targets. Thus, the Strategic Plan for Biodiversity is a framework for action by all countries and stakeholders to save biodiversity and enhance its benefits for people.









A. Aichi Biodiversity Targets

Twenty global targets on biodiversity were adopted as a part of the Strategic Plan. These are categorized under five strategic goals, as follows:

- a. **Strategic goal A:** Address the underlying causes of biodiversity loss by mainstreaming biodiversity across government and society – four targets;
- b. **Strategic goal B:** Reduce the direct pressures on biodiversity and promote sustainable use – six targets;
- c. **Strategic goal C:** Improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity – three targets;
- d. **Strategic goal D:** Enhance the benefits to all from biodiversity and ecosystem services – three targets;
- e. **Strategic goal E:** Enhance implementation through participatory planning, knowledge management and capacity building – four targets.

The following table sets out the various biodiversity goals adopted during the tenth meeting of the Conference of the Parties to the Convention on Biological Diversity 2010, as part of the Strategic Plan on Biodiversity 2011–2020.

Table 1: Goals under the Strategic Plan for Biodiversity 2011–2020

Strategic goal A: Address the underlying causes of biodiversity loss by mainstreaming biodiversity across government and society	
	<p>Target 1 By 2020, at the latest, people are aware of the values of biodiversity and the steps they can take to conserve and use it sustainably.</p>
	<p>Target 2 By 2020, at the latest, biodiversity values have been integrated into national and local development and poverty reduction strategies and planning processes and are being incorporated into national accounting, as appropriate, and reporting systems.</p>
	<p>Target 3 By 2020, at the latest, incentives, including subsidies, harmful to biodiversity are eliminated, phased out or reformed in order to minimize or avoid negative impacts, and positive incentives for the conservation and sustainable use of biodiversity are developed and applied, consistent and in harmony with the Convention and other relevant international obligations, taking into account national socioeconomic conditions.</p>
	<p>Target 4 By 2020, at the latest, Governments, business and stakeholders at all levels have taken steps to achieve or have implemented plans for sustainable production and consumption and have kept the impacts of use of natural resources well within safe ecological limits.</p>
Strategic goal B: Reduce the direct pressures on biodiversity and promote sustainable use	
	<p>Target 5 By 2020, the rate of loss of all natural habitats, including forests, is at least halved and where feasible brought close to zero, and degradation and fragmentation is significantly reduced.</p>
	<p>Target 6 By 2020 all fish and invertebrate stocks and aquatic plants are managed and harvested sustainably, legally and applying ecosystem based approaches, so that overfishing is avoided, recovery plans and measures are in place for all depleted species, fisheries have no significant adverse impacts on threatened species and vulnerable ecosystems and the impacts of fisheries on stocks, species and ecosystems are within safe ecological limits.</p>
	<p>Target 7 By 2020 areas under agriculture, aquaculture and forestry are managed sustainably, ensuring conservation of biodiversity.</p>
	<p>Target 8 By 2020, pollution, including from excess nutrients, has been brought to levels that are not detrimental to ecosystem function and biodiversity.</p>

	<p>Target 9 By 2020, invasive alien species and pathways are identified and prioritized, priority species are controlled or eradicated, and measures are in place to manage pathways to prevent their introduction and establishment.</p>
	<p>Target 10 By 2015, the multiple anthropogenic pressures on coral reefs, and other vulnerable ecosystems impacted by climate change or ocean acidification are minimized, so as to maintain their integrity and functioning.</p>
<p>Strategic goal C: Improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity</p>	
	<p>Target 11 By 2020, at least 17 per cent of terrestrial and inland water, and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscapes and seascapes.</p>
	<p>Target 12 By 2020 the extinction of known threatened species has been prevented and their conservation status, particularly of those most in decline, has been improved and sustained.</p>
	<p>Target 13 By 2020, the genetic diversity of cultivated plants and farmed and domesticated animals and of wild relatives, including other socio-economically as well as culturally valuable species, is maintained, and strategies have been developed and implemented for minimizing genetic erosion and safeguarding their genetic diversity.</p>
<p>Strategic goal D: Enhance the benefits to all from biodiversity and ecosystem services</p>	
	<p>Target 14 By 2020, ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and well-being, are restored and safeguarded, taking into account the needs of women, indigenous and local communities, and the poor and vulnerable.</p>
	<p>Target 15 By 2020, ecosystem resilience and the contribution of biodiversity to carbon stocks has been enhanced, through conservation and restoration, including restoration of at least 15 per cent of degraded ecosystems, thereby contributing to climate change mitigation and adaptation and to combating desertification.</p>
	<p>Target 16 By 2015, the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization is in force and operational, consistent with national legislation.</p>

Strategic goal E: Enhance implementation through participatory planning, knowledge management and capacity building



Target 17

By 2015 each Party has developed, adopted as a policy instrument, and has commenced implementing an effective, participatory and updated national biodiversity strategy and action plan.



Target 18

By 2020, the traditional knowledge, innovations and practices of indigenous and local communities relevant for the conservation and sustainable use of biodiversity, and their customary use of biological resources, are respected, subject to national legislation and relevant international obligations, and fully integrated and reflected in the implementation of the Convention with the full and effective participation of indigenous and local communities, at all relevant levels.



Target 19

By 2020, knowledge, the science base and technologies relating to biodiversity, its values, functioning, status and trends, and the consequences of its loss, are improved, widely shared and transferred, and applied.



Target 20

By 2020, at the latest, the mobilization of financial resources for effectively implementing the Strategic Plan for Biodiversity 2011-2020 from all sources, and in accordance with the consolidated and agreed process in the Strategy for Resource Mobilization, should increase substantially from the current levels. This target will be subject to changes contingent to resource needs assessments to be developed and reported by Parties.

Actions taken by UNEP in pursuit of the Aichi Biodiversity Targets

The present report outlines the actions taken by UNEP in support of implementation of the Strategic Plan and the Aichi Biodiversity Targets over the period 2013–2016, mapped against the targets.

The details presented in the report are examples drawn from a number of projects and initiatives currently being implemented by UNEP in support of attainment of the Aichi Biodiversity Targets. As may be ascertained from the details presented here, several projects and initiatives, including those supported by the Global Environment Facility (GEF), contribute to multiple targets and are spread across a number of geographical regions. In addition, they are linked to other priority actions currently being implemented by UNEP and also to the UNEP medium-term strategy and programme of work for the period 2014–2017.

Table 2: Projects Contributing to Individual Aichi Biodiversity Target being implemented by the United Nations Environment Programme (UNEP)

Aichi Biodiversity Target	Aichi Target	Number of Projects
1.	By 2020, at the latest, people are aware of the values of biodiversity and the steps they can take to conserve and use it sustainably.	31
2.	By 2020, at the latest, biodiversity values have been integrated into national and local development and poverty reduction strategies and planning processes and are being incorporated into national accounting, as appropriate, and reporting systems.	23
3.	By 2020, at the latest, incentives, including subsidies, harmful to biodiversity are eliminated, phased out or reformed in order to minimize or avoid negative impacts, and positive incentives for the conservation and sustainable use of biodiversity are developed and applied, consistent and in harmony with the Convention and other relevant international obligations, taking into account national socio economic conditions.	11
4.	By 2020, at the latest, Governments, business and stakeholders at all levels have taken steps to achieve or have implemented plans for sustainable production and consumption and have kept the impacts of use of natural resources well within safe ecological limits.	23
5.	By 2020, the rate of loss of all natural habitats, including forests, is at least halved and where feasible brought close to zero, and degradation and fragmentation is significantly reduced.	29
6.	By 2020 all fish and invertebrate stocks and aquatic plants are managed and harvested sustainably, legally and applying ecosystem based approaches, so that overfishing is avoided, recovery plans and measures are in place for all depleted species, fisheries have no significant adverse impacts on threatened species and vulnerable ecosystems and the impacts of fisheries on stocks, species and ecosystems are within safe ecological limits.	14

Aichi Biodiversity Target	Aichi Target	Number of Projects
7.	By 2020 areas under agriculture, aquaculture and forestry are managed sustainably, ensuring conservation of biodiversity.	28
8.	By 2020, pollution, including from excess nutrients, has been brought to levels that are not detrimental to ecosystem function and biodiversity.	9
9.	By 2020, invasive alien species and pathways are identified and prioritized, priority species are controlled or eradicated, and measures are in place to manage pathways to prevent their introduction and establishment.	6
10.	By 2015, the multiple anthropogenic pressures on coral reefs, and other vulnerable ecosystems impacted by climate change or ocean acidification are minimized, so as to maintain their integrity and functioning.	10
11.	By 2020, at least 17 per cent of terrestrial and inland water, and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscapes and seascapes.	40
12.	By 2020 the extinction of known threatened species has been prevented and their conservation status, particularly of those most in decline, has been improved and sustained.	13
13.	By 2020, the genetic diversity of cultivated plants and farmed and domesticated animals and of wild relatives, including other socio-economically as well as culturally valuable species, is maintained, and strategies have been developed and implemented for minimizing genetic erosion and safeguarding their genetic diversity.	5
14.	By 2020, ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and well-being, are restored and safeguarded, taking into account the needs of women, indigenous and local communities, and the poor and vulnerable.	48
15.	By 2020, ecosystem resilience and the contribution of biodiversity to carbon stocks has been enhanced, through conservation and restoration, including restoration of at least 15 per cent of degraded ecosystems, thereby contributing to climate change mitigation and adaptation and to combating desertification.	24
16.	By 2015, the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization is in force and operational, consistent with national legislation.	13
17.	By 2015 each Party has developed, adopted as a policy instrument, and has commenced implementing an effective, participatory and updated national biodiversity strategy and action plan.	31
18.	By 2020, the traditional knowledge, innovations and practices of indigenous and local communities relevant for the conservation and sustainable use of biodiversity, and their customary use of biological resources, are respected, subject to national legislation and relevant international obligations, and fully integrated and reflected in the implementation of the Convention with the full and effective participation of indigenous and local communities, at all relevant levels.	6
19.	By 2020, knowledge, the science base and technologies relating to biodiversity, its values, functioning, status and trends, and the consequences of its loss, are improved, widely shared and transferred, and applied.	30
20.	By 2020, at the latest, the mobilization of financial resources for effectively implementing the Strategic Plan for Biodiversity 2011-2020 from all sources, and in accordance with the consolidated and agreed process in the Strategy for Resource Mobilization, should increase substantially from the current levels. This target will be subject to changes contingent to resource needs assessments to be developed and reported by Parties.	16



Target 1

Target 1: By 2020, at the latest, people are aware of the values of biodiversity and the steps they can take to conserve and use it sustainably

Number of projects and programmes: 27

Geographical spread: Global (about 47 countries)

Programme of work links: Subprogrammes – ecosystem management (expected accomplishments (a) and (b)); environmental governance (expected accomplishment (b)); resource efficiency and sustainable consumption and production (expected accomplishment (c)); and environment under review (expected accomplishments (a), (b) and (c))

Sample projects: Massive Open Online Course; the Sustainable Rice Platform; Biodiversity on Campus project; project on regional knowledge hubs on ecosystem approaches and systems thinking; InforMEA portal; project on mainstreaming biodiversity into the heart of decision-making; and a series of activities commemorating designated United Nations days

The focus of this target is both enhancing awareness of biodiversity and using that awareness to promote action for conservation and sustainable use.

Actions taken by UNEP in pursuit of this target are designed to improve the reach and visibility of biodiversity-related issues at global, regional and national levels. These include activities by the Division of Communication and Public Information that focus on traditional and modern modes of communication, including the celebration of international days related to biodiversity. Accordingly, the Division conducts public awareness-raising campaigns through its special programmes in the social media and the print and electronic media, covering the themes of various designated international days such as the International Day of Forests, World Water Day, World Wildlife Day, the International Day for Biological Diversity, World Wildlife Day and World Environment Day. A significant amount of work carried out through the Division is aimed at increasing awareness of issues of biodiversity and ecosystems, in addition to its work on other priority areas of the UNEP programme of work.

For example, through a targeted social media campaign, UNEP was able to create 1.3 million Twitter impressions, with more than 24,000 Twitter-based engagements, 285,000 Facebook posts and a primary Twitter reach count of some 540 million for all content on 2016 World Wildlife Day alone.

UNEP is also implementing one component of the project on illegal trade in wildlife, with a focus on communication and outreach. The aim is to raise global awareness of the issue, so as to promote behavioural change and reduce the demand for unsustainable wildlife products, to mobilize social groups in favour of stronger legal frameworks and to encourage other incentives to reduce such trade. The components

will also include communications campaigns to raise awareness and support targeted policy and legal interventions, and to reduce demand for illegally sourced wildlife products, while working to strengthen international efforts to develop and catalyse demand-reduction strategies for threatened wildlife by governments and local partners.

This advocacy and outreach initiative by UNEP will employ a range of tactics to implement the strategy, including changes in marketing systems, education and public awareness campaigns, training and capacity-building, media outreach, social media campaigns, community and grass-roots action, and the mobilization of special groups, the business community and celebrities, including the UNEP goodwill ambassadors.

UNEP is also implementing several projects at regional and national levels to promote awareness on biodiversity and ecosystem services that will contribute to the attainment of this target.

The following are specific examples of such projects.

1. Using economic values to enhance the conservation and sustainable use of biodiversity and ecosystems: Philippines

Through a project supported by The Economics of Ecosystems and Biodiversity (TEEB), a land reclamation and coastal development scheme for Manila Bay in the Philippines, measuring 685 hectares, is being undertaken. This scheme is being implemented with the full involvement of all relevant stakeholders, who were made aware of importance of this undertaking in view not only of its contribution to the conservation of biodiversity under the Convention on Biological Diversity, but also its connection with supporting action under other biodiversity conventions.

One of the areas that could benefit from this reclamation project is the Las Piñas-Paranaque Critical Habitat and Ecotourism Area. This 175-hectare area was declared a “critical habitat” in April 2007 by Presidential Proclamation No. 1412, and was named a wetland of international importance (Ramsar site) in 2013. The site attracts migratory birds and also indigenous and endemic species of waterbirds, including some that have been classified as threatened by the International Union for Conservation of Nature (IUCN). It is the only sanctuary for wildlife in the heart of metropolitan Manila.

2. Informing the “Big Results Now” policy of land-use change in the United Republic of Tanzania

A concerted programme to enhance awareness of ecosystems and biodiversity is being carried out in three interconnected regions of the United Republic of Tanzania, in the Rufiji Basin delta area. Through focused action to improve information related to conservation and management, the highlands regions, mountainous grasslands and lowlands have been brought under a coordinated management plan to pave the way for community-based land-use planning on livestock management. The resulting awareness has contributed to management of the lowlands and mangrove ecosystems that are under threat from deforestation and upstream water use, both of which contribute to water availability and quality, along with promoting hydrological modelling and scenario analysis on ecosystem change.

3. Databases to promote compliance and awareness

The UNEP World Conservation Monitoring Centre (WCMC) manages the trade database of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), on behalf of the CITES secretariat, and has produced the data dashboards to increase access to and understanding of recent trade trends. Reports are produced for each meeting of the Conference of the Parties to CITES, examining trends in trade, and the report entitled “CITES at 40: perspectives, trade patterns and future prospects” provides an accessible overview of CITES achievements and plans for the future.

WCMC relaunched its Species+ website in late 2013 and an upgraded CITES trade database in 2014 to provide information on species protected by CITES, the Convention on the Conservation of Migratory Species of Wild Animals and the European Union wildlife trade regulations. These have been used to help increase awareness among key agencies dealing with compliance issues related to threatened species and trade. The CITES trade database holds over 16 million records of trade in some 35,000 taxa listed by CITES. WCMC is also developing new technologies, such as online data dashboards and electronic permit exchange mechanisms, as a way of improving monitoring in near-real time and ultimately of ensuring that wildlife trade is sustainable.

The work has also directly contributed to managing shark species listings that came into effect in September 2014 and discussions are currently under way with the United Nations Food and Agriculture Organization (FAO) regarding CITES trade data and synergies between CITES and regional fisheries management organizations.

