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Item 8 of the provisional agenda*

REPORT OF THE SUBSIDIARY BODY ON SCIENTIFIC, TECHNICAL AND TECHNOLOGICAL ADVICE ON THE WORK OF ITS SEVENTEENTH MEETING

CONTENTS

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ITEM 1. OPENING OF THE MEETING

1. The seventeenth meeting of the Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA) was held at the headquarters of the International Civil Aviation Organization (ICAO), from 14 to 18 October 2013.

ITEM 2. ELECTION OF OFFICERS, ADOPTION OF THE AGENDA AND ORGANIZATION OF WORK

2. The meeting was opened at 10.15 a.m., on 14 October 2013, by Mr. Gemedo Dalle Tussie (Ethiopia), Chair of the Subsidiary Body. He welcomed the participants to the meeting and said that a new format would be used where all sessions would be held in plenary and would include a panel discussion. The new format provided a unique opportunity for participants to share country-specific experiences and learn from each other. It was his hope that they would avoid generalities and would discuss how to achieve effective and targeted scientific and technical cooperation. He would be personally very satisfied if by the end of the meeting practical solutions had been proposed that could be put into action. The present meeting had been held back-to-back with the Working Group on Article 8(j) and Related Provisions and the outcomes of that meeting would also inform the deliberations of the participants. The Subsidiary Body was expected to provide the Conference of the Parties with scientific and technical advice and he requested that participants focus on those specific functions and make their contributions accordingly. He thanked the Governments whose financial contributions had enabled the participation of experts in various meetings held during the inter-sessional period. He also thanked the Governments and organizations that had provided the financial support to enable the essential regional balance of experts at the meetings and improved the relevance of scientific debate. He was also grateful to the experts who had participated in the work of the Convention.

3. An opening statement was made by Mr. Braulio Ferreira de Souza Dias, Executive Secretary of the Convention on Biological Diversity.

4. The Executive Secretary welcomed participants to the current meeting and expressed his gratitude to the Governments of Denmark, Finland, Germany, Japan, New Zealand, Norway and Spain for their financial contributions, which had enabled the participation in the meeting of representatives of developing countries and countries with economies in transition. Participants should seize the opportunity of the meeting to show that the Subsidiary Body was able to respond to the challenge of identifying the scientific and technical needs related to the Strategic Plan for Biodiversity 2011-2020and assess the effects of actions taken in accordance with the Convention.

5. Three years had passed since the adoption of the Strategic Plan for Biodiversity 2011-2020 and those years had been challenging for many countries and the global community at large. Socioeconomic considerations had dominated the discourse and budgets for environmental action had continued to shrink, triggering old reflexes of unilateralism, unfettered natural resource exploitation and lingering climate change denial. The biodiversity community was facing significant challenges. In recognition of those challenges, he had restructured the Secretariat to better respond to the needs of Parties and the Strategic Plan for Biodiversity 2011-2020.

6. However, those years had also seen Parties actively updating their national biodiversity strategies and action plans (NBSAPs) and establishing national targets. Twenty-one updated national biodiversity strategies and action plans had been submitted since the tenth meeting of the Conference of the Parties and some 130 eligible Parties had received support from the financial mechanism of the Convention. Over that period, 92 Parties had signed, and 25 Parties had ratified, the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization. A new body, the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES),

had also been created and the eleventh meeting of the Conference of the Parties had established a target to double the total biodiversity-related international financial resource flows to developing countries.

7. Advancing the capacity to monitor biodiversity would help policymakers support positive outcomes in accordance with the objectives of the Convention and the Aichi Biodiversity Targets. However, while many institutions supported implementation of the Convention, access to credible data remained a challenge and not enough had been done to mobilize the data that was available. The Global Biodiversity Information Facility (GBIF) had convened a landmark conference on bioinformatics and had recently launched the Global Bioinformatics Outlook report, proposing a framework to enhance access to biodiversity data from different sources.

8. He encouraged participants to realize the wealth of tools, guidance and scientific information available to them, and to develop a concrete list of scientific and technical challenges and of options and possible mechanisms by which those could be addressed. The outcomes of the present meeting would contribute to the assessment to be made at the twelfth meeting of the Conference of the Parties and to a potential decision on a roadmap for the way forward, up to the year 2020.

A. Attendance

9. The meeting was attended by representatives of the following Parties and other Governments*:* Antigua and Barbuda, Argentina, Australia, Austria, Belarus, Belgium, Bhutan, Bolivia (Plurinational State of), Bosnia and Herzegovina, Brazil, Burkina Faso, Cambodia, Cameroon, Canada, Cape Verde, Central African Republic, Chad, Chile, China, Colombia, Comoros, Cook Islands, Costa Rica, Croatia, Cuba, Czech Republic, Democratic Republic of the Congo, Dominica, Ecuador, Egypt, Estonia, Ethiopia, European Union, Finland, France, Gabon, Georgia, Germany, Greece, Guatemala, Guinea, Guinea-Bissau, Haiti, Honduras, Iceland, India, Indonesia, Iraq, Ireland, Israel, Japan, Jordan, Kiribati, Kuwait, Liberia, Lithuania, Madagascar, Malawi, Malaysia, Mali, Marshall Islands, Mauritania, Mexico, Morocco, Mozambique, Myanmar, Namibia, Nauru, Nepal, Netherlands, New Zealand, Niger, Norway, Palau, Peru, Philippines, Poland, Portugal, Qatar, Republic of Korea, Republic of Moldova, Russian Federation, Saint Kitts and Nevis, Samoa, Sao Tome and Principe, Saudi Arabia, Senegal, Serbia, Seychelles, Singapore, Solomon Islands, South Africa, Sri Lanka, Sudan, Sweden, Switzerland, Tajikistan, Thailand, Togo, Tonga, Tunisia, Turkey, Turkmenistan, Uganda, Ukraine, United Kingdom of Great Britain and Northern Ireland, United Republic of Tanzania, Uruguay and Yemen.

10. Observers from the following United Nations bodies, specialized agencies, convention secretariats and other bodies also attended: Convention on the Conservation of Migratory Species of Wild Animals (CMS), Food and Agriculture Organization of the United Nations, Global Environment Facility, Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), International Treaty on Plant Genetic Resources for Food and Agriculture, Ramsar Convention on Wetlands of International Importance, especially as Waterfowl Habitat, United Nations Development Programme, United Nations Environment Programme, United Nations Environment Programme World Conservation Monitoring Centre, United Nations University - Institute of Advanced Studies and World Bank.

11. The following organization were also represented by observers: ABS Capacity Development Initiative, African Regional Intellectual Property Organization, Alliance for Zero Extinction (AZE), American Bird Conservancy, Andes Chinchasuyo, ASEAN Centre for Biodiversity, Biofuelwatch, BirdLife International, CBD Alliance, Center for International Forestry Research, Centre for Environment Education (India), Centre for International Sustainable Development Law, Chungnam National University (Korea), Commonwealth Scientific and Industrial Research Organisation, Communication, Education and Public Awareness Japan (CEPA Japan), Concordia University, Conservation International, Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention), Coordinadora de las Organizaciones Indígenas de la Cuenca Amazónica - COICA, Council of Europe, DIVERSITAS, Duke University, ECOROPA, Environment Canada, Environmental Quality Protection Foundation, ETC Group, European Molecular Biology Organization (EMBO), European Space Agency, Federacão das Indústrias do Estado de São Paulo, Federation of German Scientists, Forest Peoples Programme, Fridtjof

Nansen Institute, Friends of the Earth U.S., Global Biodiversity Information Facility, Global Forest Coalition, Group on Earth Observations, Group on Earth Observations Biodiversity Observation Network - GEO BON, Helmholtz Centre for Environmental Research - UFZ, ICCA Consortium, Indian Environment Law Offices, Indigenous Information Network, Indigenous Peoples' Foundation for Education and Environment, Institut de recherche pour le développement - Montpellier, Institute for Biodiversity-Network, Institute for Global Environmental Strategies, International Council for Science (ICSU), International Development Law Organization, International Fund for Animal Welfare, International Indian Treaty Council, International Partnership for the Satoyama Initiative (IPSI), International Union for Conservation of Nature (IUCN), International University Network on Cultural and Biological Diversity, Island Conservation, Japan Agency for Marine-Earth Science and Technology, Japan Civil Network for the United Nations Decade on Biodiversity, Japan Committee for IUCN, Japan Wildlife Research Center, Jardin botanique de Montréal, L'Institut de la Francophonie pour le développement durable, McGill University, National Biodiversity and Biosafety Center, National Institute for Environmental Studies, Natural Justice: Lawyers for Communities and the Environment, Network of Managers of Marine Protected Areas in the Mediterranean (MedPAN), Parks Canada, Plenty Canada, Practical Action, RARE Conservation, Red de Cooperación Amazónica, Red de Mujeres Indígenas sobre Biodiversidad, Russian Association of Indigenous Peoples of the North (RAIPON), Saami Council, South Asia Co-operative Environment Programme, State University of New York (SUNY Plattsburgh), Stockholm Resilience Centre, SWAN International, Tebtebba Foundation, The Nature Conservation Society of Japan, Third World Network, Tohoku University, Tulalip Tribes, Twin Dolphins Inc., United Organisation for Batwa Development in Uganda, Université de Mahajanga (Madagascar), Université de Montréal, University of Saskatchewan, University of Washington, USC Canada, Waikiki Hawaiian Civic Club, Wildlife Conservation Society, World Association of Zoos and Aquariums, World Resources Institute, WWF International and Zoological Society of London.

B. Election of officers

12. In accordance with the elections held at the fifteenth and sixteenth meetings of the Subsidiary Body, the Bureau at its seventeenth meeting comprised the following members:

Chair: Mr. Gemedo Dalle Tussie (Ethiopia)

Vice-Chairs: Ms. Risa Smith (Canada)

Ms. Brigitte Baptiste (Colombia)

Ms. Ivna Vukšić (Croatia)

Mr. Jean-Patrick Le Duc (France)

Mr. Maadjou Bah (Guinea)

Ms. Nenenteiti Teariki-Ruatu (Kiribati)

Mr. Alexander Shestakov (Russian Federation)

Mr. Yousef Al-Hafedh (Saudi Arabia)

Mr. Floyd Homer (Trinidad and Tobago)

13. It was agreed that Mr. Maadjou Bah (Guinea) would act as Rapporteur for the meeting.

14. At 1st session of the meeting, on 14 October 2013, the Subsidiary Body elected the following officers to serve for a term commencing at the end of the seventeenth meeting and ending at the end of its nineteenth meeting, to replace the members from Canada and Trinidad and Tobago: Mr. Andrew Bicknell (New Zealand) and Ms. Lourdes Coya de la Fuente (Cuba).

15. At the 10th session of the meeting, on 18 October 2013, the Subsidiary Body elected the following officers to serve on the Bureau for a term commencing at the end of the seventeenth meeting and ending at the end of its nineteenth meeting, to replace the Bureau members from Guinea and Croatia: Mr. Moustafa Mokhtar Ali Fouda (Egypt) and Ms. Snežana Prokić (Serbia).

16. At the same time, it was agreed that an officer from the Republic of Korea would serve on the Bureau for a term commencing at the end of the seventeenth meeting and ending at the end of its nineteenth meeting, to replace the Bureau member from Kiribati.[1]

C. Adoption of the agenda

17. At the 1st session of the meeting, on 14 October 2013, the Subsidiary Body took up consideration of the agenda of the meeting.

18. The representative of Norway said that her country had always been a strong supporter of the Convention on Biological Diversity. However, speaking as a friend of the Convention she also expressed concern as to the documents and format for the present meeting of the Subsidiary Body. While Norway was not against modifications to the format of the meeting, there was a need to respect the text of the Convention and the decisions of the Conference of the Parties. Paragraph 6 of decision X/12 requested the Executive Secretary to streamline the texts of suggested draft recommendations for submission to the Subsidiary Body and encouraged Parties to make those recommendations as short as possible so that the actions required were clear. She pointed out that no draft recommendations had been prepared for the present meeting and asked how transparency in the development of draft recommendations could be ensured; it was also unclear from the draft agenda to whom those draft conclusions and recommendations would be addressed. Norway, as with all other Parties, had to prepare nationally for formal meetings under the Convention and that, she said, had been almost impossible. While Norway stood ready to discuss a new and improved working method for the Subsidiary Body, she reminded the meeting that the Conference of the Parties was the decision-making body of the Convention and that its decisions should not be undermined.

19. The representative of Canada said that her delegation was looking forward to the proposed new approach and wished to contribute to its success. However, while Canada was also looking forward to the conclusions that would emerge from the meeting, it shared some of the concerns expressed by the representative of Norway.

20. The representative of Belgium said that Belgium was also a strong supporter of the Convention and agreed that the Subsidiary Body must endeavour to improve the quality of its scientific, technical and technological advice by improving the input into, the debate at, and the work of, its meetings. However, whatever format was used in the meetings, the guidance provided by the Conference of the Parties had to be followed in the preparation of the meetings. He reminded the Subsidiary Body that according to its *modus operandi*, documents needed to be distributed, in the working languages of the Subsidiary Body, three month before its meetings, and that they should include proposed conclusions and recommendations. Belgium would appreciate a thorough evaluation of the potential added value and increased effectiveness of the new format in line with the *modus operandi*.

