UNEP

CBD

Distr.
GENERAL

UNEP/CBD/SBSTTA/16/INF/3
18 April 2012*

ORIGINAL: ENGLISH

Convention on Biological Diversity

SUBSIDIARY BODY ON SCIENTIFIC,
TECHNICAL AND TECHNOLOGICAL ADVICE
Sixteenth meeting
Montreal, 30 April – 5 May 2012
Item 5 of the provisional agenda*

COMPILATION AND SYNTHESIS OF INFORMATION SUBMITTED BY PARTIES, OTHER GOVERNMENTS AND ORGANIZATIONS FOR THE IN-DEPTH REVIEW ON ISLAND BIODIVERSITY**

Note by the Executive Secretary

I. BACKGROUND

1. In decision IX/21, paragraph 10, the Conference of the Parties requested the Subsidiary Body on Scientific, Technical and Technological Advice to undertake an in-depth review of the programme of work on island biodiversity at one of its meetings after the tenth meeting of the Conference of the Parties, to be sent for consideration by the Conference of the Parties at its eleventh meeting.

2. In order to facilitate this review, the Secretariat of the Convention on Biological Diversity (CBD) has prepared this information document to measure progress in the implementation of the programme of work on island biodiversity vis-à-vis the Aichi Biodiversity Targets, based on compilation and synthesis of information submitted by Parties, other governments and organizations, including 4th national reports (46 submissions); 27 voluntary reports/contributions, which are available on the Secretariat's website at www.cbd.int/island/reports.shtml; and a selection of quotes from the Islands Biodiversity E-Forum located on the CBD website at www.cbd.int/island/forum/ (quotes are provided as boxes along the document). It also provides background for pre-session document UNEP/CBD/SBSTTA/16/4.

* Reposted 21 August 2012

* UNEP/CBD/COP/SBSTTA/16/1.

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3. Fourth national reports received by July 1st 2011 were included in this information document. These reports include information on islands from:

- 5 African Parties (Comoros, Madagascar, Sao Tome and Principe, Cape Verde and Mauritius);
- 7 Asian Parties (Sri Lanka, Maldives, Japan, Indonesia, Vietnam, Philippines, Singapore);
- 8 Caribbean Parties (Dominica, St Lucia, Antigua and Barbuda, Trinidad and Tobago, Cuba, Grenada, St Vincent and the Grenadines, Dominican Republic);
- 3 European Parties (Cyprus, Ireland and Malta) and 6 reports from Parties with islands (Denmark[1], France[2], Netherlands[3], Portugal[4], Spain[5] and UK[6]);
- 7 Latin American Parties (Argentina, Brazil, Chile, Ecuador, Mexico, Peru, Venezuela); and
- 10 Parties in the Pacific Region (New Zealand, Australia, Cook Islands, Federated States of Micronesia, Fiji, Niue, Papua New Guinea, Samoa, Tonga, Tuvalu).

4. Twenty-seven voluntary reports/contributions (CBD Notification 2011-032, 15 February 2011) have been included in this compilation, and the majority were submitted in tables organized by each of the Aichi Biodiversity Targets. Nineteen of the voluntary reports cover the following regions: Caribbean, Pacific, Latin America, and Europe and its overseas territories. Reports were submitted by:

- 6 island Parties (Antigua and Barbuda, Australia, Federated States of Micronesia, New Zealand, St. Lucia and Samoa);
- 4 Parties with islands (Colombia, Italy, Mexico, Peru);
- Ascension Island and the Cayman Islands (UK overseas territories);
- Guernsey and Jersey (UK Crown Dependencies);
- The United Kingdom reporting on islands off the coast of its mainland;
- The islands of metropolitan France (islands off the coast of France's mainland);
- France's Research and Development Institute reporting on a selection of overseas territories;
- 5 non-governmental organizations (the World Conservation Union (IUCN), Royal Society for the Protection of Birds (RSPB), Island Conservation, MediaImpact and RARE); and
- 3 intergovernmental organizations (UN Division of Ocean Affairs and Law of the Sea, Secretariat of the Pacific Regional Environment Programme, and Secretariat of the Pacific Community).

5. This information document will focus primarily on the six priority areas for islands listed in decision IX/21, paragraph 6 (listed below) and how they relate to the Aichi Biodiversity Targets. An annex provides information on the implementation of the other 9 Aichi Biodiversity Targets.

- Management and eradication of invasive alien species;
- Climate-change adaptation and mitigation activities;
- Establishment and management of marine protected areas;

[1] The Kingdom of Denmark consists of three parts: Denmark, Greenland and the Faroe Islands; Greenland has submitted its own national report, which is the document referenced in this information note.
[2] This refers only to the French overseas territories rather than to mainland France.
[3] This national report did not contain any information or references to islands.
[4] Reference is made only to the islands of the Autonomous Regions of Madeira and of Azores.
[5] This refers only to the Islas Baleares and Canarias, rather than to mainland Spain.
[6] As the UK's 4th national report makes no mention of islands, we have only considered the information provided in three statements annexed to the UK's 4th national report (from Jersey, Bermuda and Saint Helena).

- Capacity-building;
- Access to, and fair and equitable sharing of the benefits arising out of the utilization of genetic resources; and
- Poverty alleviation.

6. Each of the priority areas listed above comprises a section of this information document (some include additional considerations within the section due to a focus on the Aichi Biodiversity Targets), which is further divided into subsections based on the region of the submissions. The relevant Aichi Biodiversity Targets have been outlined under each section. The 27 voluntary reports have been included only for targets under the above priority areas.

II. PREVENTION, MANAGEMENT AND ERADICATION OF INVASIVE ALIEN SPECIES (IAS)

7. Invasive alien species (IAS) introduced by human activity have some of the most dramatic effects on isolated ecosystems such as islands and are a leading cause of species extinctions. Invasive alien species pose a particular risk to small island developing States (SIDS) by threatening the ecosystems, livelihoods, economies and public health of inhabitants. Increased trade, tourism and transportation are significant vectors, and the most common pathways are ship ballast water, hull fouling, cargo containers and packaging materials, unprocessed commodities such as timber/agricultural goods, imported food species such as fish, horticultural/plant imports, waste material, military activities, and biological agents to combat pests.

8. In their voluntary contribution, Island Conservation outline several key facts demonstrate the overwhelming need to mitigate the impact of IAS on island biodiversity:

- Islands provide habitat for 20% of all bird, reptile and plant species.
- Approximately two two-thirds of all extinctions recorded in the last 400 years have been of island species.
- Islands provide the sole habitat for 40% of all IUCN listed critically endangered (CR) and endangered (EN) species.

9. IAS are addressed under Aichi Biodiversity 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".

> "The removal of invasive alien species, the single greatest cause of island extinction in the last 500 years, is a proven, effective, lasting and achievable strategy. Restoration activities have been undertaken on almost 1,000 islands worldwide, with a 85% success rate. These activities have resulted in the down-listing of species, the come-back of plant species thought to be extinct or extirpated and the ultimate survival of numerous single island endemics". – *Mr. Olivier Langrand, Island Conservation*

Africa

10. According to information provided in 4th national reports, no reporting island Parties in the African region have indicated that IAS are under control. In fact, the level of pressure on endemic species seems to be increasing. Mauritius considers IAS the most serious threat to native terrestrial biodiversity. It has adopted the National Invasive Alien Species Strategy and Action Plan 2010-2019, which provides a comprehensive and coordinated approach in the management of IAS. With regard to ballast water, African islands are having difficulties enforcing International Maritime Organisation (IMO) regulations.

Asia

11. Philippines, Indonesia and Singapore do not have management plans for IAS and report no significant progress in their 4th national reports. Indonesia inspects and quarantines in each port of entry. Vietnam reports serious damage from IAS over the past 20 years and reports no control measures. Sri Lanka reports that they have controlled some species using biological methods, but that overall control measures for prevention of entry and establishment are inadequate, owing to limited staff and capacity. This problem is commonly identified as a growing concern. Japan controls invasive alien species in priority areas, including habitats for rare species, national parks, and protected forests and their Invasive Alien Species Act came into force in June 2005.

Caribbean

12. In 4th national reports, five of the reporting island Parties in the Caribbean note that they have management plans and programmes; four indicate that they have border control at ports of entry. One Party reports that it has not sufficiently developed a management approach. St Lucia indicates that it is considering monitoring ballast waters. Three Parties report or anticipate an increasing level of threat, harming agriculture and forests. Conversely, Dominica reports that its Division of Agriculture is providing a quick response and good collaboration. The Dominican Republic has a database on IAS. Grenada reports a lack of adequate infrastructure, human resources, research and funding for further strengthening the pest management unit, while Trinidad and Tobago identified a need for greater surveillance at ports of entry.

Some existing tools for IAS in the Caribbean region:

- Caribbean Invasive Species Working Group (CISWG): www.ciasnet.org
- GEF Project – Mitigating the Threats of Invasive Alien Species in the Insular Caribbean: http://www.cabi.org/default.aspx?site=170&page=1017&pid=2916
- Florida and the Caribbean Fire and Invasive Species Learning Network: http://www.conservationgateway.org/file/caribbeanflorida-fire-invasives-part-us-fire-learning-network
- USDA APHIS Caribbean Safeguarding Initiative (CSI): http://www.aphis.usda.gov/publications/plant_health/content/printable_version/fs_caribbean_safeguard10.pdf

Europe and overseas territories

13. Portugal's 4th national reports indicate that Islands of the Autonomous Regions of Madeira and Azores are implementing a regional plan to eradicate and control 16 species of invasive plants; in Azores, a regional decree for the regulation of import of non-native species is awaiting approval, and there is a regional plan for eradication and control, and several other control and recovery projects. In Madeira, a regional decree regulates import of exotic animals, and there are control programmes for invasive plants. In Parque National de Madeira, there are several plant eradication projects.

14. In 4th national reports, Italy reports that it has several projects underway on its islands, including an inventory of alien plants in Sardinia, and a census of the extent of alien flora in coastal areas and small islands, which will be a basis for a national strategy on biological invasions and for the identification of priority actions. Italy's voluntary report notes that a team of botanists from the Italian Botany Society have been conducting surveys of non-native flora of Italy since 2002, including on approximately 40 of its small islands. Italy also reports that it has also been a partner in the EU funded project DAISIE, providing data on the whole country and on the two main islands. Rat eradications have been carried out the three largest Islands Molara (Sardinia), Giannutri and Zannone (Tuscany). Molara is also reported as being the first and only European island where aerial bait distribution was used, according to protocols developed in New Zealand and adopted in North America and in many oceanic islands. The Italian Minister of the Environment recently announced financial support for the improvement of the Global Invasive Species Database (GISD) in order to integrate it with other information services, thus increasing support to decision makers. The GISD is a free online global database on alien species of the Invasive Species Specialist Group (ISSG) and will be hosted at the Environmental Protection and Research Institute (ISPRA) in Rome, Italy. In general, Italy state that it has not been possible to apply a strategy for early detection and early intervention on their islands, and interventions of eradication/containment/control are expensive and labour-intensive. Italy also state that there also fragmentation and lack of consistency of legislation addressing IAS. There is also no agreed national system for risk assessment and for establishing priorities for intervention, with the exception of (alien) pathogens and pests, which are addressed by phytosanitary and veterinary regulations (e.g. IPPC, PHD etc.).

> "The programme of work on island biodiversity's cross-sectoral focus could use invasive alien species as one lens to show how different sectors and aspects of biodiversity conservation and sustainable can be addressed. Specifically it would be useful to identify biosecurity models and tools appropriate to different scales, the institutional and human capacity necessary to implement those frameworks, and the incentive mechanisms and resource to underpin this capacity and ensure sustainability". – *Dr. Stas Burgiel, US National Invasive Species Council*

15. France has submitted a voluntary report on islands in its Metropolitan area, which comprises about 1300 islands; inlets in Bretagne and in the Mediterranean; and Corsica representing 90% of the island area of the French metropolitan area. One of the two major concerns for islands cited in the voluntary report was IAS (the other was climate change). However, control, eradications and monitoring programmes for IAS are currently in place. In France's 4th National report, it is reported that local authorities have been trained to prevent and manage IAS on its overseas islands, and will develop techniques to eradicate them. In Reunion, New Caledonia and Polynesia, management plans have been developed.

16. In their voluntary contribution, the UK report that there have been excellent results in terms of seabird responses to the rat eradications that have occurred over the last 50 years around twelve islands around the UK mainland. Manx shearwaters (*P. puffinus*) numbers have tripled on Ramsey (Wales) and Lundy (SW England) in the 5-10 years since rat eradication. Rat eradication projects have become progressively more ambitious and the project on Canna (off west Scotland) has been the largest to date. Jersey and Guernsey (and their archipelago of smaller islands) submitted voluntary reports. Guernsey notes limited reporting and mapping systems in place to monitor presence and extent of invasive weeds. Furthermore, control and eradication programmes target specific areas and are limited to public land. Jersey reports that a draft invasive species strategy is in progress but there are some major obstacles with marine invasives, which are extremely difficult to control and nearly impossible to eradicate with ecological effects yet unknown.

17. In their voluntary report, Royal Society for the Protection of Birds (RSPB) states that Invasive Alien Species (IAS) are one of the most significant drivers of biodiversity loss in the UK overseas territories. However, there is no IAS strategy for that encompasses the overseas territories, and

biosecurity measures, where they exist, are often weakly enforced. In the Tristan da Cunha Islands (South Atlantic), introduced mice continue to be a threat to the Tristan albatross and Gough bunting (both critically endangered) on Gough Island, a UK natural World Heritage Site; UNESCO has called for the mice to be eradicated by 2014. In partnership with the Tristan da Cunha Government with financial support from the UK Government, the RSPB is conducting research on the impacts of introduced mice and techniques for their eradication. There is currently no proposal to carry out this mouse eradication, which it is estimated to cost £3.75m-£4m.

18. Ascension Island reports in its voluntary contribution that a feral cat eradication programme (2001-2004), delivered by Wildlife Management International Limited (WMIL) (a New Zealand company specialized in island restoration), was the first cat eradication attempted on an island of this size. Ascension Island was declared feral cat free in 2006, with positive results for the seabird population. In the Cayman Islands voluntary report, it is stated that an inventory of invasive species has been completed and control programmes have been implemented for priority IAS where feasible. Main obstacles include inadequate legislation, which inhibits effective control and introductory pathways, as well as lack of funding and staff resources. In their annex to the UK's 4th National Report, St. Helena reports that it conducts biosurveys twice a year and that many potentially invasive species have become established.

19. As far as other European islands, Spain reports (in 4th national reports) an increase in the number of invasive species on its islands, and that they have management plans for the Balearic and Canaries, as well as phytosanitary regulations for imports to the Canary Islands. Greenland reports that it has relevant legislation but that it does not consider IAS a major problem. Cyprus reports that control measures are in place, but that they need wider application and legislation; many of Ireland's habitats are threatened by IAS, and it is taking action to control invasive plants, fish and aquatic plants, in particular.

Some existing tools for IAS in the European region:

- Delivering Alien Invasive Species Inventories for Europe (DAISIE): www.europe-aliens.org
- North European and Baltic Network on Invasive Alien Species (NOBANIS): www.nobanis.org
- European/Mediterranean Plant Protection Organization (EPPO): www.eppo.org
- Initiative sur les espèces exotiques envahissantes en outre-mer : http://www.uicn.fr/Especes-envahissantes-d-outre-mer.html
- Invasive Species in the UK overseas territories: Databases and Awareness Assessing Large Scale Risks for Biodiversity with Tested Methods (ALARM): www.alarmproject.net.ufz.de/index.php?pid=4110

Latin America

20. In 4th national reports, Brazil published a list of marine invasive species in 2010, with particular attention to islands as part of a broader campaign for IAS awareness. Also in their 4th National Report, Mexico indicates that several of its islands have eradication programmes. In the proceedings of the Helping Islands Adapt Workshop (submitted as a voluntary contribution) it was noted that the Mexican non-profit organization, Grupo de Ecología y Conservación de Islas, has a 15-year programme to study and combat invasive alien species on Mexico's offshore islands. The organisation has restored over 50,000 hectares of land and eradicated 55 invasive alien species. However, they cite the greatest challenge to be continued access to funding.

21. In 4th national reports, Ecuador reports that a quarantine and control system has been set up with the 5% of entrance fee revenues to the Galapagos. However, some 600 species of introduced vascular plants have been documented in the Galapagos archipelago, but they indicate that the actual figure is probably closer to about 1000. The introduction rate is often cited as exponentially increasing, with a recent rate of 10 species per year. The GEF funds a control and eradication program for IAS, which has facilitated the eradication of goats on the islands of Santiago and northern Isabela, enabling the recovery

of important ecosystems. In the Galapagos IAS prevention and management falls under the "Sistema de Inspeccion y Cuarentena para Galapagos (SICGAL)" under the responsibility "Servicio Ecuatoriano de Sanidad Agropecuaria (SESA)" (now AGROCALIDAD). They outline their system, in which their first line of defense is inspection and quarantine at airports and docks on both the mainland and Galapagos, using methods based on a risk analysis of products and imported goods. The second line of defense is their monitoring and surveillance program to detect exotic species that have circumvented the first barrier. The Health Emergency Program is the third barrier, which aim to respond quickly to alien species detected before they cause damage. The project, ECU/00 /G31 Control of Invasive Species in the Galapagos Archipelago, was implemented in order to provide Ecuadorian institutions in charge of the conservation of island biodiversity the tools to address threats of invasive species that cause degradation of habitats and compete with native species of the archipelago. This project strengthened SICGAL; helped establish research and technical assistance; enabled implementation of pilot projects for the eradication, control and mitigation; enabled the establishment of a trust fund to enable financial sustainability; implemented of a program of awareness and participation; and the development and introduction of invasive species criteria in regional planning, specifically in key productive sectors. A fund of $ 15 million for IAS of the Galapagos has been put in place, in order to finance long-term proposals in four broad areas: education, prevention, control and eradication of introduced species in the archipelago.