Lastly, as part of its role in tracking, monitoring and assessing wildlife trade and other species information, WCMC helps contribute to the identification of alien invasive species. Work by the Centre has informed action relating to invasive alien species within the framework of the European Union wildlife trade regulations and, together with the IUCN Invasive Species Specialist Group, WCMC is now exploring the development of national indicators to track progress in managing alien invasive species for small island developing States.

4. InforMEA

UNEP has developed InforMEA, its information portal on the multilateral environmental agreements, to provide stakeholders with easy access to decisions and issues related to those agreements. The portal obtains its content directly from the secretariats of the agreements through an interoperable data-sharing mechanism that they have agreed upon. Thanks to this mechanism, users can search through 85,000 decisions of the various conferences of the parties, 4,900 national reports and 450 national plans.

InforMEA further provides information on a country-by-country basis on ratification and focal points; a joint MEA calendar; news feeds; and 21 e-learning courses, including eight on biodiversity-related conventions. The introductory course on the Convention on Biological Diversity, which is also available in Russian, received encouraging feedback from certificate holders. Before the end of the year all courses will be available in Chinese, French and Spanish, and several in Russian.

Through the portal's glossary function – the law and environment ontology (LEO) section – links have been established with over 1 million national laws, 1,900 cases and over 2,000 bilateral and regional environmental treaties collected through the joint FAO-IUCN-UNEP environmental law information service ECOLEX. LEO further provided semantic standards and allowed result retrieval across different categories of information.

InforMEA is being developed collaboratively by UNEP and the participating multilateral environmental organizations through the Multilateral Environment Agreement Information and Knowledge Management Initiative spanning a number of United Nations entities, namely, FAO, the United Nations Educational, Scientific and Cultural Organization (UNESCO), the Economic Commission for Europe and the United Nations Framework Convention on Climate Change, and IUCN.



Target 2

Target 2: By 2020, at the latest, biodiversity values have been integrated into national and local development and poverty reduction strategies and planning processes and are being incorporated into national accounting, as appropriate, and reporting systems

Number of projects and programmes: 23 projects

Geographical spread: Global (about 32 countries)

Programme of work links: Subprogrammes – ecosystem management (expected accomplishment (c), environmental governance (expected accomplishments (a) and (c)), resource efficiency and sustainable consumption and production (expected accomplishment (b) and environment under review (expected accomplishments (b) and (c)).

Key projects: ProEcoServe project, UN-REDD, Blue Growth Initiative, National Biotrade Strategy, projects on forest accounting and the green economy in Africa

Mainstreaming biodiversity across sectors is a key requirement under article 6 (b) of the Convention on Biological Diversity. The target is specifically intended to ensure that the planning, economic and finance sectors and ministries at national level realize the potential contributions of biodiversity and ecosystem services to social, economic and environmental development and contribute to reducing poverty.

Actions by UNEP in support of this target include supporting countries in assessing the economic values of ecosystems and services; understanding the potential of biotrade for economic development; linking payments for ecosystem services to poverty reduction; developing online applications and budget coding systems for conservation, mitigation and adaptation; supporting local governance frameworks for conservation-centred poverty reduction; sustainable financing for ecosystem management; sustaining production landscapes for development; carrying out a suite of actions in support of green economy projects; and supporting countries to deal with the financing and implementation of national biodiversity strategies and action plans.

Some of the key projects are highlighted in the following sections.

1. Mapping the health of ecosystems in supporting human welfare at the macro level using experimental ecosystem accounting

The experimental ecosystem accounting component of the system of environmental-economic accounting is a tool designed to support policy development and analysis of the environment and its relation with economic and human activities. This collaborative project between UNEP, the Department

of Economic and Social Affairs and the secretariat of the Convention on Biological Diversity provides the capacity to integrate environmental information into standard measures of economic activity. With the aim of facilitating the mainstreaming of environmental information in economic development and planning discussions, the project is currently being implemented in seven countries.

2. Green economy project in Africa

As part efforts to operationalize the green economy in Africa, WCMC has developed a guide to assist environmental practitioners working in government offices at the national and subnational levels with the conceptual and practical aspects of undertaking a natural capital assessment. Accordingly, a project on natural capital assessment at the national and subnational level, with a guide for environmental practitioners, was undertaken by WCMC with the UNEP Regional Office for Africa, as part of their larger project on the operationalization of the green economy. There are two parts to the natural capital assessments component: first, the development of a guidance document; and, second, the development of training materials and a workshop. The guidance document, *Natural Capital Assessments at the National and Subnational Level*, presents a stepwise approach to natural capital assessments.

It is envisaged that the conduct of a natural capital assessment demonstrates the key linkages between priority sector activities and the status and trends of natural capital in a planning unit. This helps to inform decision-making, which supports long-term sustainable and inclusive economic growth, in turn generating green jobs, reducing poverty and addressing ecological scarcity and environmental risks.

3. Iyanola: natural resource management of the north-east coast of Saint Lucia

The project focuses on an enhanced land use planning and regulatory framework, as applied to the north-east coast of Saint Lucia, with a view to considering ecological issues within planning policies and regulations for development categories through a review of the national planning and development policies.

The project is currently identifying and assessing the viability of innovative economic and fiscal instruments and other options for conservation and sustainable use of critical biodiversity and ecosystems in the north-eastern Iyanola region, establishment of the link between resource conservation and income generation and the proposal of measures to support the integration of ecological considerations into planning and development policy frameworks.

4. Ecosystem Management of Productive Landscapes

The objective of this project is to develop and promote the "Landscape Approach" to increase the sustainability of production and improve water, energy, and food security through ecosystem management. This is done by providing tools and concepts for allocating and managing land and water resources to achieve multiple social, economic and environmental objectives in areas where agriculture, hydropower and other productive land uses compete with environmental and biodiversity goals. The project aims to increase the capacity of target countries to plan and design sustainable production strategies through improved ecosystem management. The project is currently being implemented in 65 countries across Africa, Asia and Latin America.



Target 3

Target 3: By 2020, at the latest, incentives, including subsidies, harmful to biodiversity are eliminated, phased out or reformed in order to minimize or avoid negative impacts, and positive incentives for the conservation and sustainable use of biodiversity are developed and applied, consistent and in harmony with the Convention and other relevant international obligations, taking into account national socioeconomic conditions

Number of projects and programmes: 11 projects

Geographical spread: Global (about 25 countries)

Programme of work links: Subprogrammes – environmental governance (expected accomplishments (b) and (c)), resource efficiency and sustainable consumption and production (expected accomplishment (c)) and environment under review (expected accomplishment (c))

Key projects: United Nations development assistance projects, extractive industries and sovereign wealth fund project, fiscal reforms in the water sector project, public environmental expenditure review project, sustainable financing project and sustainable food systems programme

Given the need to remove disincentives and perverse incentives affecting conservation and sustainable use action, UNEP places an over-arching focus on support for the target by considering actions in support of system-wide changes at the decision-making level which are informed by fundamental realities in the target countries.

Activities in support of this target include projects that link natural capital and macroeconomic policies on water use and irrigation in Africa and Central Asia with a focus on reforming the subsidy regimes, activities to incentivize sustainable food production by removing perverse incentives, support for public environment expenditure actions related to biodiversity, the development of a wild commodities index to remove disincentives, the development of fiscal reform options and the adjustment of market-based instruments designed to deal with the sustainable management of ecosystems and biodiversity.

1. Providing an analytical framework to deal with food security based on fiscal reform and regulatory intervention supported by market-based instruments

The aim of the agrifood study conducted by The Economics of Ecosystems and Biodiversity (TEEB), which forms part of a collaborative venture between UNEP, FAO, the Consortium of International Agricultural Research Centres, WCMC and Wageningen University, is to provide a comprehensive economic evaluation of the eco-agrifood systems complex, from, so to speak, “farm to fork”, in other words, across the entire value chain. The study demonstrates that the economic environment in which farmers operate is distorted by significant externalities and impacts, both positive and negative, and a lack of awareness of dependency on natural and social capital.

The TEEB agrifood study is strongly linked to the Aichi Biodiversity Targets in that, since the 1980s, 80 per cent of new agricultural lands have replaced tropical forests, a trend resulting in significant biodiversity loss and ecosystem degradation. Accordingly, in its first phase, the project has adopted a sectoral approach, with studies commissioned for livestock, rice, maize, agroforestry, inland fisheries and palm oil. Initial results suggest that demonstrating and then capturing the values of ecosystems and biodiversity can improve livelihoods; for instance, in Senegal a switch to sustainable rice intensification would realize both increases in yield, of some \$17 million, and savings in terms of freshwater use of some \$11 million.



Target 4

Target 4: By 2020, at the latest, Governments, business and stakeholders at all levels have taken steps to achieve or have implemented plans for sustainable production and consumption and have kept the impacts of use of natural resources well within safe ecological limits

Number of projects and programmes: 23 projects

Geographical spread: Global (about 16 countries)

Programme of work links: 2016-2017 – Subprogrammes: ecosystem management (expected accomplishments (a) and (b)), resource efficiency and sustainable consumption and production (expected accomplishments (a) and (b)) and environment under review (expected accomplishment (a) and (c)).

Key Projects: 10YFP Sustainable Food Systems Programme, Conservation Agreements Private Partnership Platform (CAPPP), Sustainable farming and critical habitat conservation project, Greening the cocoa industry project, Mainstreaming sustainable management of tea production landscapes.

Sustainable consumption and production-related issues have received extensive attention at UNEP through a dedicated subprogramme that has been in operation since 2008. UNEP-supported measures in pursuit of this target include a range of actions under the 10-year framework of programmes on sustainable production and consumption, post-conflict ecosystem management projects, the development of community and private sector partnership model projects, the project on the mainstreaming of biodiversity information in the heart of government decision-making and the biodiversity offset tool project using the performance standard 6 requirements of the International Finance Commission.

1. Conservation Agreements Private Partnership Platform

The goal of the Conservation Agreement Private Partnership Platform proposed by Conservation International, with UNEP as the implementing agency, is to catalyse private sector support for the conservation of biodiversity and maintenance of ecosystem services in globally important sites.

The objective of the Platform is to demonstrate how this goal can be achieved using conservation agreements with local land and resource users. Thus, the Platform seeks to forge mutually beneficial links between the private sector and local communities or landowners who undertake to achieve biodiversity conservation, reduce land degradation, support climate regulation efforts, and promote sustainable natural resource management.

Under a conservation agreement, local resource users agree to protect priority habitats in exchange for a steady stream of structured compensation from conservationists or other investors. This model has proved to resonate with private sector partners, as they recognize the deal-like nature of the approach, and has been welcomed by communities around the world as a transparent way of generating tangible benefits.

Using the conservation agreement model, each Platform site initiative will engage the private sector in conservation in one of three ways. The site initiatives will use conservation agreements:

- (a) To frame product sourcing agreements between companies and communities;
- (b) To develop conservation partnerships between private sector actors and communities that produce social and environmental results to meet corporate responsibility commitments;
- (c) To build the capacity of small and medium-sized enterprises to ensure increased community participation in product and service supply chains that benefit conservation and economic development.

The project is being implemented along the guidelines set out in the Earth Fund CAPPP Operation Manual 5-11. Overall, it will contribute to the realization of the Strategic Plan for Biodiversity 2011–2020 and Aichi Biodiversity Targets 4, 7 and 14.

2. Strengthening forest and ecosystem connectivity in the Rimba landscape of central Sumatra through investing in natural capital, biodiversity conservation, and land-based emission reductions (Rimba project), Indonesia

The Rimba project, funded by a \$9.43 million core grant from the Global Environment Facility is designed to assist the Government of Indonesia to effect the transition to a low carbon emission, green economy, in a region of central Sumatra, recognized in the Sumatra Island Spatial Plan (Presidential Decree 13/2012) for the importance of sustainable management of forests, water resources and biodiversity and as a key area for reducing carbon emissions.

The region, known as the Rimba Corridor, covers some 3.8 million hectares and falls within the jurisdiction of the provinces of Riau, Jambi and West Sumatra and 19 districts (kabupaten). Each of these local governments has pledged strong support for the underlying concept of the Rimba project, as have the national government ministries of national development planning, home affairs, public works, environment and forestry, which are signatories to the Sumatra Road Map 2020, and hold specific responsibilities under Presidential Decree 13/2012.

The Rimba Corridor contains the national parks of Kerinci Seblat, Bukit Tiga Puluh and Berbak and other conservation areas, but fragmentation, fire and human encroachment have caused such a loss of natural capital that the future options for communities to sustain and grow their livelihoods throughout the corridor are seriously limited. Working closely in support of government programmes at all levels, and across the main land-use sectors, the project will restore the natural capital of the region within three investment clusters with a total area of 640,000 hectares, as the basis for a sustainable green economy, and provide practical examples of how Indonesia can achieve its commitments as stipulated in the country's medium-term development plan 2015–2019 (Rencana Pembangunan Jangka Menengah Nasional – RPJMN 2015-2019).

3. Chinese national initiative on business and biodiversity

In January 2016, the Foreign Economic Cooperation Office (FECO), an affiliated agency of the Chinese Ministry of Environmental Protection, engaged the support of UNEP-WCMC to help them develop the governance structure, technical delivery and financial model for a national initiative on business and biodiversity. This moved forward a commitment made by China in 2015 as a member of the CBD Global Partnership for Business and Biodiversity. UNEP-WCMC is drawing on its global networks into national and regional business and biodiversity initiatives to understand lessons learned by those initiatives to date in engaging with business, and will build on those to devise an optimal approach for a business and biodiversity initiative in China.



Target 5

Target 5: By 2020, the rate of loss of all natural habitats, including forests, is at least halved and where feasible brought close to zero, and degradation and fragmentation is significantly reduced

Number of projects and programmes: 34 projects

Geographical spread: Global (about 15 countries)

Programme of work links: Subprogrammes – climate change (expected accomplishment (a), ecosystem management (expected accomplishments (a) and (b)), environmental governance (expected accomplishments (a) and (c)), disasters and conflicts (expected accomplishments (a) and (b)) and environment under review (expected accomplishments (a) and (c))

Key projects: Ecuadorian Socio Bosque programme, global mangrove management initiative, global coral reef partnership project, global forest watch project, REDD-plus projects

The core focus of the ecosystem management subprogramme is to achieve the sustainable management of ecosystems and related services, across a range of ecosystems. UNEP support for effort to attain this target is concentrated around projects and initiatives such as the Socio Bosque programme on forest conservation; the conservation and management of mangroves, seagrasses and coral reefs; support for regional seas conventions; support for multiple ecosystem services in selected regions of the world; projects focusing on strengthening networks of ecosystems and climate change; and forest conservation projects.

1. Sustainable forest management – facilitating financing for sustainable forest management in small island developing States and low forest cover countries

In 2009 all 192 Member States of the United Nations created the Facilitative Process designed to assist developing countries to mobilize funds for forests. Under this project, implemented by UNEP with support from the Global Environment Facility, a facilitative process was launched to assist 78 small island developing States and low forest cover countries in enhancing their understanding of gaps, obstacles and opportunities for financing sustainable forest management through analyses and the strengthening of stakeholder capacity in the countries on all types of forests.

The project focused on such issues as fact-finding and analysis of the situation and the prospects for financing for sustainable forest management; on the design and implementation of communications activities at the national and inter-regional levels to address sustainable forest management funding gaps and to increase the political attention given to innovative approaches to financing for sustainable forest management. This includes policy briefs and an in-depth analysis of gaps, obstacles and opportunities for forest financing in small island developing States and low forest cover countries. The work is being continued by the United Nations Forum on Forests and the Department of Economic and Social Affairs and also forms part of the aforementioned facilitative process.

2. McArthur project in the Great Lakes of Africa, the Andes watershed and the Greater Mekong

As part of a project funded by the MacArthur Foundation, WCMC has identified current and future trade-offs between the demand for commodities and biodiversity in the Great Lakes of Africa, the watersheds of the Andes and the Greater Mekong and its headwaters. The project, which modelled current and predicted land-use change in the Great Lakes of Africa to reveal which watersheds are important for biodiversity and future commodity provision, focuses on an online watershed exploration tool that allows watersheds to be compared for their biodiversity importance and ecosystem function for current and future scenarios of change (2050).

The focus of the project and the expected results include interpreting policy actions at the subregional scale within the basin, further developing the analysis and assessing how better support can be provided for decision-making in relation to the current and likely future impacts of agricultural development on ecosystems, under a changing climate, in the Lake Victoria basin areas of Burundi, Kenya, Rwanda, Uganda and the United Republic of Tanzania.