21. The representative of Mexico, speaking on behalf of the Group of Latin American and Caribbean countries, welcomed the efforts of the Secretariat to enhance the scientific and technical nature of the Subsidiary Body. The discussions would help Parties identify gaps and obstacles and share successful experiences in the implementation of the Strategic Plan for Biodiversity 2011–2020 and the Aichi Biodiversity Targets. It was important to identify technical and scientific elements that could help Parties

1 The Republic of Korea identified the nominee as Mr, Youngbae Suh (Professor of Plant Systematic Natural Products Research Institute, Seoul National University)

monitor biodiversity, implement new policies and effective actions to reduce biodiversity loss, improve the quality of life and bring about behavioural change, with the participation of different sectors of society. Monitoring alone was insufficient. Adapting the great number of instruments created under the Convention to country-specific circumstances was a considerable challenge. Mexico had been an outspoken critic of the form in which the Subsidiary Body had operated in the past. Without previously prepared recommendations, the discussions would provide an opportunity to reach conclusions together that would help Parties prepare their national reports and update their national biodiversity strategies and action plans. The work could also feed into the fourth edition of the Global Biodiversity Outlook and the mid-term assessment of the Strategic Plan. In preparing for the meeting, Mexico had engaged in broad consultations that would provide valuable input into its fifth national report and the updating of its national biodiversity strategy and action plan. The Subsidiary Body should not expect the Conference of the Parties to do its work. The new format was an important step forward and the Group stood ready to cooperate fully to achieve progress.

22. The representative of Liberia, speaking on behalf of the African Group, said that the Group recognized the emerging trends in Biodiversity since the tenth meeting of the Conference of the Parties, especially since the establishment of IPBES and the issues arising out of the eighth meeting of the Working Group on Article 8(j) and Related Provisions, which had been held back-to-back with the present meeting. While changes in the methods of work under the Convention had to be consistent with decisions of the Conference of the Parties, the African Group was willing to test the new system and would cooperate with the outcome of the meeting.

23. The Subsidiary Body adopted the following agenda on the basis of the provisional agenda prepared by the Executive Secretary in consultation with the Bureau (UNEP/CBD/SBSTTA/17/1).

1. Opening of the meeting.

2. Organizational matters.

3. Facilitating the implementation of the Strategic Plan for Biodiversity 2011-2020 and the Aichi Biodiversity Targets through scientific and technical means:

   (a) Policy support tools and methodologies developed or used under the Convention and their adequacy, impact and gaps;

   (b) The adequacy of observations, and of data systems, for monitoring the biodiversity attributes addressed in the Aichi Biodiversity Targets and the use and development of indicators for the Aichi Biodiversity Targets;

   (c) New and emerging issues relating to the conservation and sustainable use of biological diversity;

   (d) Scientific and technical needs related to the implementation of the Strategic Plan and to each of the Aichi Biodiversity Targets.

4. Assessing the effects of the types of measures taken in accordance with the provisions of the Convention.

5. Contribution of the Convention to the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) intersessional process.

6. Progress reports by the Executive Secretary.

7. Conclusions and recommendations for further work, including inputs to the IPBES work plan in accordance with decision XI/13.

8. Other matters.

9. Adoption of the report.

10. Closure of the meeting.

D. Organization of work

24. At the 1st session of the meeting, on 14 October 2013, the Chair proposed that all sessions should be held in plenary and that each session would include a panel discussion on each of the Strategic Goals A, B, C and D. He proposed Ms. Risa Smith (Canada) as chair of the session on Strategic Goal A; Mr. Yousef Al-Hafedh (Saudia Arabia) as chair of the session on Strategic Goal B; Ms. Nenenteiti Teariki-Ruata (Kiribati) as chair of the session on Strategic Goal C; and Ms. Brigitte Baptiste (Colombia) as chair of the session on Strategic Goal D. He also proposed Mr. Jean-Patrick Le Duc (France) as chair of the session on items 3 (c), 5 and 6.

25. At the 3rd session of the meeting, on 15 October 2013, the Chair asked Mr. Alexander Shestakov (Russian Federation) and Mr. Hesiquio Benítez Díaz (Mexico) to co-chair the open-ended Friends of the Chair group tasked to prepare the conclusions of the meeting.

26. At the 5th session of the meeting, on 16 October 2013, Mr. Alexander Shestakov (Russian Federation) reported on the work of the open-ended Friends of the Chair group.

27. At the 6th session of the meeting, on 16 October 2013, it was decided that a Friends of the Chair group would be tasked to draft key findings on the identification of scientific and technical needs for implementation of Strategic Plan on the basis of the views expressed during the meetings on items 3 and 4 of the agenda. The group would be chaired by Mr. Alexander Shestakov (Russian Federation) and would be composed of representatives of Argentina, Brazil, Canada, Egypt, Finland, Malaysia, Singapore, Uganda, United Kingdom of Great Britain and Northern Ireland and Ukraine. Representatives of Bolivia (Plurinational State of), Colombia, Czech Republic, Ethiopia, European Union, Georgia, Germany, India, Japan, Norway, and Senegal would fulfil advisory functions. The open-ended Friends of the Chair group would hold a second meeting, chaired by Mr. Hesiquio Benítez Díaz (Mexico), to discuss cross-cutting elements of Goals A, B, C and D of the Strategic Plan as a possible annex to the key findings.

ITEM 3. FACILITATING THE IMPLEMENTATION OF THE STRATEGIC PLAN FOR BIODIVERSITY 2011-2020 AND THE AICHI BIODIVERSITY TARGETS THROUGH SCIENTIFIC AND TECHNICAL MEANS

and

ITEM 4. ASSESSING THE EFFECTS OF THE TYPES OF MEASURES TAKEN IN ACCORDANCE WITH THE PROVISIONS OF THE CONVENTION

28. At the 1st session of the meeting, on 14 October 2013, the Subsidiary Body took up agenda items 3 and 4. In considering the item, the Subsidiary Body had before it a note by the Executive Secretary on facilitating the implementation of the Strategic Plan for Biodiversity 2011-2020 and the Aichi Biodiversity Targets through scientific and technical means (UNEP/CBD/SBSTTA/17/2); notes by the Executive Secretary on the identification of scientific and technical needs for the attainment of the targets under Strategic Goals A, B, C and D of the Strategic Plan for Biodiversity 2011-2020 (UNEP/CBD/SBSTTA/17/2/Adds.1, 2, 3 and 4); and a note by the Executive Secretary on assessing the

effects of the types of measures taken in accordance with the provisions of the Convention (UNEP/CBD/SBSTTA/17/3).

29. The representative of the Secretariat, introducing the items, invited the Subsidiary Body to take note also of recommendations of the Working Group on Article 8(j) and Related Provisions on development of best-practice guidelines for the repatriation of traditional knowledge relevant to the conservation and sustainable use of biological diversity, and on how tasks 7, 10 and 12 could best contribute to work under the Convention and to the Nagoya Protocol,[2] He also drew attention to the summary of the in-depth dialogue on thematic areas and cross-cutting issues: "Connecting traditional knowledge systems and science, such as IPBES, including gender dimensions".[3]

30. The Executive Secretary highlighted the importance of agenda item 4. Discussing options for assessing the effects of the types of measures taken in accordance with the provisions of the Convention was part of the mandate given to the Subsidiary Body in decision XI/13 of the Conference of the Parties and one of its functions determined in Article 25 of the Convention. It was also the function the Subsidiary Body had been least successful in implementing. He encouraged comments on the subject, and suggestions on how that function could be fulfilled more successfully.

31. Mr. Abdul Hamid Zakri (Chair of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services, IPBES) gave a presentation on the mobilization of scientific and technical support to achieve the Aichi Biodiversity Targets. He recalled one of the key messages of the biodiversity synthesis of the Millennium Ecosystem Assessment, namely that policies designed to support the conservation and sustainable use of biodiversity and ecosystem services would be insufficient unless the indirect and direct drivers of change were also addressed. While there had been promising developments, such as the Strategic Plan for Biodiversity 2011-2020, the Aichi Biodiversity Targets and the mainstreaming of biodiversity considerations, transforming societies required a fundamental dialogue between large segments of society, a broad understanding of concepts such as bio-capacity and ecological limits, and agreement about the choices faced and the solutions needed. The Subsidiary Body would need to give more attention to the social sciences, which were accorded a central position in the conceptual framework currently developed by the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. The Intergovernmental Platform had also drafted its work programme 2014-2018, which would pave the way for the incremental strengthening of the science-policy interface for biodiversity and economic services across scales, sectors and knowledge systems, and would balance capacity-building needs, assessment and policy support tools. He encouraged the Subsidiary Body to look at the conceptual framework, the work programme and the scoping document prepared for the second plenary session of the Intergovernmental Platform. Dialogue was needed, both internationally and nationally, to cross divides and develop a common understanding of societal priorities and a joint strategy to mobilize available resources, with the role of science, technology and innovation in sustainable development at its core.

32. Ms. Joji Cariño (Forest Peoples Programme) presented a report on the in-depth dialogue on "Connecting traditional knowledge systems and science, such as IPBES, including gender dimensions", held by the Working Group on Article 8(j) and Related Provisions at its eighth meeting. The way in which the Convention on Biological Diversity and, in particular, the Working Group on Article 8(j), promoted recognition, respect for and protection of traditional knowledge by integrating an intercultural dimension in its meetings and practices had been deemed exemplary. Participants had mentioned trust, reciprocity and equal sharing in a context of mutual learning as key ingredients of dialogue across

[2] Recommendations 8/3 and 8/4 (see UNEP/CBD/COP/12/5, annex I). At the time of the meeting, these were available as documents UNEP/CBD/WG8J/8/L.4, and UNEP/CBD/WG8J/8/L.5

[3] See UNEP/CBD/COP/12/5, annex II. At the time of the meeting, this was available as document UNEP/CBD/WG8J/8/L.1/Add.1,

knowledge systems. Given the persisting power imbalances between western science and indigenous knowledge, there was a crucial need for safeguards for the protection of traditional knowledge, including free prior and informed consent and adequate mechanisms for effective participation of indigenous people and local communities in newly created knowledge platforms. Participants had noted the gap between indigenous perception of nature and concepts used in international forums, concluding that sharing across knowledge systems was only possible in a truly multicultural setting. The example of Métis women had been used to illustrate the importance of gender-based knowledge and the crucial role of indigenous women in intergenerational knowledge transmission.

33. A report had been presented on the outcome of the International Expert and Stakeholder Workshop on the Contribution of Indigenous and Local Knowledge Systems to IPBES: Building Synergies with Science, held in June 2013, in Tokyo, Japan. The workshop had examined and identified procedures and approaches for working with indigenous and local knowledge systems in the framework of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services, including possible conceptual frameworks that were open and inclusive of indigenous and local knowledge systems and worldviews. It had emerged that capacity-building was needed in the areas of education and awareness raising, training of scientists in traditional knowledge systems, inclusion of traditional knowledge in education curricula, and awareness building about the Platform among indigenous peoples and local communities. The danger of ethno-biodiversity loss had been deemed a potentially even more serious problem than the loss of biodiversity.

34. The "multiple evidence based approach" had been referred to as a useful form of knowledge sharing. One example was the piloting of community-based monitoring and information systems by a network of indigenous peoples and local communities under the International Indigenous Forum on Biodiversity Working Group on Indicators. The projects aimed to strengthen the local knowledge base for territorial resource management and community development; complement data for monitoring implementation of Strategic Plan for Biodiversity 2011–2020 and the Aichi Biodiversity Targets and other relevant international commitments; and contribute to the work of the Platform. Given the power of knowledge, cultural diversity, knowledge sharing and collaboration were challenges to be grasped to meet the global need for adapting to change.

Panel discussion on biodiversity data, monitoring, observation systems and indicators

35. At the 1st session of the meeting, on 14 October 2013, the Subsidiary Body engaged in a panel discussion on biodiversity monitoring. The panel consisted of Mr. Bob Scholes (Chair of the Group on Earth Observations Biodiversity Observation Network, South Africa), Ms. Eugenia Arguedas Montezuma (Costa Rica), Mr. Marc Paganini (European Space Agency), Mr. Donald Hobern (Executive Secretary of the Global Biodiversity Information Facility) and Ms. Pernilla Malmer (Stockholm Resilience Centre).