22. In their voluntary contribution, Mexico highlights several targets addressing invasive species on islands. They state that they have committed to eradicating invasive mammals on 20% of their islands by 2012, on 50% of their islands by 2015, and on 100% of their islands by 2020. They indicate that they have a restoration plan in operation to achieve these targets.

23. In their voluntary report, Columbia indicate that they have collected information in certain parts of the country since 2002 to emphasize vulnerability of coastal areas to biological contamination and to establish a baseline to orient procedures to reduce the risk of IAS from ballast water. They indicate that they have a risk analysis and proposal for the categorization of IAS for Columbia; a guide of introduced marine and coastal IAS of Columbia is in development; and an action plan for the management and control of *Pterois volitans* is being formulated. A web portal is available on IAS (http://cinto.invemar.org.co/invasoresmarinos/index.html#objective), where data on research and management of marine IAS and is being updated. The principle obstacles cited was the lack of interest in the collection of baseline data that permits the update of primary information on IAS and potential IAS that could be a threat to marine and coastal areas of Columbia. Lack of financial resources to advance research and support work on taxonomy including species-level information has caused an underestimation of invasive taxa in Columbia.

24. IABIN's network of I3N databases (http://i3n.iabin.net/index.html) is an important tool for IAS management in the America's and includes 15 Latin American countries that disseminate information through I3N. I3N provides access to an assortment of electronic tools on invasive alien species to increase access to information and develop new tools for information sharing, to allow scientific and technical cooperation across national borders, and support decision-making and capacity-building.

Pacific Islands, including SIDS, Australia and New Zealand

25. Reporting Parties in the Pacific identify IAS as a major problem in 4th national reports, with the spread of existing IAS (especially in abandoned agricultural fields) and the high threat of new invasions. Only one Party indicates that they have done no work on the issue and have no policy. Three reporting Parties in this region mention a biosecurity act in force or in development. Several mention border controls, but that marine pathways are more difficult to control, such as in ballast water and on ship hulls. Fiji indicates that they established an Invasive Species Task Force with Rapid Response Plans for the most serious invasive species threats. In their voluntary contribution, the Federated States of Micronesia (FSM) also reports that it has Invasive Species Plans and a Taskforce established in each State; the Micronesia Biosecurity Plan is established and being implemented. Obstacles cited by FSM in their

voluntary report include identifying and prioritizing aquatic invasive species to be controlled/eradicated within a vast EEZ.

26. The proceedings of the Helping Islands Adapt Workshop (16-20 April 2010, Auckland, New Zealand) were submitted as a voluntary contribution (see in more detail below). The Pacific Invasives Partnership (PIP) was highlighted as the main coordinating body for various organizations under the Pacific Roundtable for Nature Conservation. It has been successful in enabling members to work together on to address invasive species issues in Pacific SIDS. The workshop also highlights the Regional Guidelines for Managing Invasive Species in the Pacific (published in 2009), which provide guidance to PIP as well as the various international and regional organizations and national institutions in identifying priority areas and ways to coordinate their work. Follow up from the Helping Islands Adapt Workshop is being coordinated through the Global Island Partnership (GLISPA).

27. In 4th national reports, New Zealand reports progress since 1997, through increased biosecurity activities globally, at ports of entry and eradication/management within the country. Australia reports that IAS are a continuing problem, despite the measures taken to improve biosecurity. A recent review of Australia's biosecurity arrangements identified significant gaps in its management capability. In voluntary reports, Australia highlights relevant aspects of their Biodiversity Conservation Strategy (ABCS) 2010 -2030, which includes targets and outcomes for IAS, as well as a large number of laws, initiatives and programmes in place to monitor, control and eradicate invasive plants and animals. Target 7 of the ABCS states that "By 2015, reduce by at least 10% the impacts of invasive species on threatened species and ecological communities in terrestrial, aquatic and marine environments". Australia has committed to reducing or managing the impact of vertebrate pest animals to maintain and improve biodiversity outcomes to allow regeneration and recovery of at least 10 000 hectares by June 2013 of high quality native habitat or vegetation that supports critically endangered, endangered and threatened species and communities. In 2008, the Australian Government committed $15 million over 4 years to the National Weeds and Productivity Research Program to unite relevant stakeholders to find solutions to severe weed problems across Australia.

28. In the Secretariat of the Pacific Regional Environment Programme's (SPREP) voluntary contribution, it is stated that invasive species are the leading cause of biodiversity loss on island countries. However, the cost for eradicating invasive species often exceeds the national budget of many island states. The SPREP reports that it has various tools available for IAS management such as the Pacific Invasives Initiative Resource Kit for Rodent and Cat Eradication (http://www.pacificinvasivesinitiative.org/rk/); the Pacific Islands PestList Database (http://pld.spc.int/pld); Pacific Fruit Fly web; Taropests; and some new tools have been developed to assist with identification of invasive alien species (e.g. LUCID Key on Invasive Ant Species). The SPREP also developed the Guidelines for Invasive Species Management in collaboration of its member countries, which were endorsed in 2008. The guidelines provide a framework for national and regional efforts to manage invasive species. The SPREP coordinates two networks for improving invasive species management in the region: the Pacific Invasives Partnership (PIP) and the Pacific Invasives Learning Network (PILN), which is a capacity building network for countries to facilitate on the ground actions to manage invasive species (http://www.sprep.org/piln). The SPREP has new funding partners – the Critical Ecosystem Partnership Fund (http://www.conservation.org/about/centers_programs/funding/pages/cepf.aspx) and the GEF-Pacific Alliance for Sustainability fund for invasive species.

Some existing tools for IAS in the Pacific region:

- Pacific Island Ecosystems at Risk (PIER): www.hear.org/Pier
- Pacific Invasives Initiative (PII): www.issg.org/cii/PII
- Invasive Species Programme of SPREP: http://www.sprep.org/topic/Invasive.htm
- Pacific Invasives Partnership: http://www.sprep.org/pip/
- Pacific Invasives Learning Network (PILN): www.sprep.org/piln

- Guidelines for Invasive Species Management in the Pacific (2008): www.sprep.org/publication/pub_detail.asp?id=699
- Pacific Invasives Initiative (PII): www.issg.org/cii/PII
- Secretariat for the Pacific Community (SPC): http://www.spc.int/
- GEF PAS – Prevention, Control and Management of Invasive Alien Species in the Pacific Islands
- Micronesia Regional Invasive Species Council (RISC): http://www.sprep.org/article/news_detail.asp?id=916
- New Zealand's biosecurity web page: www.biosecurity.govt.nz/
- Australia's biosecurity page: www.daff.gov.au/ba

Some important global tools available for IAS, relevant to islands

29. In their voluntary contribution, the Invasive Species Specialist Group (ISSG) of the Species Survival Commission (SSC) of the International Union for Conservation of Nature (IUCN) indicate that they continue to enhance the Global Invasive Species Database (GISD), especially in terms of content on the ecology, impacts and the management of invasive aliens species. The database is also being restructured to better serve as a decision support tool for invasive species stakeholders, in particular by improving search functionality including search on pathway types. In 2010 and 2011, ISSG was very active working on island ecosystems by increasing networking and exchanging information with stakeholders on island groups in the Caribbean, Western Indian Ocean Islands and Pacific region. ISSG also developed a thematic island database known as IBIS (Island Biodiversity and Invasive Species) that includes information on management, inventories, threats to native species and vulnerable areas, checklists of invasive vertebrates on island ecosystems. ISSG is also working on a project conducting an overview of how invasive species are managed in the European overseas territories and planning the formation of an ISSG information node is each of the three island groups (Pacific, Caribbean and Western Indian Ocean) to coordinate networking and exchange of information among invasive species stakeholders. ISSG is also planning the development of a database on invasive species impacts on wetlands and Ramsar sites on islands, and working to raise awareness of the impacts of invasive species on World Heritage Sites, especially islands.

30. The Helping Island's Adapt proceedings (voluntary submission; see details below) highlights some of the work of the Global Invasive Species Information Network (GISIN), which has developed a data exchange infrastructure to link IAS databases, as well as a package of decision support tools for early warning, including distribution maps; models of potential distributions (under present conditions and under different climate change scenarios); country-specific risk scores for invasive species; links to identification tools; and pathway, impact, and management information.

Some existing global tools for IAS:

- Global Invasive Species Information Network (GISIN): www.gisin.org
- List of online invasive alien species databases: www.gisin.org/gisinlist.htm
- Global Invasive Species Database (GISD): www.issg.org/database
- IUCN Invasive Species Specialist Group: www.issg.org
- CABI Invasive Species Compendium: www.cabi.org/isc (currently only available to CABI partners)
- FishBase: www.fishbase.org
- Global Compendium of Weeds: www.hear.org/gcw/
- Island Conservation: www.islandconservation.org
- WHO Sanitary and Phytosanitary Measures: www.wto.org/english/tratop_e/sps_e/sps_e.htm

Information on trends and gaps on IAS from Helping Islands Adapt workshop

31. The Helping Islands Adapt workshop (11-16 April 2010, Auckland, New Zealand) was submitted as part of the voluntary contributions, and identified several priority areas and gaps for preventing IAS and managing them on islands. The workshop focused on four major island regions: the Caribbean, Coral Triangle, Indian Ocean and Pacific, and involved participation of 82 people from 24 countries and territories, and 29 national, regional and international organisations. The participants agreed that IAS needs to be addressed not only in a conservation framework, but in terms of economic and social development (i.e. health, fisheries, agriculture, tourism etc.), and also in relation to broader ecological concerns such as climate change and sustainable development. There are currently inadequate resources for the complexity and pervasiveness of the IAS issue, compounded by short-term funding cycles and problems accessing complicated granting schemes by small government administrations and local non-governmental organisations. Lack of key champions in raising the profile of the IAS management at high levels within government was also cited as a major obstacle in the allocation of adequate funding. Lack of stable long-term funding and inadequate investment in research is an important gap for IAS management on islands.

32. The participants highlighted that IAS is often neglected relative to other issues of high economic or social importance because of lack of public awareness and political will and the perception that it is solely a conservation issue. Raising awareness and sharing information continues to be of high importance within invasive species management community, and with external stakeholders such as domestic governments, bilateral and multilateral donors, the private sector and civil society. Multi-country and regional collaborative approaches were said to be of key importance because of the cross-boundary nature of many invasive species threats, common challenges and increased need for capacity and coordination. Incorporating invasive species management activities on the ground into broader frameworks, such as national level legislation, National Biodiversity Strategies and Action Plans (NBSAPs), or regional initiatives were described as being instrumental in their prevention and management.

> "The [Helping Islands Adapt] meeting allowed for sharing of information and discussion on major priorities for increasing the ability of islands to address the risks associated with invasive alien species. One of the clear messages was using the concept of biosecurity as a catchall to embrace the need to protect island biodiversity, natural resources, agriculture, fisheries, public health and livelihoods in a more holistic manner. In many cases the small size of islands makes these aspects interdependent and negative impacts in one area will have significant repercussions". – *Dr. Stas Burgiel, US National Invasive Species Council*

33. Participants agreed that the best ways to start moving forward on IAS management include using existing policies and building on them, incorporating guidelines from other regions, focusing on information sharing, especially through existing and efficient fora, and adopting legislation for invasive species. They also indicated the need for more training, the use of existing networks and information-sharing mechanisms, and teaching conservation education in schools/communities.

34. The participants also stressed that there are inter-linkages between climate change and invasive alien species, and their combined impacts on island biodiversity should be considered in long-term research, as they are the biggest threats to SIDS. The management of IAS is crucial to the protection and maintenance of ecosystem resilience in the face of climate change.

35. Actions identified at the workshop by regional and global working groups that require immediate attention with regards to climate change and IAS included (these are quoted directly from the report):

- Increase coordination and integrated action on invasive alien species across key sectors through national, regional and global networks and partnerships, including within climate change adaptation plans and sustainable development plans.
- Engage public and private sector leaders to champion invasive alien species management on islands.

- Build public support through effective communication of the impacts of invasive alien species on island economies, people and environments.
- Improve biosecurity systems to address the full range of invasive threats to islands.
- Accelerate the use of successful invasive alien species approaches through the exchange of experience, skills, information, taxonomy, data and tools between islands.
- Increase sustained funding and capacity to implement invasive alien species activities.

36. While discussions outlined significant obstacles to invasive species management on islands, they also showcased how targeted successes have led to major gains for conservation and development. Follow up from the Helping Islands Adapt Workshop is being coordinated through the Global Island Partnership (GLISPA).

III. CLIMATE-CHANGE ADAPTATION AND MITIGATION ACTIVITIES

37. The special characteristics of islands (e.g., small land masses surrounded by oceans, geographically located in regions prone to natural disasters and extreme weather events, biodiversity-based livelihoods, socio-economic conditions) make them vulnerable to a large range of potential impacts from climate change and climate variability (see UNEP/CBD/SBSTTA/16/INF/4 on the Integration of climate change impacts and response activities within the programme of work on island biodiversity, for more detail).

38. Island biodiversity is particularly vulnerable to climate change impacts due to typically high levels of endemic species with regionally restricted distribution caused by ecological isolation. Islands are often characterised by high levels of biodiversity which provides essential goods and services for local communities. In particular, climate change is likely to heavily impact coral reefs, fisheries and other marine-based resources. Projected sea level rise poses a high risk for low-lying islands and their coastal resources (e.g., corals, mangroves, and reef fish). In addition, rapid climate change could lead to greater numbers of introductions and enhanced colonisation by invasive alien species, with consequent increases in impacts on these island ecosystems.

39. Climate change effects on vulnerable ecosystems are addressed under Aichi Biodiversity 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".

40. In addition, the restoration of ecosystem resilience to mitigate the effects of climate change is addressed through Aichi Biodiversity 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". This is also related to Aichi Biodiversity Target 14, where restoration of ecosystems that provide essential ecosystem services, and contribute to health, livelihoods and well-being of local communities, also enable resilience to climate change.

41. Resilience is the ability of an ecosystem to absorb disturbance without shifting to an alternative state and losing ecosystem function and services. Resilient and healthy ecosystems are a cost-effective way of managing some of the adverse impacts of climate change, such as increased storm surge, flood and erosion control. Maintaining and restoring biodiversity promotes their resilience to human-induced pressures and is therefore an essential 'insurance policy' and safeguard against expected climate change impacts.

Africa

42. There is little information provided about climate change adaptation on islands and coral reefs in the 4th national reports in the African region. Two of the reporting Parties indicate that they have a

climate change adaptation programme; another indicates having protected forest corridors. Madagascar reports that there has been a 30% decrease in living corals due to bleaching. They report having transplanted corals within two different localities, while Comoros indicates that coral is being damaged by sedimentation resulting from deforestation

43. Mauritius indicates that its Ministry of Environment is presently implemented the "Africa Adaptation Project: Supporting Integrated and Comprehensive Approaches to Climate Change Adaptation in Mauritius" (January 2010 - Dec 2011) and has invested USD $ 2.987 million for this project. The objective is to integrate and mainstream climate change adaptation into the institutional framework and into core development policy, strategies and plans. Key sectors concerned are, Disaster Risk Reduction, Agriculture and Fisheries, Water, Environment, Education, Tourism and Finance. Mauritius reports that it has restored 23 hectares of mangroves with some 230 000 seedlings over the past 5 years, and some 35,000 native and endemic plants have been planted in several reserves and forests. Maintaining ecosystem services is one of 5 strategic objectives of its NBSAP. Madagascar exceeded its objective for 2008 by reforesting 35,000 ha of forest.

44. Madagascar is also restoring mined areas, including marshes that are actively used by local women. Maldives has plans for restoration programmes for wetlands and mangrove ecosystems. Comoros has plans for forest, mangrove and soil restoration but reports little success thus far in ecosystem restoration, due to limited capacity and understanding of the good and services provided by ecosystems.

Asia

45. In their 4th national reports, the Philippines report a decline in hard coral cover, with 70% in poor or fair quality/quantity. Indonesia reports that 40% of its coral is damaged. Vietnam reports that just 1% of the sites investigated over the past decade have a high coverage rate, while 31% have a low coverage rate. Singapore notes that its live coral cover ranges from 10 to 60% of existing reefs, having been reduced by 60% due mostly to development pressures. It also reports on a "coral nursery" project, involving propagation of coral colonies at nurseries for later transplantation in situ. Sri Lanka reports that destruction of coral reefs has been reduced to some extent with legal reforms, law enforcement and better field monitoring. Maldives notes that its coral reefs declined from 40-60% coverage before the bleaching episode of 1998 to less than 2% (where data available) and that they have recovered to levels ranging from 15% to more than 50%.

46. In 4th national reports, Sri Lanka reports on some initiatives addressing climate change, including some adaptation and mitigation measures adopted by coastal and agriculture sectors, but biodiversity related sectors have been slower in assessing vulnerability, mainly due to funding and capacity constraints. Indonesia reports that biodiversity considerations are included in their national action plan on climate change. Philippines reports that one province (Albay) is leading in this area by prioritizing climate change adaptation in local policies, climate-proofing development, and mainstreaming adaptation through local and regional partnerships. Japan has formed regional committees for restoration of various ecosystems, such as forests, rivers, lakes, coasts, wetlands, tidal flats and urban areas.

47. In 4th national reports, Indonesia notes that it rehabilitated 26,215 ha of mangroves from 2001-2006, and is planning to restore wetlands, mangroves, coral reefs, rivers, forests and fish stocks and their habitats. Singapore is involved in reforestation, as rehabilitation is one of the five key strategies of its NBSAP. Vietnam is also replanting mangroves, which helped to increase total forest area in 2006 to 11% more than in 1990. Sri Lanka is restoring mangrove areas with mixed mangrove/aquaculture systems; it also reports that significant plantations of fast-growing, high-value exotic species have been introduced, as does Philippines, which is also restoring mangroves, including through community-based reforestation projects. Singapore is reporting significant progress in this regard, having engaged in replanting of

mangroves and trees. Maldives notes that its forests, mangroves and other degraded ecosystems need to be restored.