Target 6

Target 6: By 2020 all fish and invertebrate stocks and aquatic plants are managed and harvested sustainably, legally and applying ecosystem based approaches, so that overfishing is avoided, recovery plans and measures are in place for all depleted species, fisheries have no significant adverse impacts on threatened species and vulnerable ecosystems and the impacts of fisheries on stocks, species and ecosystems are within safe ecological limits

Number of projects and programmes: 12 projects

Geographical spread: Global (about 20 countries)

Programme of work links: Subprogrammes – climate change (expected accomplishment (a)), ecosystem management (expected accomplishments (a), (b) and (c)), environmental governance (expected accomplishments (a) and (c)), disasters and conflicts (expected accomplishment (c)), resource efficiency and sustainable consumption and production (expected accomplishments (a) and (b)) and environment under review (expected accomplishments (a) and (b))

Key projects: Regional Seas Programme, ecosystem approach projects, Nereus programme, CITES trade database project

Considering the importance of fisheries for livelihood and food security of millions of people around the world and mindful of current pressures on the aquatic ecosystems, UNEP has been focusing on sustainable fisheries and coastal resource management for several years. Subprogrammes on ecosystem management and resource efficiency and sustainable production and consumption anchor actions to achieve this target of the Convention on Biological Diversity, which are also supported by other UNEP sub-programmes.

Actions in support of this target include the ecosystem-based approach to fisheries management, support for regional fisheries organizations, the promotion of networks of marine protected areas to improve fisheries and aquatic resource conservation and management, site-based aquatic resource management and the strengthening of the CITES trade database to deal with international trade in CITES-listed marine species.

1. Cross-cutting capacity-development project: developing the core capacity for implementation of the multilateral environmental agreements in Haiti

The project focuses on reducing environmental degradation and the resulting decreases in human well-being through better environmental management using an ecosystem approach. The objective of the project is to enhance the capacities of the Haitian Government for environmental decision-making and implementation in line with national priorities, with an emphasis on cross-sectoral issues such as coastal zone management and the protection of water sources and riverbeds.

The project has been designed to deal with weak institutional capacities in the country in the areas of coastal management, including fisheries, improving awareness of the national benefits of implementing multilateral environmental agreements, managing the limited financial resources of government institutions to achieve maximum impacts, strengthening cross-cutting environmental information and datasets, and improving coordination among stakeholders, among other challenges and barriers.

The project, implemented in the southern region of the country (Départements du Sud, Grande Anse et Nippes), aims to maintain the provision of ecosystem services and sustainable productivity of terrestrial and aquatic systems. It supports efforts by rural coastal and mountainous communities to switch from entrenched poverty and unsustainable natural resource-based livelihoods to more economically productive and environmental sustainable ecosystem-based livelihoods, taking full advantage of coastal and marine ecosystem services and respecting ecosystem integrity.

With these overarching aims, the project is divided into three interlinked components and specific objectives, namely:

- (a) Protected areas: strengthen government capacities to establish and enforce four enacted protected areas (marine and terrestrial) and to identify new marine and coastal protected areas in the southern region of Haiti in order to geographically prioritize interventions and promote the restoration of ecosystem services for conservation and sustainable production and consumption purposes in southern Haiti;
- (b) Sustainable resilient livelihoods: strengthen government capacities and those of local resource users to promote sustainable environmental management for social and economic purposes outside protected areas and hence contribute to a viable and healthy network of such areas and ecological corridors in southern Haiti;
- (c) Regional planning: support efforts by the Government to implement the Southern Haiti Regional Development Plan, with a view to developing the ecological potential of the region and countering the threats which it faces and providing donors and private sector with a framework for long-term investment in sustainable development in Southern Haiti.

2. Ecosystem approach to Haiti Côte Sud

The project aims to mainstream an ecosystem approach in Haiti's Côte Sud. The project's objective is to increase resilience to climate change risks and decrease disaster risk, using an ecosystem management approach that targets protected areas and fragile ecosystems in the country's southwestern peninsula.

The project is designed around five components, namely, extension and management of the protected area system in the south; ecosystem sustainability and resilience in the identified protected areas in Haiti's south-western peninsula; disaster risk reduction achieved through an ecosystem management approach in the broader south-western peninsula landscape; reduction of land degradation and climate change impacts by introducing improvements in the vetiver value chain; and enforcement, knowledge management and awareness-raising.

3. Establishment and Operation of a Regional System of Fisheries Refugia in the South China Sea and Gulf of Thailand

The project aims to operate and expand the network of fisheries refugia in the South China Sea and Gulf of Thailand for the improved management of fisheries and critical marine habitats linkages in order to achieve the medium and longer-term goals of the fisheries component of the Strategic Action Programme for the South China Sea. The project focuses on establishing operational management at 14 priority fisheries refugia sites which will enable the efficient timing of site level activities required to

ensure the transfer of lessons-learned between and amongst sites, and evaluation of the effectiveness of project interventions in achieving the medium and longer term resource and institutional objectives of the refugia system.

The project is composed of three main components namely: (1) the establishment and management of 14 fisheries refugia, (2) enhancement of the scientific understanding of the linkages between fish stock and habitat and, policy and regulatory frameworks governing the fisheries sector as well as (3) through information management and dissemination to ensure the uptake of the good practices in integrating fisheries management and biodiversity conservation in the design and implementation of regional and national fisheries management systems.

The project has been approved by GEF in January 2016 and will soon be implemented by the Southeast Asian Fisheries Development Center (SEAFDEC) and Fisheries Departments of participating countries.

4. The Regional Seas Programme

The UNEP Regional Seas Programme involves eighteen Regional Seas programmes across the world. All the Regional Seas programmes strive to address the degradation of oceans and seas and their work has been contributing to the achievement of the Aichi Biodiversity Targets, especially Target 6, 10 and 11 which are closely linked with the marine and coastal ecosystems.

One of the Regional Seas Programme's initiatives relevant to the Aichi Biodiversity Targets is the coordinated Regional Seas indicators set. In October 2015, the Coordinators of the Regional Seas programmes adopted the Regional Seas core indicators set, which will serve as a tool box for their monitoring of the state of marine environment. The indicator set includes indicators that are relevant to the Aichi Biodiversity Targets.

For example, the indicator for Target 6 will be included as the Regional Seas indicator. The Regional Sea indicator on the coverage of marine protected area will also help monitor the achievement of the Target 11.

Many Regional Seas programmes also worked with CBD in identifying the Ecologically or Biologically Significant Marine Areas, EBSAs, in their respective regions. The UNEP Regional Seas Programme continues working with CBD to use the information on EBSA for future management activities.



Target 7

Target 7: By 2020 areas under agriculture, aquaculture and forestry are managed sustainably, ensuring conservation of biodiversity

Number of projects and programmes: 28 projects

Geographical spread: Global (about 36 countries)

Programme of work links: Subprogrammes – ecosystem management (expected accomplishments (a) and (b)), environmental governance (expected accomplishment (c)), resource efficiency and sustainable consumption and production (expected accomplishment (c)) and environment under review (expected accomplishments (a) and (c))

Key projects: TEEB agrifood study, mainstreaming agrobiodiversity conservation projects, integrated ecosystem services management projects

Ecosystem-based management has formed the core focus of UNEP work on sustainable environmental management at different levels. Accordingly, landscape-based approaches, participatory actions for ecosystem conservation, support for production systems using sustainable management options and community-based conservation constitute the key activities by UNEP in pursuit of this target. Together with several other UNEP subprogrammes and divisions, the Sustainable Lifestyles, Cities and Industry Branch has been focusing on actions related to this target.

Such initiatives as the Conservation Agreements Private Partnership Platform, the project on the mainstreaming of agrobiodiversity conservation and use of the agricultural sector, the marine protected areas projects and the national landscape restoration programmes have all been designed with a view to support attainment of this target.

1. Conservation and sustainable use of agricultural biodiversity to improve the process of regulating and supporting ecosystem services in agricultural production in Uzbekistan

This project, currently being implemented in Uzbekistan, mainstreams the conservation and use of fruit-tree biodiversity to enhance ecosystem services and thereby improve the resilience of traditional agricultural production systems in water-scarce landscapes. The project is expected to achieve a number of global environmental benefits, which include: the conservation of globally important biodiversity adapted to water-scarce agricultural landscapes; an increased number of hectares in the target sites in three agro-ecoregions of Uzbekistan, with biodiversity-rich solutions as a substitute for external inputs in these globally important ecosystems; conservation of the traditional genetic diversity of fruit-trees, such as apricot (*Prunus armeniaca*), grape (*Vitis vinifera*), pomegranate (*Punica granatum*), pear (*Pyrus* sp.), almond (*Amygdalus* sp.), pistachio (*Pistacia vera*), and apple (*Malus* sp.) and of the ecosystem services that

they provide through a set of globally applicable technologies to increase the resilience of water-scarce agricultural ecosystems; and globally applicable, community-based conservation models and tools that support efforts by indigenous and local communities – together with the scientific and development communities – to conserve and use local fruit-tree biodiversity to regulate pests and diseases, increase pollination services, and improve soil conservation and water use efficiency in water-scarce production systems.

2. Enhancing livelihoods in rural communities of Armenia through mainstreaming and strengthening agricultural biodiversity conservation and use

The aim of the project is to enhance conservation of the agricultural biodiversity in Armenia with a view to promoting the country's adaptation to environmental and agricultural challenges and providing a sustainable basis for enhanced use. In this way, the project is designed to improve rural livelihoods by strengthening national cooperation and coordination for the sustainable management of agricultural biodiversity, mainstreaming agricultural biodiversity practices and procedures at the district, local and community levels, and improving market opportunities for agricultural biodiversity and other products and initiatives based on agricultural biodiversity-friendly practices

The project will contribute a number of global environmental benefits, the most important of which will be much improved protection for agricultural biodiversity in Armenia. This will help the country to cope with climate change and contribute to its future food security. The increased protection, conservation and use of agricultural biodiversity will contribute to enhanced ecosystem services such as improved soil fertility, enhanced pollination and biocontrol services.

3. Regional focus on sustainable timber management in the Congo Basin

The objective of the project is to promote a harmonized approach to the sustainable management of production forests in 6 countries (Cameroon, Central African Republic, Democratic Republic of Congo, Equatorial Guinea, Gabon, and Republic of Congo) in the Congo Basin, which between them contain the second largest area of contiguous moist tropical forest of the world, covering about 2 million km².

The project focuses on developing instruments that enable the countries to apply a harmonized regional approach to tackling illegal logging, developing and promoting harmonized market and fiscal incentives that will make it attractive for forest users to manage production forests in a legal and sustainable manner through lessons learned from activities in pilot countries (Central African Republic, Equatorial Guinea and Congo Republic) and supporting the development of governance conditions that exist that permit equitable participation and benefit sharing among all forest stakeholders.



Target 8

Target 8: By 2020, pollution, including from excess nutrients, has been brought to levels that are not detrimental to ecosystem function and biodiversity

Number of projects and programmes: 9 projects

Geographical spread: Global (about 24 countries)

Programme of work links: Subprogrammes – ecosystem management (expected accomplishments (a) and (b)), chemicals and wastes (expected accomplishments (a) and (c)) and environment under review (expected accomplishment (a))

Key projects: sustainable food systems project, national implementation plans for persistent organic pollutants, multiple ecosystem services project

Nutrient management is a key performance indicator for the standards applied by the UNEP Sustainable Resource Panel. Support by UNEP for efforts to achieve this target is focused on such areas as the development of methodological frameworks to assess the impacts on human health and ecosystems of nutrients in agriculture; livestock management; the management of healthy ecosystems by reducing impacts of persistent organic pollutants; and actions to tackle ocean acidification and marine pollution.

1. Managing wastewater through global partnership

This project is designed to implement the programme of work of the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities, which has been approved through the Manila Declaration. Through implementation of this project, UNEP, in its capacity as secretariat of the Global Programme of Action, has demonstrated not only its commitment but also its ability to tackle issues of global concern identified by governments, through the development of partnerships such as the Global Wastewater Initiative and alliances with various stakeholders, mobilizing their talents and augmenting resources to assist countries in their efforts at to manage wastewater and promote sustainable development through policy, legislative and institutional reforms.

The objective of the project is to prevent the further degradation of the coastal and marine environment by promoting better wastewater management using a life-cycle approach. This is accomplished by strengthening the basis for managing and monitoring the impact of wastewater on the marine environment while avoiding impact-shifting from one life-cycle stage to another, and from one geographical area to another. The project has five components: strengthening the normative basis for managing and monitoring the impacts of wastewater on the marine environment; managing the Global Wastewater Initiative; demonstrating and promoting wastewater treatment technologies and strategies; responding to global challenges relating to wastewater; and communication and outreach.

Since its inception, the wastewater project under the Global Programme of Action has contributed to raising awareness within UNEP and other key partners of the issue of wastewater. At the global level, specific recommendations have been formulated for Sustainable Development Goal targets and indicators on wastewater and water quality, among which target 6.3 in particular focuses on wastewater. Building on that effort, and working in partnership with the World Health Organization (WHO) and the United Nations Human Settlements Programme (UN-Habitat), UNEP is developing a global monitoring mechanism for wastewater and water quality, and also for water resource management. In cooperation with five other United Nations agencies and partners, the project has also helped to build the capacity of Member States in the safe use of wastewater in agriculture, thus contributing to water security and enhanced UNEP cooperation with UN-Habitat through the greener cities project and with various UNEP regional offices – notably the Regional Office for Asia and the Pacific – and the regional seas programmes, such as the Regional Organization for the Conservation of the Environment of the Red Sea and Gulf of Aden (PERSGA).

The project is also being implemented at the local level, where, for example, it is tackling the impact of polluted rivers on the Black Sea in Georgia; working with Members States such as Benin, Egypt, Ethiopia, Ghana, Morocco and the United Republic of Tanzania, and also with two Caribbean countries – Antigua and Barbuda and Saint Vincent and the Grenadines – in using treated wastewater for irrigation and reforestation. In addition, the project has created infrastructure for improved cooperation in wastewater management with the Global Wastewater Initiative, which is now gaining momentum, and members are sharing information and developing joint initiatives to boost sustainable wastewater management, which entails the need for supportive policies, tailored technologies and innovative financial mechanisms.

2. Addressing the Nutrient Challenge through an Effective Global Partnership on Nutrient Management (GPNM) - Project scope is global with focus on the Asia, Africa and Caribbean regions

The project supports the efforts of the Global Partnership on Nutrient Management (GPNM) within the scope of the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities (GPA) in enhancing application of best management practices for management of nutrients.

The project draws attention to the impact of current practices of inefficient and unsustainable nutrient uses on the marine environment through the publication of scientific reports and using them for targeted outreach and campaigns and mobilize actions to promote nutrient use efficiency. The targeted advocacy is aimed at stimulating public discourse on run-off and atmospheric deposition of nutrients from various sources into the coastal and marine environment, which is the root cause of harmful algal blooms leading to eutrophication and dead zones worldwide with consequent economic and social costs.

It is envisaged that a strengthened GPNM will continue to build the necessary momentum to catalyze a global network of policy makers, private sector bodies, NGOs and international organizations with the common goal to raise awareness and facilitate the exchange of good practices to promote sustainable nutrient management and nutrient use efficiency to ensure food security and maintaining the integrity of our natural environment, including the most productive areas of the marine environment, in estuaries and near-shore coastal waters.

3. Global foundations for reducing nutrient enrichment and oxygen depletion from land based pollution, in support of Global Nutrient Cycle (GEF-GNC Project)

The activities under this project provides the foundations (including partnerships, information, tools and policy mechanisms) for governments and other stakeholders to initiate comprehensive, effective and

sustained programmes addressing nutrient over-enrichment and oxygen depletion from land based pollution of coastal waters in Large Marine Ecosystems.