36. Mr. Scholes presented the report and conclusions of the Expert Workshop on enhancing biodiversity data and observing systems in support of the implementation of the Strategic Plan for Biodiversity 2011–2020, held on 12 October 2013 in Montreal. The objective of the workshop had been to identify ways to improve the collection and use of data and share Parties' experiences in monitoring and reporting progress made in the implementation of national biodiversity strategies and action plans. It had also been intended to raise awareness of available tools, products and approaches, as well as organizations and networks, that could help improve biodiversity monitoring. The workshop, which had been organized by Group on Earth Observations Biodiversity Observation Network (GEO BON) on the invitation of the Secretariat of the Convention, had been attended by 80 participants from over 40 different countries and a wide range of organizations. It had emerged that, although data was available on many subjects, significant gaps remained in regard to key targets and areas. Many countries had no biodiversity observation networks because they lacked capacity, funding and guidance. Patchy, project-based data, heterogeneity and incompatibility of terminology and methods, absence of information systems and human and technological capacities were common problems. However, many countries had

made good and innovative progress on biodiversity observation networks, including through regional cooperation, the development of global databases, citizens science, earth observation and the use of essential biodiversity variables. In order to encourage public investment, a stronger case must be made for using biodiversity monitoring data to inform decision-making. In order to support the establishment and maintenance of national biodiversity observation systems, it had been suggested that the Group on Earth Observations should provide regionally-tailored start-up kits (BON-in-a-Box) and strategies to integrate remotely-sensed and *in situ* data. It could also help provide economic arguments for biodiversity and biodiversity observation systems, advocacy to funders, and capacity-building on terminology, methods and standards. The Group's work plan was already largely in line with those priorities, and further adjustments would be made in follow-up to the workshop. The Group and its partners were keen to engage further, including by identifying ways to meet countries' needs for specific forms of assistance.

37. Ms. Arguedas said that the Expert Workshop on enhancing biodiversity data and observing systems in support of the implementation of the Strategic Plan for Biodiversity 2011–2020 had been an important opportunity to identify ways to improve data collection and indicator monitoring, and to share information on tools, approaches and organizations that could help Parties improve the collection and systematization of biodiversity-related data. Key obstacles to the implementation of biodiversity targets included capacity constraints and cultural and technological barriers to accessing data. Participants had analysed options and challenges of harmonizing national and regional biodiversity indicator monitoring to support implementation of the Aichi Biodiversity Targets. Regionally-tailored start-up kits, regional and national capacity-building for indicator monitoring, and the participation of partners such as non-governmental organizations, academia and local communities and indigenous peoples had been identified as useful. It was important to be mindful of the role and needs of those partners in the implementation of national biodiversity strategies and action plans and the Aichi Biodiversity Targets, and the importance of continuous efforts to exchange experiences and lessons learned between countries. The workshop had been a useful exercise and similar activities should be conducted on a regular basis.

38. Mr. Paganini said that space agencies were increasingly committed to helping Parties to the Convention improve their capacity to use earth observation data for monitoring biodiversity trends. The decision of the United States Department of the Interior in 2008 to open the Landsat archive at no charge had resulted in explosive growth of data use and significant cost savings for environmental applications and set the stage for other space agencies to follow suit. The European Space Agency and the European Commission were currently in the process of approving a free, full and open data policy for information collected by Sentinel satellites under Europe's Copernicus environmental monitoring programme. That data, together with data from other space agencies, would bring unprecedented observations for the biodiversity community. The Copernicus programme and the United States Landsat mission were designed to yield long-term continuity of observations, since the lack of data continuity had been a major barrier to State investment in earth observations technology. Not all earth observations products available from space agencies were ready for use by the biodiversity community, and additional work was required to ensure that the products were fit for purpose. He commended the Group on Earth Observations Biodiversity Observations Network for its outstanding work in defining essential biodiversity variables, which helped space agencies prioritize. Especially in light of limited human and financial resources, further definition of essential biodiversity variables and their use in the context of biodiversity indicators was crucial. Doing so would help meet the needs of the Strategic Plan and use earth observation data to track the progress made towards fulfilment of the Aichi Biodiversity Targets.

39. Mr. Hobern said that the implementation of the Aichi Biodiversity Targets depended on access to the best possible data on the past and present state of biodiversity. Also, that data must be organized in accessible and appropriate digital formats, since much of the vast amount of existing data was not digitally accessible. Many countries had started sharing such data and the Global Biodiversity Information Facility and the Group on Earth Observations Biodiversity Observations Network, among others, had tools and processes to support international efforts to deliver comprehensive data sets. The Global Biodiversity Informatics Outlook showed ways to build on existing successful approaches and to

deliver fundamental data for biodiversity. While some regions had already accessed significant data, mobilization had been slower for many biodiversity-rich countries. Increased capacities were needed to support observation and monitoring in biodiversity-rich regions, in particular. Governments and funding bodies must support the implementation of the Strategic Plan by investing in the mobilization of biodiversity information. In addition, Governments must legislate and provide incentives for all stakeholders to contribute their data as part of a shared knowledge base used by all.

40. Ms. Malmer said that the complementarity and cross-fertilization between indigenous and local knowledge systems and other knowledge systems were increasingly recognized. However, that knowledge was rarely used to inform decision-making on ecosystem management beyond the local level. In some regions, local knowledge holders and managers might be the only source of knowledge, and community-based monitoring and information systems were therefore vital tools.

41. The Resilience and Development Programme (SwedBio) of the Stockholm Resilience Centre was engaged in continuous dialogue with the International Indigenous Forum on Biodiversity on the needs emerging from the work under the Convention on Biological Diversity and from new bodies, including the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. In order to be credible for decision-making at all levels, knowledge needed to be validated. Possible forms of validation included: the incorporation of components of one knowledge system into another through a validation process; a parallel approach whereby knowledge systems were placed next to each other, respecting the validation mechanisms within each system; and co-production of knowledge, which engaged mutual processes of knowledge generation starting from a common formulation of the problem. The multiple evidence approach highlighted the importance of indigenous and local knowledge systems and the diversity of disciplines of science, with system-specific validation mechanisms, and facilitated a richer picture by integrating different perspectives. Problems were defined collaboratively, by conducting a joint analysis of complementarities, overlaps and contradictions, in order to lay the foundation for future knowledge generation. Placing insights from knowledge systems side by side enabled an enriched understanding of issues. Respect, trust, equity and transparency were key prerequisites for such a collaborative approach. Dialogue across knowledge systems and between diverse actors on equal terms was essential for successful assessment.

42. In a discussion in which the representatives of Canada, Mexico, Tajikistan, Uruguay and Yemen participated, the following points were made: Mexico had established a range of biodiversity monitoring systems for areas such as marine ecosystems, land use, coral bleaching and different species, including a programme on crocodile monitoring. For the success of those programmes, special protocols and the involvement of local communities were crucial. The country would gladly share its experiences with others. Several Parties highlighted the need for data that was easy to use and affordable, noting that aerospace photography and other remotely-sensed data was often difficult to obtain, due to a lack of technology and financial resources, among others. In order to overcome some of those obstacles, Parties highlighted the importance of regional cooperation in biodiversity monitoring. Several Parties pointed out that monitoring must not become an end in itself. In order to avoid falling into that trap, monitoring systems must be effective and linked to processes, tools and regulations. Also, decision makers must be made aware that the outcomes of biodiversity monitoring should feed into national policy-making.

43. Mr. Scholes commended Mexico for its cutting-edge biodiversity monitoring systems, which were exemplary and could show the way forward. It was important to share knowledge drawn from national experiences.

44. Mr. Hobern drew attention to the review of the use of remotely-sensed data for monitoring biodiversity change and tracking progress towards the Aichi Biodiversity Targets (UNEP/CBD/SBSTTA/17/INF/16), which provided useful information on ways to use such data. The Group on Earth Observations could play a pivotal role in helping Parties overcome obstacles to data retrieval. He also pointed out that knowledge alone was insufficient to address biodiversity loss. A

dialogue between data-gathering communities and decision makers and bodies such as the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services were useful tools to provide guidance for biodiversity monitoring. He invited Parties to give guidance on suitable ways of collecting and delivering data to users.

45. Mr. Zakri said that the Science-Policy Platform on Biodiversity and Ecosystem Services was one of the mechanisms used to resolve potential conflict between different knowledge systems. It was a forum for dialogue between conventional science and indigenous and local knowledge aimed at enhancing mutual understanding. It was not a matter of establishing the superiority of one given system, but rather of creating synergies between the different systems to achieve optimal results.

46. Ms. Cariño said that improved dialogue between different knowledge systems, including through the multiple evidence based approach, would help recognize complementarities and lead to stronger and more robust systems in the long run.

47. Ms. Malmer shared the experience of a study conducted by the Stockholm Resilience Centre in collaboration with the Saami Parliament on the impact of reindeer grazing on biodiversity and vice versa. The scientific data provided by scientists had provided information on the situation in a specific place and time frame, whereas the contribution of the reindeer herders had provided valuable data on the situation over a longer period of time. The resulting, more comprehensive, picture had been a useful tool for co-management of the area and for gaining a deeper understanding on ways to maintain the biological diversity of the cultural landscape of reindeer herding.

48. Following the panel discussions, statements were made by the representatives of Australia, Bolivia (Plurinational State of), Canada, Colombia, Kiribati (on behalf of the Asia and Pacific Group), Lithuania, New Zealand and United Kingdom of Great Britain and Northern Ireland.

49. A statement was also made by the International Indigenous Forum on Biodiversity.

50. The importance of effective biodiversity monitoring for decision-making was highlighted by many Parties. A number of Parties also noted that they had ongoing biodiversity monitoring programmes as well as mechanisms to facilitate access to biodiversity information. Among the issues raised by Parties was the need for greater coordination among global agencies to ensure the availability of data and information. In addition, some Parties noted that they had experienced challenges in accessing or utilizing data and remote sensing observations as a result of limited expertise with the issue and the high costs associated with some types of data. Several Parties noted the need for capacity-building and additional, adequate, predictable and timely resources for making greater use of remote sensing information and other types of data. The importance of regional organizations and regional cooperation in promoting data exchange was also discussed. Similarly, a number of countries stressed the potential to learn from other countries' experiences through, for example, South-South cooperation. The potential contribution of agencies such as the Group on Earth Observations Biodiversity Observation Network (GEO-BON) and the Global Biodiversity Information Facility (GBIF) was also highlighted. Parties also noted the need for strengthening and implementing global, regional and national systems for biodiversity monitoring.

Strategic Goal A: Address the underlying causes of biodiversity loss by mainstreaming biodiversity across government and society (includes Aichi Targets 1 to 4)

Panel discussion

51. At the 2nd session of the meeting, on 14 October 2013, the Subsidiary Body engaged in a panel discussion on Strategic Goal A. The panel consisted of Mr. Somanegré Nana (Burkina Faso), Ms. Tone Solhaug (Norway), Ms. Valery Hickey (World Bank) and Mr. Stanley Asah (University of Washington).

52. Ms. Solhaug gave a presentation on the results of the seventh Trondheim Conference on Biodiversity which had taken place in Trondheim, Norway from 27 to 31 May 2013, and had addressed ecology and economy for a sustainable society. The conference had brought together more than 300 participants from more than 100 countries, including biodiversity experts and those involved in development, national planning and finance. The conference had reviewed the interplay between ecology, economy and society, recognizing the fundamental role of biodiversity and ecosystem services in understanding the real values of biodiversity and ecosystems. The report of the co-chairs (UNEP/CBD/SBSTTA/17/INF/5) indicated that it was important to seize the opportunity to invest in biodiversity and ecosystems for human well-being and development, and recognized that biodiversity and ecosystem services were fundamental to human well-being. The current global financial climate, which was sometimes seen as a barrier, might also be considered an opportunity and a challenge to the business-as-usual approach; there was an opportunity to integrate biodiversity into sustainable development goals.

53. Mr. Somanegré Nana said that his country had mainstreamed biodiversity into national accounts and was reflected in the national biodiversity strategies and action plans. This had been achieved by developing environmental accounts, undertaking the valuation of biodiversity and selected ecosystem services, and integrating environmental concerns in national development planning. Environmental accounts had been prepared on land use, water resources, forest cover and environmental protection expenditure. The accounts had revealed negative results for forests, semi-natural environments and wetlands, and positive results for artificial landscapes, agricultural land and water bodies. Total environmental protection expenditure amounted to less than 1 per cent of GDP. The total economic value of the Vallée du Sourou wetland was estimated at 97 per cent of the value attributed to the same land previously when it was used for agriculture. The economic value of non-timber forest products was equal to that represented by earlier forms of forest exploitation. In many regions, non-timber forest products made up between approximately 22 and 43 per cent of rural household incomes. A study conducted in 2011 had shown that natural resources and environmental resources accounted for more than 6 per cent of GDP, although official statistics talked of a mere 2 per cent. The same study showed that the cost of environmental damage stood at over 20 per cent of GDP, and that for remediation at 10 per cent of GDP.

54. In order to integrate biodiversity into its national biodiversity strategies and action plans, Burkina Faso had established a department of environmental economy and statistics that would be in charge of preparing environmental accounts and integrating them into the national accounting system. Guidance had been developed on mainstreaming biodiversity-related issues, climate change, wetlands and the fight against desertification into regional and local development plans. A study was in planning that would inform the development of guidance on incorporating biodiversity and ecosystem service values in environmental impact assessments. An analysis of sectoral planning tools would be piloted in the agricultural sector in order to identify the best way to integrate biodiversity into sectoral development plans and programmes. Strategies, programmes and action plans on different aspects of biodiversity were currently being implemented and Burkina Faso hoped for support from its partners for the establishment of a think tank on ways to promote a green economy.