Latin America

48. In their voluntary report, Peru indicates that in 2009, the Instituto del Mar del Perú (IMARPE) made a cooperation agreement with the University of Xiamen, China, for the transfer of scientific, technical, training, technology in the fields in the fields of marine biogeochemistry, mainly on "Ocean acidification and carbon cycle". In their 4th National Report, Ecuador reports that there is a project for the restoration of mountain ecosystems in the Galapagos.

49. In Columbia's voluntary contribution, it is noted that they have been monitoring the state of their coral reefs with SIMAC (Sistema de Monitoreo de Arrecifes de Coral), which has monitoring stations in place in many Columbian islands, and have also been producing annual reports. In the Archipelago of San Andres, Providencia and Santa Catalina, plans are either in development or implemented for the management of the various water bodies in the archipelago.

Caribbean

50. In their 4th national reports, five of the responding Parties indicate that their coral reefs are declining, most citing coral bleaching, but also due to increasing sedimentation because of inappropriate land management. Also in 4th national reports, St. Lucia reports average coral cover declining from 26% in 2003 to 12% in 2006; in some areas, about 47% of coral reef cover was lost between 1995 and 2001, a trend that is continuing. Similarly, Trinidad and Tobago cites a decline of over 80% since the 1970s.

51. In terms of climate change action, respondents to 4th national reports seem to be in the early stages of addressing the need, and little is reported in terms of specific measures. Six of the reporting Caribbean Parties indicate that they have restoration projects focusing on either marine or wetland habitats. St. Vincent and the Grenadines is restoring populations of marine species, Antigua and Barbuda is restoring important marine habitats, including coastal ecosystems and sites affected negatively by climate change, such as wetlands; and note that biodiversity issues are increasingly integrated into the physical planning process. In their voluntary reports, Antigua and Barbuda report that projects on land based sources of pollution being implemented to reduce the transport of pollutants to the coastal zone to improve the health of the coral reefs. Their Protected Areas System Plan and the Biodiversity Strategy and Action Plan address restoration of degraded ecosystems.

52. In 4th national reports, Trinidad and Tobago indicate that they have a large-scale project to restore a wetland by replanting native species in a deforested area; Grenada is restoring mangroves, and the Dominican Republic and Cuba are restoring marine ecosystems. St. Lucia and Dominican Republic indicate that they are engaged in tree-planting activities. The Dominican Republic links its reforestation effort to combating climate change and poverty reduction, and St. Lucia notes that its efforts are focused on forest reserves. Antigua and Barbuda, notes its effort to mitigate the effects of climate change through coastal and wetland rehabilitation projects.

53. In their voluntary contribution, St Lucia indicated that it has a Coastal Zone Management Strategy and Action in place, although there is a lack of resources and personnel. They indicate that they have had a climate change adaptation policy in place since 2003, and an active Coastal Zone Management Advisory Committee (CZMAC), which is part of the National Climate Change Committee. They also report that the Organization of Eastern Caribbean States (OECS), launched a project in July 2011 for its member states (which includes St Lucia) on climate risk reduction, funded by USAID. Saint Lucia notes that it is also engaged in a pilot program for Climate Resilience (PPCR) sponsored by various aid agencies. The government of St Lucia indicates that it seeks to ensure coordination, mainstreaming and integration of climate change response into socioeconomic development policies and environmental conservation at the local and national scales, and is in the process designing multiple projects for climate

change mitigation, and is in search of funding. Saint Lucia has conducted studies on REDD + under its forest management project, which was funded by the European Union, and has been considered as a model for small island developing states.

Europe and overseas territories

54. In its 4th National Report, France reports decreased coverage and degradation of coral reefs in Guadeloupe and Martinique (1000 km^2), and 20 to 30% mortality due to sedimentation, pollution, cyclones and bleaching. Coral coverage in Reunion has decreased over the past 20 years, as has that of Mayotte. Conversely, the coral of New Caledonia, which, at 40 000km^2 is the largest area in France's overseas territories, remains in relatively good condition, as does much of the coral of French Polynesia. France also indicates that it is restoring some semi-dry forests on Reunion Island, in its 4th national report. In their voluntary report, France notes that the effect of ocean acidification has been the subject of experimental research in New Caledonia, and "l'Institut de recherche pour le développement (IRD)" is implicated in studies on coral bleaching in the Indian Ocean and the Pacific Ocean.

55. In 4th national reports, the UK, France and Portugal note that adaptation and resilience to climate change are new concepts toward which action has yet to be taken. France reports that semi-dry forests on Reunion Island are being restored, while Bermuda reports that it is restoring mangroves and seagrass beds. Malta's afforestation projects increased by 14% , from 2006 to 2007, when more than 33,200 trees were planted. Malta is also rehabilitating some degraded habitats in protected areas. Cyprus notes that its afforestation programmes on state land have also increased, but it lacks data assessing their success.

56. In their voluntary contribution, the Cayman Islands report some progress in their through their comprehensive marine protection legislation and considerable investment in Marine Protected Areas, which have been in place since 1986. A UK funded project lead by the Cayman Islands Department of Environment is evaluating the status of the marine protected areas in relation to increasing resilience to global stressors through protection. In 4th national reports, Bermuda reports that it is restoring mangroves and seagrass beds, while St. Helena is restoring habitat for an endemic bird species. Both Cyprus and Malta indicate some attention being given to habitat restoration in general, while Ireland notes forests, peatlands and rivers are being restored.

57. In their voluntary reports, Guernsey indicates that they are a signatory to the Kyoto Protocol and have committed to reducing carbon emissions. Its Energy Policy Group has developed policies to reduce overall energy usage, minimise waste and move to cleaner renewable energy sources. Carbon emissions have been reduced by 4.2% between 2008 and 2012. Guernsey has increased its woodland cover from 3.5% to 5% between 1999 and 2010. Jersey Island's Energy Policy (under development) aims to reduce carbon emissions by 80% compared to 1990 levels. They note a lack of accurate knowledge on biogenic reefs around Jersey, such as the extent of Maerl beds, which have high biodiversity and carbon sequestration, but may be damaged by dredging. These require additional mapping and protection.

Pacific Islands, including SIDS, Australia and New Zealand

58. Almost all Parties indicated in 4th national reports that they have plans, policies or projects in place aimed at increasing national capacity to adapt to climate change. Samoa, Niue and Federated States of Micronesia in particular note what seem to be relatively well-articulated adaptation plans. Four Parties in the Pacific region report that they are replanting mangroves and in some cases are engaged in other restoration programmes, yet Papua New Guinea implies that ecosystem restoration may be of low priority compared to conserving pristine environments. Fiji, Tonga and Samoa report that they have some ecosystem rehabilitation programmes and projects targeting mangroves and (in the case of Samoa) coral; Samoa also reports that it is restoring forests. In their voluntary contribution, Samoa reports that two National Parks were established since the adoption of its NBSAP: Lake Lanoto'o National Park in 2003 (201 ha) on the ridge of Upolu island, and Mauga o Salafai (5,974 ha) on the eastern uplands of Savaii island. Preliminary studies and consultative planning for the conservation of the Sasina-Aopo-Salailua

Upland Forest were conducted in 2007, however, funding for full implementation is being sought and there is an ongoing local land dispute complicating matters.

59. As far as the status of coral is concerned, Samoa reports (in 4th national reports) that its coral reef ecosystems have recovered well (2008=43% coverage; 2004=10.3%; 2002=39%) and attributes this to increased village-based conservation initiatives; Tonga, however, notes a 20-30% decrease in live coral coverage between 2002 and 2008, attributed to destructive fishing practices, especially spear diving; Fiji also notes such problems.

60. In 4th national reports, the Federated States of Micronesia (FSM) recognizes the need for forests and other degraded ecosystems to be restored, and notes that it intends to restore degraded ecosystems. In voluntary reports, the FSM report that climate change adaptation and mitigation measures have been established through a coral ecosystem monitoring program and practitioners support networks (e.g. Micronesia Challenge, Pacific Islands Managed and Protected Areas Community and Locally Marine Managed Areas Network). They indicate insufficient data about ocean acidification impacts and impacts on near-shore and pelagic fisheries systems. They also note that they have been conducting small-scale research on mangrove ecosystem in the context of carbon stocks. New Zealand reports that local communities are participating in restoration programmes, and that it is engaging in pest management on its islands to restore habitat, including through technological transfer to other Pacific islands.

61. In 4th national reports, Australia reports that building ecosystem resilience is a new focus area in its revised NBSAP. It notes that it is increasingly restoring ecological communities, especially water systems that are over-allocated, so that they can provide ecosystem services, especially through water allocation planning. They are also restoring wetlands and other natural vegetation. In their voluntary contribution, Australia notes that its coral reefs have been significantly altered and damaged as a result of bleaching, cyclones, fishing, sedimentation and pollution. Coral calcification rates have decreased by 14% since 1990, mainly due to ocean acidification and climate change. They are undertaking marine bioregional planning to enhance the resilience of the reefs to climate change. This will involve the establishment of a national MPA system. Australia has committed AU$ 8.9 million toward the implementation of the Great Barrier Reef Climate Change Action Plan (2007-2012). The Australian and Queensland governments have put in place a Reef Water Quality Protection Plan (Reef Plan) to address water quality pressures on the Great Barrier Reef. Marine bioregional planning has been put in place to focus on the management of whole marine ecosystems, including the interactions of people and industry. By 2012, Australia is to establish a representative network of Marine Protected Areas throughout Australia's marine environment. Under Australia's Biodiversity Conservation Strategy (ABCS) targets, 1,000 km^2 of fragmented landscapes and aquatic systems are being restored by 2015 to improve ecological connectivity and opportunities for genetic and ecological adaptation. Under the Indigenous Fire Management programme in Northern Australia, 100 000 $kilometers^2$ of savanna is now under traditional fire management across four project areas to deliver potential biodiversity and carbon benefits.

62. In their voluntary report, the Invasive Species Specialist Group (ISSG) indicates that they are raising awareness of the importance of conservation of biodiversity in climate change mitigation, especially concerning the maintenance of the integrity of coastal forests and estuarine ecosystems, including management of the spread of invasive species.

63. The Global Island Partnership (GLISPA) assisted island leaders in promoting the international recognition of ecosystem-based adaptation, in particular under the United Nations Framework Convention on Climate Change. Continued focus on sustainable and innovative finance mechanisms will continue to be necessary to support implementation activities to build resilience of island communities.

64. Also, in their voluntary contribution, the Secretariat of the Pacific Regional Environment Programme (SPREP) reports that the Secretariat of the Pacific Community (SPC) commissioned a study to MRAG Asia Pacific on the status of monitoring and research projects on climate change impact on coastal fisheries in the Pacific (http://www.spc.int/coastfish/en/projects/climate-change.html). The SPREP also reports on their UNDP-GEF Pacific Adaptation to Climate Change Project

(http://www.sprep.org/climate_change/PACC/index.asp), which is a regional project focusing on climate change adaptation, through the Special Climate Change Fund of the GEF. In the April 2011, the Pacific Adaptation to Climate Change (PACC) Project Inception Form was approved securing US$13.125 million of adaptation funding to the region. The PACC will enhance the resilience to climate change in the Pacific islands in a number of development sectors (food production and food security, water resources management, coastal zone, infrastructure etc.) and Thirteen Pacific Island Countries (PICs) will take part in the PACC project. The project will concentrate on long-term planned adaptation response measures, strategies and policies. Regional and national adaptation financing instruments will also be developed.

65. Some publications of interest for climate change and building resilience in the Pacific islands include:

- The FAO's "Pacific Food Security Toolkit: Building resilience to climate change – root crop and fishery production (2010) (http://www.sprep.org/att/IRC/eCOPIES/Pacific_Region/677.pdf);
- UNEP's "Pacific Island Mangroves in a Changing Climate and Rising Sea: (2006) (http://www.unep.org/PDF/mangrove-report.pdf); and
- SOPAC Framework for Action 2005 – 2015: building the resilience of nations and communities to disasters (www.sopac.int/RfA+2005+2015).

IV. ESTABLISHMENT AND MANAGEMENT OF MARINE AND TERRESTRIAL PROTECTED AREAS

66. Many insular systems coincide with "hotspots", sites of high conservation priority; protected areas is therefore of paramount importance in island settings. The establishment of marine protected areas (MPAs) was made a priority for the islands biodiversity programme under COP decision IX/21, paragraph 6. However, the establishment and management of marine and terrestrial protected areas is addressed under Aichi Biodiversity 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". Therefore, progress towards both protected areas on land and sea have been included in this section.

Africa

67. Much success in meeting this target is reported in 4th national reports. In fact, São Tomé and Príncipe (STP), considers this one of the few areas of progress, with parks now totalling 40% of the territory. Madagascar's coverage has increased from 3% to 9%, while Mauritius reports marine coverage of 60% and 40% of terrestrial areas. Cape Verde reports 15% of terrestrial coverage and that the Marine Protected Areas (MPA) concept is relatively new, while Comoros indicates that it has finalized plans for new terrestrial and marine sites. Four of the five Parties responding indicate that local people and authorities are participating in the management of protected areas.

Asia

68. Vietnam reports a proportion of 7.6%, which represents all important forest ecosystems, fauna and flora; it also plans to establish a system of 15 MPAs, amounting to 2% of its marine area, and 45 interior protected wetlands. Singapore reports having committed about 10% to green spaces; the Philippines' protected areas amount to 13.8% (2008); but reports that management effectiveness is questionable, that only half of priority sites are covered, and that many are not considered strategic for biodiversity conservation. The number of MPAs has more than doubled since 1997, and management effectiveness has also increased. Japan has coverage of 14.3% of its land area, with marine parks at 0.1%.

Indonesia reports that marine protected areas have increased and are better managed, and notes its Coral Triangle Initiative, aimed at protecting coral reefs. It aimed to double its MPAs (4.7 million ha in 2003) by 2010 and quadruple the area by 2020. About 28% of Sri Lanka's land area is reserved, with additional mangrove sites and MPAs.

Caribbean

69. In 4th national reports, four out of eight of the responding Parties indicate having exceeded the target for terrestrial protected areas. MPAs seem to be a priority in Antigua and Barbuda, which is in the process of creating several, while Cuba indicates having exceeded the target. Grenada is also designating some coastal MPAs, as a signatory to the Caribbean Challenge, which proposes to designate 20% of its terrestrial and marine areas by 2020. Trinidad and Tobago also created a MPA, while Dominica cites the example of its marine reserve, which was established to regulate conflicts between fishing and tourism/recreation, using a community-based management approach.

70. In their voluntary reports, Antigua and Barbuda indicate that their Protected Areas Systems Plan and their Biodiversity Strategy and Action Plan address the establishment of protected areas for biodiversity conservation and the maintenance of ecosystem services. Also in their voluntary report, St Lucia highlights the work of the Organization of the Eastern Caribbean States (OECS) Protected Areas and Associated Livelihoods (OPAAL) project, which produced a review of St Lucia's system of protected areas, representative ecosystems of the country and an ecological gap analysis, with seven areas identified to be protected: marine reserves, fisheries management areas, forest reserves, wildlife reserves, environmental protection areas and other areas including fishing priority areas. Management plans of these areas are to be presented to the Cabinet of Ministers for their endorsement. St Lucia report that protected areas encompassed 14.7% of total land area in 2003 (IUCN), and have expanded by about 300 acres in the government forest reserve. The Piton Management Area is a World Heritage Site that obtained its status in 2004, and was inscribed in 2005. The Pointe Sable area in the south was designated an environmental protected area by the Cabinet of Ministers.

Europe and overseas territories

71. In 4th national reports, France indicate that national parks on its overseas territories (not including N. Caledonia and Polynesia) have increased from 294 km^2 to 35,501 km^2 between 2003 and 2008; natural reserves also increased from 3000 km^2 to 26000 km^2. Portugal reports that it has developed sectoral plans for Natura 2000 sites in Azores; also in the Azores, a marine park covering the archipelago was created in 2007, as were 8 OSPAR Convention protected areas, including hydrothermal vents and seamounts. Azores also reviewed its legal system of classification, management and administration of protected areas; they have a land use plan that is awaiting approval in the legislative assembly. Madeira has some 50,000 ha of protected areas, encompassing all terrestrial habitats, flora and fauna of biological importance; a network of locally managed MPAs was established in Porto Santo in 2008.

72. Also in 4th national reports, Greenland reports that the development of management plans for protected areas and local awareness are given very high priority. Spain reports that more than 30% of the land area of the Canary Islands is protected. Ireland reports that some 14% of its terrestrial area is currently protected; 19% of Cyprus, covering all major habitats and ecosystems, plus 14% of its coastline is protected in 6 MPAs, more of which are being planned; most protected areas have management plans. Malta reports that over 20% of its terrestrial area was protected as of 2006, a major increase since 2000; development and implementation of management plans is on-going. Its MPAs are still limited, but two have been approved, and further sites selected.

73. Ascension Island's voluntary contribution includes some information on the establishment of their first National Park, Green Mountain National Park in 2005. They also report on a pilot project for the management of future protected areas on Ascension Island. The Royal Society for the Protection of Birds (RSPB) reports that 13 additional areas proposed for protection in 2003 on Ascension Island, but

these have not yet been designated. These include seabird nesting sites, turtle nesting beaches, sites of special geological importance, marine nature reserves and national parks.