This is to be achieved through a number of core project outcomes and outputs that include, the development and application of quantitative modeling approaches: to estimate and map present day contributions of different watershed based nutrient sources to coastal nutrient loading and their effects; to indicate when nutrient over-enrichment problem areas are likely to occur; and to estimate the magnitude of expected effects of further nutrient loading on coastal systems under a range of scenarios, the systematic analysis of available scientific, technological and policy options for managing nutrient over-enrichment impacts in the coastal zone from key nutrient source sectors such as agriculture, wastewater and aquaculture, and their bringing together an overall Policy Tool Box. The application of this approach is being mainstreamed into broader planning and a fully established global partnership on nutrient management to provide a necessary stimulus and framework for the effective development, replication, up-scaling and sharing of these key outcomes.

4. Reducing Dependence on POPs and other Agro-Chemicals in the Senegal and Niger River Basins through Integrated Production, Pest and Pollution Management

The project aimed to contribute to POPs reduction by developing local and national-level awareness-raising activities; policy studies on national pesticide use patterns, and to create links with national and regional pesticide legislative bodies. It also sought to build capacity in the region to carry out water quality assessment studies in six countries, run models to estimate the impact of toxic chemicals on biodiversity in terrestrial and aquatic systems, and estimate quantifiable risks to human health. At the local level, the project sought to work with communities to adopt improved, alternative agricultural production methods and to promote and develop local, national and regional networks of stakeholders interested in improving the conditions surrounding the use of harmful agrochemicals and POPs.



Target 9

Target 9: By 2020, invasive alien species and pathways are identified and prioritized, priority species are controlled or eradicated, and measures are in place to manage pathways to prevent their introduction and establishment

Number of projects and programmes: 6 projects

Geographical spread: Global (about 11 countries)

Programme of work links: Subprogrammes – climate change (expected accomplishment (a)), ecosystem management (expected accomplishment (a)), environmental governance (expected accomplishment (c)), disasters and conflicts (expected accomplishment (a)) and environment under review (expected accomplishment (a))

Key projects: Ecosystem approach projects, project on invasive alien species management in forest production and protection, and project on the management of regional marine invasive alien species

Given that invasive alien species are considered the second most important threat to biodiversity and ecosystems, the UNEP subprogramme on ecosystem management and climate change has brought particular attention to the management of such species. The Programme's efforts in pursuit of this target are centred around removing barriers to invasive species management in production landscapes, and conducting activities in support of the European Union wildlife trade regulations and the IUCN Global Invasive Species Specialist Group.

Linking the management of alien invasive species to the protection of ecosystems and securing of livelihoods is a key aspect of current projects in support of the attainment of this target.

1. Project on the prevention, control and management of invasive alien species in the Pacific islands

This project is being implemented in nine countries in the Pacific region, namely, Cook Islands, Federated States of Micronesia, Kiribati, Marshall Islands, Niue, Palau, Samoa, Tonga and Vanuatu. At the regional level, under the project, guidelines for the management of invasive species in the Pacific have been developed and put into effect. In that process, the main activities have included establishing national strategies and action plans on invasive species in each country, and country projects for the purpose of their implementation. Activities have included training in such areas as border biosecurity, pest control and eradication, public awareness and education, and baseline surveys.

Because of the wide range of capacity between the various participating countries, each country has undertaken its own project. The project's executing agency is the Secretariat for the Pacific Regional Environment Programme, which has contributed to the project's implementation through its own invasive alien species programme and by working in partnership with the integrated island biodiversity project of the Global Environment Facility.

2. Development and Institution of a National Monitoring and Control System (Framework) for Living Modified Organisms (LMOs) and Invasive Alien Species (IAS) – The Cameroon Biosecurity Project

The project focuses on management of potential threats posed by biological invasions associated with species introductions that stem from cross-sectoral economic activities. The innovative project seeks to improve management effectiveness through identifying risks and gearing interventions towards reduction and management of biological introductions through a coordinated risk analysis approach. This is expected to improve the efficacy and cost effectiveness of interventions through a cross-sectoral and cooperative policy framework for the management of biological invasions based on the risk analysis approach, comprehensive and sustainable capacity building programmes, provision of essential information and awareness-raising to ensure support from decision makers, the identified risk groups and the general public. Improved cross-sectoral collaboration, capacity building, information provision and awareness-raising will provide the foundation for the implementation of a sustainable biosecurity system for Cameroon. The proposed measures to improve biosecurity are particularly timely in light of the likelihood of a worsening problem of biological invasions emanating from increased trade and the movement of goods and people.

The project has several innovative aspects. The prevention and management of biological invasions under the biosecurity umbrella requires the establishment of a harmonised system that promotes the sharing of resources and expertise across the various agencies tasked with the management of LMOs/IAS. These synergy will help achieve the objectives of both CBD Articles 8(h) and 8(g). In addition it will aid the effective implementation of the Cartagena Protocol on Biosafety and the execution of the WTO SPS agreement in a way that embodies the CBD/IPPC common work programme at the national level.

The project approach builds on strategies traditionally undertaken in the agricultural sector (quarantine and phytosanitary measures) thus strengthening structures that are already operational and emphasising the hierarchical approach promoted by the CBD (prevention, early detection and removal, containment, suppression and control) based on the consideration that financial investments in the early stage of an invasive process may be more cost effective than controlling already established invasives. The promotion of simple cost recovery mechanisms further supports this emphasis on efficiency to maximise effectiveness and sustainability.

This project will pioneer the implementation of a decision-making process to operationalise the ecosystem approach for the management of invasive species impacts. This approach will build upon systems developed under the Cooperative Islands Initiative and others to tackle invasive species and other factors that encourage biological invasions (e.g. land management issues, deforestation, fragmentation, etc.) in a systematic manner to achieve ecosystem level goals (improved water supply, access to grazing areas, sustainable fisheries, etc.). It is expected that this approach will have high replication value; providing an opportunity to disseminate knowledge and good practice in addressing biological invasions through cross-sectoral and ecosystem approaches that can be replicated in other countries, especially in Continental Africa.



Target 10

Target 10: By 2015, the multiple anthropogenic pressures on coral reefs, and other vulnerable ecosystems impacted by climate change or ocean acidification are minimized, so as to maintain their integrity and functioning

Number of projects and programmes: 10 projects

Geographical spread: Global (about 20 countries)

Programme of work links: 2016–2017 subprogrammes – ecosystem management (expected accomplishments (a) and (b)), environmental governance (expected accomplishment (c)), disasters and conflicts (expected accomplishment (a)), climate change (expected accomplishments (a) and (c)) and environment under review (expected accomplishments (a) and (c))

Key projects: Coral reef restoration project, Green Fins project, Ocean Data Viewer, global coral reef partnership

The initiatives in support of this Aichi target are centred around UNEP subprogrammes on ecosystem management and climate change supported by other subprogrammes through a series of local projects at national, subregional and regional levels. Actions in support of the target include projects on developing resilience indicators, reducing impacts of tourism, assessing impacts of trade, addressing behavioural change and improving functionality and decision-making on ecosystem management.

1. Green Fins project

The Green Fins project focuses on reducing the environmental impacts of reef tourism, diving and snorkelling and encompasses such areas as the certification of dive centre operations based on a code of conduct and a robust assessment system; support for the development or strengthening of relevant regulatory frameworks; and strategic outreach to dive centres and the general public.

The Green Fins project is a public-private partnership initiative for sustainable diving and snorkelling established by UNEP and the ReefWorld Foundation. The approach encompasses three main elements; a 15-point environmental code of conduct for dive centres complemented by a robust assessment system to monitor and promote compliance; support for the development or strengthening of the implementation of relevant regulatory frameworks; and strategic outreach to and capacitybuilding for dive centres and their customers and also for government partners. The Green Fins project has been introduced to six countries in Asia and its total membership stands at over 400 diving and snorkelling operators, which are continuously improving their business practices to mitigate negative environmental impacts. Green Fins has been adopted by the Malaysian Department of Marine Parks as part of the key performance index for its delivery of Aichi Target 10, and in the Philippines the code of conduct has been adopted as

a guideline for environmentally sustainable diving, pursuant to the Departmental Administrative Order on the Sustainable Coral Reef Ecosystem Management Plan. Similar efforts are under way in the Maldives and Viet Nam.

The Green Fins approach is highly replicable: a comprehensive Green Fins toolbox will be launched in April 2016 and will create a consolidated, comprehensive and standardized set of guidance materials and tools that cover Green Fins implementation, learning and outreach. This will be employed in the further implementation and geographical expansion of the Green Fins project. Collaboration with key industry bodies and diver training agencies is also being initiated, with a view to promoting environmental mainstreaming in diver training and also in other business operations.

2.. Datasets of marine importance

In 2015, WCMC published the second edition of a global overview of marine biodiversity-relevant data, which identifies 128 datasets, databases and data portals, and provides detailed metadata for 69 of these resources.⁵

The availability and appropriate use of marine and coastal data form the foundation of effective decision-making in marine and coastal regions. A second edition of the *Manual of Marine and Coastal Datasets of Biodiversity Importance*⁶ has been published by WCMC, with the aim of providing an overview of global marine and coastal datasets of biodiversity importance. The intention is to address the fragmented nature of the information and guidance available for users of marine data. Although not exhaustive, this review has resulted in the identification of 128 datasets, databases and data portals (see annex 2 of the manual). The report also includes detailed standardized metadata for 69 of these reviewed datasets (annex 3 of the manual). The various challenges, gaps and limitations in currently available coastal and marine data are also discussed. A number of the datasets listed in the manual are of particular relevance to the Aichi Targets, in particular Aichi Target 10. The manual is constantly being updated, and WCMC aims to release new versions of it more or less annually.

WCMC also provides a so-called “Ocean Data Viewer” to facilitate the viewing and downloading of a range of spatial datasets that are potentially useful for informing decisions regarding the conservation of marine and coastal biodiversity. To date, users of this tool have included government agencies, scientists, researchers, the corporate sector, and non-governmental organizations. These data come from internationally respected scientific institutions and other bodies that have agreed to make their data available to the global community. The Ocean Data Viewer, which is available from <http://data.unep-wcmc.org>, is primarily a mechanism for the viewing and downloading of data, and is not intended to be used for analysis or to query data.

3. Statistical downscaling of climate model projections for coral reef bleaching conditions

The aim of the project is to enable countries to consider exposure scenarios in prioritizing reef management interventions. This will include publicly available datasets, and cover different scales: global, by ocean basin, regional sea and country, and will include associated guidance on its use.

5 L.V. Weatherdon et al. (2015). *Manual of marine and coastal datasets of biodiversity importance*. Cambridge, United Kingdom: UNEP World Conservation Monitoring Centre. 30 pp. (plus four annexes totalling 221 pp. and one e-supplement).

6 Available from <http://wcmc.io/MarineDataManual>.

Coral reefs are highly vulnerable to temperature stress, which is predicted to increase with climate change. Climate model projections of coral bleaching conditions are being statistically downscaled through collaboration between UNEP, the United States National Oceanic and Atmospheric Administration (NOAA) and other partners. This will generate a dataset on the spatial variation in the onset of annual coral reef bleaching and severe bleaching conditions, at a resolution of 4 km for every year up until 2050. Findings will be presented in a report published outside conventional academic and commercial channels – so-called “grey literature”⁷ – and also in an article in a peer-reviewed journal. Maps will be prepared for ocean basins, for each tropical regional sea, and on demand for each of the 106 countries and territories with reef resources.

The downscaled projections will assist in identifying where bleaching conditions are projected to occur sooner, and reef areas that are relative refugia, where bleaching conditions are projected to occur later. They provide a very important dataset for the prioritization of reef management based on the primary climate change exposure factor, which can also be employed in making coral reef resilience assessments for decision support (see below). The data will be made publicly available (as images and as spatial data) through the UNEP-Live and NOAA Coral Reef Watch data portals. Guidance on the use of downscaled climate model data in reef planning will also be prepared, to enable countries to consider exposure scenarios in prioritizing reef management actions. These resources will be made available in mid-2016.

⁷ That which is produced on all levels of government, academics, business and industry in print and electronic formats, but which is not controlled by commercial publishers.



Target 11

Target 11: By 2020, at least 17 per cent of terrestrial and inland water, and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscapes and seascapes

Number of projects and programmes: 37 projects

Geographical spread: Global (about 34 countries)

Programme of work links: Subprogrammes – ecosystem management (expected accomplishments (a), (b) and (c)), environmental governance (expected accomplishment (c)) and environment under review (expected accomplishment (c))

Key projects: Green economy project, national marine protected area projects, protected area network projects, World Database on Protected Areas project, community conservation areas projects, African, Caribbean and Pacific countries project

UNEP is currently implementing a large portfolio of projects and activities in support of this target, both supported by the Global Environment Facility portfolio and also through non-Global Environment Facility projects. The focus of initiatives under this target ranges from improving governance and legal systems to designate and manage protected areas to supporting communitymanaged conservation sites.

A die range of projects, including the green economy progress measurement framework, multiple-ecosystem-based approaches to protected area management, strengthening the World Database on Protected Areas, the connectivity of ecosystems projects, the deep seas project that focuses on issues of marine protected area management beyond national jurisdiction and projects in support of ecologically and biologically sensitive areas, have been set up in support of achieving strategic goal C under the Convention on Biological Diversity and this target.

1. Advancing sustainable resources management to improve livelihoods and protect biodiversity in Palau

The Ridges to Reef project in Palau, which aims to advance sustainable resource management with a view to improving livelihoods and protecting biodiversity in Palau, will enhance the already established protected area network by setting up the infrastructure at local and national levels so that the network can deliver outputs at the local level. The protected area network system in Palau focuses on locally managed habitats which are linked near-shore marine and terrestrial catchments. These catchments need to be managed wisely to protect their own inherent biodiversity and ecosystem services but also to ensure

that they do not compromise marine habitats with various types of pollution. Many State and non-State agencies are involved and their coordination will be a major focus of the project. The project will provide a critical boost to the Micronesia Challenge Fund, sponsored by the Global Environment Facility and partners, and the Palau green and protected area network funds by providing the infrastructure necessary for the practical use, at the local level, of the revenue generated by these sources.

2. Green economy work related to protected areas, indicators and the related

The green economy progress measurement framework offers a methodology for the measurement of countries' progress towards an inclusive green economy. The framework employs a multidimensional (economic, social and environmental) approach to the tracking of this progress by evaluating country achievements against targets set within planetary boundaries. Progress is assessed both by using individual indicators, and also by computing an aggregate index. The individual and aggregated results are compared to indicators of strong sustainability that are included in a dashboard.

The indicator on marine and terrestrial protected areas is included in the green economy progress measurement framework to signal a country's recognition of the value of conserving natural capital for its current well-being and development. As protected areas contribute to maintaining the stock of natural capital, this indicator is considered to mitigate the challenge of overstepped planetary boundaries, as identified in the concept of an inclusive green economy. This indicator is also identical to the suggested Sustainable Development Goal headline indicator to monitor target 14.5: "By 2020, conserve at least 10 per cent of coastal and marine areas, consistent with national and international law and based on the best available scientific information", which will enable the green economy progress measurement framework to be used as a complementary instrument in monitoring implementation of the Sustainable Development Goals.

3. Strengthening national biodiversity and forest carbon stock conservation through landscape-based collaborative management of the Cambodian protected area system, as demonstrated in the Mondulkiri landscape conservation project

The Mondulkiri landscape conservation project is a collaborative venture between the Cambodian ministries of environment and of agriculture, forestry and fisheries and a consortium of conservation non-government organizations. As its title suggests, the project holds the interconnected aim of improving the sustainability of the country's national system of protected areas, with the complementary objectives of mainstreaming biodiversity into production forests and promoting the conservation of carbon stocks at a landscape level.

The project targets improving the management effectiveness of over 4.5 million hectares of protected areas by reinforcing Cambodia's national law enforcement system, and by developing and demonstrating coordinated planning, information management, institutional and financial mechanisms around a new to be developed and unified national protected area vision, which is currently administered by three separate agencies with limited coordination and information-sharing.

The project aims to achieve two major outcomes, one at the national level and a supportive outcome at the demonstration site level. At the national level, the project comprises three specific outputs, all designed to strengthen unity and support for landscape-based protected area and forest management that explicitly addresses national system-level issues through measures that include establishing an enabling national environment, through communications and awareness, the strengthening of protected area governance involving inter-agency cooperation, and demonstrating sustainable financing options.