55. Ms. Hickey said that biodiversity considerations had been increasingly seen as central to international discourse since 2010 and had been discussed at the recent meeting of the General Assembly of the United Nations. The recently held High-Level Panel of Eminent Persons on the Post-2015 Development Agenda had also considered biodiversity as one of the twelve suggested sustainable development goals . The World Bank had developed an issue paper on that to inform the discussion of the post-2015 goals and targets.. What was more important was the need to agree on consensus indicators that measured the constraints that countries were experiencing in implementation, reduced costs, and provided actionable information toward reaching the Aichi Biodiversity Targets. Progress had been made as was demonstrated by the report on the work of the Group on Earth Observations Biodiversity Observation Network (GEO-BON). The recently adopted system of environmental-economic accounting (SEEA) of the United Nations would allow for the accounting of ecosystem services in national accounts. The

World Bank had also developed a new partnership programme for wealth accounting and valuation of ecosystem services (WAVES) that was currently piloted in six countries. The World Bank had also led work on a new indicator for adjusted net savings, which was a new tool to measure a country's investment in human and natural capital to ensure that growth was sustainable and helped countries understand when value came at the expense of natural capital. There was a need to make more progress on indicators to measure resilience which was fundamental for the post-2015 agenda. She urged the meeting to consider how that might be done within the context of the Convention on Biological Diversity.

56. Mr. Asah spoke about the role of socio-behavioural sciences in creating awareness and mainstreaming biodiversity. He pointed out that there were no other animals besides human beings at the present meeting; the other animals were where they were supposed to be. The issue at hand was the problem of the livelihoods of people and their well-being; people were the problem, but were also the solution to the problem. All people were governed by norms, whether acknowledged or not, which conditioned their beliefs, values, traditions, institutional arrangements and power relationships. However, humans were "behaviourally, modifiable organisms"; it was possible to change people's attitudes if the time was taken to understand what motivated their behaviour. Those motivations could be various but people were behaviourally modifiable organisms whose behaviour was modified constantly. He gave the example of the Seafood Watch programme, which had encouraged consumers to ask seafood retailers and restaurants whether the fish had been resourced sustainably. That had in turn encouraged suppliers to meet that demand and resulted in more sustainable fishing.

57. In a discussion, in which the representatives of Bolivia (Plurinational State of), Colombia, Ethiopia, Madagascar, Mexico, Samoa (on behalf of the Pacific Island States), Tunisia, Uganda, the International Indigenous Forum on Biodiversity, the Global Forest Coalition and the World Federation of Culture Collections participated, the problem of policy incoherence was raised. Government departments sometimes worked at cross-purposes when implementing policy and it was asked how such deliberate and non-deliberate policy incoherence could be addressed. It was also observed that motivating people to do what they believed in was crucial for biodiversity conservation and the panel was asked to give some practical examples of how people could be motivated from a social perspective to conserve biodiversity. It was also suggested that to improve the conservation of biological diversity it was important to enlarge protected areas and thus protect the ecosystems concerned. However, the poverty of the people in those areas and the weaknesses of many national economies put the creation of such areas under threat. Many natural resources were in rural areas where many lived in poverty and those people had to be made aware of the value of biodiversity. Raising awareness was often a question of intercultural communication and cooperation for building knowledge rather than a quest for propaganda or a media problem. Consequently, there was a need to strengthen communication strategies as multicultural projects which had to be framed within the overarching Aichi Targets. Public awareness should not be treated in isolation of other supportive measures. There was a strong link between Targets 1 and 4 and to the extent that societies knew and valued the components of biological diversity, and understood the origin of the products they consumed, informed decisions could guide production processes. There was a need to continue efforts to incorporate the values of biodiversity into other sectors, strengthen environmental impact monitoring measurements linking poverty and welfare, and develop and adopt indicators reflecting the true state of ecosystems and ecosystem services in order to translate them into information systems and national accounts.

58. A participant expressed the view that the environment should not be used for the planning of economic activities and should not be part of any national economic accounting. Instead, biodiversity had to be protected and not made part of a pattern of consumption. It was important to have integrated management by a government and people which protected the role of indigenous peoples and protected their traditional knowledge, something that could not be left to the private sector. To improve awareness raising and in-depth collaboration, it was essential to forge equitable partnerships, especially with indigenous peoples and local communities through communication, education and public awareness (CEPA). The value of multiple knowledge systems had to be recognized and the full and effective

participation of indigenous peoples ensured. The meeting was also informed that the Pacific Islands States had been implementing programmes that focused on Targets 1 through 4 of Goal A, but that further resources were needed to translate materials and global guidance into the local context, including for local and indigenous populations. Limited human and financial resources at the local and national levels were cause for concern, and there was a need for support and assistance to enable meaningful, cost-effective and "on the ground implementation" related to the relevant goals.

59. Ms. Solhaug said that there had been a number of interesting interventions and different views expressed on values. Ecosystem services had to be produced in the best possible way: in some instances that process would give an economic figure, while in other cases economic figures would be inapplicable.

60. Mr. Nana said that mainstreaming biodiversity was important, but in his country one of the primary drivers for biodiversity loss was the need for survival which was the stark choice forced upon populations. That was the main threat to biodiversity and he asked whether there were any solutions to address that.

61. Ms. Hickey said that it was important to distinguish between value and price: value was what was received while price was what was paid for a given item. It was important to capture the value of biodiversity and not its price. There was also a need to work on governance issues, such as policy incoherence as well as economic and non-economic incentives, and to remember that the Convention supported both sustainable use and access and benefit-sharing.

62. Mr. Asah said that whenever the issue of changing behaviour came up the answer was always expressed in terms of economics and economic realities. However, if biodiversity was simply valued in economic terms, then it was not being managed well. He asked if anyone knew of a shopkeeper who sold goods but never restocked his store. Economic arguments were often an excuse, like a teacher who explained his poor teaching by the lack of chalk for his chalkboard. More money was in itself not the answer to the problem, a problem which in the end was the people themselves; but to change their behaviour it was essential to understand why they acted in the way they did.

63. The representative of the Secretariat of the Convention introduced a note by the Executive Secretary on the identification of scientific and technical needs for the attainment of the targets under Strategic Goal A of the Strategic Plan for Biodiversity 2011-2020 (UNEP/CBD/SBSTTA/17/2/Add.1), as well as documents entitled "Managing Biodiversity is About People" (UNEP/CBD/SBSTTA/17/INF/1); "Biodiversity and Sustainable Development – the relevance of the Strategic Plan" (UNEP/CBD/SBSTTA/17/INF/2); "Incorporating Biodiversity and Ecosystem Services Values into NBSAPs: Roadmap to support NBSAP Practitioners" (UNEP/CBD/SBSTTA/17/INF/6); "Incorporating Biodiversity and Ecosystem Services Values into NBSAPs: annex, country case studies" (UNEP/CBD/SBSTTA/17/INF/6/Add.1); Incorporating Biodiversity and Ecosystem Services Values into NBSAPs: Guidance to support NBSAP Practitioners (UNEP/CBD/SBSTTA/17/INF/6/Add.2).

64. Statements were made by the representatives of Argentina, Belgium, Brazil, Canada, China, Finland, France, India, Japan, Liberia (on behalf of the African group), Lithuania, Mali, Marshall Islands (on behalf of the Pacific Island States), Mexico, New Zealand, Norway, Republic of Korea, Sudan, Sweden, Switzerland, Uganda and United Kingdom of Great Britain and Northern Ireland.

65. There was agreement on the importance of the implementation of Aichi Targets 1 to 4 as a first step in implementation of the other Aichi Targets.. Changing production and consumption models required increased awareness of biodiversity and the use of social sciences, non-market tools and collective action could help to achieve that end. Several Parties noted the need to focus more on achieving behavioural change. One Party identified the need for guidelines for sustainable consumption. Another suggested that the United Nations 10-year Framework of Programmes on Sustainable Consumption and Production could be used to help achieve Aichi Target 4. More work was needed to develop the targets,

especially with respect to Target 2, and the targets should also take into account values of social, spiritual, and cultural importance. However, the lack of existing tools and data should not delay the implementation of the Aichi Targets. While it was important to adapt the tools to national conditions and circumstances, preference had to be given to applying existing tools and they should be translated into national and local languages. New tools should only be developed after a careful consideration. Several Parties said that limited human and financial resources continued to impede national efforts and they called for timely resource mobilization to implement the targets effectively. Insufficient scientific and technical support was a central problem that restricted the implementation of existing policies. It was suggested that it was important to also consider non-economic incentives to promote behavioural change. South-South collaboration for information sharing and capacity development for data exchange was also needed and it would be important to ensure that best practices were shared through the clearing-house mechanism of the Convention and through national clearing-house mechanisms. A voluntary review mechanism could also provide guidance to individual Parties on the implementation of revised national biodiversity strategies and action plans and the Strategic Plan for Biodiversity 2011-2020.

66. It was important to follow a two-pronged approach that promoted positive incentive measures and eliminated harmful incentives. Regional centres of excellence for the collection and analysis of biodiversity data should be established. Some Parties reported on regional capacity-development initiatives that had been developed in collaboration with partner organization and initiatives. Parties also reported on other initiatives that they had undertaken, such as biodiversity monitoring in the Asia region, the integration of biodiversity into the curriculum of primary and secondary education, and a national environmental education strategy involving the collaboration of botanical gardens, natural history museums, zoos and aquariums. The importance of actions of subnational governments was also highlighted and it was pointed out that because of the particular role of indigenous and local communities as the traditional stewards of biodiversity, cooperative activities between governments and indigenous and local communities were also needed. To further this, it was suggested that the Satoyama Initiative could be an effective tool to integrate traditional knowledge.

67. At the close of the session, Ms. Risa Smith, chair of the session, said that in spite of barriers, some of which were indeed significant, all Parties were engaged in initiatives to implement the Convention and the Aichi Targets. The discussion had revealed that all four targets under Goal A were interlinked and central to attainment of all Aichi Targets. There was a diversity of innovative approaches adapted to national or local circumstances. Much regional collaboration also existed and many organizations and Parties had developed tools that could be used by Parties. There was much to learn from each other. There also seemed to be agreement on the importance of mainstreaming biodiversity, the need for implementing what already was available, on building capacity, and on developing new tools but only where important gaps existed. The Convention was not the only body that could develop new tools. Other agencies, including research agencies, also had a role in identifying and removing perverse incentives.

Strategic Goal B: Reduce the direct pressures on biodiversity and promote sustainable use (includes Aichi Targets 5 to 10)

Panel discussion

68. At the 3rd session of the meeting, on 15 October 2013, the Subsidiary Body engaged in a panel discussion on Strategic Goal B. The panel consisted of Mr. Carlos Alberto de Mattos Scaramuzza (Director of Biodiversity Conservation, Secretariat of Biodiversity and Forests of the Ministry of Environment of Brazil), Mr. Emmanuel Bayani Ngoyi (Gabon), Mr. Jake Rice (Department of Fisheries and Oceans (Canada), Ms. Linda Collette (Senior Officer Crop and Crop-Associated Biodiversity Seeds and Plant Genetic Resources Service of the Food and Agriculture Organization of the United Nations) and Ms. Gunn-Britt Retter (Saami Council).

69. Mr. Scaramuzza gave a presentation on the measures and policies implemented by Brazil which had helped reduce the rate of deforestation by 83 per cent between 2004 and 2012. In recognition of alarming deforestation rates and the attendant climate change implications, an interministerial permanent workgroup had been set up in 2003 to develop a plan of action to reduce deforestation in the Amazon. The plan focused on land-use planning, monitoring and control, and sustainable use, and had facilitated the creation of 250,000 km² of new protected areas and the demarcation of 100,000 km² of indigenous land between 2004 and 2010. Data gathered through remote sensing-based Amazon monitoring was used to inform law enforcement operations. The Amazon Deforestation Monitoring Project (PRODES) provided annual, high resolution, publicly accessible data, while the Real Time System for Detection of Deforestation (DETER) enabled frequent and quick identification of deforestation hot spots and served as the basis for targeted monitoring and law enforcement activity in the Amazon. The satellite images were used for deforestation mapping and the detection of selective logging, which was used as guidance for law enforcement teams in the field. In the context of law enforcement operations aimed at preventing illegal logging in the Amazon, 200 chainsaws, 60 bulldozers and 650 logging trucks had been seized in 2011. Despite those achievements, monitoring, analysing and enforcing were not sufficient. The Terra Class programme had been introduced to evaluate land-use dynamics in deforested areas. The low-carbon agriculture programme was being implemented to enhance productivity and thus achieve land-neutral increases in agricultural production. Farm-level programmes included the establishment of the Rural Environmental Registry (CAR) and the environmental regularization of private rural holdings *(Mais Ambiente*). Regional cooperation was also vital in supporting national deforestation reduction plans. The results of Brazil's efforts showed that deforestation could be reduced while promoting development at the same time. Future steps would involve extending the scope of the above-mentioned programmes to the entire country and improving decision support systems and environmental modelling. Brazil had provided technical cooperation for monitoring, capacity-building, institutional development and policy integration.