74. The Cayman Islands report little progress in protecting terrestrial environments in their voluntary contribution due to lack of legislation enabling the establishment of a system of protected areas on land. However, some expansion of land protection has been achieved through the National Trust Land Acquisition Programme, although some degradation of existing national protected areas has occurred due to weak legislation. Significant progress was reported in the protection of marine and coastal environments due to long established system of MPAs. The Cayman Islands report that nearly 40% of their coastal environment falls under some form of marine management zone. In their voluntary report, the Royal Society for the Protection of Birds (RSPB) reports that the Cayman Islands has 4.7% of land area of the three islands protected. The RSPB also report that under the Marine Conservation Law, the marine protected areas cover over 10% of Cayman's marine ecosystems.

75. In their voluntary report, Jersey cites progress in protected area policy and they have designated protected Sites of Special Interest. Jersey reports that it is developing ideas for a marine park with the French government. Furthermore a Coastal National Park has been proposed and four Ramar sites have been designated. Obstacles included lack of legislation for the protection of marine areas, although they state that this is in development; and there are currently not enough resources to map and define areas that require protecting.

76. The voluntary report submitted by the Royal Society for the Protection of Birds (RSPB) reports that for the British Virgin Islands (BVI), at least 33% of the near-shore environment and more than 13% of the Territory's landmass are under some degree of protection using the legal mechanisms contained within the National Parks Act, 2006, Fisheries Act, 1997 and the Physical Planning Act, 2004. BVI have been developing marine parks and protected areas since 1980. There are approximately 51 designated protected areas in the current system of protected areas, including 19 national parks (terrestrial), 1 marine park, 14 fisheries protected areas, 20 bird sanctuaries (5 of which are also national parks), one forestry reserve (Sage Mountain National Park), and 6 water areas. However, only five of these sites have management plans. The RSBP also report that in St Helena, 14 proposed Protected Areas are being proposed for protection. In Tristan da Cunha, approximately 44% of the islands' area is currently protected inside nature reserves.

77. In the voluntary contribution from France on its overseas territories, it is highlighted that several researchers from the l'Institut de recherche pour le développement (IRD) are studying MPAs in the pelagic zone in reefs or on coasts and estuaries to facilitate their implementation. The IRD is a partner of the French Agency on Marine Protected Areas.

78. The voluntary contribution from the Islands of Metropolitan France reports high biodiversity value and many tools in place for its protection. 10% of the area covered by the Natura 2000 network is islands. At the end of 2008, 76 new marine sites were integrated into the Natura 2000 network; 33 of these are next to or around islands and cover 27 000 km². Corsica and the islands of Brittany include 3 regional nature parks (less stringent rules than national parcs) covering Armorica (1700 ha of land), Corsica (375 000 ha of land or 43% of Corsica), and the regional nature park, "les Marais du Contentin et du Bessin". Only one national park exists in French islands, le Port-Cros National Park (700 hectares of land; 1288 hectares of sea), located in the Mediterranean and encompassing islands and islets. There is currently one marine park (3 550 km² of sea area, does not include islands), as well as the Iroise Sea National Park, created in 2007 (3 550 km² of marine area in Brittany). France also highlights the Strait of Bonifacio, which is a rich ecological site where an international marine park will be created. A declaration is in process following a request from the United Nations to prevent the passage of boats containing dangerous materials through the Strait. While the international park and the declaration are still in process, the Strait of Bonifacio is under protection as a nature reserve, and the IMO has designated it a "Zone Maritime particulièrement Vulnérable (ZMPV)". There are also 15 nature reserves that comprise islands in France. The « Conservatoire des Espaces Littoraux et de Rivages Lacustres » have bought 21000 hectares of land since 1975 on islands. France also wants to create at least 2 reserves in

mountain areas of Corsica, which are particularly vulnerable and threatened by tourism. A new "Parc national des Calanques" near Marseille has been under consideration by state since 2009, and may be created shortly. It encompasses 2 archipelagos and a marine area encompassing many islands. The total area considered by the state would be about 11 200 hectares of land and 48 000 hectares of sea. More marine parks have been proposed to be created in 2011 and 2012.

79. In their voluntary contribution, Italy report the highest species richness and highest density of both animal and plant species in the European Union. They report that more than 20% of the territory is covered by different types of protected areas established both under the national law on protected areas and under the Natura 2000 Network. In 2009, in Italy, there were 871 protected areas: 24 national parks, 27 marine nature reserves, 147 state nature reserves, 2 archaeological submerged museums, 1 international marine sanctuary for cetaceans' protection, 134 regional parks, 365 regional nature reserves, 171 other protected areas. The Natura 2000 network covered 2269 Sites of Community Importance and 600 Special Areas of Conservation.

Latin America

80. In 4th national reports, Chile has implemented a 5.3 million km^2 whale sanctuary for its entire coast, and highlights Easter Island, which is a World Heritage Site with much of the island protected within Rapa Nui National Park and the Sala y Gomez archipelago. In 4th national reports, Argentina outlines that the government agreed to create the marine park, Golfo de San Jorge, located on the on the coast of the Province of Chubut in 2006, that includes 250 kilometers of coastline, where 42 islands are inhabited by sea lions, penguins and cormorants, among other species.

81. Brazil indicated in 4th national reports that it has declared three islands as national parks (Abrolhos, Alcatrazes and Fernando de Noronha) but states that it currently only protects 3.14% of the coastal and marine zone in protected areas, most of which located on the coastal zone. Of the open sea zone (territorial sea and Exclusive Economic Zone), only 1.57% is currently under some kind of protection. Resolution 03/2000 of the National Biodiversity Commission (CONABIO) approved the following target: "to reach, by 2012, at least 10% of the marine and coastal areas under protection and include an additional 10% of these areas in strict protection protected areas and/or no-take zones".

82. In 4th national reports, it is indicated that Peru has declared 22 of its 77 islands as protected areas. In its voluntary contribution, Peru indicated that it has included a system of national Reserve of islands, islets and peninsulas of Puntas Guaneras in its system of protected areas, with a total area of 140,833.47 ha, including 12 islands and 2 islets. It also has other protected areas covering coastal areas and marinas along the Peruvian coast.

83. In 4th national reports, Ecuador indicates that in 2001, the Galapagos Marine Reserve was incorporated in the UNESCO World Heritage Sites, however increasing pressures from the development of tourism, human population growth, transport to the archipelago and the islands, and fishing have threatened the area. In 2007, UNESCO incorporated the Galapagos on the list of World Heritage List in Danger, but was removed in 2010. The Government is strengthening protection actions of the archipelago, aimed at achieving sustainable use and equitable livelihoods.

84. In their voluntary contribution, Mexico reports that currently 13% of the territory is conserved in protected areas: 9.5% are terrestrial and 3.5% are in marine areas. In relation to the Mexican Island Territories, there are 32 protected areas encompassing at least 2488 islands. With exception of the Pacific Islands of Baja California and Cozumel, all the islands of Mexico of high biodiversity value have a federal decree protecting them. Mexico has committed to a target where, by 2012, 100% of islands must have a draft version of a management programme; by 2015 they must be operational; and by 2020, these must be revised, in place and implemented.

85. In their voluntary contribution, Columbia report that 3 national parks in marine and coastal areas have been declared in the archipelago of San Andres, Providencia and Santa Catalina. The Seaflower marine protected area and the Seaflower Biosphere Reserve have also been declared.

Pacific Islands, including SIDS, Australia and New Zealand

86. 4th National reports indicate that terrestrial protected areas in the Pacific region range from 3 to 10% of terrestrial areas; Cook Islands indicated that this target is difficult for a nation with limited land area. No figures were provided for MPAs but it seems that more attention is being devoted to their creation than to terrestrial protected areas, and that they are taking innovative forms. Fiji and the Federated States of Micronesia (FSM) discussed their Locally Managed Marine Areas (over 200 in Fiji, and 16 in FSM), while Samoa mentioned their six new community-based marine reserves (2007-2008) and the expected growth of these projects. Tonga also noted the growth (by 33% since 2006) of Special Management Areas whereby the community manages fisheries, but their failure to meet their objectives due to lack of compliance by local fishers. Both Fiji (not a member of the Micronesia Challenge, but committing to similar goals) and FSM indicated their progress toward the targets of the Micronesia Challenge (30% of near-shore marine and 20% of terrestrial by 2020).

87. In their voluntary report, the Federated States of Micronesia highlights various initiatives related to Aichi Target 11 in their voluntary report: the Blueprint for Conserving the Biodiversity of the FSM; the Micronesia Challenge (www.micronesiachallenge.org); and the UNPD Supporting Country Action on CBD Programme of work on Protected Areas (www.protectedareas.org – FSM Project Outcomes). The major obstacle reported to effectively achieve the targets was a vast exclusive economic zone (EEZ). The Micronesia Challenge helped inspire leaders in the Caribbean, Indonesia and the Western Indian Ocean to work with their neighbors on similar visionary regional island initiatives ('Challenges') for conservation and sustainability. These Challenges have been conceived, launched or strengthened through the Global Island Partnership. GLISPA brings together all islands— small and large, developing and developed — to mobilize leadership, increase resources, share solutions and catalyze action on island priorities in a cost-effective and sustainable way. It provides a global platform that enables islands to work together to develop solutions to common problems and to take high-level commitments and actions that address these global challenges. Thus far, GLISPA has helped 30 countries to launch or strengthen major island commitments focus on island conservation and sustainable management of marine, coastal and/or terrestrial habitats and helped raise more than US $ 125 million in commitments for island actions. In their 4th National report, New Zealand indicate that 35% of the terrestrial area is legally protected, which represents an increase of 4.56% on public land. The network is not, however, fully representative of all ecosystems; its MPAs now cover just over 7% of New Zealand's territorial sea, a significant increase since 1997.

88. In 4th national reports, it is reported that 11% of the territorial area of Australia is protected. Regarding MPAs, major advances have been made since 2003. Some 240,000 km^2 have been added to the system, which now comprises some 10% of Australian waters. In their voluntary contribution, Australia outlines some of its relevant Biodiversity Conservation Strategy (ABCS) targets, outcomes and indicative actions. By 2015, they have committed to increase the native habitat managed by 600,000 km^2 across terrestrial, aquatic and marine environments; restore 1,000 km^2 of fragmented landscapes and aquatic systems to improve ecological connectivity; and establish four collaborative continental-scale linkages to improve ecological connectivity.

89. Australia also report (in their voluntary contribution) that 33.3% of the Great Barrier Marine Park is highly-protected 'no-take' zones, with a further 33% in habitat protection zones prohibiting trawling or other activities impacting the seabed. The Heard Island and McDonald Islands Marine Reserve was established in 2002 under the IUCN category 1a: strict nature reserve, protecting a terrestrial and marine area of approximately 65,000km^2. A representative network of Marine Protected Areas throughout Australia's marine environment is to be established by 2012 through the collaborative work of the Federal, State and Northern Territory governments. In 2010, Australia had 64 Ramsar listed wetlands

covering approximately 8.1 million hectares, which represents an area larger than Tasmania. Australia reports that it is implementing a coordinated, ecosystem based fisheries management (EBFM) approach across all its fisheries to ensure sustainable fisheries management.

90. In their voluntary contribution, Secretariat of the Pacific Regional Environment Programme (SPREP) highlights some important publications on protected areas for islands in the Pacific region:

- Govan, H. Et al. 2009 Status and potential of locally-managed marine areas in the South Pacific: meeting nature conservation and sustainable livelihood targets through wide spread implementation of LMMAs: SPREP/WWF/WorldFish-Reefbase/CRISP. 95pp+5 annexes
- SPREP (2011), Regional Wetlands Action Plan for the Pacific Islands 2011 – 2013, Apia, Samoa: http://www.sprep.org/att/publication/000909_Wetlands_ActionPlan_Pacific_2011-2013.pdf
- SPREP (2009), Action Strategy for Nature Conservation in the Pacific Islands region 2008 – 2012, Apia, Samoa: http://www.sprep.org/att/publication/000755_RoundtableActionStrategy.pdf
- UNESCO World Heritage Action Plan – Pacific 2009 Programme: http://whc.unesco.org/uploads/activities/documents/activity-5-1.pdf

V. CAPACITY-BUILDING

91. Capacity-building can build on and enhance knowledge, skills and resources at the institutional, individual and societal levels. Capacity-building is covered in the following targets:

92. Aichi Biodiversity 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".

93. Aichi Biodiversity 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".

94. Capacity-building is also related to 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".

95. Party responses to each of the above three targets is outlined below.

Aichi Biodiversity Target 19: Knowledge and Technology Sharing, Transfer and Application

Africa

96. Three Parties report the lack of capacity as a major obstacle to implementation. Only one Party, Mauritius, reports "extensive collaboration and transfer of technology between stakeholders within the country, and experts abroad".

Asia

97. Five of the responding Parties report that they are well on their way to achieving this target, but that more needs to be done. Singapore established its National Biodiversity Centre in 2006 to manage its biodiversity data. Maldives notes that it has limited information on biodiversity and that research started very recently.

Caribbean

98. While a few Parties note some progress in 4th national reports, all of the six Parties addressing this issue indicate that they lack the technical and institutional capacity necessary to meet this goal. Trinidad and Tobago calls for greater international support for training and technology transfer to local biodiversity managers, particularly in the use of remote sensing technologies for monitoring purposes.

99. In their voluntary reports, Antigua and Barbuda note that their Biodiversity Strategy and Action Plan addresses improving science and technology relating to biodiversity. Also in their voluntary report, St Lucia reports that capacity related to target 19 still needs to be further developed. However, some technology transfer was reported through training of personnel, resource monitoring and assessment methods, wildlife management technology, coastal habitat mapping, ecological gap analysis for protected areas, sustainable harvesting techniques, wildfire management techniques, disaster management/ hazard mapping, geo-engineering for watershed conservation and constructed wetlands for sewage treatment. A Biodiversity Resource Centre is to be developed at the Saint Augustine Campus of the University of the West Indies to meet the needs of the Caribbean islands.

Europe and overseas territories

100. In 4th national reports, Portugal reports a gap in scientific knowledge, but that there is a plan for the autonomous regions to address this gap through the development of a system for management of information on species and natural habitats. Greenland indicates that the lack of capacity, together with the lack of resources, is the major obstacle to implementation. Various national research institutions also contribute knowledge of Maltese biodiversity and participate in regional research projects.

101. In their voluntary reports, the Cayman Islands report some progress towards Target 19, mostly through biodiversity being increasingly included within the school curriculum; however there are currently no measurable targets / monitoring towards this progress. Also in their voluntary contribution, Guernsey reports that their progress is currently limited due to lack of resources and that they can only progress once a biodiversity strategy has been agreed. Jersey reports progress in terms of involvement. There is now a Scientific Steering Committee for their marine park, and a regional symposium was held with the French Agency on Marine Protected Areas. They also report that an Annual Channel Island Biodiversity Conference was held. They cite lack of funding as the major obstacle to implementing target 19. In the voluntary report submitted by France on its overseas territories , it is stated that the IRD has been active in its relations with the universities on islands in the Pacific Indian Ocean and the Caribbean.

Latin America

102. In their voluntary contribution, Peru report on their organization El IMARPE, which has been conducting research on the diversity of specific ecosystems and on some of its islands in the eastern and southern Pacific. In their voluntary contribution, Columbia reports progress in furthering knowledge of biodiversity in marine and coastal areas. Mexico reports that they have a program for the high-level training of human resources that work in the island territories of Mexico.

Pacific Islands, including SIDS, Australia and New Zealand

103. In 4th national reports, Parties almost unanimously indicated that they have inadequate scientific and technical capacity to implement the Strategic Plan. For example, Samoa indicated that many actions require technology that is not readily accessible or available, such as aerial photography to update GIS datasets, which constrains control and eradication of IAS using aerial spraying and large-scale baiting. Tonga indicated that technology is transferred through the involvement of NGOs and funded by international partners. New Zealand indicates their science system is government-funded, making biodiversity information a public good.

> "Limitations in capacity have been identified as one of the main issues in the Pacific region, further exacerbated by high staff turnover" – *Dr Jill Key, Secretariat of the Pacific Regional Environment Programme.*

104. In their fourth national reports, Australia reports that it has been collaborating globally to support research and further the transfer of technical knowledge. In their voluntary contribution, Australia reports on Target 8 of their ABCS, "By 2015, nationally agreed science and knowledge priorities for biodiversity conservation are guiding research activities". To implement this target, Australia indicates that the National Environmental Research Program (NERP) will provide environmental research to improve capacity. The Terrestrial Ecosystem Research Network (TERN) provides observation sites, standardised measurement methodologies, equipment and data, and information services for terrestrial ecosystem research and natural resource management in Australia. The Environmental Resources Information Network (ERIN) and the Interim Biogeographic Regionalisation of Australia (IBRA) currently provide a national data and reporting system. The Marine Bioregional Planning Program aims to improve marine management, including the interactions of people and industry. The State of the Forests report (SOFR) is produced every five years about the state of Australia's forests, mandated by the National Forest Policy Statement. SOFR provides comprehensive reporting on the conservation of biological diversity in Australia's forests. The National Weeds and Productivity Research Program R&D Plan (2010 -2015) aims to provide knowledge, resources and technology to successfully prevent, mitigate or adapt to weeds in agricultural systems, ecosystems and landscapes. The Australian Research Council administers the Australian Government's National Competitive Grants Program (NCGP), which includes projects relevant to island biodiversity collaboration between researchers, institutions, industry and end-users. The Atlas of Living Australia (ALA) project is building a biodiversity information platform to provide scientists and others with more comprehensive and accessible information on Australia's biodiversity, as well as developing new tools for research and analysis.