At the demonstration site level, the project's four outputs will deliver a sub-regional planning approach for the eastern plains landscape that integrates protected areas and biodiversity conservation into sustainable development – with a specific focus on forested landscape connectivity. At this level it also focuses on integrating forest conservation with subregional economic development planning, with the aim of resolving problems posed by economic land concessions that often ignore and adversely affect protected areas, and of harnessing integration opportunities with other landscape-level initiatives such as those of the Asian Development Bank biodiversity conservation corridors and UNEP Adaptation Fund projects.

4. Building a sustainable national marine protected area network in the Bahamas

The primary goal of this project was to conserve globally important marine habitat and species within the Bahamas, together with those species of the wider Caribbean that rely on the Bahamas for nesting, breeding, feeding and migration. The primary objective was to build a sustainable national marine protected area network for the Bahamas and thus enable it to meet its commitments under the Convention on Biological Diversity programme of work for protected areas, along with other obligations under the Convention.

Most of the outputs, including the establishment of the Bahamas Protected Areas Fund, strengthening and substantially expanding the marine protected area network, including the pilot demonstration projects, and developing an effective monitoring and evaluation regime, have been successfully accomplished, earning the project an "S" rating. The project ultimately gazetted 3 million hectares of new protected areas and marine reserves, exceeding the target of 10 per cent of the country's area (2.5 million hectares). In consultation with international science networks, the project established a monitoring and evaluation protocol. Monitoring capacity was substantively increased in this small island nation through the training of five local reef check instructors, who in turn trained 53 monitors and 75 ecologically friendly divers in the Bahamas. The Atlantic and Gulf Rapid Result Assessment programme has three local instructors and 27 trained individuals.

As a signatory to the Caribbean Challenge Initiative and the associated Caribbean Biodiversity Fund, the Bahamas, through the Bahamas Protected Areas Fund, is poised to receive annual payments in perpetuity from the regional trust fund. This should contribute to the reduction of the funding gap and sustainable financing required. To date, the Caribbean Diversity Fund, with help from the Nature Conservancy, has raised over \$42 million dollars to assist Caribbean governments in conserving at least 20 per cent of their marine environment by 2020. A figure of \$5 million has been set aside for drawdowns from the Bahamas as soon as the draft vertical agreement is signed. The Bahamas will then have a further two years to establish new financial mechanisms as part of the agreement conditions.

5. Work on protected area management, including indigenous community conserved areas

WCMC is also working closely with governments and with the ICCA Consortium, an international association dedicated to promoting the appropriate recognition of and support for territories and areas conserved by indigenous peoples and local communities, to assist with the national recognition of such territories and areas and to develop the ICCA registry further (also relevant to target 18) through the ICCA global support initiative.

Through a three-year project funded by the MAVA Foundation and working in collaboration with the Énergie, Environnement, Développement (ENDA Énergie) association, the secretariat of the West African Network of Marine Protected Areas (RAMPAO), national and local governments, protected area managers and local community members, WCMC is developing a sustainable livelihood action plan for West African coastal protected areas in the context of climate change. The goal of the project is to enhance livelihoods and increase social and ecological resilience in marine protected areas to the negative effects of climate change. Under the project, social vulnerability assessments to climate change are being conducted in three communities living in such areas, using participatory research methods to develop community action plans, initiate resilience-building and adaptation activities, draw lessons and provide recommendations for protected area monitoring plans at site-scale level.

6. Creation of Longo Bay Marine Protected Area to support Turtles Conservation in the Republic of Congo

The project objective is to ensure conservation of the marine biodiversity through participative protection of the marine turtle habitat. The MPA project will provide a comprehensive framework for the creation of a marine protected area at Loango bay, including Pointe Indienne: the stakeholders' consultation and cross sectoral dialogue will ensure their consent and early involvement. The GEF project will make it possible to get the national sea turtle observatory operational.

The project will allow for the creation of a national sea turtle database. This database will be structured according to the international recommendations (SWOT Guidelines) and to answer to the sea turtle research program objectives established beforehand by the national sea turtle research committee. The project will include the development of alternative income generating activities (AIGA) based on a more detailed socio-economic analysis and on stakeholders' consultation. The AIGA will give particular attention to gender equity and promotion of the role of women in key activities including fish smoking, tourism, and alternate income generating activities

7. Marine Protected Area Management through Regional Seas Programme

The UNEP Regional Seas Programme involves eighteen Regional Seas programmes across the world. Various Regional Seas programmes have already established Marine Protected Areas under their Protocols related to specially protected areas and biodiversity. For example, under the Protocol Concerning Specially Protected Areas and Biological Diversity in the Mediterranean of the Barcelona Convention, 34 sites were identified to be Specially Protected Areas of Mediterranean Importance (SPAMIs). These protected areas also contribute to Target 10 on the protection of vulnerable habitats.



Target 12

Target 12: By 2020 the extinction of known threatened species has been prevented and their conservation status, particularly of those most in decline, has been improved and sustained

Number of projects and programmes: 12 projects

Geographical spread: Global (about 14 countries)

Programme of work links: Subprogrammes – ecosystem management (expected accomplishments (a), (b) and (c)), environmental governance (expected accomplishment (c)) and environment under review (expected accomplishments (a) and (c)).

Key projects: Conservation of ecosystems projects, the Species+ website project, projects on the CITES and Convention on Migratory Species database, the Projecting Responses of Ecological Diversity in Changing Terrestrial Systems (PREDICTS) project and the Madingley Model project.

Conservation and management of threatened species is a key area of focus for the UNEP subprogramme on ecosystem management. Activities in support of this project include the conservation of key threatened, endemic and economically valuable species in island ecosystems, the Alliance for Zero Extinction (AZE) initiative, awareness-raising for members of the judiciary about issues of illegal poaching and wildlife trade, tackling the problem of illegal wildlife trade to support efforts to reduce species loss. These initiatives are contributing to the attainment of this target.

1. Species+ project

WCMC relaunched the Species+ database in late 2013 and an upgraded CITES trade database in 2014 to provide information on species protected by CITES, the Convention on Migratory Species and the European Union wildlife trade regulations. These have been used to help inform decision-making on threatened species and determine actions that need to be undertaken to improve the conservation of threatened species. For example, the datasets are actively used by the CITES community to inform its decisions. The CITES trade database holds over 14 million records of trade in some 35,000 taxa listed by CITES.

WCMC also produces trade analyses and reports based on this extensive dataset. The Centre supports efforts by the European Commission to ensure effective implementation of the European Union wildlife trade regulations and is developing analysis and capacity-building support for different regions, including by hosting a recent workshop for seven countries of the Central American region.⁸ The Centre

⁸ Report available from <http://citescentroamerica.unep-wcmc.org/wordpress/english/>.

is also developing new technologies such as online data dashboards and electronic permit exchange mechanisms as a means of improving monitoring in near-real time and, ultimately, ensuring that wildlife trade is sustainable.

2. Alliance for Zero Extinction (AZE): Conserving Earth's Most Irreplaceable Sites for Endangered Biodiversity

The project is a joint initiative of biodiversity conservation organizations from around the world which aims to prevent extinctions by identifying and safeguarding the last remaining refuge of one or more Endangered or Critically Endangered species. These key sites are not only important biodiversity conservation targets to slow extinction rates globally, but they also provide ecosystem service benefits.

The project contributes to a number of global environmental benefits the most important of which will be much improved protection for agricultural biodiversity in Brazil, Chile and Madagascar and will help provide approximately three times more emission reduction than non-AZE sites because of a higher proportion of carbon-dense forest and provide clean freshwater due to their forest cover.

3. Conservation of Key Threatened, Endemic and Economically Valuable Species in Madagascar

The project objective is to develop, implement, and disseminate local conservation strategies and sustainable use of significant endemic key species. The project at the same time complement and strengthen current conservation practices, including the management actions of protected areas, with the aim of demonstrating how the species-based approach can effectively complement the ecosystem based approach.

The project has three components namely, local strategic approach conception based on the species for conservation and sustainable use of the biodiversity, local strategy implementation through concrete action of 21 key species of which, 20 are forest plants and one bird and the capitalization and dissemination of the project achievements at national, regional and international levels.

4. The PREDICTS and Madingley models

The PREDICTS model has been co-developed by UNEP-WCMC and the UK Natural History Museum. It has compiled millions of biological data points from the scientific literature, from all over the world, and looks at how land use change and degradation affects local species richness and the range declines of narrowly endemic species. The primary outputs so far are scientific papers that show how the degradation of the earth is leading to a biodiversity tipping point on land, reducing richness, abundance and the range size of species. This in turn pushes them towards extinction.

The PREDICTS results are also being developed into an index of change (the Local Biodiversity Intactness Index) that can be used within the tracking of Aichi Biodiversity Targets and SDGs, and they are being fed into UNEP GEO6 and IPBES regional assessments. The PREDICTS model is also has been used to assess the effectiveness of protected areas at maintaining species diversity on land. Results show that local richness is significantly higher in protected areas than outside and protected areas are therefore effective at conserving this aspect of biodiversity.

UNEP-WCMC is also the co-developer of the Madingley model together with Microsoft Research. Madingley is a mechanistic model of life on land and in the sea and is framed as a General Ecosystem Model that aims to parallel the impact of Global Circulation Models in climate science. The Madingley model is already being used to assess the extent of habitat destruction on land and fishing pressure in the sea that results in ecosystem collapse. This model is showing that there are tipping points leading to ecosystem collapse in many different habitats and that the community that is modelled to return if habitats are restored or fishing pressure reduced is considerably changed from that which existed before.

These findings may have great relevance for work on food supply, ecosystem service provision, and maintaining the health of the biosphere. UNEP-WCMC is using the model to specifically measure the biodiversity planetary boundary as proposed by the Stockholm Resilience Center. It is also starting to work with IPBES on the regional and global assessments to input models of the future into those processes, and is reviewing where else the model can provide policy relevant outputs.



Target 13

Target 13: By 2020, the genetic diversity of cultivated plants and farmed and domesticated animals and of wild relatives, including other socio-economically as well as culturally valuable species, is maintained, and strategies have been developed and implemented for minimizing genetic erosion and safeguarding their genetic diversity

Number of projects and programmes: 12 projects

Geographical spread: Global (about 16 countries)

Programme of work links: Subprogrammes – ecosystem management (expected accomplishments (a) and (c)), environmental governance (expected accomplishment (c)), climate change (expected accomplishment (a)) and environment under review (expected accomplishments (a) and (c)).

Key projects: Agro-ecosystem management projects, crop wild relatives project, global nutrition project and small-scale agriculture development projects.

Activities by UNEP in support of the attainment of this target under the Strategic Plan for Biodiversity 2011–2020 comprise a range of projects around the world mounted with the support of the Global Environment Facility. These projects and initiatives are primarily designed to mainstream agrobiodiversity conservation and use, with a view to sustaining ecosystem services, reducing the vulnerability of local communities, assessing the values of local agrobiodiversity in human health and food security, scaling up land management for small-scale agriculture and ensuring conservation action on wild relatives of crop plants to support climate-smart agriculture.

1. Mainstreaming agrobiodiversity conservation and use in Sri Lankan agro-ecosystems for livelihoods and adaptation to climate change

This project is designed to ensure that the agrobiodiversity in Sri Lanka is optimally conserved and used to meet the challenges of climate change and improve rural livelihoods. This is achieved through the use of appropriate practices, procedures and institutions, by improving maintenance, providing access to new and traditional crops and ensuring that market and non-market mechanisms are in place that provide farmers with additional rewards from the maintenance and use of agrobiodiversity. Such rewards include improved income from gains from production, enhanced well-being, better cost-control, achieved by reducing the use of external inputs, and increased returns for specific products and services. To this end, the project aims to develop market advantages that could offer benefits for farmers, to promote livestock diversity for local communities, and to develop national strategies and policies to support capacity-building and extension activities in planning for the sustainable production of agrobiodiversity products and services, using an ecosystem management approach.

The project supports the conservation and sustainable use of unique biodiversity at genetic, species and ecosystem levels. In genetic terms, it helps to develop traditional crop and livestock varieties adapted to specific ecosystems; where species are concerned, it promotes important and threatened crop wild relatives and medicinal species; and with regard to ecosystems, the forest garden, Owita landscape and village tank agro-ecosystems have been identified as subjects of concern for the project. In this way, the project aims to help conserve a global good of vital importance to the future of the planet and its inhabitants.

The unique germ plasm developed under the project harbours important genetic traits that will help the world cope with climate change and contribute to future food security, the strengthening and adoption of agrobiodiversity management arrangements designed to improve ecosystem service provision, such as pollinators and water management systems, the development of integrated practices for agrobiodiversity management applicable in other situations, including experience of sustainable harvesting and certification schemes for key threatened medicinal species, and the development of agrobiodiversity rich climate management adaptation tools which are likely to have wide relevance to farming communities throughout the world.

2. Mainstreaming biodiversity conservation and use in the agricultural sector to support ecosystem services and reduce vulnerability in India

This project is designed to support adaptive management for the conservation and use of crop agrobiodiversity for resilient agriculture and sustainable production systems, to develop strategies and policies for sustainable conservation and use of crop diversity, and to strengthen institutional frameworks, build capacity and forge partnerships among policymakers, researchers, extension workers and farmers.

The project focuses on a set of crops which still have high diversity and are important for the food and nutrition security of small and marginal farmers in India. The crops also have considerable global significance. The selected crops are at risk of becoming increasingly marginalized and, despite their adaptability and potential for enhancing resilience, receive little attention from the scientific and agricultural community, at either national or global levels. Of this large group of crops, the following crops are proposed which merit immediate action: rice (*Oryza sativa*), wheat (*Triticum aestivum* and *Triticum durum*), barley (*Hordeum vulgare*), buckwheat (*Fagopyrum esculentum*), finger millet (*Eleusine coracana*), pearl millet (*Pennisetum glaucum*), sesame (*Sesamum indicum*), pigeonpea (*Cajanus cajan*), chickpea (*Cicer arietinum*), black gram (*Vigna mungo*), green gram (*Vigna radiata*), and moth bean (*Vigna aconitifolia*)

The project will provide global benefits, including the conservation of unique genetic and ecosystem agrobiodiversity in the respective hot spots across the Indian centres of diversity in four key agro-ecoregions; the more effective mainstreaming of agrobiodiversity in globally significant agro-ecoregions through increasing the availability of diversity and strengthening the conditions needed for its improved deployment to provide improved livelihoods for local farmers; the provision of policy and technical frameworks and access and benefit-sharing systems capable of ensuring continued access to and use of crop agrobiodiversity for sustainable production, thus reducing potential damage from undesirable agricultural inputs; and enhanced resilience and adaptability in the face of climate change, thus providing long-term adaptation – and possibly mitigation – options.

The unique genetic diversity found in Indian traditional varieties of the target crops will be conserved through this project and, by encouraging their conservation on farms, their evolution and continuing adaptation will be secured. Valuable characteristics that will be maintained are expected to include adaptation to drought; tolerance to eco-edaphic stresses; resistance to pests and diseases, including tungro virus and bacterial blight (rice), rust (wheat), and yellow rust, loose smut and powdery mildew (barley). Important diversity-related agronomic traits have also been identified in pearl millet, chickpea, pigeonpea and mung bean. The maintenance of traditional varieties will also be of benefit by preserving their use in other important applications, such as straw for roofing and cattle feed, for which modern varieties are often poorly suited. Varieties which are used in special religious or cultural ceremonies and celebrations and other crop varieties which are used to meet nutritional needs will also be maintained.



Target 14

Target 14: By 2020, ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and well-being, are restored and safeguarded, taking into account the needs of women, indigenous and local communities, and the poor and vulnerable

Number of projects and programmes: 44 projects

Geographical spread: Global (about 78 countries)

Programme of work links: Subprogrammes – ecosystem management (expected accomplishments (a), (b) and (c)), environmental governance (expected accomplishments (b) and (c)), disasters and conflicts (expected accomplishment (b)), chemicals and wastes (expected accomplishment (a)), resource efficiency and sustainable consumption and production (expected accomplishment (c)), and environment under review (expected accomplishments (a) and (c))

Key projects: Projects in support of small island developing States, projects to enhance rural livelihoods, Poverty-Environment Initiative projects, ecosystem-based disaster risk reduction projects, critical ecosystem conservation and management projects, REDD-plus projects, blue carbon projects and projects to support actions related to biosafety.