70. Mr. Bayani said that direct pressure on biodiversity in Gabon mainly stemmed from forest exploitation, agriculture, fishing and building. The most visible manifestation of habitat loss was deforestation. The fight against deforestation and the promotion of sustainable management of forest ecosystems in Gabon comprised strategic, legal and operational measures. The Strategic Plan for an Emerging Gabon attached great importance to the preservation of natural resources through sustainable use. It also provided guidance for sectoral and intersectoral policymaking. Measures taken to halt deforestation included the creation of national parks and protected areas, a timber export prohibition, training on low-impact forest management, and the certification of 2 million hectares of sustainably used forest. As of 2011, environmental and social impact studies were mandatory in the forestry sector. Two current and one future project concerned a forest resource inventory, tree planting and reforestation of degraded areas. Over 60 per cent of Gabon's forests were protected or managed sustainably. While remedying the consequences of deforestation was important, it was equally crucial to address its causes. The regional dimension of deforestation must also be taken into account and an in-depth multisectoral analysis was currently being conducted to identify the major drivers of deforestation and forest degradation in the Congo Basin countries, including Gabon. Major changes were needed at the political and operational levels to halt deforestation.

71. Mr. Rice noted the difficulty in summarizing the vast number of policies and tools that concerned the interaction of fisheries and biodiversity. Considering the vastness of oceans, the wide range of species affected by fisheries, and the vastness of their habitat, selecting outcome indicators to track all subcomponents of Target 6 was unrealistic. Multispecies surveys and monitoring of commercial catches could provide trend data on many species, but trends might be detectable only on multi-decadal scales. Some robustness could be gained by including aggregate indicators of the state of exploited communities, which should be stable or increasing in sustainably harvested communities, but long series of comprehensive survey and catch data were required for such indicators. In order to track progress towards Target 6, alternative means of tracking were needed to complement information drawn from surveys and fishery monitoring data. The knowledge of coastal communities and fishers in understanding the trends in marine and coastal ecosystems on which their livelihoods depended should feed into national reporting

processes. Another useful indicator might be direct pressure of fisheries on marine biodiversity. Although a decrease in fishing intensity might not directly translate into improved marine biodiversity, it should be a valuable contributor and it was much easier to trace fishing intensity than to monitor all species and habitats. The presence of policies and management measures to protect biodiversity that had been adopted and implemented might also be a valuable indicator. While implementation of such policies and programmes might require time to benefit biodiversity, it was at least a step in the right direction. The ocean was vast and hid from view tremendous biodiversity. It also contributed to food security and human well-being. Realistic and creative plans for monitoring and reporting on progress towards Target 6 were therefore highly beneficial.

72. Ms. Collette said that food security and nutrition of present and future generations was one of the biggest challenges for humanity. To feed the world population, 60 per cent more food would be needed by 2050. In order to meet growing demand for food, feed, fuel and fibre, agricultural systems needed to be more productive, less wasteful, efficient, sustainable, resilient to shocks and changes, climate smart, socially equitable, and generate decent incomes for producers. Agriculture depended heavily on natural resources and at the same time was a driver of biodiversity loss. Sustainable agricultural systems utilized natural biological inputs and processes and conserved, managed and enhanced natural resources. Ecological and ecosystem-based farming practices included integrated pest management, conservation agriculture, rice intensification, agroforestry and integrated rice-fish systems. Obstacles to the scaling up of those practices included their highly location-specific and knowledge-intensive nature, the continuing subsidizing of chemical pesticides in many countries, and the perception of chemical pest control as "modern" and non-chemical methods as "backward". The FAO publication "Save and Grow" had been produced to provide guidance for policy-makers on sustainable farming techniques and approaches that enhanced both productivity and sustainability practices. The policies, strategies and technologies promoted in the document addressed the economic, social and environmental dimensions of sustainability. The FAO's Committee on Agriculture had recommended that member States should examine the document and consider incorporating those aspects that would make their agriculture more sustainable. The Climate-Smart Agriculture Source Book was another reference tool for planners, practitioners and policymakers to help them understand available options. Site-specific assessments were needed to identify suitable technologies and practices. Governments, farmers, consumers, researchers and civil society must cooperate to move towards a sustainable path, including through policy reform, investment and capacity development at all levels. The theme of the 2013 World Food Day stated that healthy people depended on healthy food systems. In that context, sustainable agriculture was a challenge that could no longer be postponed.

73. Ms. Retter reported on the draft plan of action for customary sustainable use of biodiversity adopted by the Working Group on Article 8(j) and Related Provisions at its eighth meeting and which would be submitted to the twelfth meeting of the Conference of the Parties. The plan sought to promote a just implementation of Article 10(c) on customary sustainable use at the local, national, regional and international levels, while ensuring the effective participation of indigenous and local communities at all stages and levels of implementation. It suggested, among other things, the incorporation of customary sustainable use practices or policies into the revised national biodiversity strategies and action plans. It also provided for the promotion and strengthening of community-based initiatives that contributed to the proposed implementation of Article 10(c). The International Indigenous Forum on Biodiversity had welcomed the progress made in agreeing the elements of phase I of the plan, and had stated its continuing commitment to cooperating with Parties and others in its implementation. The Saami people looked forward to seeing how the plan would support traditional reindeer herding on their land. The plan also provided for the identification of best practices of protected area management. Its implementation would help reduce direct pressure on biodiversity and promote its sustainable use, including through the integration of customary sustainable practices into biodiversity management strategies at all levels. Many of the proposed actions were suited for immediate implementation by Parties, thus contributing to the discussions on the post-2015 development agenda, sustainable development goals and poverty alleviation. It would also contribute to the achievement of the Strategic Plan, especially Target 18.

74. In a discussion in which the representatives of Costa Rica, Ethiopia, Guatemala, Madagascar, Mexico, New Zealand, and Tajikistan participated, the following points were made: Several Parties described the particular difficulties of monitoring forests in their countries, either because of their remote location in mountains or because the areas concerned were divided among several countries. Questions were asked about the applicability of remote sensing and how the monitoring of fish populations could be made more effective given the difficulties in measuring those populations. One of the principle challenges for forest protection was illegal animal husbandry, and the illegal traffic in drugs. Several participants agreed that there were challenges associated with law enforcement and asked how to best get communities to comply with national legislation. Too often it was local communities that were blamed for biodiversity loss although a lack of awareness on their part might not be the real problem. There was also a need to raise the awareness of governments. One Party had created a single national biodiversity committee to coordinate the actions by government.

75. Although forest coverage had been expanded, that did not mean those ecosystems were necessarily healthy. The creation of "green deserts" needed to be avoided. It was also suggested that it was possible to restrict certain activities, such as mining, outside of formally protected areas. Furthermore, although agricultural production could be increased, biodiversity also had to be protected; and it was asked what could be done to address deforestation in the absence of coordination between sustainable forest management and other land use planning initiatives.

76. Mr. Scaramuzza said that biodiversity monitoring was an important issue. In Brazil, protocols were being created to monitor seven groups of species and those protocols were now being tested in different protected areas. That information would be useful to avoid the problem of creating green deserts. The problem with raising livestock in areas such as the Amazon region was that it had often not been very productive. Traditionally the way to raise that production had been to increase the area under pasture. However, by the use of low-interest loans and fencing, the productivity of the existing pastures could be doubled and further deforestation avoided. While the main driver of deforestation in the Amazon region had been the raising of livestock, it was important to consider indirect drivers as well. It was now recognized that there might have been an indirect effect on the practice of the raising of livestock to the Amazon region as a result of the expansion of agriculture in the central savannah region of Brazil. He also reported that slaughterhouses, which were few in number, had also been approached to ensure that the cattle they slaughtered had come from legal sources of production.

77. Effective monitoring required many data sources and it was important to integrate those that gave measurements with high spatial and temporal resolution. Cloud cover in the Amazon region meant that radar images could be especially useful for the purpose of law enforcement, while data generated by the use of LiDAR (light detection and ranging) could be very useful in the evaluation of structures and biomass. Monitoring was essential as the information it generated allowed for engagement with civil society and helped raise awareness. However, that in itself was not enough. In order to encourage the support of local communities it was sometimes necessary to take additional measures. He gave the example of a programme in Brazil to restrict funding for municipalities that had failed to implement legislation. That had encouraged those communities to improve compliance with the legislation in question.

78. Mr. Bayani said that the effectiveness of measures to address deforestation varied by country and region: they could only be evaluated by taking that into consideration. In his country, special task forces had been created to police the ports and the national parks to deal with the problem of illegal logging. While cross-border frameworks had to be put in place, those also needed to respond to the needs of each of the countries concerned. Forestry officials, indigenous peoples and local communities needed to be involved in that process as well. Further research was also needed, especially with respect to the traditional knowledge and practices of indigenous peoples and local communities.

79. Mr. Rice said that the problem of the unwanted capture of species while fishing, or "by-catch", was an important problem. However, with appropriate action the problem could be addressed successfully. For dolphins, "by-catch" in eastern Pacific tuna fisheries had been reduced by 95 per cent over a period of 15 years as a result of both the implementation of regulatory measures and awareness-raising in the industry about the purpose of the measures in place. However, marine animals did not recognize national borders. In the case of dolphins success had only come when a compatible approach had been taken along the entire Pacific coast of North and South America to address the problem. Every success story also had an economic aspect to it. It was only when economics, regulations and stakeholders came together that success could be achieved. Overfishing had some of the same drivers as deforestation and in both cases food security and poverty alleviation were a challenge to maintaining local biodiversity and there were lessons that could be learned from greater exchanges between terrestrial and marine experiences.

80. Ms. Collette said that any discussion of land sharing and sparing needed to take account of agricultural biodiversity which went beyond genetic resources and included associated biodiversity related to crop and livestock. She mentioned that landscapes and environments in areas of high biodiversity were complex and the understanding of people's use was essential. She noted that the sparing versus sharing debate oversimplified complex land management features and decisions and paid inadequate attention to key aspects of the need for a change in the way they agriculture was done. She also indicated that there was no blueprint to achieving sustainable agriculture and progress could be achieved through cooperation among all of the stakeholders..

81. Ms. Retter said indigenous peoples and local communities were well placed to further the ecosystem approach for the customary sustainable use of biodiversity. She expressed the hope that those indigenous peoples and local communities that were presently living in national parks would be recognized for the value they contributed to those areas and not excluded from those parks.

82. The representative of the Secretariat of the Convention introduced a note by the Executive Secretary on the identification of scientific and technical needs for the attainment of the targets under Strategic Goal B of the Strategic Plan for Biodiversity 2011-2020 (UNEP/CBD/SBSTTA/17/2/Add.2) and drew attention to an information document entitled "Global Invasive Alien Species Information Partnership: Progress Report on Activities" (UNEP/CBD/SBSTTA/17/INF/11).

83. Statements were made by the representatives of Argentina, Austria, Canada, Egypt, Finland, Japan, Lithuania, Mali, Mexico, Nepal, New Zealand, Niger, Norway, South Africa, Switzerland and Thailand.

84. A number of Parties noted that they had taken actions relevant to the attainment of the Aichi Biodiversity Targets under Strategic Goal B and shared their experiences in addressing the underlying causes of biodiversity loss. A number of Parties also noted that the actions they had taken had been undertaken in collaboration with indigenous and local communities and that those actions were directly contributing to the implementation of their national biodiversity strategies and action plans. The importance of the Strategic Plan as a tool for promoting action was also noted. Many Parties also commented that efforts were required to make better use of existing tools and that additional tools should only be developed if there was a clear need to do so. It was also observed by several Parties that existing decisions of the Conference of the Parties provided a strong basis for action towards the attainment of the Targets under Strategic Goal B. The urgency of taking action to conserve those ecosystems and habitats that were particularly vulnerable to the effects of climate change was noted. The need for developing synergy between different international conventions in fulfilling the Aichi Biodiversity Targets was also noted by several Parties. It was also observed that in order to monitor progress towards some targets, multiple indicators might be needed. Parties also noted the development of remote sensing techniques that could be used on smaller scales and the need for data that could allow for long-term monitoring. Parties

also observed the need for research on concepts related to the elements of the Aichi Biodiversity Targets under this goal, such as ecological limits, and the need for a common understanding of key terms.

Strategic Goal C: Improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity (includes Aichi Targets 11 to 13)

Panel discussion

85. At the 4th session of the meeting, on 15 October 2013, the Subsidiary Body engaged in a panel discussion on Strategic Goal C. The panel consisted of Mr. Patrick Halpin (Associate Professor of Marine Geospatial Ecology and Director of Ocean Biogeographic Information System Spatial Ecological Analysis of Megavertebrate Populations, Duke University, United States), Mr. Piers Dunstan (Research Scientist at the Commonwealth Scientific and Industrial Research Organisation), Ms. Roxana Solis (Peru), Ms. Jane Smart (International Union for Conservation of Nature, IUCN), Mr. Brad Fraleigh (Chair of the Commission on Genetic Resources for Food and Agriculture, Canada), Ms. Christine Teresa Grant (Australia), and Ms. Claudia Marcela Sánchez Medina (Colombia).

86. Mr. Halpin, speaking in his capacity as a lead member of the technical support teams for the Convention's EBSA process, pointed out the seven criteria for the identification of ecologically or biologically significant areas (EBSAs) and clarified that they were not marine protected areas (MPAs). Ecologically or biologically significant areas were described by the Parties through regional scientific expert workshops. There had been six of those workshops to date and 75 per cent of the oceans had been covered. The data considered by the workshops in that process was a synthesis of the best available scientific and technical information. That could be submitted to the workshop process either directly in the submission of potential areas meeting the necessary criteria or as indirectly as a compilation of scientific data and information. For consistency, similar baseline data and technical support had been provided to each of the workshops but additional information of interest to a particular region was also provided as necessary. The baseline data was of three types: biogeographic, biological and physical. While the workshops covered regions with broad biogeographic areas, it remained up to the Parties within each region to decide whether to include national exclusive economic zones in the ecologically or biologically significant areas in addition to areas beyond their national jurisdictions. The areas that were created could also have both fixed and dynamic features.