105. In voluntary reports, Samoa indicates that it is developing and strengthening the relationship amongst science communities and institutions to improve and better share biodiversity information. In their voluntary contribution, the Federated States of Micronesia (FSM) reports that they have a Blueprint for Conservation in the FSM (biodiversity spatial roadmap) published. They also conduct a Forestry Inventory Assessment every 5 years. The FSM Coral Ecosystem Monitoring Program is in place, which is linked to Reef Resilience Network and Secretariat of Pacific Community Coastal Marine Climate Change Programs. The FSM also report that a Forestry State-wide Assessment and Resource Strategies is now developed. Obstacles cited include a vast exclusive economic zone (EEZ) coverage; insufficient technical local personnel; high maintenance cost of technical equipment; and science-based knowledge incompatibility with local/cultural knowledge.

106. Also in voluntary reports, the Secretariat of the Pacific Community states that it conducts regional and national capacity-building workshops in its member countries, to address forest conservation and sustainable management. The Land and Resource Division, through its Forests and Trees Programme, is providing capacity building/training of local staff on restoration of its forest landscape in the rehabilitation of its phosphate mined areas. The Forests and Trees Programme, is also providing training and workshops to promote agroforestry.

107. In their voluntary reports, the Invasive Species Specialist Group (ISSG) report that their core business is information and knowledge exchange on invasive species, through networking and an active referral system, publication of a newsletter, operating an active list service of over 1070 members and development of an information portal on the ISSG website. The ISSG is working actively on developing the interoperability of the Global Invasive Species Database (GISD) and Island Biodiversity and Invasive Species (IBIS) databases with other global resources like the IUCN Red List of Threatened Species and Global Islands Database.

Aichi Biodiversity Target 20: Financial Capacity

Africa

108. In 4th national reports, four Parties identify the mobilization of financial resources as a major obstacle to implementation. One further notes the limited number of partners and financiers in the country, as well as the absence of a team trained in resource mobilization and negotiation.

Asia

109. Only Japan reports having achieved this target in 4th national reports. The Philippines indicates that the 1% of the national budget that is allocated to the environment is insufficient. Similarly, Vietnam notes that average annual funding for biodiversity conservation amounts to just 0.4% of the total national budget. Furthermore, Vietnam notes that the existing funding is not allocated where the need is most urgent (e.g., capacity-building, management, strategic development and awareness-raising). Sri Lanka reports that although it has committed considerable funds to biodiversity conservation (national budget, loans or grants), funds have been inadequate to implement the Convention.

Caribbean

110. Of the responding Parties to 4th national reports, only Antigua and Barbuda reports a significant increase in the national biodiversity budget, which has increased over tenfold from 2001 to 2010. In their voluntary reports, Antigua and Barbuda report that their Environment Division will lead the development of projects aimed at finding funds to implement the Biodiversity Strategy and Action Plan. In 4th national reports, Grenada indicates that very limited resources from the national budget have been earmarked for the environment. Generally, Parties note that financial support has been received from UN agencies, international donors and from national budgets.

111. In their voluntary report, St Lucia indicates that their government has committed funds to a biodiversity coordinator and secretary. A project called Managing Biological Resources was paid for completely by local funds. Funds from GEF, USAID, CIDA, OAS and the EU have also assisted in the development of biodiversity activities and management practices on the island. However, they note a lack of sustained funding and lack of integration of biodiversity programs into their Ministry of Agriculture, Lands, Forestry and Fisheries.

112. Eight countries, the Bahamas, Dominican Republic, Jamaica, Saint Vincent and the Grenadines, Saint Lucia, Grenada, Antigua and Barbuda as well as Saint Kitts and Nevis, are participating in the Caribbean Challenge Initiative to protect at least 20% of the near-shore marine and coastal habitats by 2020. A key component of the Caribbean Challenge Initiative is the Caribbean Biodiversity Fund (CBF) that will provide sustainable financing for their national protected areas. There is an emerging focus on applying debt for adaptation swaps as an innovative mechanism that could be used to attract significant funding to the CBF. The sustainable financing mechanisms are being coordinated through the Global Island Partnership.

Europe and overseas territories

113. In 4th national reports, Greenland, France and St. Helena report that limited resources have impeded progress.

114. In their voluntary report, the Cayman Islands report no progress in achieving this target. The Cayman Islands report that its established Environmental Protection Fund (contains CI$34 million), which is funded by a departure tax on all visitors and residents leaving the islands, is currently mostly unavailable for spending on environmental protection because it is used by CI Government to balance the budget.

"Access to funding sources for the protection of European islands and Overseas Entities should be strengthened. The first proposals under the EU's is a first step in this direction but we should go further" – *H.E. MEP Maurice Ponga, ex-Minister of Environment of New Caledonia, France.*

115. In their voluntary report, Guernsey indicates a lack of resources. Obstacles include continued restraint on government expenditure in response to a structural deficit, which is projected to continue until at least 2014 depending on rate of economic growth. Jersey reports some progress, though obstacles include a comprehensive Spending Review reducing funding in this time of national austerity.

116. In their voluntary contribution, the Royal Society for the Protection of Birds (RSPB) indicate that in 2009-2010, only 0.1% of the biodiversity conservation spending of the UK Department for the Environment, Food & Rural Affairs (Defra) went to the UK overseas territories, despite over 75% of the globally threatened species being found on these small islands, and for which the UK is responsible. The RSPB state that the UK overseas territories are in a very difficult funding position, as they are ineligible for international environmental funds such as the Global Environment Facility (GEF), but at the same time they are ineligible for UK funds such as Lottery funding due to their location. LIFE+ is the EU's main funding instrument for biodiversity, but the overseas territories are also unable to access these funds due to their political status. The UK Government provides funding through the Overseas Territories Environment Programme (OTEP) and Darwin Initiative; however the number of applications for OTEP has increased, indicating demand. The RSPB stress that more funding is urgently needed from the UK Government. The RSPB reports that it is working on means to access UK and EU funding sources for their overseas territories. The RSPB also indicate that St Helena, Ascension and Tristan da Cunha have very small communities which do not have the financial or technical capacity to conserve all their threatened biodiversity.

Latin America

117. In 4th National reports, Ecuador reports that special financing systems are in place for the islands, including trust funds, promotion of voluntary contributions, involvement of the tourism sector, and many others.

118. In Peru's voluntary submission, they indicate that they are investing in biodiversity on Peruvian islands, and this is expected to further increase. In voluntary reports, Columbia indicates that they are developing a financial strategy for the Seaflower marina protected area. Mexico reports on the improvement of information exchange on the island territories of Mexico through the formation of a knowledge network, and its funding proposal to Consejo Nacional de Ciencia y Tecnología (CONACYT). By 2020, this network should be consolidated and include citizen participation.

Pacific Islands, including SIDS, Australia and New Zealand

119. In 4th national reports, all responding Pacific SIDS report that Government funding is limited and that donor funding is essential to meeting this target; none report that they have sufficient funds. Additionally, the Federated States of Micronesia (FSM) identified the Micronesian Conservation Trust (MCT) as its financing mechanism, serving a number of island nations (financed by public-private partnerships); MCT provided nearly $3 million for conservation from 2007 to 2009. The FSM indicate in their voluntary report that their Micronesia Challenge Sustainable Finance Plan developed a draft FSM Protected Areas Network Sustainable Finance Plan. Obstacles include global economy drivers and the lack of support of green economy schemes by decision-makers. The MCT was selected by the participating countries of the Micronesia Challenge as the manager of the regional endowment fund established to

> "The Programme of work on island biodiversity needs to create an 'enabling environment' that will allow SIDS countries to access funding supports from GEF, to implement projects on the ground". – *Ms Nenenteiti Teariki-Ruatu, Ministry of Environment, Lands and Agriculture Development Kiribati.*

provide sustainable financing for biodiversity conservation into perpetuity. The Micronesia Challenge is a commitment by five governments, the Republic of Palau, the Federated States of Micronesia, the Republic of the Marshall Islands, the US Territory of Guam and US Commonwealth of the Northern Mariana Islands, to effectively conserve at least 30% of the near-shore marine resources and 20% of the terrestrial resources across Micronesia by 2020.

120. In their voluntary report, Samoa report that there is no long term financial plan for the implementation of the NBSAP and there are no concrete actions taken to date to establish a programme for increasing financial assistance for conservation work through foundations and other aid donors.

121. In their voluntary submission, Australia states that it is investing in biodiversity activities through the Global Environment Facility (GEF). To date, the GEF has targeted approximately one-third of all funds to biodiversity objectives. In 2010, the GEF agreed a record resource envelope of $US4.34 billion for work in the 2010-2014 period (fifth replenishment), constituting a 54% increase on funds committed under the previous replenishment. Australia's contribution to the fifth replenishment is AU$105 million. This brings Australia's total contribution to the GEF to $335 million since its inception in 1991.

Aichi Biodiversity Target 1: Awareness-Raising Activities

Africa

122. Two of the five reporting Parties indicate that some awareness-raising activities had been undertaken or developed. A third Party indicates the topic of the environment has been introduced in schools. Another indicates that the public has a low level of awareness and that public education regarding biodiversity is not developed enough, while another indicates that the lack of such a programme is a major obstacle and a priority, especially for fishers.

Asia

123. All reporting Parties indicate that this is a priority area for the future, especially in terms of their NBSAP objectives. Indonesia and Vietnam seem to have been the most active thus far, having reported on the implementation of several public awareness and education programmes. Singapore reports that biodiversity is incorporated in the school curriculum at all levels, while Maldives reports that biodiversity is taught in all primary schools. Sri Lanka reports that there is growing awareness of the importance of biodiversity, while Japan indicates that the level of public understanding is insufficient.

Caribbean

124. Seven of the reporting Parties (out of eight) indicate that they have devoted significant attention to increasing public awareness, some identifying this area as a priority. They note ongoing or planned activities in the formal school curriculum, as well as informal public activities. The Dominican Republic considers this area one of its biggest successes, while St. Vincent and the Grenadines indicates that efforts and awareness are still very limited. Several indicate that additional efforts are needed, and few assess the success of their efforts. An interesting exception is Antigua and Barbuda's report, which notes an increase in public knowledge about biodiversity over the past decade. They indicate that actions that were acceptable ten years ago, e.g., filling in mangroves and freshwater ponds, sand mining and hunting of endangered species, would be met with outrage today. In their voluntary contribution, Antigua and Barbuda report that they have an ongoing Public Awareness Campaign that highlight the importance of conserving biodiversity, as well as their Biodiversity Strategy and Action Plan will that also addresses this target. They also have an Environment Cadet program instituted in primary and secondary schools, focusing on biodiversity conservation.

> "Capacity building is also needed in the local communities and among grassroots organizations because community education and public awareness is essential for providing clear linkages with poverty eradication and enhanced livelihoods" – *Dr. Spencer Thomas, Grenada, ex-chair of CBD SBSTTA.*

125. In their voluntary contribution, St Lucia has indicated that it is extremely active in terms of public awareness and that a national environmental education policy and strategy that includes biodiversity has been drafted. They report that a national My island/My Community Coalition comprising various stakeholders has been formed and focuses on biodiversity and climate change. This initiative has been actively producing activities, notably with the NGO Media Impact (see below) with financial support from the GEF Small Grants Program. The CBD hosted a regional training workshop on biodiversity education, communication and public awareness in 2008 that was attended by media personnel and Clearing House mechanism representatives from Saint Lucia and the rest of the region. Amongst many other activities cited, a Youth Environment Forum focusing on Biodiversity was held by the Saint Lucia National Trust for students in 2010. Annual summer workshops have been held for teachers on various biodiversity issues and funded by the OECS and UNESCO. However more sustained funding is needed to continue this teacher training. Several Surveys (2003, 2008, 2010), have shown that Saint Lucians have some understanding of biodiversity and its importance.

Latin America

126. In their voluntary report, Peru states that the general population and especially the population on the coast (the majority) is aware of the presence and the value of the islands in the Peruvian sea. In their voluntary contribution, Columbia report that they are increasing environmental education in all levels in the archipelago of San Andres, Providencia and Santa Catalina, in regards to ecosystems and key species in the Seaflower biosphere reserve. Also in their voluntary reports, Mexico reports that they are planning a complete inventory of the priority island territories of Mexico by 2020. They also report that they are planning a communication strategy on the importance of islands that will encompass all levels of society by 2020, and are hoping to receive 25 million pesos in support per year from the private sector.

Europe and overseas territories

127. In 4th national reports, Portugal indicates that environmental education measures are reaching the target audience in its Autonomous Regions, contrary to the situation on the mainland. Greenland indicates that its Institute of Natural Resources conducts outreach through the media; there is also a nature interpretation programme in six towns to communicate the relationship between humans, nature and sustainability, geared mostly for children. Bermuda indicates that awareness is rising due to media exposure, online resources and public activities. In 4th national reports, Ireland, Cyprus and Malta report that they are conducting awareness-raising campaigns; Ireland reports that public awareness is low and lags behind that in most EU countries, despite a major awareness programme. Malta has conducted an environmental education programme that involved 25% of primary schools.

128. In their voluntary contribution, Ascension Island states that their government's conservation department actively seeks to make the public more aware of their terrestrial and marine flora and fauna. The Conservation department runs an Explorers Club for the school children every summer to learn about Ascension's endemic and native species, and sites of scientific and geological interest, and how they can help in school or as individuals. The Conservation Centre gives tours, sells books about Ascension's natural environment, and provides free leaflets and information on Ascension's history. A successful volunteer programme is also in place where volunteers help with a range of activities such as invasive species control to seabird monitoring and endemic plant propagation.

129. In voluntary reports, the Cayman Islands report that there are currently no measures to gain an indication of progress, although the Cayman Islands Department of Environment continues to promote the values of biodiversity through active public outreach campaigns, through television, newsletters and websites. They indicate that school curriculum items have been developed and are actively implemented. Main obstacles include lack of staff resources.

130. In their voluntary report, the Royal Society for the Protection of Birds (RSPB) state that knowledge of biodiversity of the UK overseas territories is extremely limited in the UK mainland population. Coverage in the media is minimal, and there is limited awareness of the importance of biodiversity for the livelihoods of the local overseas territories communities. The RSPB continues work to engage its 1 million members on the biodiversity of the overseas territories. The RSPB state that no other major environmental UK NGOs are currently working in the overseas territories. Within the overseas island territories, general awareness of biodiversity is variable. For example, in Montserrat and Tristan da Cunha, the understanding of biodiversity and natural resource management appears to be high, but is noticeably lower in other Territories, such as the British Virgin Islands (BVI) and the Cayman Islands, especially for issues such as the impact of invasive alien species. However, there is a stronger understanding of protected areas and national parks. The lack of understanding of biodiversity issues is delaying environmental legislation in the Cayman Islands due to public concerns that it will be a constraint on development.

131. In their voluntary report, Guernsey report that a Biological Records Centre has been set up together with an interpretation center for the Island's designated Ramsar site. Biodiversity forms an integral part of the Guernsey school curriculum. The local natural history society uses various media on a regular basis to promote initiatives and actions relating to biodiversity and conservation. No assessments of general public awareness have been done. There is also no staff directly employed by the government

dedicated solely to biodiversity and conservation. Jersey reports progress in the form of the department of the Environment (DoE) Eco-Active environmental education campaign and Sustainable Schools Framework. The Ecology Fund has agreed to financially support initiatives associated with the Eco-Active Sustainable Schools Framework. Obstacles reported include that the teachers report not finding sufficient time to devote to Eco-Active. There was also the closure of marine interpretation center and the Kempt Tower terrestrial nature interpretation canter, and there is no interpretation center for Ramsar areas due to funding constraints.

Pacific Islands, including SIDS, Australia and New Zealand

132. Respondents to the 4th national reports acknowledge a great need for increasing public awareness, with several noting that it is one of the goals of their NBSAP, and most seem to have made some, mostly ad hoc, efforts in this regard, including introducing programmes in primary schools, and through popular media; several mention teacher-training courses; only Fiji, however, reports that this goal has been achieved.

133. In 4th national reports, New Zealand reports a significant increase in public awareness, while Australia notes that public awareness is low and that it has prioritized young children as a target audience in its revised NBSAP. In their voluntary contribution, Australia reports on its Biodiversity Conservation Strategy (ABCS) Target 1: "By 2015, achieve a 25% increase in the numbers of Australians and public and private organisations who participate in biodiversity conservation activities". To implement this, the Australian Bureau of Statistics (ABS) will include questions on participation in biodiversity conservation activities in the next Multipurpose Household Survey (2011-12) to measure progress. Australian support to the Ramsar Convention's Program on Communication, Education, Participation and Awareness (CEPA) has included the development of online databases containing detailed information on Australia's Ramsar estate and nationally important wetlands, as well as publications such as the Wetlands Australia magazine and a schools kit on Discovering Wetlands in Australia. The Species Profile and Threat (SPRAT) database provides key biological, ecological and threat information on nationally listed species and ecological communities. The Australian Sustainable Schools initiative (AuSSI), coordinated by the Australian Government, also helps increase the understanding of biodiversity in schools (30% of all schools are involved with AuSSI). The new Australian Curriculum also supports biodiversity issues being covered in school curricula.

> "More concrete targets for building awareness, formal education and human resource needs are required to underpin biodiversity conservation efforts on islands, with increased emphasis on education and awareness on sustainable use" – *Dr Randolph Thaman, University of the South Pacific*

134. In their voluntary contribution, the Federated States of Micronesia report that they have biodiversity-related education and awareness programs/activities at sub-national levels being taken on by National Implementing Support Partnership on Protected Areas signatories, as well as annual biodiversity-related events taking place at subnational levels. In their voluntary submission, Samoa outlines that it commemorates national awareness days such as the International day for Biodiversity and that environmental issues have been incorporated into the national school curriculum at primary, secondary and tertiary levels.

135. The Proceedings of the Helping Islands Adapt Workshop (voluntary contribution) outlines some of the relevant work of the Pacific Invasives Learning Network (PILN), which is a peer learning network for Pacific invasive species workers and agencies, acting as a main link between). The Pacific Invasives Partnership (PIP) and the Pacific Islands Countries and Territories. PILN works with multi-sector and multi-agency teams at the national level to share experiences, skills and resources among the 14 countries and states involved. It has been particularly effective because it enables multi-sectoral action at a range of levels, helps identify priorities, and it is said to be simple and very cost-effective.