Initiatives in support of this target focus on the development of models for integrated ecosystem services such as hydrological modelling and support for the strengthening of institutional mechanisms to deal with issues such as food safety. They include a suite of projects on biosafety across the world, designed, among other aims, to help countries make informed decisions on biosafety issues; a set of enabling activity-related projects under the Global Environment Facility focusing on the preparation of national reports; biosafety clearing-house projects; projects that focus on ecosystem approaches to disaster risk reduction; projects to assist local communities to rehabilitate ecosystems; climate-resilience projects with a focus on ecosystem restoration and management; the development of carbon-mapping tools that look at blue carbon issues; and actions under the United Nations Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries (UN-REDD).

1. Multiple benefit mapping

As a contribution to the achievement of multiple benefits from the enhanced version of the UNREDD programme, REDD-plus, the UN-REDD programme has carried out spatial analyses of multiple benefits associated with REDD-plus in 19 countries. This work is intended to support decision-making and the prioritization of policies and measures for REDD-plus with a view to ensuring that biodiversity, ecosystem service and social benefits are maximized.

As one example, in Ecuador, spatial analyses of multiple benefits and information on the value of forest ecosystem services and costs of potential policies and measures have informed strategy development and the design of REDD-plus actions. The work highlighted the importance of employing a landscape approach to REDD-plus in order to achieve greenhouse gas emission reductions while building sustainable livelihoods.

2. Blue carbon and other related projects

WCMC has been a partner in an ecosystem valuation project, specifically looking at the issue of carbon sequestration in coastal habitats (referred to as “blue carbon”). A demonstration project was run during 2012–2014, funded by the Abu Dhabi Global Environment Data Initiative, in the course of which WCMC produced a blue carbon mapping tool (available from <http://bluecarbon.unep-wcmc.org/>) for Abu Dhabi. A follow-up full-sized project under the Global Environment Facility has been approved and is in implementation. The project, led by the Global Resource Information Database (GRID) Arendal, of which WCMC is a core partner, will expand the work of the blue carbon demonstration project to four further intervention countries – Ecuador, Indonesia, Madagascar and Mozambique – during 2014–2018.

National blue carbon spatial data will be assimilated with the WCMC global data holdings to generate the best available data for blue carbon analyses, which can then be analysed using a web tool and offline tablet tool, developed from the demonstration project referred to above. Key outcomes from the project include the blue carbon tool; the first global map of salt marsh distribution; and estimates of organic carbon stocks in tidal salt marshes.

3. Building capacity to implement the Cartagena Protocol on Biosafety

The UNEP-GEF Biosafety Program has been providing technical support and capacity building support to the implementation of the Cartagena Protocol on Biosafety guided by the SCBD Strategy on Biosafety 2020 and its related strategy on capacity building and the GEF strategy on Biosafety. The Program focuses on a set of national, regional, global and thematic issue based project interventions to strengthen support for the implementation of the Protocol. Interventions are focused mainly on i) development and implementation of national biosafety frameworks to eligible parties in line with Article 2.1 of the Cartagena Protocol on Biosafety (at least 64 plus parties are yet to be supported out of the 123 GEF eligible parties); ii) thematic and issue specific projects (a mix of national, regional and global interventions) addressing provisions of the Protocol beyond the development and implementation of the Cartagena Protocol on Biosafety including the Biosafety Clearing House; iii) regional and sub-regional biosafety harmonization projects based on common sets of targets and opportunities to implement the CPB; iv) implementation and ratification of the implementation of the Nagoya-Kuala Lumpur Supplementary Protocol on Liability and Redress to the CPB and Global support to National Biosafety Report as per article 33 of the CPB.



Target 15

Target 15: By 2020, ecosystem resilience and the contribution of biodiversity to carbon stocks has been enhanced, through conservation and restoration, including restoration of at least 15 per cent of degraded ecosystems, thereby contributing to climate change mitigation and adaptation and to combating desertification

Number of projects and programmes: 18 projects

Geographical spread: Global (about 36 countries)

Programme of work links: Subprogrammes – climate change (expected accomplishments (a) and (c)), ecosystem management (expected accomplishments (a), (b) and (c)), environmental governance (expected accomplishment (c)) and environment under review (expected accomplishment (c))

Key projects: Coral reef, resilience indicator project, Global Forest Watch, REDD-plus projects and ecosystem-based adaptation projects

1. **Demonstration projects on the application of coral reef resilience indicators and predictive climate change and ocean acidification exposure data in marine protected area planning, systematic conservation planning, marine spatial planning and adaptation planning, based on tools developed through the global coral reef partnership**

Process guidance for the resilience assessment of coral reefs covering indicators, field methods, analysis and decision-support is being prepared by UNEP in collaboration with NOAA, the Nature Conservancy and other partners. Targeted at reef planners, managers and scientists around the world, the guidelines will encompass key steps including: identifying contexts and situations where reef resilience assessments can be meaningfully applied; identifying and selecting relevant indicators; developing methods for the collection and compilation of data, including the use of existing data; data analysis and interpretation; and generating targeted and specific recommendations for spatial protection and stress reduction. The guidance can also be used alongside key exposure data such as downscaled climate model outputs and ocean acidification projections. In 2016, the application of this guidance was initiated through demonstration projects, with support from the UNEP global coral reef partnership with regional seas and with other partners, and, where possible, integrated into national and regional projects under the Global environment Facility. This will demonstrate a targeted, practical and science-based approach to the issue of how the climate change resilience of reefs can be protected and enhanced through marine protected area planning, systematic conservation planning, marine spatial planning and other efforts and, in that process, contribute to ecosystem-based management.

2.. UN-REDD

Within UNEP, support for the UN-REDD programme has focused largely on safeguards, multiple benefits, private sector engagement, economic analyses and capacity-building. Support provided in that process has included the following:

- (a) Support provided to 20 partner countries in their efforts to adopt and respect the Cancun safeguards and to five partner countries in the development of their safeguards information system;
- (b) Assessments of policies, laws and regulations related to REDD-plus safeguards in 12 partner countries;
- (c) Provision to 10 partner countries of the tools and capacity to anchor biodiversity and ecosystem benefits as part of their decision-making on REDD-plus;
- (d) Engagement of private sector stakeholders in REDD-plus discussions in six partner countries, including through facilitating access to private or public finance for results-based actions.

In addition, the UNEP UN-REDD team has provided capacity-building, tools and awarenessraising to over 400 national stakeholders within the 64 partner countries. Regional REDDplus academies in Argentina, Indonesia and Nigeria and national REDD-plus academies in Bhutan, Myanmar and Viet Nam have provided training on everything from basic design elements for REDD-plus, to safeguards, stakeholder engagement and national forest monitoring.

Open-access online training material on REDD-plus has been provided through the REDD-plus academy learning journals, drawing on technical expertise across the agencies and on six years of experience of UN-REDD partner countries. Complementing these materials, a free online REDD-plus academy has been developed, and some 1,600 people from countries all over the world have already registered with the academy, to use its content.

3. REDD and REDD-plus

Through its participation in the UN-REDD programme, and its global programme and country support, WCMC is offering a coherent package of support to countries on REDD-plus safeguards and multiple benefits. Outputs over the three years since the eleventh meeting of the Conference of the Parties have included reports examining the role of spatial analyses in informing decisions on REDD-plus, multiple benefits, and biodiversity safeguards in several countries; training materials, for example on using the geographic information system for spatial analyses that can inform planning for REDD-plus multiple benefits and biodiversity safeguards; guidance and policy documents, including a 2013 policy brief exploring synergies between REDD-plus and the Aichi Biodiversity Targets; and a number of global and regional workshops on multiple benefits and safeguards in REDD-plus planning and implementation.

4. REDD-plus Policy Assessment Centre

Through work within the REDD-plus Policy Assessment Centre, a project funded by the German Government's International Climate Initiative, WCMC is working with partners in Brazil and the Congo basin to use land-use change models to assess the impacts of REDD-plus policies, including on biodiversity, and achievement of the Aichi Targets. WCMC has also supported an additional five countries (China, Peru, the Philippines, Uganda and Viet Nam) through capacity-building on multiple benefits from REDD-plus (including biodiversity).

A further WCMC-led project aims to increase awareness among REDD-plus and Convention on Biological Diversity focal points of the synergies between objectives for REDD-plus within the United Nations Framework Convention on Climate Change and the Aichi Biodiversity Targets. This was achieved through reviewing existing guidance on synergies, and by sourcing country case studies to provide examples of practical experience and good practice in real world efforts that contribute to both sets of objectives.

WCMC is also undertaking work to support ecosystem-based adaptation to climate change. Recent work has focused on supporting ecosystem-based adaptation in mountainous areas in Nepal, Peru and Uganda and work to support planning and decision-making on coastal ecosystem-based adaptation in Small Island developing States. Other work is focused on assembling evidence on the effectiveness of ecosystem-based adaptation and the factors that determine this effectiveness, including capacity and the availability of appropriate tools.

5. Report on the economics of land degradation in Africa describing the costs and benefits of sustainable land management for 42 countries in Africa

It is estimated that some 1.5 billion people are already affected by land degradation, which is particularly severe in sub-Saharan Africa and Central Asia, and also a matter of concern in certain European countries such as Greece and Spain. In Africa, where desertification affects around 45 per cent of Africa's land area, with 55 per cent of this area at high or very high risk of further degradation, the loss of some 280 million tons of cereal crops per year from about 105 million hectares of croplands can be prevented if the soil erosion is managed.

The Economics of Land Degradation Initiative aims to raise awareness of decision-makers and the public on the impacts and challenges of land degradation and land-based ecosystems from an economic perspective. It presents a cost-benefit analysis of sustainable land management, to inform work by political and business decision-makers to take the necessary measures to promote sustainable land practices for sustainable rural development and food security. The findings of the reports on the economics of land degradation show that global losses through land degradation cost between 5.7 and 9.6 trillion euros annually, with investments in sustainable land management as a significant opportunity for recovering these losses.

The experience of Mali provides an instructive example of the policy of the adoption of sustainable agroforestry measures, whereby every euro invested is estimated to create a 12 euro benefit through increased crop yields in the long term. According to the report on the economics of land degradation in Africa, on average, the benefits of taking action towards sustainable land management in Africa are almost seven times the cost of action during the next 15 years.



Target 16

Target 16: By 2015, the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization is in force and operational, consistent with national legislation

Number of projects and programmes: 13 projects

Geographical spread: Global (about 55 countries)

Programme of work links: Subprogrammes – ecosystem management (expected accomplishment (c)), environmental governance (expected accomplishments (b) and (c)) and environment under review (expected accomplishments (a) and (c))

Key projects: Support for ratification of Nagoya Protocol projects, implementation of Nagoya Protocol projects, access and benefit-sharing and traditional knowledge projects, strengthening national access and benefit-sharing projects, capacity-building and harmonized national processes projects, applying access and benefit sharing as a financing mechanism project and prospecting and protected areas projects

UNEP support for the adoption and ratification of the Nagoya Protocol has been well recognized. In support of the early entry into force of the Protocol and its effective implementation, UNEP has embarked on a range of projects aimed at supporting countries for ratification and subsequent implementation of the Protocol. In addition to projects focusing on supporting bioprospecting, enhancing the role of communities in access and benefit sharing-related actions through supporting development of biocultural community protocols and ensuring the use of such protocols in decision-making and policymaking and the development of tools and support mechanisms for realizing that access and benefit-sharing principles are some of the key contributions by UNEP in support of this target.

1. Support for ratification and implementation of the Nagoya Protocol in the countries of the Pacific

This project, supported by the Global Environment Facility and currently being implemented in 14 Pacific island countries, provides assistance to these countries to bring them to a point where they can ratify and then implement the Nagoya Protocol on Access and Benefit Sharing. The regional project, in addition to four country-level projects, focuses on issues of the capacity needs of the countries, assessing the policy and legal issues related to ratification, and prepares the countries for effective implementation of the Protocol once ratified or acceded to by the countries.

Regional-level actions focus on options for regional actions and issues of a transboundary nature while dealing with access and benefit sharing.

2. Implementing the Nagoya Protocol on Access and Benefit Sharing

In addition to the project supporting countries in the Pacific region, UNEP is also implementing a series of national projects on access and benefit sharing with a focus on capacity-building and awareness-raising. These projects, implemented in 14 countries spread across Asia, Latin America, Africa and the Caribbean, have helped countries to understand the policy and legal preparedness required to deal with national implementation of the Nagoya Protocol on Access and Benefit Sharing besides supporting actions on institutional issues, dealing with prior informed consent, mutually agreed terms and defining the benefit-sharing elements while entering into access and benefit-sharing agreements.

The projects have developed a set of tools and options for national use, focusing on traditional knowledge, biotrade, database development and the use of access and benefit sharing as financing model.



Target 17

Target 17: By 2015 each party has developed, adopted as a policy instrument, and has commenced implementing an effective, participatory and updated national biodiversity strategy and action plan

Number of projects and programmes: 8 projects

Geographical spread: Global (92 countries)

Programme of work links: Subprogrammes – ecosystem management (expected accomplishment (c)), environmental governance (expected accomplishments (a), (b) and (c)), and environment under review (expected accomplishments (a) and (b))

Key projects: Global Environment Facility projects on national biodiversity strategy and action plans and fifth national reports, African, Caribbean and Pacific project, synergies among projects conducted under the biodiversity conventions

UNEP, including through the Global Environment Facility portfolio of enabling activities, is currently implementing projects in support of this target in more than 90 countries. The focus of UNEP support for parties to the Convention on Biological Diversity include the provision of legal and policy guidance tools and methodologies, undertaking assessments of best practices, providing support to the National Biodiversity Strategies and Action Plans Forum, organization of focused training along with capacity-building programmes on issues such as incorporating synergies-related actions among biodiversity conventions into national biodiversity strategies and action plans. UNEP also provides support for the review of, upon request, national biodiversity strategies and action plans and has supported the South–South exchange of experiences in the revision and implementation of national biodiversity strategies and action plans.

1. Support for countries in revising, updating and reviewing the national biodiversity strategies and action plans

UNEP is currently is 84 countries in their efforts to update, review and revise their national biodiversity strategies and action plans. This global project has been designed to enhance the capacities of countries to review implementation of the national biodiversity strategies and action plans where available, to assess the priorities under the Strategic Plan for Biodiversity 2011–2020 and its Aichi Biodiversity Targets, to use appropriate indicators and to mainstream sectoral issues.

Working in partnership with the United Nations Development Programme and the secretariat of the Convention on Biological Diversity, UNEP is managing the National Biodiversity Strategies and Action Plans Forum, and supporting action on the development of a voluntary mechanism for the peer-review of updated strategies and action plans.

Since the eleventh meeting of the Conference of the Parties, UNEP has published a range of guidance and capacity-development materials on the Forum portal covering a number of thematic areas, including target setting for national biodiversity strategies and action plans; developing and incorporating indicators into the strategies and plans; incorporating and using spatial data and mapping the in strategies and plans; legal and policy preparedness; synergies with other multilateral environment agreements; and revision of the strategies and plans. Technical support is being provided both on demand, including through the establishment of a formal helpdesk and the organization of webinars, and through the development of resources, such as guidance documents and e-learning classes.

Recently, UNEP organized a South-South experience-sharing workshop on synergies and national biodiversity strategies and action plans. In 2015, in partnership with the Fridtjof Nansen Institute and WCMC, UNEP undertook an interim assessment of post-2010 strategies and action plans and is currently working towards a comprehensive and full assessment such strategies and plans in time for presentation to the Conference of the Parties to the Convention on Biological Diversity at its thirteenth meeting in 2016.

2. Guidance project on national biodiversity strategies and action plans

WCMC is supporting the development of national biodiversity strategies and action plans in a number of ways, including as one of the three host partners of the National Biodiversity Strategies and Action Plans Forum, a community of practice that offers countries support in transforming and implementing their strategies and action plans, and as secretariat for the Biodiversity Indicators Partnership. WCMC is also facilitating regional capacity-building workshops and producing guidance material and technical support tools for national agencies to assist them in reviewing, updating and revising national biodiversity strategies and action plans.

A five-year programme entitled “NBSAPs 2.0: Mainstreaming Biodiversity into Development” and supported by the Darwin Initiative, a United Kingdom government grants scheme, and the German Federal Ministry for Economic Cooperation and Development, and jointly implemented by WCMC and the International Institute for Environment and Development.