87. Mr. Dunstan, also speaking in his capacity as a lead member of the technical support teams for the Convention's EBSA process, outlined potential future developments in the process of the creation of ecologically or biologically significant areas. The purely expert process had been replaced by broader consultations and the engagement of government and local communities. He also said that it was important to remember that there were different pressures in the different regions and an interaction between pressures and ecological and biological values. Ecologically or biologically significant areas could be used as the building blocks to develop ecosystem-based management, by identifying values, determining objectives and mapping pressures. They could also be used to develop management actions, and for monitoring, implementation, evaluation and review. Ecologically or biologically significant areas had been the first step in gaining international acceptance for managing areas beyond national jurisdictions and had facilitated the building of regional capacity. Ecologically or biologically significant areas also provided a potential focus for future research and monitoring and might help the international community better understand risks and options.

88. Ms. Solis said that Peru was one of the 17 megadiverse countries in the world and was host to much of the planet's biological diversity. As such, it faced a big challenge to preserve such great wealth and therefore proper management was required to ensure sustainable development contributes to poverty alleviation and to improvements of the quality of life at local and national levels. While almost 17 per cent of Peru was covered by protected areas, not all the main ecological regions and systems have been fully represented. In identifying areas where conservation should be complemented, 133 priority areas

had been selected according to criteria for representativity and connectivity with the national system of protected areas, among others. The Government of Peru had developed different mechanisms to encourage local people, municipal and regional governments, state agencies and private individuals to participate actively in the conservation of protected areas. Peru also had one of the richest marine ecosystems in the world but those ecosystems were being affected by overfishing, pollution, coastal development and the exploitation of non-renewable resources. To reverse that situation and provide sustainable management to marine and coastal ecosystems, the Government of Peru established a multi-sectoral commission for marine-costal management, as a permanent body, to be presided by the Ministry of the Environment. Furthermore, a study carried out for the identification of Marine Protected Areas in the tropical Pacific region, specific to the northern coast of Peru, was presented. The determination of that area had been based on scientific studies, expert consultations and the recommendations of the Directorate General of Captaincies and Coast Guard of Peru to correctly define limits and facilitate the monitoring and surveillance of the area. In closing, she said that a system of marine protected areas required a vision of integrated management, together with ongoing monitoring. The challenge was to continue working to achieve national goals and to leverage cooperation, among the local population, private initiatives and internationally, through different mechanism of participation.

89. Ms. Jane Smart said that a key element of Target 11 was its call to increase the coverage of protected areas thereby considering areas of particular importance for biodiversity. The identification of such sites was the aim of the Key Biodiversity Areas (KBAs) approach. Key Biodiversity Areas were sites that could be managed as protected areas or through other effective means to conserve biodiversity and therefore helped to achieve several of the Aichi Targets at global and national levels, and in particular helped to monitor progress towards Aichi Target 11. IUCN was helping to develop a consolidated globally agreed standard on Key Biodiversity Areas and it was expected that the new standard would be launched at the World Parks Congress in Sydney, Australia, in November 2014. However, Key Biodiversity Areas were currently available and there was no need to wait until then to take action. An information document (UNEP/CBD/SBSTTA/17/INF/10) explaining the KBA approach had been made available as part of the documentation for this meeting. IUCN had participated in the Friends of Target 12, a group of twenty-five organizations that worked together to support Parties in implementing Target 12. In support of Target 12, IUCN had produced the Red List of Threatened Species which was recognized as the most comprehensive method for evaluating the extinction risk for animal, plant and fungi species. IUCN was working to increase plant assessments focusing on useful wild plants. The IUCN Red List had acted as a "wake-up call" that had triggered conservation action. It was also a useful indicator to measure progress towards the Aichi targets and was the basis for a third of the indicators that had been adopted for use globally at the eleventh meeting of the Conference of the Parties. IUCN had recently simplified the Red List assessment process and was also developing a Red List of Ecosystems which would be used to inform Targets 5 and 10, among others. In conclusion she said that the tools needed for action existed, as did the data needed for implementation. While more work was needed that was no reason to prevent further action.

90. Mr. Fraleigh spoke of the activities of the Commission on Genetic Resources for Food and Agriculture of the Food and Agriculture Organization of the United Nations (FAO). That Commission had been established in 1983 and, as of April 2013, had 177 members. Genetic diversity was particularly relevant for food and agriculture, as most of the monitoring, data, tools, policies and guidance on genetic resources were for food and agriculture. He said that only Target 13 of Aichi Biodiversity Targets applied at the genetic level and that progress towards that target would be highly dependent upon partners in the food and agriculture field. Ideally, the reading of genetic diversity would be direct, with sequencing of the DNA of every crop plant and domesticated animal. However, that was not technologically possible. Instead, the Commission had developed a robust proxy based on a number of comprehensive, global and government-approved action plans that had been adopted by FAO. During the present year the Commission had also reviewed proposed sector-specific targets and indicators and had requested FAO to continue developing indicators for biodiversity and strengthen its work on those targets and indicators pertinent to the implementation of the Strategic Plan for Biodiversity 2011-2020 and the monitoring of

the Aichi Biodiversity Targets. The strength of that approach was its identification and collection of science-based and country-based data on a global scale; its weakness was the sheer number of indicators. Therefore, the Commission had also adopted three targets for plant genetic resources for food and agriculture and had further requested that FAO elaborate higher-order composite indices for each of targets, basing them on the data collected from the indicators used for monitoring the implementation of the second Global Plans of Action for Plant, Animal and Forest Genetic Resources for Food and Agriculture. He said that such higher-order indicators would have the advantage of being based on real data provided by countries to monitor priority activity areas in crop genetic resources. They would be global in scope and synthesized so that they would be more easily understood by decision makers.

91. Ms. Sánchez Medina said that the methodologies used for assessing protected area management effectiveness were based on the Framework for Assessing the Management of Protected Areas developed by the World Commission on Protected Areas in 2000. Approximately 40 different methodologies had been used in over 100 countries by a range of actors. Assessments had been conducted from different angles, including time frame, topic, management or impact, among others. Topics for assessment included policy and legal framework, biodiversity, participation, tourism, management and use of resources, monitoring and research. The assessments were part of the programme of work on protected areas which aimed at conducting management effectiveness assessments in at least 60 per cent of protected areas by 2015 and implementing actions derived from those assessments. By 2013, 46 per cent of countries had conducted assessments in 30 per cent of protected areas, and 23 per cent had achieved the 2015 objective early. Data was available on over 3,000 protected areas and some progress had been made in using such data in decision-making on protected area management planning, among others. The 2012 Green List Initiative of the International Union for Conservation of Nature (IUCN) aimed at promoting, analysing and disseminating high standards for protected area management. A standard setting exercise had been conducted in seven pilot countries which involved the implementation of those standards in selected protected areas in order to obtain feedback and validation. Many countries faced challenges such as a lack of articulated information systems, diverging interpretation of standards, lack of evidence, increased participatory planning, resource constraints and internal issues that might hamper effective management of protected areas.

92. In a discussion in which representatives of Costa Rica, Ethiopia, South Africa (on behalf of the African group), Tunisia and the International Indigenous Forum on Biodiversity participated, several points were made. Parties highlighted the value of the IUCN Red List of Threatened Species, but some expressed concern about the non-official nature of the List, the its highly techncial nature, which made it sometimes difficult to use. Several Parties noted the need for capacity-building and funding for conducting threatened and endangered species inventories, especially in developing countries. One Party commended the South-Eastern Atlantic Regional Workshop to Facilitate the Description of Ecologically or Biologically Significant Marine Areas held in Namibia in April 2013, which had provided important input for the preparation of national action plans. Cooperation on cross-border protection of endangered species was also deemed important. One party referred to problems relating to genetic isolation and diversity loss linked to fragmentation and loss of habitats and pointed to guidance provided by Organizations like the Commission on Genetic Resources for Food and Agriculture as valuable input in that regard. One participant said that biodiversity conservation had long been part of indigenous practice and area-based conservation measures could only be successful if indigenous peoples and local communities were included at all levels of governance and management. Free prior and informed consent must be sought for all establishment or expansion of protected areas. Traditional farming methods were also identified as important factors in maintaining genetic diversity. Parties noted the importance of adapting protected area action plans to national circumstances, taking into account resource and capacity constraints in developing countries. An open process was needed to identify gaps in existing policy support tools and complement them where appropriate. One Party noted the need for policy tools that integrated biodiversity conservation and options for alternative livelihoods.

93. Ms. Smart said that the IUCN Red List was intended as a knowledge product to inform, but not prescribe, policy-making decisions at country level. The International Union for Conservation of Nature was aware of the difficulties linked to applying the categories used in the List and had reduced the amount of documentation required to submit species assessments to the Red List in order to simplify the process. A range of online training tools were available, but she would be glad to engage with Parties one-on-one to discuss specific needs for training and support. Her organization fully agreed that indigenous and local communities must be involved in all aspects of protected area governance, as reflected in the recently published guidelines on protected areas. In response to a question about the utility of existing tools and traditional approaches to close gaps relating to protected area management, she said that the IUCN Green List initiative aimed at measuring and communicating successful protected area management models as an alternative approach.

94. Mr. Fraleigh said that the complementarity of *in situ* and *ex situ* conservation was widely recognized. However, traditional farmers did not always choose to preserve genetic diversity and it was good to have a back-up system. It was important that all interested stakeholders cooperate in preserving biodiversity.

95. Mr. Dunstan said that the Red List provided important input for the identification of ecologically or biologically significant marine areas. The workshop that had been held in Namibia had drawn on the outcome of the Sustainable Ocean Initiative Capacity-Building Workshop for West Africa held in Dakar in February 2013, which had facilitated a greater understanding of key issues.

96. The representative of the Secretariat of the Convention introduced a note by the Executive Secretary on the identification of scientific and technical needs for the attainment of the targets under Strategic Goal C of the Strategic Plan for Biodiversity 2011-2020 (UNEP/CBD/SBSTTA/17/2/Add.3). He also drew attention to an information document containing a progress report on marine and coastal biodiversity: use of scientific and technical information for describing ecologically or biologically significant marine areas (EBSAs) (UNEP/CBD/SBSTTA/17/INF/3); an information document on incorporating biodiversity and ecosystem service values into NBSAPs: roadmap to support NBSAP practitioners (UNEP/CBD/SBSTTA/17/INF/6); and an information document on Key Biodiversity Areas: identifying areas of particular importance for biodiversity in support of the Aichi Targets (UNEP/CBD/SBSTTA/17/INF/10).

97. Statements were made by the representatives of Australia, Belgium, Bosnia and Herzegovina, Brazil, Canada, China, Cook Islands, Costa Rica, India, Japan, Lithuania, Palau (on behalf of the Pacific Island States), Peru, Sudan, Sweden, Switzerland, Tonga, United Kingdom of Great Britain and Northern Ireland and Uruguay.

98. A statement was also made by the representative of the Bern Convention on the Conservation of European Wildlife and Natural Habitats.

99. Many Parties broadly agreed with the conclusions contained in document UNEP/CBD/SBSTTA/17/2/Add.3 and outlined their positive experiences working on Strategic Goals A, B, and C, and their willingness to share those experiences. At the same time, some gaps in capacity, information and research were identified. Useful tools for achieving the targets were described, emphasizing the focus on raising awareness of them and using them rather than developing new tools. Limitations for using existing tools and methodologies were also identified, including the need for adjusting them to national circumstance, priorities and capacities. Some Parties cautioned that the lack of data on threatened species should not delay conservation action. Parties also suggested text that could be used to develop draft recommendations for consideration by the Conference of the Parties.

Strategic Goal D: Enhance the benefits to all from biodiversity and ecosystem services (includes Aichi Targets 14 to 16)

100. At the 5th session of the meeting, on 16 October 2013, the Subsidiary Body engaged in discussions on Strategic Goal D. Opening the discussions, the Chair said that the topic of the 2013 World Food Day, "Sustainable Food Systems for Food Security and Nutrition", was closely related to Strategic Goal D. Her country, Colombia, had expended great efforts to safeguard the diversity of wild edible plants and the traditional knowledge linked with those plants and the Alexander von Humboldt Institute for Research on Biological Resources had recently opened a showroom of forgotten food species.

101. The Executive Secretary said that biodiversity and the ecosystems it underpinned were essential to the continued provision of food and an important determinant of its quality. Biodiversity was the source of crops, livestock, fish and other wild food sources. A nutritious diet required a diversity of those plants and animals and their provision depended on functioning agricultural and other ecosystems. Pollination, nutrient cycling and pest and disease regulation all depended on biodiversity. The genetic diversity of crops and livestock allowed adapting to current and future needs and changes, including increasing yields to meet expected food demands. It was important to remember that food production, in turn, had a major impact on biodiversity. It would therefore be desirable that the global discussion on food security was respectful of biodiversity, including by ensuring that production, if increased, was sustainable, resilient and adaptable and mindful of the need for diverse food stuffs. In that regard, the topic of the World Food Day 2013 was indeed highly relevant to the work of the Subsidiary Body.