136. The NGO, PCI MEDIA IMPACT also submitted a voluntary contribution. In 2010, Media Impact, the Organization of Eastern Caribbean States and 13 partner organizations initiated My Island – My Community (also see above in St Lucia's voluntary contribution), a partnership focusing on adaptation to climate change and biodiversity conservation, amongst other issues. In 2011, the My Island – My Community radio drama entitled Callaloo was broadcast in 15 Caribbean countries, each of which have national coalitions, which will develop My Community action campaigns to complement the radio drama through multi-tiered public awareness, capacity development and community engagement activities. The initiative cites multiple key target audiences – decision makers, opinion leaders, faith-based groups, youth, women, government, as well as members of the public at large.

VI. ACCESS TO, AND FAIR AND EQUITABLE SHARING OF THE BENEFITS ARISING OUT OF THE UTILIZATION OF GENETIC RESOURCES

137. The Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization to the Convention on Biological Diversity is an international agreement which aims at sharing the benefits arising from the utilization of genetic resources in a fair and equitable way, including by appropriate access to genetic resources and by appropriate transfer of relevant technologies, taking into account all rights over those resources and to technologies, and by appropriate funding, thereby contributing to the conservation of biological diversity and the sustainable use of its components. It was adopted by the Conference of the Parties to the Convention on Biological Diversity at its tenth meeting on 29 October 2010 in Nagoya, Japan.

138. The fair and equitable sharing of the benefits arising out of the utilization of genetic resources is one of the three objectives of the Convention on Biological Diversity. It is addressed in Aichi Biodiversity 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".

Africa

139. Three out of five responding Parties indicate having made some progress toward establishing a national strategy for access and benefit-sharing.

Asia

140. Three out of seven responding Parties note some progress toward the establishment of a national strategy for access and benefit-sharing, though one of them notes that existing laws are not always well enforced.

Caribbean

141. Four of the reporting Parties (to 4th national reports) indicate having made some progress toward establishing a national regime on access and benefit-sharing.

142. In their voluntary contribution, Antigua and Barbuda report that a draft national legislation developed and being reviewed for implementation by December 2011. In St Lucia, the ABS clause is included in the draft biodiversity conservation and sustainable use bill, but it still needs to be adjusted to take into consideration specifics of Nagoya Protocol. Technical and financial assistance is required in this regard. Saint Lucia represents the Caribbean bureau of Intergovernmental Committee for Nagoya Protocol since June 2011. St Lucia reports that the country and region are to be mobilised to understand the significance of ABS for national socio-economic development, and that help is to be obtained from Japan fund in this regard.

Europe and overseas territories

143. In 4th national reports, only Greenland indicates that they have achieved target 16 (without mentioning the protocol itself). Ireland uses the system of access and benefit-sharing established by the International Treaty in Plant Genetic Resources for Food and Agriculture. Malta notes that there are provisions in domestic law, but that capacity-building is needed.

144. In their voluntary contribution, the Cayman Islands report no progress, and cite the lack of legislation as the greatest obstacle to equitable sharing of resources. Also in their voluntary contribution, Guernsey indicates that the Nagoya protocol is not extended to Guernsey. However, the genetic resources of the Guernsey cow breed are available for sharing.

145. France note, in voluntary contribution on their overseas territories, that the Office of Research Development of the IRD has developed numerous patents and promoted the creation of several local businesses for sustainable use of island biodiversity in New Caledonia and Indonesia.

Latin America

146. In their voluntary contribution, Peru states that there are currently no studies on the potential of genetic resources of the Peruvian islands or in the surrounding sea. Columbia reports that they signed the ABS protocol in early 2011 but are waiting for ratification by the senate to enable its implementation.

Pacific Islands, including SIDS, Australia and New Zealand

147. Of the 10 responding parties to 4th national reports, four Parties have either drafted some legislation in this regard or have taken measures to ensure benefit-sharing; the other responding Parties in the Pacific have not yet taken action in this regard. Also in 4th national reports, Australia has a legislative framework in place to ensure benefit-sharing, while New Zealand is developing a bioprospecting policy. In their voluntary contribution, Australia ensures it is compliant with international obligations and that consultations are being held with key stakeholders.

148. The Federated States of Micronesia report in their voluntary contribution that an ABS consultation has been initiated and development plans are being conceptualized to compliment similar national mechanisms/programs. Obstacles include problems enforcing and operationalizing the ABS framework within the subnational legislative frameworks.

149. In their voluntary contribution, Samoa report that they have a draft legislation regarding bio-prospecting, as well as a draft national biosafety framework that provides guidelines regarding the handling of requests for the importation of living modified organisms. They report that there is no concrete action taken to date on reviewing the need for a National Bioprospecting Coordinating Body. Samoa also note that a comprehensive study was completed (2003KVA report) proposing specific mechanisms for regulating access to traditional knowledge and genetic resources. Samoa also report that no concrete actions taken to date to restore Samoa's endemic Samoa's biological and genetic resources held in ex-situ collections outside of Samoa, and to develop agreements for the restoration and repatriation of ownership rights.

150. The Secretariat of the Pacific Community (SPC), reports that a consultancy on traditional knowledge was conducted and a report is available, which includes recommendations for best practices for collecting indigenous knowledge connected with agricultural crops. The SPC also has a plant gene bank and a regional forest tree seed center. A Material Transfer Agreement will be adopted to safeguard the intellectual property rights and ensure fair ABS and to facilitate the exchange of tree germoplasm in the region.

151. The SPREP's voluntary report indicates several publications on ABS:

- FAO: Access issues in forest genetic resources: experience in sharing and exchange of germplasm in Australia and the South Pacific http://www.fao.org/DOCREP/005/AC648E/ac648e0l.htm
- Regional approaches to implementing the CBD: case study of Access to genetic resources http://www.field.org.uk/files/access.pdf

VII. POVERTY ALLEVIATION AND MAINSTEAMING OF BIODIVERSITY INTO NATIONAL STRATEGIES AND PLANNING PROCESSES

152. Biodiversity is crucial to the reduction of poverty, due to the basic goods and ecosystem services it provides. This includes the provision of food, fiber and medicine, soil formation, air quality and climate regulation, the regulation of water supply and quality and the cultural and aesthetic value of certain plants and species. Biodiversity is also integral to key development sectors such as agriculture and livestock, forestry, and fishing or tourism. More than 1.3 billion people depend on biodiversity and on basic ecosystems goods and services for their livelihoods (availability of usable land, water, plant and animal species); and more than 3 billion people depend on marine and coastal biodiversity.

153. These issues are covered in Aichi Biodiversity 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." and 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".

154. As national and voluntary reports did not contain many specific references to poverty alleviation, this section will cover Party responses to target 2 and 14, one of the aspects being poverty alleviation.

Aichi Biodiversity Target 2: Incorporating Biodiversity Values into National and Local Development and Poverty Reduction Strategies

Africa

155. All five responding Parties acknowledge the need for mainstreaming and identify it as a goal they are working towards. Comoros, for instance, indicates that the lack of sectoral mainstreaming is a significant obstacle to implementation of the objectives of the Convention. However, Comoros reports having made significant efforts in this regard, including by creating land-use plans for several sectors, and requiring Environmental Impact Assessments (EIA) for new agricultural projects. Madagascar has created an environmental cell in all ministries, as well as an "Environmental Units Platform" to serve as an interface between environmental authorities, other sectoral ministries and other stakeholders. Madagascar's report notes the existence of several intersectoral programmes and policies. Mauritius indicates having integrated conservation and sustainable use in most development plans and strategies prepared in recent decades, and applying EIA. Cape Verde has a goal to create a national land use plan, and its Environmental Action Plan aims to achieve this target.

Asia

156. Reporting Parties indicate that they aim to achieve this goal, but several note that they lack effective mechanisms to do so. Sri Lanka and Vietnam emphasize that biodiversity concerns are afforded the most attention in the forestry, wildlife, wetlands, marine and coastal ecosystems, and agriculture and fisheries sectors. Sri Lanka reports that mainstreaming has been less successful in the development (e.g., infrastructure) and service sectors. Indonesia similarly reports that mainstreaming is advancing, primarily in sectors of most direct relevance; Japan, too, notes that biodiversity has been brought into the mainstream in relevant fields. Vietnam also notes that biodiversity has been integrated in plans, programmes and policies for socio-economic development. Philippines notes several mainstreaming initiatives in the area of integrated watershed and coastal management. Several note that EIA and Strategic Environmental Assessments (SEA) are required by law.

Caribbean

157. Five of the eight respondents to 4th national reports indicate some progress on this target. Antigua and Barbuda in particular reports this as a "major thrust of the work of the Government" that has yielded considerable success over the past decade. They also report that EIA is increasingly common, though not yet backed by legislation; they are one of three that indicate that EIA is being used. Three Parties indicate that they are working toward the development or improvement of national land use planning, identified as a priority for achieving this target.

158. In their voluntary contribution, Antigua and Barbuda outline that their draft National Physical Development Plan (NPDP) is to consider the value of biodiversity in relation to development. Biodiversity considerations have been also included in National Poverty Reduction Strategy (NPRS). The importance of biodiversity is also included in the drafting of the Protected Areas Systems Plan (PASP) and considered in the draft Environmental Protection and Management Bill (EPMB). Antigua and Barbuda also note that their Biodiversity Strategy and Action Plan will also address this.

> "Demonstrating the economic value of conservation in raw numbers and ensuring transparency will need to be an integral part of implementing sustainable development policy. Particularly in locations with weak environmental legislation and/or enforcement, we must show that conservation has financial benefits" – *Mrs. Natalia Collier, Environmental Protection in the Caribbean (EPIC)*

159. In their voluntary report, St Lucia reports that the National Environmental Commission (NEC) was officially launched in 2008, and is to perform an integral role in facilitating inter-agency collaboration and coordination. The Second National Environment and Development Forum was held in 2011, courtesy of the NEC, where the "green economy" was the main focus. Government departments now increasingly seek integration of biodiversity issues into many strategies and plans. Examples, among many provided in the voluntary submission include the Millennium Development Goals for the country, the Systems Plan of Protected Areas by the OPAAL Project, the Coastal Zone Management Strategy and Action Plan and the National Environmental Management . St Lucia also indicates that it is hoped that with the new GEF project on sustainable financing for protected will allow a transition into green national accounting for the Ministry of Finance.

160. St Lucia highlights that biodiversity has been included in poverty reduction strategies, tourism and "physical planning processes" especially with regard to legislation concerning EIA. St Lucia cites environmental management practiced by the private sector and some entities in the agricultural sector through Green Globe Certification, Fair Trade, GAP and LEAF and ISO 14000. Saint Lucia is also Party to the Sustainable Tourism Protocol under the Association of Caribbean States (ACS).

Europe and overseas territories

161. In their 4th national report, France indicates that its sectoral action plans for each of its overseas entities are key elements of the aim to integrate biodiversity into public policy (mainstreaming). Portugal indicates that it is mainstreaming nature conservation into various sectoral policies, in regards to its Autonomous regions of Madeira and Azores, including for water, agriculture and forests. In 4th national reports, Greenland indicates that it is not addressing this goal beyond the use of EIA, which is carried out for extractive activities and major infrastructure projects. St. Helena indicates that its Land Development Control Plan (2006) sets out land use planning policies and ensures that biodiversity is considered when evaluating planning applications for development. EIAs are now legally mandatory for development proposals. Cyprus, Ireland and Malta all note progress toward this target, and all three use EIAs and SEAs. All identify this as a priority for the future.

162. In its voluntary contribution, Ascension Island reports that it is currently working in collaboration with RSPB, Royal Botanic Gardens, Kew, University of Exeter, the Centre for Ecology and Hydrology (Edinburgh) and the Natural History Museum to develop a funding proposal for the Island's first Biodiversity Action Plan, as a comprehensive biodiversity strategy is lacking. In their voluntary reports, the Cayman Islands report no progress to date and no existing measures to incorporate

biodiversity values across government and society. Main obstacles cited include a lack of political will and lack of established policy and or legal requirements and processes. The RSPB reports that the Cayman Islands have a Biodiversity Action Plan (published in 2009), which is a result of a project funded by the UK Government's Darwin Initiative. The Sustainable Development Unit within the Department of Environment is currently developing a framework for a National Sustainable Development Strategy (NSDS) but it has not yet been approved by government, but it is it is expected that the NSDS will be developed within the context of the existing Development Plan.

163. In their voluntary contribution, Guernsey indicates that it has a Strategic Environment Plan since September 2010, which forms one of the core components of their Strategic Plan 2010-2015, together with the Fiscal and Economic Plan and Social Policy Plan. Progress is limited by staff resources for the preparation of the island biodiversity strategy and action plans. Jersey reports progress on this target through the newly adopted Jersey Island Plan containing policies that protect biodiversity through spatial designations such as 'green zone' and 'national park'. The States of Jersey Strategic Plan (2009-2014) aims to 'protect the countryside and our environment' as one of its five key aims. Their Integrated Coastal Zone Management Plan (2008) includes the development of a Marine Biodiversity Action Plan and their Ramsar Management Plans are now published. The main obstacle cited is a fiscal policy that supports economic and population growth, rather than a focus on sustainability and biodiversity conservation.

164. In their voluntary contribution, the RSPB highlights that the CBD has been extended to cover the British Virgin Islands, Cayman Islands and St Helena, Ascension Island and Tristan da Cunha. However, there is almost no attention paid to the biodiversity of the overseas territories in the UK Biodiversity Action Plan (BAP), launched in December 2009. It nominates the UK Department for the Environment, Food & Rural Affairs (Defra) as the lead on overseas territories biodiversity; however this department still does not have any full-time staff working on overseas territories issues. RSPB also notes that the British Virgin Islands do not have a National Biodiversity Action Plan, however, a National Environmental Action Plan (NEAP) was developed in 2004, and provides the legal and institutional framework and challenges for improved environmental management which impact on biodiversity. The RSPB also notes that St Helena does not have a Biodiversity Action Plan and that biodiversity conservation and management activities have been guided by the country's 2005 Environment Charter Strategy for Action. Ascension Island is currently developing a proposal for a Biodiversity Action Plan with support from the RSPB, Royal Botanic Gardens, Kew, Exeter University, and the Centre for Ecology and Hydrology (UK). If funding is obtained, development of the plan will begin in 2011.

165. In France's voluntary report on their overseas territories, it is reported that IRD programs take into account and provide incentives to take into account the value biodiversity. In Martinique, the inventory of geological heritage by the "Bureau de recherches géologiques et minières (BRGM)" is supporting local biodiversity progress.

166. Italy's voluntary contribution outlines their National Strategy for Biodiversity as a basic tool for integrating the key issues of biodiversity into national policies and on conservation of island biodiversity and promoting sustainable development. The National Strategy does have a specific section dedicated to island biodiversity, but sets priority targets to protect and promote sustainable use of marine and costal habitats, in the framework of national and international commitments and legislation, in particular by applying the principles of Integrated Coastal Zone Management. The Ministry of Agriculture and Forestry Politics (MIPAF) has elaborated the National Plan on Agricultural Biodiversity (PNBA). A Permanent Committee for genetic resources has been established and is coordinated by the Ministry of Agriculture and Forestry Politics.

Latin America

167. In their 4th National Report, Ecuador highlights that the Regional Plan for the Galapagos Islands was adopted in 2002. The Regional Plan directives served as basis for further development of the strategic plans of the three counties in the province (San Cristobal, Santa Cruz and Isabela) and provided

guidance towards the Management Plan of the Galapagos National Park (2004). The 2010 Galapagos Strategy sets specific targets for environmental, social and economic areas, which are feasible as long as a large social agreement between the different stakeholders can be established on the future of the insular region.

168. In their voluntary report, Peru indicates that the islands of the Peruvian sea have been part of their national development through the extraction of guano, which accumulates in the islands by the presence of birds that inhabit them. Peru is also promoting the development of tourism activities in some of the islands of Peru. Columbia indicates in their voluntary submission that they have had a National Policy on Biodiversity since 1996, and that the Autonomous Regional Corporation manages the environmental aspects at the regional level. The archipelago of San Andres, Providencia and Santa Catalina developed their biodiversity conservation plan in 2010.

169. Mexico reports that a legal framework that guarantees sovereignty, conservation and sustainable development of the island territories of Mexico; a proposal on the General Law of the Sea, Coastal Areas and Island Territories should be drafted by 2015 and it should be implemented by 2020. They also plan on harmonizing public policies related to sovereignty, conservation and sustainable development of the island territories of Mexico, as well as strengthening the institutional framework and mainstreaming policies, government actions. An inventory of the capacity of each institution governing the island territories of Mexico is also planned (2015-2020).

Pacific Islands, including SIDS, Australia and New Zealand

170. Two out of 10 respondents to 4th national reports indicate that this target has been achieved, largely due to the existence or development of mandatory EIA legislation; two indicate that it has not been achieved; the remaining Pacific SIDS report that mainstreaming is hampered by the lack of formal sector strategies and strategies on sustainable land management, but that the need is being addressed.

171. Australia notes in its 4th national report that their revised NBSAP identifies this as a priority area, while New Zealand notes that biodiversity is mainstreamed under agriculture and fisheries sectors. In their voluntary contribution, Australia cites their Biodiversity Conservation Strategy (ABCS) Target 1: "By 2015, achieve a 25% increase in the numbers of Australians and public and private organisations who participate in biodiversity conservation activities". They also note that the Australian Government is undertaking strategic environmental assessments with all States and Territories (except the Northern Territory), through avoidance, mitigation and offset measures. The Marine Bioregional Planning Program aims to improve the way Australia's oceans are managed and ensure they remain healthy and focuses on the holistic management marine ecosystems, including the interactions of people and industry.