Work under the programme focused on helping countries to ensure that their revised national biodiversity strategies and action plans better reflect national development, sectoral and poverty alleviation priorities with a high degree of success. The project is now working with countries to help use those strategies and action plans to ensure that biodiversity priorities are better reflected in specific sectoral or development policies, plans or strategies. The approach followed by the project involves peer-to-peer knowledge and experience exchange, challenge exercises and technical support. Based on the experiences of project countries and executing agencies, tools and resources are developed to support implementation and to share lessons with the global community.

The project has also established an African leadership group, as an open voluntary body set up to promote biodiversity-development mainstreaming in the Africa region. Tools developed to this end include guidance on mainstreaming biodiversity and development, with tips and tactics from the African experience, on developing a business case for biodiversity and using stories of change, on measuring the impact of biodiversity mainstreaming and on communicating with influential audiences.

3. Project on incorporating biodiversity and ecosystem service values into national biodiversity strategies and action plans

WCMC and the International Institute for Environment and Development worked with the support of the United Kingdom Department of Environmental and Rural Affairs in reviewing the lessons learned from incorporating the values of biodiversity and ecosystem services into national biodiversity strategies and action plans. This exercise was intended, first, to support parties to the Convention on Biological Diversity in the production of revised national biodiversity strategies and action plans compliant with Aichi Biodiversity Targets 1 and 2, by sharing lessons learned and best practices in the incorporation of biodiversity and ecosystem service values into such strategies and action plans; and, second, to support parties, using lessons learned and best practices, in using their revised national biodiversity strategies and action plans to promote the mainstreaming of biodiversity and ecosystem service values into other sectoral plans and processes and to integrate these values into their national accounting. An output guidance document and road map of good practice examine examples of how the values of biodiversity and ecosystem service values have been incorporated into revised strategies and action plans.

4. Implementing the Strategic Action Programme for the South China Sea (SAP SCS)

UNEP is currently formulating for GEF funding support the full project document to implement the South China Sea Strategic Action Programme (SAP) in partnership with six countries – Cambodia, China, Indonesia, Philippines, Thailand and Vietnam. This project aims to assist countries in meeting the targets of the coastal and marine environment components (mangroves, coral reefs, sea grass and wetlands) through implementation of the National Action Plans in support of the SAP, and strengthening the regional co-ordination for SCS SAP implementation.

Ensuring the full and informed participation of local communities and enhancing multi-stakeholder partnerships in support of the design and delivery of the UNEP programme of work has been a priority for UNEP. In line with this priority and mandate, UNEP is supporting efforts to attain this target through a series of actions on supporting local governance in managing ecosystems and biodiversity, building capacities of local communities in dealing with issues under the multilateral environmental agreements, developing biocultural community protocols and integrating issues related to traditional knowledge within the access and benefit-sharing project portfolio. Other initiatives, such as the project on a sustainable livelihood action plan for West African coastal protected areas in the context of climate change, also have a special focus on the mainstreaming of issues of traditional knowledge and practice.



Target 18

Target 18: By 2020, the traditional knowledge, innovations and practices of indigenous and local communities relevant for the conservation and sustainable use of biodiversity, and their customary use of biological resources, are respected, subject to national legislation and relevant international obligations, and fully integrated and reflected in the implementation of the Convention with the full and effective participation of indigenous and local communities, at all relevant levels

Number of projects and programmes: 8 projects

Geographical spread: Global (about 12 countries)

Programme of work links: Subprogrammes – ecosystem management (expected accomplishment (c)), environmental governance (expected accomplishment (c)), resource efficiency and sustainable consumption and production (expected accomplishment (c)) and environment under review (expected accomplishments (a) and (c))

Key projects: Africa, Caribbean and Pacific project, sustainable forest management project, project in support the implementation of multilateral environmental agreements, access and benefit sharing capacity-development projects

1. Building national and regional capacity to implement multilateral environment agreements by strengthening planning and state-of-the-environment assessment and reporting in the Pacific

A regional capacity-development project for the Pacific has been developed under the Global Environment Facility, on building national and regional capacity to implement multilateral environmental agreements by strengthening planning and state-of-the-environment assessment and reporting. This project will dovetail with the second phase of the African Caribbean and Pacific Multi-Environmental Agreement, which is co-financing it.

Projects of this kind will enable countries to collect, evaluate, analyse and report on environmental data and other information. These data will assist countries in preparing their national state-of-the-environment reports and complying with other reporting requirement under multilateral environmental agreements. The project's outputs will be national and regional databases which will be set up to enable data-sharing while providing for confidentiality as appropriate. The project has a specific focus on such issues as traditional knowledge and practices.

2. Supporting the development and use of biocultural protocols

UNEP has been working with a range of institutions, including the United Nations Educational, Scientific and Cultural Organization (UNESCO), to help countries develop biocultural protocols in response to actions outlined both in the Nagoya Protocol on Access and Benefit Sharing (article 12) and the Akwé: Kon guidelines on traditional knowledge.

Focusing on rights-based approaches to traditional knowledge and practices, UNEP has prepared a policy guide for use at national level on biocultural protocols that was launched in 2014 and has been widely used since then to implement work related to article 8 (j) of the Convention on Biological Diversity. The biocultural protocol-related work has also been used in support of several regional workshops on implementing the Convention's programme of work related to traditional knowledge, the most recent being the Africa regional workshop on article 8 (j) held in January 2016 in Nairobi.

In collaboration with UNESCO, UNEP has established a special webpage on its website that collates information related to biocultural protocols and it also co-organized an international conference on culture and biodiversity in 2011. A toolkit on biocultural protocols to help countries deal with issues of access and benefit sharing and traditional knowledge has been produced and is currently being used in various capacity-building activities.

3. Biodiversity Indicators Partnership

Through the Biodiversity Indicators Partnership, WCMC has been supporting actions to help define appropriate indicators related to target 18 of the Convention on Biological Diversity. To this end, several capacity-building programmes and training-of-trainers programmes have been organized to help experts understand the relevance and use of these indicators.



Target 19

Target 19: By 2020, knowledge, the science base and technologies relating to biodiversity, its values, functioning, status and trends, and the consequences of its loss, are improved, widely shared and transferred, and applied

Number of projects and programmes: 28 projects

Geographical spread: Global (about 58 countries)

Programme of work links: 2016–2017 subprogrammes – climate change (expected accomplishment (a)), ecosystem management (expected accomplishment (c)), environmental governance (expected accomplishment (c)), climate change (expected accomplishment (c)), disasters and conflicts (expected accomplishment (c)), and environment under review (expected accomplishments (a), (b) and (c))

Key projects: UNEP-Live, UNEP-Sustainable Development Goals portal, project on the economics of land degradation, Poverty Environment Initiative projects, statistical downscaling of climate models project, project on the Inclusive Wealth Report, global natural capital map

The sub-programmes on environment under review, environmental governance and ecosystem management anchor activities related to this target within UNEP. A set of specific projects and initiatives in support of achieving the target is provided here. Actions through the Bali Strategic Plan of UNEP also support this target with UNEP providing strategic guidance to activities such as developing the Inclusive Wealth Report, the climate prediction model project, support to the Intergovernmental Panel on Climate Change (IPPC), Intergovernmental Panel on Biodiversity and Ecosystem Services (IPBES) are all in support of achieving this target under the Strategic Plan for Biodiversity 2011–2020.

1. UNEP Live

UNEP Live (available from uneplive.unep.org) is a knowledge management platform which aims to provide substantiated, contextualized knowledge to keep the environment under review by facilitating the exchange and sharing of data, information, scientific findings and knowledge among member countries, research networks, communities of practice and other stakeholders.

The platform has a number of features relevant to the Convention on Biological Diversity. These include a reporting obligations database, accessible for any country page, which shows a country's global obligations under the biodiversity conventions and links to reporting formats and web pages of the secretariats of the multilateral environmental agreements; a theme page on internationally agreed environmental goals that has over 25 biodiversity indicators which users can chart, map and download in various formats. In addition, UNEP Live has spatial content, biodiversity-related datasets, over 300 biodiversity-related publications and over 50 multimedia elements. A portal on Sustainable Development

Goal synergies is currently being populated to highlight interlinkages between Sustainable Development Goal indicators and also between the goals and targets of the Sustainable Development Goals and the multilateral environmental agreements; the portal will include available datasets for these goals and agreements. A web-based intelligence portal is available on all pages to help users analyse stakeholder perceptions and track emerging trends in biodiversity. This information is assimilated, filtered and annotated daily from a wide range of online sources (news media, social networking platforms, company sites and environmental organizations).

2. Inclusive Wealth Report 2014, 2017

The congruence of unprecedented economic, social and environmental crises strongly suggests that present measures of progress need to be reevaluated; current indicators such as gross domestic product (GDP) are insufficient to provide robust feedback on the social progress or regress made by nations. GDP largely fail, for instance, to reflect the state of natural resources and focus exclusively on the short term, without indicating whether national policies are sustainable in the long run.

The Inclusive Wealth Report provides a promising economic yardstick, the inclusive wealth index. This measure assesses economies from a capital asset perspective in an inclusive way, considering not only manufactured capital but also human and natural capital. Grounded in theory and research, the Inclusive Wealth Report proposes a radical shift in the way that we measure nations' performance. Instead of focusing on monetary flows, as is the case with GDP, the Inclusive Wealth Report focuses on the stock of assets, or wealth.

Twenty countries were assessed in the 2012 Inclusive Wealth Report, including high, middle and low-income economies from all continents over a period of 19 years (1990–2008). The 2012 report is the first of a series of reports that will be published every two years; while the focus of the 2012 report was on natural capital, the 2014 edition will primarily centre around human and health capital. In the long term, the Inclusive Wealth Report will be institutionalized as a critical source of information on all the assets in an economy that support human well-being and social sustainability.

The Inclusive Wealth Report focuses on using natural assets such as ecosystems and biodiversity as a part of its assessment, with a view to informing policymaking on the need to focus on such issues as the objectives of the Convention on Biological Diversity.

3. Massive open online course on ecosystem approaches and systems thinking

The massive open online course on ecosystem approaches and systems thinking is one of the main expected outputs of the Global Universities Partnership on Environment for Sustainability, a UNEP project on innovation in education and training on ecosystem services for sustainable development which was approved under the ecosystems management subprogramme and implemented through the UNEP Division of Environmental Policy Implementation. The project contributes specifically to Aichi Targets 1 and 19, through improving cross-sector awareness and understanding of the importance of biodiversity and ecosystem services for sustainable development.

The course aims to expand the scope of application of ecosystem approaches, a founding principle of the Convention on Biological Diversity, bringing it to other industries and sectors outside biodiversity conservation, such as fisheries, forestry, agriculture and urban planning. The course emphasizes the importance of an integrated approach and holistic thinking in the management of biodiversity and ecosystems and beyond. It will be available in September 2016 free of charge, for all learners around the world.

4. Updates on the Biodiversity Indicators Partnership

Work under the Biodiversity Indicators Partnership directly contributes to the attainment target 19 of the Aichi Biodiversity Targets. Coordinated by WCMC, the Partnership supports efforts to monitoring the progress of the Strategic Plan for Biodiversity 2011–2020 and the Aichi Targets.

During 2012–2014 the Partnership's website was restructured and relaunched, in order to provide a simple toolkit of resources for national indicator development, including indicators for national biodiversity strategies and action plans. This includes a biodiversity indicator forum, on which practitioners can connect with one another, seek support and share experiences and lessons. In addition, seven regional workshops were held on the development of biodiversity indicators and 20 biodiversity indicator facilitators were trained.

The Biodiversity Indicators Partnership is also being developed through a project entitled “Mind the Gap”, financed by the European Union through its Global Public Goods and Challenges programme. This project has two components, the first of which aims to address some of the gaps in the global indicator framework identified through the ad hoc technical expert group meeting on indicators held in September 2016. The second component of the project supports the maintenance of the global Partnership, through a meeting of technical partners, work to update and improve the website, communications products such as the Aichi Targets passport and other measures.

Since obtaining confirmation of financial support in May 2015, the Biodiversity Indicators Partnership has supported the preparation and operation of the ad hoc technical expert group on indicators, in particular through two background documents, a review of the key global gaps in the global indicator suite and or indicator options for future assessment of the Strategic Plan for Biodiversity 2011–2020 and a review of national approaches to assessing progress towards the Aichi Biodiversity Targets.

The Biodiversity Indicators Partnership has also engaged extensively with a number of other intergovernmental processes, including the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services and the Sustainable Development Goals, to ensure that the Partnership's indicators are recognized and taken up wherever possible.



Target 20

Target 20: By 2020, at the latest, the mobilization of financial resources for effectively implementing the Strategic Plan for Biodiversity 2011–2020 from all sources, and in accordance with the consolidated and agreed process in the strategy for resource mobilization, should increase substantially from the current levels. This target will be subject to changes contingent to resource needs assessments to be developed and reported by parties

Number of projects and programmes: 15 projects

Geographical spread: Global (about 21 countries)

Programme of work links: Subprogrammes – ecosystem management (expected accomplishment (c)), environmental governance (expected accomplishments (b) and (c)), and environment under review (expected accomplishment (c))

Key projects: Poverty Environment Initiative projects, mainstreaming biodiversity projects, Sustainable Finance Initiative

UNEP support for this target comes in the form of its programmatic approach to initiatives on green economy, national accounting, developing financing models and tools in support of enhancing ecosystem goods and services, support for the Convention on Biological Diversity high-level panel on resource mobilization and support for countries through the portfolio on the review and implementation of national biodiversity strategies and action plans.

1. Development of guidance on the establishment and use of economic instruments for sustainable financing of coastal management, based on ecosystem services provided by coral reefs, and implementation of demonstration projects

Funding for ecosystem-based management, biodiversity conservation and protected areas must increase significantly to achieve targets set at national or international levels. Today, 80 per cent of biodiversity finance is generated from non-market mechanisms. Private investment in marine biodiversity and ecosystem services is in its early stage of development, and for the majority of economic instruments there is as yet very limited practical experience.

Working in collaboration with the regional activity centre for the Protocol on Specially Protected Areas and Wildlife of the Caribbean Environment Programme, UNEP is developing guidance on the use of economic instruments based on the ecosystem services provided by coral reefs. This will draw on existing guidance and methodologies for the system of payments for ecosystem services and other relevant non-public funding mechanisms that have proved to be successful, with their adaptation where necessary, in order to meet the particular requirements and needs of the coral reef environment and related

ecosystem services, based on pilot testing. The guidance document, to be prepared by the end of 2016, will incorporate key principles and practical steps, and will be suitable for broad dissemination and use.

2. Facilitating financing for sustainable forest management in small island developing States and low forest cover countries

The period 1988–2008 was marked by a gradual decline in international public sources for financing sustainable forest management, with small island developing States and low forest cover countries being the worst hit. In 2009, all 192 Member States of the United Nations set up a facilitative process to assist developing countries in their efforts to mobilize funds for forests. The present UNEP-Global Environment Facility project, which kick-started the facilitative process, was designed to assist 78 small island developing States and low forest cover countries with a view to enhancing their understanding of gaps, obstacles and opportunities for financing sustainable forest management through analyses and the strengthening of stakeholder capacity relating to all types of forests.

The project first phase focused on fact-finding and an analysis of the situation and prospects for financing sustainable forest management. To that end, national-level studies were carried out in seven countries and four in-depth analyses were prepared for small island developing States and low forest cover countries at the interregional level. The project's second phase focused on the establishment of national ownership, review of thematic papers and consultations on the way forward. As part of this process, four interregional workshops were organized, to assess the validity and reliability of the analyses prepared during the first phase and to identify recommendations, including good practices and examples that could be replicated or scaled up. In its third phase, the project focused on the design and implementation of communications activities at the national and interregional levels. This helped to strengthen awareness and capacity of these countries to address the gaps in funding for sustainable forest management and to increase the political attention given to innovative approaches to such financing, through policy briefs, in-depth analyses of gaps, obstacles and opportunities for forest financing, agreement on a common forest financing strategy for small island developing States and low forest cover countries, and the running of an interactive website. In addition, four short films illustrating case-studies of forest financing in small island developing States and low forest cover countries and a workshop focusing on grant applications and online media literacy were conducted. The work is being continued by the United Nations Forum on Forests and the Department of Economic and Social Affairs as part of the aforementioned facilitative process.