Panel discussion

102. At the 5th session of the meeting, on 16 October 2013, the Subsidiary Body engaged in a panel discussion on Strategic Goal D. The panel consisted of Mr. Ben ten Brink (Netherlands Environmental Agency), Mr. Xu Jing (China), Ms. Malta Qwathekana (South Africa) and Ms. Maria Yolanda Teran Maigua (Ecuador).

103. Mr. ten Brink, giving a presentation on restoration of degraded lands, said that a plethora of factors contributed to ecosystem degradation, which in turn had a range of negative effects such as unproductive land, floods and droughts, resource deficits, poverty, unemployment and conflict. Estimations and maps of degraded areas, analysed from different perspectives, abounded, but the key issue at stake was the need for productive and sustainable ecosystems to accommodate the need for water, food, fibre, energy, physical safety and climate-change mitigation for a projected world population of some 10 billion over just 40 years. That task needed to be accomplished against the backdrop of soil degradation and constant loss of the very species that kept those ecosystems alive. When analysing land needs, it became clear that policies to prevent degradation and restore degraded lands were at the heart of success or failure of the Rio Conventions and the Millennium Development Goals. The challenge was to restart the ecosystem engine, produce organic carbon and heal the green skin of the Earth. All countries were engaged in relevant activities on different scales, reversing desertification, restoring water resources, creating employment, establishing livelihoods and eliminating reasons for conflict. Some of the programmes had produced surprising fast results. Reversing land degradation took a joint effort but could be done with simple, low cost and local techniques, helping original species do their work and help restore ecosystems. In the light of fast growing competing needs, there was no land and time to waste.

104. Mr. Xu said that, like in many other countries, China's rich biodiversity faced serious threats, both as a result of natural processes and those related to human activity. Some systems such as grasslands and desert ecosystems in China were particularly vulnerable. Climate change and human activities had had a serious impact on those ecosystems, but in recent years his country had made great strides in restoring degraded lands. Ecosystem restoration was part of national planning. Relevant programmes were designed and financed by the central Government, while restoration and monitoring activities were implemented by provincial and local governments. In order to ensure the availability of financial

resources, programmes were designed and implemented in various stages. There was a wide range of projects of different scales and types, including restoration of farmland to forest, restoration of wetland systems, the creation of natural reserves, the conversion of grazing land to grassland, restoration of forest ecosystems, restoration of mangroves and soil erosion control. China had 2669 natural reserves covering nearly 15 per cent of the total territory. Wetland restoration projects had helped bring the total number of wetland park units to 298. It had also restored 280,000 hectares of mangrove forest. Ecosystem restoration programmes had also helped improve livelihoods. Although China's experience might not be applicable to other countries, he would be glad to share more detailed information.

105. Ms. Qwathekana said that South Africa's "Working for Water" and "Working for Wetlands" programmes both related directly to the implementation of Target 14 of the Strategic Plan for Biodiversity. The government-funded Working for Water programme had been founded in 1995 to clear alien invasive plants while providing social services, training and employment opportunities to members of marginalized communities. Since its inception, the programme had cleared more than 1 million hectares of invasive alien plants and provided jobs and training to some 30,000 people annually, 52 per cent of which were women, thereby contributing to poverty alleviation. Invasive alien plants were the most significant threat to biodiversity in South Africa. Many of them were heavy water users and thus threatened the integrity of ecosystems and water security. They also compromised the production potential of the land. Invasive alien plants were controlled by way of mechanical felling, chemical means such as use of environmentally safe herbicides and biological control. Working for Water contributed to the implementation of Targets 9, 14 and 15 of the Strategic Plan. In order to deliver on its goal of controlling all alien plants within 20 years, the programme would need significant additional funding and more scientific information to identify and map new alien species and develop clearing and control mechanisms.

106. The Working for Wetlands programme was a joint initiative of various government departments aimed at the rehabilitation, protection and wise use of wetlands. The programme combined environmental and social outcomes and honoured South Africa's commitment under several international environment agreements. Since its inception, it had helped restore 906 wetlands and create almost 13,000 jobs.

107. Ms. Teran said that indigenous peoples' holistic concept of biodiversity included all visible, invisible, undisclosed and sacred aspects of Mother Earth and the human being in his or her social and spiritual context. Human physical and spiritual well-being and the harmonic functioning of ecosystems depended on the interconnectedness of all those aspects. Indigenous peoples were the custodians of biodiversity and holders of traditional ancestral knowledge on the conservation and customary use of natural resources. Women were seen as the cultural pillar and played a crucial role in the intergenerational transmission of knowledge. Indigenous peoples lived with and from nature, both in physical and spiritual terms. Water was indispensable to the survival of the Earth and humanity and sacred to indigenous peoples. The accelerated and ill-guided use of resources had had unfortunate consequences for Mother Earth and humanity. The implementation of the Strategic Plan for Biodiversity was therefore a collective responsibility that implied respect, recognition and integration on equal terms of all knowledge systems. It should be implemented using intergenerational, multidisciplinary teams and with the full participation of indigenous peoples, local communities and women. Intercultural sustainable development models were needed for future generations. Indigenous peoples owned community protocols and indicators on food security, health, well-being and human rights that reflected their cultural reality and needs and which could contribute to the development of indicators on women, indigenous peoples and local communities. Customary sustainable use of biological diversity should be mainstreamed into all work done by the Subsidiary Body.

108. In a discussion in which the representatives of Belarus, Bolivia (Plurinational State of), Ethiopia, Iraq, Yemen and the International Indigenous Forum on Biodiversity participated, several points were made. One Party shared its experience with the restoration of vast expanses of marshlands of national and transnational significance as a stopover for some 1 million migratory birds and asked what could be done

to address reduced river flow that continued to threaten those areas. Several Parties enquired about the cost per hectare of wetland restoration, mechanisms for accessing technological and financial support, and time frames for restoration. Parties also requested additional information on ways to deal with desertification, especially in China's experience. One Party shared its national programmes to reverse ecosystem degradation and habitat loss caused by unsustainable farming methods, estimating the per hectare cost of wetland restoration at 50 dollars. Ethiopia gave a brief presentation of its Climate-Resilient Green Economy Strategy, which had helped restore degraded land and halt degradation while increasing crop yields, productivity and incomes. One Party highlighted the important contribution of indigenous peoples to conservation efforts, which should feed into national reports, and drew attention to the need to create better market opportunities for products that came from community-based sustainable production.

109. Mr. ten Brink commended Parties for sharing examples of their conservation efforts. In the light of the diversity of challenges, learning by doing and sharing experiences of failure and success with others was the best way forward.

110. Mr. Xu, replying to a question about ways to deal with water shortage and desertification, said that development planning for areas affected by desertification must take account of ecosystem conservation and water use related considerations at the same time. In the process of ecosystem restoration, plants were selected that were suited for environment in question. In order to calculate the cost-per-hectare of restoration, labour cost and the price of commodities needed to be quantified, which might vary greatly depending on local circumstances.

111. Ms. Qwathekana, replying to questions about her country's experience with restoring dried up marshlands and dealing with reduced river flows, she said that South Africa, in addition to the programmes she had presented, engaged in regional and subregional initiatives in recognition of the fact that most water-related issues had cross-regional and cross-boundary dimensions. As to the technology used, both programmes presented had been running for some time and therefore developed their own systems and mechanisms. In order to make such information available to others, it would be useful to create an information sharing portal. South-South and triangular cooperation also facilitated the transfer of skills and technologies. In response to questions about funding, she said that the programmes she had presented were long-term government programmes with a standing allocation from the national budget. They received significant funding because they were valued for both their conservation mandate and, perhaps even more importantly, for their contribution to employment creation and poverty alleviation.

112. Ms. Teran, responding to a question about ways to operationalize the contributions of indigenous and local communities to Convention processes, she said that an inclusive model for participation was required that took account of indigenous peoples' specific and diverse knowledge. Local development models were articulated around different metaphors with their inherent paradigms, worldviews and epistemologies that could only be incorporated in a context of true respect. She shared her perspective as a Quechua woman and a holder of traditional knowledge of the functions and customary use of local ecosystems ("chakra"). In order to enhance the participation of indigenous peoples and local communities, they needed funding to participate in international meetings and conduct activities that contributed to the implementation of the Strategic Plan. Cooperation, knowledge sharing and political will were important ingredients for the success of the Plan.

113. The representative of the Secretariat introduced a note by the Executive Secretary on the identification of scientific and technical needs for the attainment of the targets under Strategic Goal D of the Strategic Plan for Biodiversity 2011–2020 (UNEP/CBD/SBSTTA/17/2/Add.4) and a note by the Executive Secretary providing a progress report on ecosystem restoration and related Aichi Targets (UNEP/CBD/SBSTTA/17/7).

114. Statements were made by the representatives of Belgium, Canada, Finland, Guatemala, Indonesia, Japan, Lithuania, Mexico, Nauru (on behalf of the Pacific Island States), Nepal, Norway, Philippines, South Africa, Sweden, Thailand, Uganda, United Kingdom of Great Britain and Northern Ireland, and United Republic of Tanzania.

115. At the 6th session of the meeting, on 16 October 2013, the Subsidiary Body resumed its discussion of Goal D as well as outstanding issues under Goals A to C.

116. Statements were made by the representatives of Argentina, Australia, India, Madagascar and Norway.

117. Statements were also made by the representatives of the African Regional Intellectual Property Organization, ASEAN Centre for Biodiversity, CBD Alliance, the Ramsar Convention on Wetlands, the Food and Agriculture Organization of the United Nations, the International Indigenous Forum on Biodiversity, Island Conservation, World Wildlife Fund, and the Zoological Society of London.

118. Several Parties agreed with the conclusions in the documentation provided by Secretariat and provided examples of activities and technologies relating to relevant targets. The value of ecosystem services and their benefits to human well-being were highlighted and more attention to defining those links was requested. Countries identified benefits of ecosystem restoration activities and emphasized that the ecosystem approach, including adaptive management, was necessary to restore diverse ecosystems; payment for ecosystem services schemes were also described. Concerns were raised about the availability and usage of technologies and methodologies for restoration. The need for better understanding of the application of ecosystem resilience in monitoring and managing ecosystems at different levels was identified. The issue of governance, and the utility of traditional and local knowledge, was also raised in relation to restoration activities. It was also suggested that the Secretariat and the Chair of Subsidiary Body should work with the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services and the Ramsar Convention on Wetlands, on ecosystem restoration.

119. Ms. Baptiste, chair of the session, said that the session had started with the good news that ecosystem restoration was possible; there were examples of that from which lessons could be learned. It was also important to prevent ecosystem degradation in the first place. Areas for restoration had to be identified and prioritized, and indigenous and local communities needed to be involved in the process. Long-term funding was required for restoration. Ecosystem restoration was also an economic goal as ecosystems were important sources of resources, such as food. Wetlands, coastal areas and rivers were also important ecosystems. The restoration of ecosystems could also help those ecosystems respond to other threats, such as that those posed by climate change, and to address problems related to human welfare and poverty.

Item 3 (c) New and emerging issues relating to the conservation and sustainable use of biological diversity

120. Introducing the agenda item the representative of the Secretariat said that pursuant to decision IX/29, Parties had been invited to submit proposals on new and emerging issues relating to the conservation and sustainable use of biodiversity. Six submissions had been received by 6 August 2013 and he said that in considering the sub-item the Subsidiary Body might wish to the examine the proposal of the Ottawa River Institute that called for work to be undertaken on the impacts of neonicotinoid insecticides on biodiversity. A summary of that submission was contained in the annex to document UNEP/CBD/SBSTTA/17/2.

121. Statements were made by the representatives of Belgium, Brazil, Canada, European Union, Liberia (on behalf of the African Group), Lithuania, and Mexico.

122. There was general agreement that although the issue of the impact of neonicotinoid insecticides on biodiversity was important, other forums were better placed to address the issue. One Party suggested that the issue would be best addressed by the Food and Agriculture Organization of the United Nations but it was generally agreed that it would be better to ask the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services to consider the matter since it had been decided to include a theme of pollination and its impact on food security in its draft work programme. It was noted that other relevant work on the impact of systemic pesticides, such as that carried out with the IUCN Task Force on Systemic Pesticides, should be taken into account.

123. The chair of the session said that he would prepare a draft recommendation on the issue for the consideration of the Subsidiary Body at a future session of the meeting.

ITEM 5. CONTRIBUTION OF THE CONVENTION TO THE INTERGOVERNMENTAL SCIENCE-POLICY PLATFORM ON BIODIVERSITY AND ECOSYSTEM SERVICES (IPBES) INTERSESSIONAL PROCESS

and

ITEM 6. PROGRESS REPORTS BY THE EXECUTIVE SECRETARY

124. At the 6th session of the meeting, on 16 October 2013, the Subsidiary Body took up agenda items 5 and 6 and heard a series of panel presentations on the contributions of the Convention to the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) and on a progress report on the status of the assessment of biodiversity scenarios for the Global Biodiversity Outlook 4 (GBO-4). The panel consisted of Mr. Paul Leadley (University of Paris); Mr. Jan Plesnik (Advisor to the Director at the Nature Conservation Agency in Prague, Czech Republic); Mr. Jerry Harrisson (Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services, IPBES); Ms. Prieur-Richard (acting Executive Director of DIVERSITAS); and Mr. Robert Lamb (Environmental Management Group of the United Nations, Geneva, Switzerland).