172. In their voluntary contribution, the Federated States of Micronesia (FSM) highlight that biodiversity considerations have been incorporated into the National Strategic Development Plan (2003-2024), relevant sector policies (e.g. Food Security Policy Draft), and integrated into natural resource management and monitoring programs (e.g. Forest & Coral Ecosystem Monitoring Programs) and poverty reduction strategies (e.g. mariculture). However the FSM indicate that incorporating biodiversity into national accounting is still in the conceptual phase.

> "It is important to translate the programme of work on island biodiversity activities into concrete and tangible outputs on the ground, supported by policy interventions that aim at mainstreaming biodiversity conservation into national development and sectoral planning processes" – *Ms Easter Galuvao, Secretariat for the Pacific Environment Regional Programme, SPREP*

173. Samoa reports in their voluntary contribution that the biodiversity values have been considered in social and economic development and sustainable livelihood s through the Strategy for the Development of Samoa (SDS 2008 – 2012). However, the cite lack of local capacity to conduct economic valuation of

biodiversity resources. Biodiversity values are to be included as one priority area in the next review of the SDS.

Aichi Biodiversity Target 14: Ecosystem Services for health, livelihoods and well-being

Africa

174. Two of the reporting Parties are engaged in restoration programmes, while two others have plans to do so. Mauritius has restored 23 hectares of mangroves with some 230 000 seedlings over the past 5 years, and some 35,000 native and endemic plants have been planted in several reserves and forests. Maintaining ecosystem services is one of 5 strategic objectives of its NBSAP. Madagascar exceeded its objective for 2008 by reforesting 35,000 ha of forest. Madagascar is also restoring mined areas, including marshes that are actively used by local women.

175. Maldives has plans for restoration programmes for wetlands and mangrove ecosystems. Comoros has plans for forest, mangrove and soil restoration but reports little success thus far in ecosystem restoration, due to limited capacity and understanding of the good and services provided by ecosystems

Asia

176. Indonesia reports that it has a "social forestry" programme, Philippines has "community-based forest management" programmes and Sri Lanka has "forest/home gardens", all of which involve local communities in the restoration/management of the resources upon which their livelihoods and well-being depend. These gardens are the source of multiple products (e.g., food, raw material, medicines, fodder) and are located on formerly degraded forest areas. Japan has formed regional committees for restoration of various ecosystems, such as forests, rivers, lakes, coasts, wetlands, tidal flats and urban areas. Indonesia is planning to restore wetlands, mangroves, coral reefs, rivers, forests and fish stocks and their habitats. Singapore is involved in reforestation, as rehabilitation is one of the five key strategies of its NBSAP.

Caribbean

177. Six of the reporting Caribbean Parties (to 4th national reports) indicate that they have restoration projects focusing on either marine or wetland habitats. St. Vincent and the Grenadines is restoring populations of marine species, Antigua and Barbuda is restoring important marine habitats, including coastal ecosystems and wetlands; Trinidad and Tobago have a large-scale project to restore a wetland by replanting native species in a deforested area; Grenada is restoring mangroves, and Dominican Republic and Cuba are restoring marine ecosystems.

178. In Antigua and Barbuda's voluntary contribution, it is reported that policies that address restoring and safeguarding ecosystems that provide water, health, livelihoods and well-being have been included in a draft Integrated Water Resource Management policy; draft Environmental Protection and Management Bill; draft National Physical Development Plan; draft National Poverty Reduction Strategy; draft Protected Areas System Plan; and draft Biodiversity Strategy and Action Plan.

179. In their voluntary contribution, St Lucia reports that a Water Sector Policy was adopted by the government in 2004, in addition to other legislation passed for water resources management and the recent establishment of a water resources management agency. The forest policy has been drafted, forest legislation amended and new forest legislation is to be passed. St Lucia indicates that the capacity of wetlands and the dry forests ecosystem

"It is important that the programme of work on island biodiversity enhance integration of traditional/cultural knowledge, skills and management measures that have helped island populations to utilize and manage their environment and resources sustainably over many years. Traditional knowledge also is science in its own right" – *Ms Nenenteiti Teariki-Ruatu, Ministry of Environment, Lands and Agriculture Development, Kiribati*

"Full and effective participation of Indigenous Peoples through the various PoW under the CBD can only improve and facilitate the successful implementation of PoWIB" – *Malia Nobrega, Pacific Voices*

to deliver goods and services is under threat. There is increasing incidence of human induced ecosystem failure as land use changes due to development pressures negatively impact ecological function. St Lucia also highlights that a National Biodiversity Information Network has been established and that a database has been designed and tested; however, technical and financial assistance is needed for its completion. The database was created through a USAID PERB Project for protected areas of islands, and Saint Lucia was used as a pilot. Resource users have begun training for data entry on use of biological resources for their livelihoods; however, further training is needed for data management. The OECS Protected Areas and Associated Livelihoods project (OPAAL), which is in its final stages of completion, has been focusing on a sustainable livelihoods subproject and the renovation of the Maria Islands Interpretation Centre to provide operators within the Pointe Sable Environmental Protection Area (PSEPA), with the capacity, skills and resources necessary to enhance their livelihood operations. St Lucia also notes that the cultivation and sale of traditional food crops are increasing. The HERITAS program is supporting community development through use of biological resources for tourism. The Fisheries Department is assisting local farmers and fisherman in their sea urchin and sea moss harvesting, and with sea turtle monitoring. The Soufriere Marine Management Authority (SMMA) is monitoring impacts on the coral reefs. Sedimentation is one of greatest threats impacting coral reefs of the SMMA, and they require further assistance in that regard. However, St Lucia indicated that it requires assistance in sustainably exploiting some of the biological resources of the island.

Europe and overseas territories

180. In 4th national reports, Bermuda reports that it is restoring mangroves and seagrass beds, while St. Helena is restoring habitat for an endemic bird species. France is restoring some semi-dry forests on Reunion Island. Portugal cites its restoration of certain threatened terrestrial habitats. Both Cyprus and Malta indicate some attention being given to habitat restoration in general, while Ireland notes forests, peatlands and rivers are being restored.

181. In Guernsey's voluntary contribution, it is stated that ecosystem services have not been measured or valued, which would require significant resources that are currently unavailable. Jersey reports some progress towards this target in its Agricultural industry, which is encouraged to reduce inputs through the Rural Economic Strategy. However, they note that the ecosystem approach is not addressed.

182. In France's voluntary contribution on its overseas territories, it is noted that the microbiology of islands in the Indian Ocean have been recently studied for better knowledge of its diversity and to ensure the security of their supply of freshwater on Mayotte. In Martinique, the geographical information system on soil pollution is organized and maintained by the "Bureau de recherches géologiques et minières."

183. In their voluntary contribution, the RSPB report that they have no examples from CBD parties except a project that has recently been launched in Anguilla, linking coastal wetland protection to flood risk management and climate change resilience.

Latin America

184. In 4th national reports, Ecuador notes that there is a project for the restoration of mountain ecosystems in the Galapagos. In voluntary reports, Peru indicates its islands are deserted and are not populated.

Pacific Islands, including SIDS, Australia and New Zealand

185. In 4th national reports, Fiji, Tonga and Samoa report that they have some ecosystem rehabilitation programmes and projects targeting mangroves and (in the case of Samoa) coral; Samoa also reports that it is restoring forests. The Federated States of Micronesia (FSM) notes that it intends to restore degraded ecosystems, yet Papua New Guinea implies that ecosystem restoration may be of low priority compared to conserving pristine environments. Fiji reports that this target is partially achieved. New Zealand notes that local communities are participating in restoration programmes, and that it is

engaging in pest management on its islands to restore habitat, including through technological transfer to other Pacific islands.

186. In their voluntary contribution, the Federated States of Micronesia report progress in their Food Security Policy Draft. An obstacle cited is the different tenure systems at the sub-national level that sometimes impedes the target objectives. In Samoa's voluntary contribution, it is reported that watershed areas are currently protected under the Water Resource Act 2007. Other ecosystems (i.e. rivers, lakes, mangrove forests etc…) are not protected or managed, probably due to lack of legislation

187. In 4th national reports, Australia reports that it is increasingly restoring ecological communities, especially water systems that are over-allocated, so that they can provide ecosystem services through water allocation planning. They are also restoring wetlands and other natural vegetation. In their voluntary report Australia highlights their Biodiversity Conservation Strategy (ABCS) Target 5: "By 2015, 1,000 km^2 of fragmented landscapes and aquatic systems are being restored to improve ecological connectivity". The National Reserve System Strategy goal by 2030, is to "include critical areas to ensure the viability, resilience and integrity of ecosystem function in response to a changing climate, including large and small refuges, critical habitats, broad landscape scale corridors, places of species and ecosystem richness, sites of endemism and sites that support threatened species and or ecological communities, and places important for the stages in the life cycle of migratory or nomadic species, to act as core lands of a broader whole of landscape approach to biodiversity conservation.". Australia also note that the Government's Working on Country (WOC) program provides funding for the employment of indigenous people to deliver environmental outcomes; they indicate that the indigenous ranger workforce is expected to grow to approximately 630 funded positions by the end of 2010.

Annex

Summaries of 4th national reports (46 responding Parties) for the Aichi Biodiversity Targets that were not addressed in six priority areas above

The voluntary reports have not been included for the remaining 9 targets that do not fall under the 6 priority areas listed under decision IX/21, paragraph 6. These reports can be found verbatim on the Secretariat's website at www.cbd.int/island/reports.shtml, and the majority of them have been organised according to each of the Aichi Biodiversity Targets.

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 socio economic conditions.

Asia: Indonesia, Vietnam and Maldives are the only reporting Parties to address this target. Maldives indicates that it is using incentives to ease the impacts on fishers of a ban on shark fisheries, by providing alternative employment and support for the transition. Vietnam indicates that some demonstration projects on payment for environmental services have been introduced in order to test financing sustainability for biodiversity conservation. New legislation has created a legal framework to adopt payment for ecological service mechanisms. Indonesia is developing incentive programmes, such as the Towards Green Indonesia Program, which provides incentives to local governments for their positive performance in conservation and restoration of biodiversity

Caribbean: Five respondents indicate that they are either working on this target, or had the objective to do so. A sixth, the Dominican Republic, indicates having launched a payments for environmental services programme in 2007, and launching three pilot projects dealing with watersheds, while a seventh, St. Lucia, reports that they have introduced various economic and social incentives in key economic sectors, including agriculture and tourism. One of the five respondents referred to above, St. Vincent and the Grenadines, indicates that their work has focused solely on incentives, and that disincentives had received no attention, though necessary.

Europe and overseas territories: Portugal indicates that in Madeira, there are agri-environmental incentive programmes to mobilize farmers to adhere to sustainable production methods and to maintain biodiversity. Ireland has been providing incentives to farmers to conserve hedgerows since 1994 and uses FSC certification in forestry as an incentive. Malta reports using some incentive measures to encourage fishers to land injured turtles so that they can be rehabilitated.

Pacific Islands, including SIDS, Australia and New Zealand: This issue was not mentioned by the majority of respondents, though one mentioned it as a goal. Australia is using market-based incentives through its Environmental Stewardship Program ($42.5 million over four years) and is using incentives such as payments for positive management actions, both aimed at private landowners. New Zealand is using incentives for voluntary conservation of indigenous plants and forests on Maori land.

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.

Africa: Comoros and Mauritius report promoting the sustainable use of local plant materials for handicrafts and construction materials, while Madagascar is exporting essential oils, subject to authorization.

Asia: This target was not directly addressed by most reporting Parties. While Indonesia notes the increased availability and implementation of methods and approaches for sustainable development of products, only Sri Lanka provided a concrete example: in order to make the trade in wild collections of ornamental species of freshwater fish and aquatic plants more sustainable (many of these species are on the verge of extinction), the government has set up a tissue culture laboratory for the production of aquatic plants.

Caribbean: St. Lucia reports on the sustainable use of the *litanyé* for broom-making, focusing on the propagation of the plants in nurseries and plantations to supplement dwindling wild stocks and maintain livelihoods; they also report on the sustainable use of mangroves by restricting access to the local community. Dominican Republic notes the production of several organic crops.

Pacific Islands, including SIDS, Australia and New Zealand: Two Parties indicate that they have partially achieved this target in sectors such as handicraft production, and pearl and coral farming. Australia reports that a minority of industries have biodiversity-friendly targets, including the mining, cotton; intensive livestock, rice, forest, dairy and sugar industries. They report that this trend is growing.

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.

Africa: None of the Parties report significant progress toward this goal. Madagascar, for instance, reports that critical habitat continues to be lost in some areas as a result of deforestation and forest fragmentation due to mining. Mauritius reports that habitat destruction and fragmentation continue due to conversion of forest land to pasture areas and housing development, especially in coastal areas and wetlands. Extent of mangrove cover has significantly decreased. A number of policies and regulatory measures have been taken at the national level to mitigate and reduce the threat of habitat degradation, including EIA and other development control tools.

Asia: No significant progress report here—five of the reporting Parties note a deterioration/loss in their wetlands/ freshwater habitats, due to such factors as development, clearing for cultivation, deforestation, hydrological alterations, over-extraction for irrigation, siltation, sand and gem mining, and pollution. With regard to seagrass beds, 10% of Indonesia's are already damaged, while Philippines has lost 30-40% in the past 50 years.

Vietnam's mangroves are declining by some 4,400 ha/year. They currently have 155,000ha, having lost 100,000ha since 1990. Sri Lanka too lost some 50% between 1986 and 2002, while those remaining are degraded by pollution, siltation and over-exploitation. Singapore similarly reports that development pressures have resulted in the reduction of mangrove forest.

The only positive report is with regard to managed habitats in Singapore, which have become increasingly important for biodiversity. Green cover has increased by some 10% over the past 20 years.

Caribbean: No progress was reported in meeting this target. The indication is that habitat loss is continuing, and even increasing. Specific habitats mentioned include mangroves, seagrass beds, coastal wetlands and beaches, all of which are experiencing a significant decline.

Europe and overseas territories: Portugal reports that contrary to the mainland, a significant proportion of natural habitats and species of flora are in good condition. Greenland reports the same for terrestrial habitats, as well as wetlands. Bermuda and St. Helena, however, report that habitat is still being lost; Bermuda notes that mangroves and seagrass beds are being drastically reduced in area and quality, while in St. Helena, former pasturelands are degrading. Ireland reports that the conservation status of the majority of important habitats is bad, while Malta reports that habitat loss and degradation are continuing, with coastal habitats being the most affected. The case is similar in Cyprus

Pacific Islands, including SIDS, Australia and New Zealand: None of the reporting Parties indicate having fully achieved this target. However, three indicate that they have made some progress through the use of EIA, land use plans and the collection of GIS data. The others indicate that habitat loss is continuing, including in the marine environment, mangroves and wetlands; three Parties indicate that they have insufficient baseline data to determine status and trends.

Australia reports that habitat loss and fragmentation due to urban development, agriculture and dam construction continue, albeit at a reduced rate; mangroves and seagrass beds continue to decline. New Zealand similarly reports continued habitat loss.

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.

Africa: Little information is provided regarding yield or trends. In Mauritius, landings for the artisanal fishery have gradually declined, yet in 2009, artisanal fishing catch reached half the tonnage of the estimated maximum sustainable yield. Madagascar also reports a decline in resources, yet at a slower rate, due to increased awareness, alternative activities and upholding of traditional customs related to water. Comoros has yet to gather data on sustainable levels of exploitation to enable setting catch limits. Sao Tome and Principe reports that destructive fishing practices continue, and that fish catch is decreasing, due to sedimentation caused by sand extraction from beaches. Destructive fishing practices are also reported by Comoros, which is countering this by introducing new fishing techniques that allow for selectivity.

Mauritius has developed a number of regulatory measures, policies and tools to control unsustainable fishing practices, while Cape Verde and Comoros have management plans for fisheries, indicating norms and standards toward sustainable use.

Asia: Parties provided very little detailed information on this target. Vietnam reports that the number of aquatic species, especially shrimp and commercially valuable fish, is significantly decreasing, as are valuable freshwater fish. The Philippines similarly reports a decline in fish abundance and biomass. Maldives reports that the size of certain reef fish is decreasing, as has total fish catch over the past decade. Sri Lanka reports on the concept of special area management, a collaborative, participatory approach to resource management involving the local community; although it is now an integral component of its coastal zone management policy, it has not achieved the desired targets.

Caribbean: Only Cuba and Dominica report sustainable use of fishery resources. The latter cites a regime of modern fisheries laws and regulations that address control and management mechanisms, and the fact that further development of this sector inclined towards offshore pelagic fish species.

All other responding Parties note overexploitation and decline of key species. Other causative factors cited include coastal habitat destruction, sedimentation, beach sand mining, waste disposal and abuse of coral reefs. As an exception, St. Lucia cites the Soufriere Marine Management Area having led to increased fish stocks.

Trinidad and Tobago reports a decline in fish landings since 2002 and a threat in territorial waters from commercial vessels, including the by-catch of marine turtles.

Europe and overseas territories: Bermuda reports that marine fish populations are generally increasing due to a ban on fish pot use (1990); the exception is a notable decline in seahorses. Offshore sea grass habitat has declined, while there have been some increases in area of inshore sea grass beds.

Ireland reports that it urgently needs to address the conservation of marine fisheries. As much as 75% of commercially important fish species in its waters are being over-harvested; stocks of a number of important species are in decline or have collapsed. Malta reports that its fishing industry is artisanal rather than industrial and that its fisheries department promotes an ecosystem-based approach to management.