3. Project on environmental risk integration in sovereign credit

The project on environmental risk integration in sovereign credit is a joint initiative of the UNEP Finance Initiative and the Global Footprint Network, which focuses on uncovering risks from environmental factors at the country level, quantifying this risk in economic terms and linking it to sovereign credit quality.

The project is being implemented in partnership with such institutions as Standard and Poor's Ratings Services, the Commonwealth Development Corporation, the German government development bank KfW, the European Investment Bank, the Hongkong Shanghai Banking Corporation, First State Bank, and the merchant bank Kempen and Co., to look at global food price volatility as one of the major environmental risks which has a potential impact on sovereign credit quality.

The project is currently focusing on assessing global food systems vulnerable to changing environmental conditions and looking at the links between the consumption of natural resources and ecosystem services and environmental constraints.

4. Engagement of the private sector in the UN-REDD programme

Through the UN-REDD programme, UNEP has worked with 22 partner countries on country analyses and private sector engagement. Private sector investment opportunities in REDD-plus have been explored in the Congo, Costa Rica, Côte d'Ivoire, Kenya, Panama and Peru. These analyses are forming an important element of forest investment plans. In addition, reports on fiscal incentives and agricultural production have been prepared in Ecuador, Indonesia and Peru, establishing links with sectors that have traditionally been the primary causes of deforestation.

Lastly, innovative financing mechanisms for REDD-plus, including such initiatives as green bonds, are being explored, including through country-specific support in Indonesia. Additional work in Costa Rica and Peru is focusing on possible investment opportunities in conservation and also in agriculture sector value chains which are compatible with REDD-plus.

Table 3: GEF Supported Project Portfolio Implemented by UNEP in Support of Aichi Biodiversity Targets

GEF SUPPORTED PROJECTS

No.	GEF Projects	Geographical Distribution: Regional, Global, Country	Aichi Targets
1	Mainstreaming biodiversity information into the heart of government decision making.	Global	27, 8, 9, 10, 11, 12, 14, 15, 17, 19 and 20
2	Assessment of Capacity Building Needs and Country Specific Priorities in the Conservation of Biodiversity and Participation in the National Clearing House Mechanism.	Global	1, 19
3	Supply Change: Securing Food, Sustaining Forests.	Global	3, 4
4	Greening the Cocoa Industry.	Global	4
5	Global Forest Watch 2.0 FW 2.0.	Global (Georgia, Madagascar)	2, 5, 7, 15
6	Taking Deforestation out of Commodity Supply Chains – Enabling Transactions Child Project.	Global	4, 5
7	Conservation Agreements Private Partnership Platform (CAPPP)	Global	4, 7, 14, 20
8	SFM – Facilitating financing for Sustainable Forest Management in SIDS and LFCCs.	Global	5, 18, 20
9	Sustainable Capacity Building for Effective Participation in the BCH.	Global	14
10	Support to Preparation of the Third National Biosafety Reports to the Cartagena Protocol on Biosafety - AFRICA REGION (49 Countries).	Regional	14
11	Capacity Building for the Early Entry into Force of the Protocol on Access and Benefit Sharing	Global	15, 16
12	Ratification and Implementation of the Nagoya Protocol for the member countries of the Central African Forests Commission COMIFAC.	Burundi, Central African Republic, Congo, Cameroon, Gabon, Equatorial Guinea, Rwanda, Sao Tome and Principe, Chad, Congo DR	16
13	Ratification and Implementation of the Nagoya Protocol in the countries of the Pacific.	Cook Islands, Fiji Islands, Republic of Marshall Islands, Federated States of Micronesia, Nauru, Niue, Palau, Samoa, Solomon Islands, Tonga, Tuvalu, Kiribati, Papua New Guinea and Vanuatu	16
14	Building National and Regional Capacity to Implement Multilateral Environment Agreements (MEA) by Strengthening Planning and State of Environment Assessment and Reporting in the Pacific.	National and Regional	17, 18, 19

No.	GEF Projects	Geographical Distribution: Regional, Global, Country	Aichi Targets
15	Enhancing the Conservation Effectiveness of Seagrass Ecosystems Supporting Globally Significant Populations of Dugong Across the Indian and the Pacific oceans Basins.	Global	6, 11, 19
16	Expanding FSC certification schemes through incorporating additional ecosystem services.	Global	7, 14
17	Achieving Biodiversity Conservation through Creation, Effective Management and Spatial Designation of Protected Areas and Capacity Building	Global	12
18	Strengthen Institutional Capacity on LMO Testing in Support of National Decision-making.	Angola, Lesotho, Madagascar, Malawi, Mozambique, Congo DR	14
19	Support to implementation of the National Biosafety Frameworks	Liberia, Ghana, Madagascar, Lesotho, Mozambique, Nigeria, Rwanda, Egypt, Tunisia, Ecuador, Peru, Venezuela, Indonesia, Lao PDR, Jordan, Syria, Tajikistan, Turkey, Macedonia,	14
20	Stocktaking and update of National Biosafety Framework	Mauritania	14
21	Institutional capacity building towards the implementation of the Biosafety Act 2006 and related obligations to the Cartagena Protocol on biosafety	Namibia	14
22	Capacity building and support for the implementation of the national biosafety framework	Swaziland, Ethiopia, Guatemala, Panama, Cambodia, Islamic Republic of Iran, India, Malaysia, Albania	14
23	Strengthening institutional capacity on handling Living Modified Organisms (LMOs)	Tanzania	14
24	Completion and strengthening of the National Biosafety Framework for effective implementation of the Cartagena Protocol	Cuba	14
25	Regional capacity building project for implementing National Biosafety Frameworks in the Caribbean (12 countries)	Regional	14

No.	GEF Projects	Geographical Distribution: Regional, Global, Country	Aichi Targets
26	Support to preparation of Third National Biosafety Reports to the Cartagena Protocol on Biosafety in the Africa region (49 countries)	Regional	14
27	Support to preparation of Third National Biosafety Reports to the Cartagena Protocol on Biosafety in the Asia – Pacific Regions (39 countries)	Regional	14
28	Support to preparation of Third National Biosafety Reports to the Cartagena Protocol on Biosafety in the GRULAC region (41 countries)	Regional	14
29	Advancing the Nagoya protocol in countries of the Caribbean Region.	Antigua And Barbuda, Barbados, Dominica, Grenada, Guyana, Jamaica, St. Kitts And Nevis, St. Lucia, Trinidad and Tobago, St. Vincent and Grenadines	16
30	Achieving Biodiversity Conservation through Creation, Effective Management and Spatial Designation of Protected Areas and Capacity Building.	Global	11
31	Engaging Policy Makers and the Judiciary to Address Poaching and Illegal Wildlife Trade in Africa.	Regional	11
32	Sustainable Farming and Critical Habitat Conservation to Achieve Biodiversity Mainstreaming and Protected Areas Management Effectiveness in Western Cameroon SUFACHAC.	Cameroon	1, 2, 4, 5, 7, 11, 14, 19
33	Participative Integrated Ecosystem Services Management Plans for Bakassi Post Conflict Ecosystems PINESMAP BPCE.	Cameroon	1, 4, 5, 6, 7, 14
34	Creation of Konkouati – Dimonika PA complex and Development of Community and Private Sector Participation Model to enhance PA Management Effectiveness – CDC&CPSPM.	Congo	1, 4, 5, 6, 7, 8, 11, 15, 19
35	Creation of Loungo Bay Marine Protected Area to support Turtles Conservation in Congo.	Congo	1, 5, 6, 7, 11, 12, 14, 19
36	CBSP-A regional Focus on Sustainable Timber Management in the Congo Basin	Congo	2, 4, 5, 7, 15, 19
37	Development of the National Clearing House Mechanism- and Capacity Assessment for ABS and Taxonomy.	Mozambique	1, 19
38	Scaling up Sustainable Land Management and Agrobiodiversity Conservation to Reduce Environmental Degradation in Small Scale Agriculture in Western Kenya.	Kenya	7, 13

No.	GEF Projects	Geographical Distribution: Regional, Global, Country	Aichi Targets
39	Developing the Microbial Biotechnology Industry from Kenya's Soda Lakes in line with the Nagoya Protocol.	Kenya	16
40	Assessment of Capacity-building Needs and Country Specific Priorities in the Conservation of Biodiversity and Participation in the National Clearing House Mechanism.	Ghana	1, 19
41	Shepherding biodiversity back into South Africa's productive landscapes	South Africa	7
42	Strengthening institutions, information management and monitoring to reduce the rate of illegal wildlife trade in South Africa	South Africa	12
43	Strengthening the Network of New Protected Areas in Madagascar including New Protected Areas	Madagascar	5, 6, 11, 14
44	Conservation of Key Threatened, Endemic and Economically Valuable Species in Madagascar	Madagascar	12, 14
45	Alliance for Zero Extinction (AZE): Conserving Earth's Most Irreplaceable Sites for Endangered Biodiversity.	Brazil, Chile, Madagascar	12
46	Strengthening wildlife management structures and systems to combat IWT and promote tourism in South Sudan	South Sudan	12
47	Stocktaking and Update of National Biosafety Framework of Mauritania	Mauritania	14
48	Institutional Capacity strengthening for Implementation of the Nagoya Protocol on ABS and Awareness on Biosafety in Uganda	Uganda	15
49	Capacity building and institutional strengthening for the implementation of the Nagoya protocol in Namibia	Namibia	15
50	Strengthen Institutional Capacity on LMO Testing in Support of National Decision-making.	Angola, Lesotho, Madagascar, Malawi, Mozambique, Congo DR	14
51	Implementation of National Strategy and Action Plan on Access to Genetic Resources and The Fair and Equitable Sharing of Benefits Accruing From Their Utilization.	Gabon	16
52	Support to the Integrated Program for the Conservation and Sustainable Development of the Socotra Archipelago.	Yemen	1, 5, 11, 14
53	Initial Steps for the Establishment of the National Protected Areas Network.	Iraq	5, 11
54	Building capacity for regionally harmonized national processes for implementing CBD provisions on access to genetic resources and sharing of benefits.	Cambodia, East Timor, Indonesia, Laos, Malaysia, Myanmar, Philippines, Thailand, Singapore, Vietnam	1, 16, 20
55	Mainstreaming Sustainable Management of Tea Production Landscapes.	India, China, Vietnam, Sri Lanka	4, 7, 14
56	Strengthening and applying an Access and Benefit Sharing (ABS) regime in Timor Leste	Timor Leste	1, 16, 20

No.	GEF Projects	Geographical Distribution: Regional, Global, Country	Aichi Targets
57	Applying ABS for sustainable financing of the national PA Network, bioprospecting and public-private partnership building in Myanmar	Myanmar	1, 16, 20
58	Advancing Sustainable Resources Management to Improve Livelihoods and Protect Biodiversity in Palau	Palau	1, 4, 5, 9
59	Expansion and Improvement of Biodiversity Conservation and Sustainable Use of Natural Resources in the Greater Shennongjia Area, Hubei Province, Afghanistan	Afghanistan	4, 7, 11
60	Integrated Management of Wetland Biodiversity and Ecosystem Services for Water and Food Security, India	India	7, 14
61	Mainstreaming Agrobiodiversity Conservation and Utilization in Agricultural Sector to Ensure Ecosystem Services and Reduce Vulnerability.	India	7, 11, 13, 14
62	Strengthening Forest and Ecosystem Connectivity in RIMBA Landscape of Central Sumatra through Investing in Natural Capital, Biodiversity Conservation, and Land-based Emission Reductions (RIMBA).	Indonesia	4, 5, 12, 14, 15, 19
63	National landscape restoration program for biodiversity and sustainable flows of forest products and services in Indonesia	Indonesia	5, 7, 14, 20
64	Strengthening national biodiversity and forest carbon stock conservation through landscape-based collaborative management of Cambodia's Protected Area System as demonstrated in the Monduliri Conservation Landscape (CAMPAS project).	Cambodia	2, 11, 14, 15
65	Conservation and Sustainable Use of Agricultural Biodiversity to Improve Regulating and Supporting Ecosystem Services in Agriculture Production.	Uzbekistan	7, 8, 13, 14
66	Sustainable Financing of the Philippines PA System;	Philippines	2, 4, 11, 14, 20
67	Policy and legislative development for mainstreaming sustainable management of marine and coastal ecosystems in Lebanon	Lebanon	11
68	Sustaining production landscapes and key economic sectors through maintaining critical ecosystem services.	Thailand	4, 11, 14, 20
69	Institutional Capacity to Enhance Biosafety Practices in Malaysia.	Malaysia	14
70	Removing Barriers to Invasive Species Management in Production and Protection Forests in SE Asia.	Cambodia, Indonesia, Philippines, Vietnam	7, 9, 11

No.	GEF Projects	Geographical Distribution: Regional, Global, Country	Aichi Targets
71	Support for the Revision of the NBSAPs and Development of Fifth National Report to the Convention on Biological Diversity (CBD) (Phases 1-3).	Tuvalu, Tajikistan, Pakistan, Bahrain, Kyrgyz Republic, Mongolia, Macedonia, Russian Federation, Bosnia and Herzegovina, Congo, Gabon, Iraq, Namibia, Swaziland, Nigeria, Eritrea, Cote D' Ivoire, South Sudan, Ghana, Kenya, Cameroon, Bahamas, Mexico, Papua New Guinea, Venezuela, Afghanistan, Angola, Antigua& Barbuda, Barbados, Burkina Faso, Burundi, Chad, Comoros, Dominican Republic, Ethiopia, Guinea Bissau, Haiti, Kiribati, Lesotho, Mali, Marshall Islands, Mozambique, Myanmar, Nauru, Niger, Saint Lucia, Samoa, Sao Tome & Principe, Senegal, Sierra Leone, Tanzania, Timor-Leste, Benin, Bhutan, Cambodia, Cape Verde, Central African Republic, Djibouti, Dominica, DR Congo, Equatorial Guinea, Gambia, Grenada, Guyana, Lao PDR, Liberia, Madagascar, Malawi, Maldives, Mauritania, Nepal, Niue, Palau, Rwanda, Solomon Islands, St. Kitts & Nevis, St. Vincent & Grenadines, Togo, Tonga, Uganda, Vanuatu, Zambia	17
72	Achieving Biodiversity Conservation, Sustainable Land and Forest Management Through Land Use Planning.	Macedonia	1, 4, 11, 14, 15, 19
73	Enhancing Livelihoods in Rural Communities through Mainstreaming and Strengthening Agricultural Biodiversity Conservation and Utilization.	Armenia	7, 13, 14
74	Protecting Biodiversity and Multiple Ecosystem Services in Biological Mountain Corridors in Chile's Mediterranean Ecosystem.	Chile	1, 4, 5, 8, 11, 14, 15, 19
75	Assessment of Capacity-building Needs and Country Specific Priorities in the Conservation of Biodiversity and Participation in the National Clearing House Mechanism.	Barbados	1, 19
76	Ecosystem Approach to Haiti's Cote Sud	Haiti	4, 5, 7, 9,
77	Effective Implementation of the Access and Benefit Sharing and Traditional Knowledge Regime in Peru in accordance with the Nagoya Protocol	Peru	16

No.	GEF Projects	Geographical Distribution: Regional, Global, Country	Aichi Targets
78	Iyanola- Natural Resource Management of the NE Coast,	St. Lucia	2, 5, 6, 7, 9, 10, 11, 14, 15
79	Sustainable Pathways - Protected Areas and Renewable Energy, Antigua and Barbuda	Antigua and Barbuda	5, 11, 15, 20
80	Pine Islands - Forest/Mangrove Innovation and Integration (Grand Bahamas, New Providence, Abaco and Andros), Bahamas	Bahamas	5, 7, 11, 14, 15
81	Building a Sustainable National Marine Protected Area Network.	Bahamas	11
82	Implementation of the National Biosafety Framework in Venezuela in Accordance to the Cartagena Protocol on Biosafety.	Venezuela	13
83	National Capacity Self-Assessment (NCSA) for Global Environmental Management in South Sudan	South Sudan	1, 17, 19, 20