Pacific Islands, including SIDS, Australia and New Zealand: Overall, the respondents indicate that this target has not been achieved and that overharvest continues. Most report that total fish catch has declined, as have species diversity and number of fish. Several have based their assessments on anecdotal evidence indicating a downward trend because they lack the necessary data. Tonga is one of the few to provide any figures, indicating a decrease in amount of catch both offshore and inshore: decrease in reef fish abundance of 20-40%, decrease in size of most reef fish of about 50%, and 20-30% decrease in live coral cover. Also in Tonga, however, the Fisheries Division has established 6 Special Management Areas managed by local communities. Similarly, the Fiji Locally Managed Marine Areas Network (FLMMA), which comprises locally managed areas and no-take areas, has been very successful in increasing variety of fish, fish size, biomass, species, etc., resulting in increased local income. Samoa also reports success with village-based fisheries reserves.

Australia reports a continuing decline, evident despite a lack of comprehensive information. Ecosystem-based fisheries management regimes are being pursued. New Zealand reports that 7% of its marine environment is "no take", while 30% is closed to bottom fishing, and that customary restrictions play an important role in fisheries management

Target 7

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

Africa

Agriculture: Three respondents (Madagascar, Comoros and Cape Verde) report that agriculture is expanding at the expense of forests and plants, while Mauritius reports the opposite in the case of sugar cane. Comoros and Cape Verde indicate a goal to increase agricultural productivity by popularizing improved agricultural techniques, seeds and livestock breeds. Cape Verde cites overgrazing as one of the biggest threats to biodiversity. Comoros indicates that destructive agricultural practices continue, while Madagascar reports that such practices have now been controlled. STP indicates that unrestrained introduction of exotic agricultural species has led to the appearance of invasive alien crop viruses,

Forestry: Comoros indicates that its forests are being cleared at a rate of 500ha per year for agriculture. Similarly, Madagascar's forests are also being lost to farmland, albeit at a slower rate than in the past

(0.82% in 1990s, down to 0.55% from 2000 to 2005). Mauritius indicates that reasonable quality native forest is estimated to cover just 2% of the total area of the island, while Cape Verde indicates that the surface area of forest has increased by 30 times since 1975. STP reports that the problem of indiscriminate tree felling persists, including that of threatened species and mangroves.

Comoros: management plans being developed. Law requires restoration of forest and mangroves. STP has no reforestation policy.

Asia

Agriculture: Sri Lanka and Philippines report that that the area of land devoted to agriculture has declined over the past decade, due to the conversion of lands to other uses, such as housing and development. Both report that indigenous breeds of livestock and traditional and wild varieties of rice and other food crops that show resistance to pests and other stresses have been largely replaced by new high yielding varieties that are heavily dependent on fertilizer and pesticides. This is leading to the declining diversity of native livestock species in favour of imported breeding stocks. Wild species, including rice, are disappearing due largely to land conversion. Four Parties report that they are promoting the development of organic/sustainable agriculture.

Aquaculture: Aquaculture production almost doubled in Sri Lanka 1980-2007, mainly with exotic freshwater fish species. There is a suggestion that Tilapia is the direct cause of population decline among indigenous aquatic fauna. Other exotic species are also now spawning in the wild. Fisheries sector policies, plans and programmes have in recent years sought to increase the sustainability of fish production. In the Philippines, destructive practices associated with unregulated fish cage operations have polluted lakes and killed fish.

Forestry: Indonesia reports that its rate of deforestation has slowed but that it is losing 1.6 million ha/year due to land conversion, including to oil palm plantations, which are steadily increasing. Sri Lanka also notes that the rate of deforestation has considerably slowed down. Vietnam and Philippines, meanwhile, note that their forest area has increased in recent years, due to new plantation forests, while natural forests high in biodiversity are actually declining considerably. Japan is supporting the preservation of *satochi-satoyama.* These are regions that contain secondary forests surrounding communities, artificial forests, agricultural lands, reservoirs, and grasslands. Similarly, Sri Lanka's traditional home gardens, which are forest analogues, have been prominent components of the country's landscape and a chief source of multiple products for rural people (see target 14).

Caribbean

Agriculture: Grenada (no figures), Dominican Republic (47.9%-38.4%, 1996-2003), and St. Luca (-17% 1996-2006) indicate that the area under agriculture has declined; St. Lucia cites a reduction in the availability of land suitable to agricultural production. Nevertheless, St. Lucia and Antigua emphasize that agriculture remains an important sector in the island's economy, due to its key role in food security. Antigua also notes that agricultural biodiversity is the area of biodiversity management that is the most researched and catalogued. Dominican Republic notes an increase in area under pasture, and Antigua notes that uncontrolled grazing is a major threat to the country's watersheds. St. Lucia and St. Vincent note a move toward the adoption of more environmentally friendly farming systems.

Forestry: Four of the respondents indicate that forest cover is declining. A common driver is land conversion for agriculture and housing. St. Vincent cites a rate of deforestation of 3 to 5% per annum. The Dominican Republic, however, cites an increase in forest cover from 1996 to 2003, and notes that this is a major objective and the subject of a national campaign in which public awareness is a major focus.

Europe and overseas territories

Agriculture: Portugal reports that in Azores and Madeira there are programmes to support sustainable development in rural areas, and to mobilize farmers to adhere to sustainable production methods and to maintain biodiversity through agri-environmental incentives. Malta, Cyprus and Ireland are promoting sustainable agricultural practices, protecting agro-ecosystems by supporting organic and other environment-friendly farming methods.

Aquaculture: Malta reports that its aquaculture industry is controlled by a system of permits and environmental assessments and must adhere to monitoring requirements.

Forestry: Malta reports that many of its native trees are on the verge of extinction; Ireland's forests are in bad condition, some threatened by IAS, while the remainder is plantations; Cyprus, however, reports that its forest cover is gradually increasing.

Pacific

Agriculture: Most of the six reporting Parties on this issue indicate that agricultural practices are negatively affecting soil and mangrove ecosystems through erosion and the toxic effects of herbicides, insecticides and fungicides. Three of these note the increasing move toward organic farming, with Niue noting that they are working toward declaring Niue the first organically certified nation by 2010.

Aquaculture: FSM and Tonga are seemingly the most active, in that they are raising giant clams as well as corals both for the aquarium market and for reintroduction into the wild. New Zealand indicates that aquaculture farms must be managed sustainably, using EIA, monitoring and environmental codes of conduct.

Forestry: Deforestation continues in the seven Parties who discussed this issue. Tonga reports a decline of 26% in its forest from 2006-2009, while PNG reports that its rainforest is lost at a rate of 1.4% per year. PNG, FSM, Samoa and Tonga all indicate that agriculture (and other development) is encroaching into forests; FSM and Tuvalu indicate that they lack sufficient data to assess status and trends, while Fiji is conducting an inventory. Fiji and Maldives indicate they are developing a code of best-practice or forestry policy, while Tonga calls this its worst-performing sector, due to the lack of an integrated land-use plan.

New Zealand reports a net loss of 14,500ha of indigenous forest cover from 1997 to 2002, while Australia reports an increase in the area of native forest in formal reserves since 2004.

Target 8

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

Africa: Two Parties indicate that chemical pollution of fresh water, particularly with agricultural and industrial chemicals, is a major problem for fish. A third notes a lack of relevant regulations, while a fourth, Mauritius, offers a glimmer of hope, citing the development of a sewerage programme and the improvement of wastewater treatment, as well as attempts to raise awareness regarding the judicious use of chemical fertilizers and pesticides.

Asia: Sri Lanka reports that overuse of agrochemicals has led to water pollution from non-point sources and that the water quality of most inland wetland ecosystems has deteriorated over the last three decades. This has also resulted in the proliferation of invasive aquatic species, eroding the species diversity of wetlands further. The pollution of inland waters is addressed by various laws, but this problem continues due to weak enforcement. Vietnam also reports that freshwater ecosystems are polluted by various sources, as does Indonesia, whose endemic freshwater species are being lost due to IAS. Philippines reports that water quality has improved in 9 of 19 priority rivers, but that many do not meet quality standards in terms of oxygen availability, and that many lakes are suffering from pollution/eutrophication due to agriculture.

Caribbean: All reporting Parties paint a negative, and in some cases, worsening picture. Three of the five, however, report the existence or introduction of regulations or programmes to reverse the decline in water quality, attributed to agro-chemical runoff by two of them; a fourth, St. Lucia, reports some progress here, while Trinidad and Tobago reports that water quality is declining in highly developed areas. Antigua and Barbuda notes that the loss of natural filtration systems, such as wetlands and mangroves, is a further cause of pollution.

Europe and overseas territories: Cyprus reports that its aquifers and beaches have high nitrate levels due to the excessive use of fertilizers, while Malta's waters are also suffering. Ireland, however, notes that most of its rivers and lakes are of good quality and have improved slightly; it reports that there is evidence of elevated nutrient levels in a number of lakes as well as in some 39% of rivers and that overall quality needs to be improved.

Pacific: The picture is negative in the eight responses recorded here. Nutrient and sediment runoff from land-based activities, most notably from agriculture, is reported as a continuing problem, as is dumping of untreated sewage and industrial wastes into wetlands. Fiji reports that it introduced a waste disposal and recycling regulation in 2007 to address the problem, while Maldives drafted a pesticide bill to minimize the use of chemicals in agriculture. Niue and Fiji are working on increasing public awareness of this problem.

New Zealand reports that the situation is improving: pollution of its waterways by organic waste has considerably decreased since the late 1980s in terms of point-source discharges, but non-point source pollution, such as run-off from farmland and urban areas, has been more difficult to address. In Australia, 60% of basins studied in 2001 demonstrated excess nutrient levels, but data is lacking for many parts of the country.

Target12

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.

Africa: All responding Parties note a continued decline of many native species due to such factors as habitat destruction and the impact of invasive alien species. Two of the five report that hunting pressure is a major cause; three indicate that plants are also declining, due to human extraction for medicines or handicrafts. In fact, Mauritius reports that 89% of endemic flora is threatened. Four Parties indicate that sea turtles are protected, two of which (Comoros and Cape Verde) note that their numbers are increasing. Mauritius reports that it has saved four bird species from extinction, has reptile and plant restoration programmes, the latter having led to the successful propagation of at least 100 threatened species. Madagascar also notes the existence of recovery plans, while Comoros notes the lack thereof. Three of the five Parties indicate the need for improved knowledge on the status of threatened species.

Asia: Sri Lanka reports that none of the species previously identified as threatened have recovered. Loss of natural habitat and over-exploitation are cited as the main causes. Philippines reports no slowing in the rate of loss, nor do Vietnam, Indonesia and Japan, the latter two citing lack of data on trends. Maldives has banned detrimental activities, such as coral mining, shark fishing, harvesting turtle eggs. Japan, Vietnam and especially Singapore cite some success with *ex situ* restoration of some species.

Caribbean*:* Five of the Parties indicate that they lack sufficient data on their country's biodiversity to assess its status, given a lack of monitoring and evaluation—most of these, however, cite anecdotal evidence of species declines due to land use changes, overharvesting, pollution, climate change and invasive alien species. There are some positive developments reported, however. St. Lucia cites a reversal in the decline of the Saint Lucia Parrot, the latanyé palm, the Saint Lucia whiptail lizard and the long-spined black sea urchin. St. Vincent reports an increase in the population of the endemic parrot *Amazona guildingii*.

Europe and overseas territories: France reports that 89 of its 131 threatened species (68%) are in its overseas territories. It further reports on the existence of a restoration plan for turtles and plants in Reunion Island and a list of other priority species for such a plan. Portugal reports that the conservation status of species is better in Azores and Madeira than on the mainland; similarly, Italy reports that while farmland birds decreased by 10.4% in the mainland from 2000 to 2005, whereas in Sicily, they increased by 4.5% over this period. Nevertheless, in Azores and Madeira, some 50% of marine species (for which data is available), fauna and flora have a negative conservation status. In Italy, Sardinia has established a regional conservatory to protect coastal ecosystems and provide integrated management of coastal areas of particular importance.

Greenland reports overharvest of some species in recent decades, including the polar bear, which is also threatened due to climate change.

St. Helena and Bermuda report that some endemic species remain at risk, but the latter notes that the rate of species loss has been stable and low recently, while Jersey reports that little data is available. St. Helena indicates that it has species recovery plans for 12 endemic species.

Cyprus claims that wildlife conservation is among the areas showing greatest progress, having restored and protected certain species; nevertheless, it notes a lack of data on the status of species. Ireland reports that while it has a number of endangered and vulnerable fauna species, the status of almost 60% of mammals is good. Malta notes that 44% of its species that are of European Community interest are in a poor state of conservation, while the status of 37% is unknown. The status of some of its birds is improving, while the status of plants has declined significantly since 1982. Conservation measures aimed at the recovery of species in danger are being implemented.

Latin America: Venezuela reports that a campaign for turtle conservation has been active since 1976 on many of its islands, one of the most consistent and long-running efforts in this area. Ecuador reports that a special legal regime was set for the Galapagos, which allows usual rights to be curtailed for the sake of conservation.

Pacific: Four of the seven Parties who addressed this issue indicated a lack of data on which to determine status, trends and targets (Fiji, PNG, Tonga and Tuvalu). Otherwise, while species are still threatened, and in some cases still declining, several Parties report progress toward the target in terms of recovery, restoration and relocation. Cook Islands and Tonga have translocated bird species, whose status has consequently been upgraded; Fiji has replanted mangroves and other native trees and has seen a recovery of the clam population, as has Tonga, the latter has also increased its sea cucumber population due to a 10-year cessation of harvesting.

Both Australia and New Zealand indicate that the downward trend in the conservation status of some species continues. Although some threatened species have recovered in Australia, more are being added to the list. The challenge of serving Australia's biodiversity is compounded by the lack of information on 75% of the country's native species. New Zealand similarly describes a paucity of baseline data as a challenge.

Target13

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.

Africa: Both Madagascar and Mauritius report significant efforts to conserve genetic heritage, including crop wild relatives, in local gene banks, as well as that of livestock in the case of Mauritius. Still, both note the significant loss of important genetic resources and traditional knowledge in the agricultural

sector. Mauritius notes that medicinal plants need a dedicated strategy for collection and multiplication. Madagascar notes the genetic erosion of crop wild relatives, such as coffee trees: 39% of the 256 accessions have completely disappeared within the past 20 years. Comoros reports that the genetic pool of some species is conserved in foreign seedbanks, but that there has been little scientific and technical cooperation with more advanced countries.

Asia: All Parties, with the exception of Singapore, report that they have genebanks in which seeds of traditional crop varieties and their wild relatives, as well as other plants, are conserved. Vietnam also reports that it is conserving indigenous cattle, fowl and freshwater animals. Sri Lanka also conserves fish germoplasm but lacks the capacity to conserve livestock biodiversity, thereby running the risk of losing indigenous strains. Japan reports that its genebank is now one of the largest in the world.

Caribbean: Three Parties note the existence of local germoplasm collections or seedbanks for local species, while two others indicate the need/intention to establish them. In addition, Antigua and Barbuda reports a high level of progress in promoting knowledge in the agricultural sector about the economic value of biologically diverse farms. In St. Vincent and the Grenadines, application of more sophisticated techniques for protecting and enhancing plant genetic resources by agricultural research institutes and the Ministry of Agriculture has made a significant contribution to improving food security.

Europe and overseas territories: Portugal reports that both the Azores and Madeira have local seedbanks. Malta reports that it has established a seedbank, however collection and storage are still in the preliminary phases; there is also a growing interest in the re-introduction of local livestock breeds. Ireland has a genebank and seedbank for threatened plants; Cyprus too has seedbanks and is conserving protected species in botanical gardens; a genebank for crops and rare species of livestock has also been established, but a national action plan is needed.

Pacific Islands, including SIDS, Australia and New Zealand: This seems to be an area where significant attention is being devoted. Most Pacific SIDS have some programmes in place, be it for genetic improvement or for maintaining local plant and livestock diversity. Most emphasis seems to be on main food crop and cash crop species. However, Tonga's report indicates that government experimental farm programmes focus on economic crops—those that are not favoured by farmers (due to long harvest periods) are in danger of extinction, and there is no programme addressing this threat.

Australia's agriculture sector relies predominantly on exotic animal breeds and crop varieties. The country is engaging in tree-breeding and genetic improvement programmes.

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.

Africa: All Parties indicate that they have an NBSAP, however only Mauritius indicates that it was produced in a participatory manner. One Party indicates that very little has been done to implement its NBSAP.

Asia: All reporting Parties have produced an NBSAP but only Philippines, Indonesia and Japan indicate that theirs were produced in a participatory manner. Three have updated their NBSAP relatively recently.

Caribbean: All Parties but one indicate that they have an NBSAP, though they do not indicate whether they were produced in a participatory manner. Furthermore, half indicate that their NBSAP must be updated.

Implementation of the NBSAPs of St. Vincent and the Grenadines, and Antigua and Barbuda has been limited due, in the first case, to a failure to assign clear responsibility for its implementation or monitoring to any institution, and in the latter case, failure to receive the approval of the Cabinet.

Europe and overseas territories: Cyprus has not yet developed an NBSAP, nor has Malta; Ireland's NBSAP dates from 2002. In most cases, European overseas territories do not have their own NBSAP; there are, however, some exceptions. Spain reports that the regional government of the Canaries has its own autonomous strategy on biodiversity, while French overseas territories have their own plan of action for biodiversity. There are also local plans of action for each of the "overseas collectivities", developed in consultation with local partners. Reunion Island submitted its biodiversity strategy to the Secretariat in 2005. Jersey indicates that it has a BSAP, which is increasingly being implemented. Greenland indicates that it has plans to develop one, while St. Helena does not.

Pacific Islands, including SIDS, Australia and New Zealand: All responding Pacific Parties have an NBSAP, but it is not always indicated whether it was produced in a participatory manner. Several indicate that their NBSAP needs updating, but only Niue is currently doing so. New Zealand indicates that it has achieved this target, while Australia is currently developing its revised strategy with public consultation as well as a separate indigenous consultation.