125. Mr. Leadley, speaking as a lead scientist of the scenarios consortium for the fourth edition of the Global Biodiversity Outlook of the Convention on Biological Diversity (GBO-4), said that the Outlook would include a new element: a technical report on status, trends and futures. That technical report would bring together analyses for the near term and distant future as well as for the past and present. There were various ways to look into the future: statistical extrapolations from current trends, probabilistic extrapolations from current trends, socioeconomic storylines, storylines that were combined with policy options, and backcasting. As an example he said that the statistical analysis of trends seemed to indicate that some of the 2020 targets might be missed. However, when statistical analysis was combined with forward projections a different picture was revealed. In that case the relevant hypotheses, whether pessimistic or optimistic, had a significant impact of the projected outcome. He also explained that socioeconomic storylines used plausible scenarios in combination with specific policy or management objectives that were typically not accounted for. In the case of biodiversity they sometimes produced outcomes that were bad, worse or even worse because of the clash of those hidden or unexpressed policy objectives. Backcasting was innovative because the goals were set in advance, potentially on the basis of a dialogue between scientists and stakeholders. In that case the short-term implications of the goals were fed into the scenarios and offered the possibility to transform the expected trends in response to the challenge that had been set. He said that the coordinating consortium would be synthesizing a wide variety of scenarios and models as the basis for its work and that some of the newer analyses would be undertaken for the Outlook.

126. Mr. Plesnik reported on the second meeting of the GBO-4 Advisory Group which had taken place immediately prior to SBSTTA-17 on 13 October. He said that the fourth edition of the Global Biodiversity Outlook would build on the reports previously included in the third edition. The advisory group had considered updated information on status and trends that had been provided by the Biodiversity Indicators Partnership. The group had also discussed communication and outreach and had paid special attention to an intersectorial approach to biodiversity conservation and management. While prediction was difficult, techniques did exist to handle uncertainty. Scenario analysis was one of the most popular of those. Within the scenarios being prepared by the consortium there would be those innovations that had just been described by Mr. Leadley. He also expressed his gratitude to Canada, the European Union, Germany, Japan, and Switzerland for their generous funding for the preparation of the Global Biodiversity Outlook, and to the Netherlands for its in-kind contribution and the Republic of Korea for its pledge of financial support.

127. Mr. Harrisson said that the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services would hold its second plenary meeting in December 2013. The meeting was expected to adopt a conceptual framework, the initial work programme for 2014–2018, the budget for 2014–2018, financial arrangements and procedures, operational rules and procedures, and guidance on strategic partnerships, stakeholder engagement and communication strategies. Its work built on previous documents and discussions; requests from governments and multilateral environmental agreements, including the Convention on Biological Diversity; and inputs and suggestions from other stakeholders. The draft programme of work had been made available for open review and subsequently revised to address comments from governments and other stakeholders. A report had been prepared on the prioritization of requests. The structure should serve to strengthen the capacity and knowledge foundations of the science-policy interface to implement the functions of the Platform; strengthen the science-policy interface on biodiversity and ecosystem services at and across the subregional, regional and global levels; strengthen the science-policy interface with regard to thematic and methodological issues; and communicate and evaluate activities, deliverables and findings. The Platform comprised a Plenary, a Bureau, a Multidisciplinary Expert Panel and a Secretariat. It would establish strategic partnerships, engage with multiple stakeholders and develop communication and outreach strategies. Other possible mechanisms included expert groups, task forces, a capacity-building forum and technical support units. In-kind support from Parties might come in the form of hosting of meetings and provision of technical and financial support, among others. The Subsidiary Body might wish to endorse the approach taken in the work programme, recommend a procedure whereby the Convention could provide substantive input into scoping processes and assessments, and identify key areas for alignment. It might also explore opportunities for cooperation in identifying capacity-building priorities and increasing access to policy support tools, information and knowledge. It might further wish to cooperate with scientific advisory bodies of other conventions in developing relationships with the Platform.

128. Ms. Prieur-Richard recalled that DIVERSITAS was a scientific partner of the Convention on Biological Diversity and had contributed to the implementation of the programme of work on mountain biological diversity, subsequent editions of the Global Biodiversity Outlook, and the scientific basis of the Group on Earth Observations Biodiversity Observation Network. The "Future Earth" programme launched by the Alliance for Global Sustainability at the United Nations Conference on Sustainable Development (Rio+20) was meant to provide knowledge required by societies to face risks posed by global environmental change and seize opportunities in a transition to global sustainability. Future Earth sought to achieve scientific integration by merging the International Geosphere-Biosphere Programme, the International Human Dimensions Programme on global environmental change and DIVERSITAS, representing a community of thousands of natural and social scientists. Future Earth would also work towards co-production of knowledge through the engagement of different user groups to define research priorities to respond to those users' needs. It placed biodiversity in a global sustainability context, focusing on a strong link between biodiversity and human well-being. The DIVERSITAS community and its projects were currently transitioning towards Future Earth and would continue their work under the new umbrella. Future Earth was committed to continuing the fruitful collaboration DIVERSITAS had

established with the Convention and, more recently, with the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services.

129. Mr. Lamb presented the Biodiversity Mapping Tool developed by the Environmental Management Group of the United Nations, which was intended to bring together contributions from different United Nations agencies and conventions to the achievement of the Strategic Plan for Biodiversity 2011–2020 and the Aichi Biodiversity Targets. The Mapping Tool was designed to help identify opportunities for implementing the biodiversity agenda in a cooperative manner across agencies. A progress report containing the mapped contributions of 17 United Nations organizations and convention secretariats (UNEP/CBD/COP/11/INF/5) had been submitted to the eleventh Conference of the Parties of the Convention on Biological Diversity. The Mapping Tool identified opportunities for implementing the biodiversity agenda across organizations. It was hosted by http://ieg.informea.org/, which was a web platform that harvested decisions by the Conference of the Parties of the Convention on Biological Diversity, news, events and other relevant data on multilateral environmental agreements for the benefit of Parties and the environment community. The Mapping Tool was ready for transfer to the Secretariat of the Convention for further amendment and subsequent transmission to Parties.

130. Replying to a question raised by the representative of Switzerland, Mr. Leadley said that it would indeed be challenging to integrate the findings of the high-level panel on global assessment of resources for implementing the strategic plan for biodiversity 2011–2020 into the fourth edition of the Global Biodiversity Outlook, as those outcomes were expected shortly after the first draft of the Outlook was due. However, a space would be left for input from the Panel, which would be completed with analyses from other sources.

131. Replying to a question raised by the representative of the European Union, Mr. Plesnik agreed that it would be a good idea to present the findings of the fourth edition of the Global Diversity Outlook in forums other than the immediate biodiversity community and confirmed that the Outlook would be presented at, among others, the United Nations World Conference on Indigenous Peoples to be held in September 2014. In that connection, he called on Parties to submit their fifth national reports as soon as possible, since they provided important input to the Outlook.

132. The representative of the Secretariat of the Convention introduced a note by the Executive Secretary on the contribution of the Convention to the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) intersessional process (UNEP/CBD/SBSTTA/17/4/Rev.1); a progress report on the preparation of the fourth edition of the Global Biodiversity Outlook (UNEP/CBD/SBSTTA/17/5); a progress report on marine and coastal biodiversity: describing ecologically or biologically significant marine areas (EBSAs) (UNEP/CBD/SBSTTA/17/6); and a progress report on ecosystem restoration and related Aichi Targets (UNEP/CBD/SBSTTA/17/7). He also drew attention to an information document containing a progress report on marine and coastal biodiversity: use of scientific and technical information for describing ecologically or biologically significant marine areas (EBSAs) (UNEP/CBD/SBSTTA/17/INF/3); an information document containing relevant documents prepared for the second session of the plenary of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (UNEP/CBD/SBSTTA/17/INF/13); and an information document containing the draft report of the second meeting of the Global Biodiversity Outlook 4 Advisory Group (UNEP/CBD/SBSTTA/17/INF/17).

133. Statements were made by the representatives of Argentina, Belgium, Bolivia (Plurinational State of), Brazil, Canada, Chile, France, Germany, Japan, Lithuania, Mexico, Netherlands, Norway, South Africa, Thailand and United Kingdom of Great Britain and Northern Ireland.

134. Statements were also made by the representatives of the Ramsar Convention on Wetlands and the United Nations University.

135. In their statements, a number of Parties welcomed the collaboration between the Secretariat of the Convention and the Intergovernmental Platform. Many Parties highlighted the importance of avoiding duplication of work and enhancing synergies. Some Parties noted the potential relevance of the regional and global assessments on biodiversity and ecosystem services proposed under the draft work programme of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services, and their contribution to the implementation of the Strategic Plan for Biodiversity 2011–2020 and the achievement of the Aichi Biodiversity Targets. The importance of considering different approaches and visions for the conservation and sustainable use of biodiversity in the work of the Platform was also noted. Parties commented on the potential role of the Chair of the Subsidiary Body, in his capacity as an observer of the Multidisciplinary Expert Panel of the Intergovernmental Platform, in facilitating collaboration between the Secretariat of the Convention and the Platform. Some Parties recalled that the work of the Platform should not be policy-prescriptive, but rather should provide authoritative assessments that could inform policy-making. On the topic of the fourth edition of the Global Biodiversity Outlook, Parties observed that, taking into account the work of the Intergovernmental Platform, there might be a need to evaluate the scope and process of the Outlook following the publication of its fourth edition. Parties also highlighted the importance of national reports in informing the Outlook and the assessments of the Platform. In that regard, some Parties invited the Secretariat to provide an analysis of national reports to the Platform. Some Parties also expressed concern about the suggested priority issues for possible elements to be considered in the work programme of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services listed in paragraphs 24, 26, 28 and 30 of document UNPE/CBD/SBSTTA/17/4 and requested that those items be carefully reviewed and streamlined.

ITEM 7. CONCLUSIONS AND RECOMMENDATIONS FOR FURTHER WORK, INCLUDING INPUTS TO THE IPBES WORK PLAN IN ACCORDANCE WITH DECISION XI/13

Scientific and technical needs related to the implementation of the Strategic Plan for Biodiversity 2011–2020

136. At the 7th session of the meeting, on 17 October 2013, the Subsidiary Body took up agenda item 7. In considering the item, the Subsidiary Body had before it a draft text containing recommendations for further work on scientific and technical needs related to the implementation of the Strategic Plan for Biodiversity 2011–2020.

137. Mr. Alexander Shestakov (Russian Federation) presented the results of the work of the group of the Friends of the Chair tasked to draft key findings on the identification of scientific and technical needs for implementation of Strategic Plan on the basis of the views expressed during the meetings on items 3 and 4 of the agenda.

138. Mr. Hesiquio Benítez Díaz (Mexico) presented the results of the work of the open-ended Friends of the Chair group, which had been used as the basis for the annexes to the draft recommendation. Annex I contained cross-cutting issues identified by Parties while annex II contained views on Strategic Goals A to D of the Strategic Plan identified by Parties.

139. The Chair invited the Subsidiary Body to consider the draft recommendation and the annexes.

140. Statements were made by the representatives of Argentina, Austria, Belgium, Bolivia (Plurinational State of), Brazil, Canada, Colombia, Cook Islands (on behalf of the Pacific Island States), China, Egypt, European Union, Finland, France, Guatemala, India, Japan, Kiribati (on behalf of the Asia and Pacific Group), Liberia (on behalf of the African group), Mexico, Norway, Peru, Philippines, Portugal, Russian Federation, Senegal, Sweden, Switzerland and United Kingdom of Great Britain and Northern Ireland.

141. A statement was also made by the representative of the International Indigenous Forum on Biodiversity.

142. At the 8th session of the meeting, on 17 October 2013, the Subsidiary Body continued its discussion of the draft recommendation.

143. Statements were made by the representatives of Argentina, Australia, Austria, Belgium, Brazil, Bolivia (Plurinational State of), Canada, China, Colombia, European Union, Finland, France, India, Indonesia, Japan, Liberia (on behalf of the African group), Mali, Mexico, Norway, Peru, Russian Federation, Senegal, South Africa, Sweden, Switzerland, United Kingdom of Great Britain and Northern Ireland.

144. A statement was also made by the representative of the International Indigenous Forum on Biodiversity.

145. At the 9th session of the meeting, on 18 October 2013, the Subsidiary Body continued its discussion of the draft recommendation.

146. Following an exchange of views, the Chair said that an informal group facilitated by the representatives of Austria and Belgium should consider issues arising in connection with paragraphs 2 and 5 (a) of the draft relating to resource mobilization.

147. At the 10th session of the meeting, on 18 October 2013, the representative of Austria said that the informal group had agreed on language for the two outstanding paragraphs.

Action by the Subsidiary Body

148. At the 10th session of the meeting, on 18 October 2013, the Subsidiary Body adopted UNEP/CBD/SBSTTA/17/L.2, as orally amended, as recommendation XVII/1. The text of the recommendation, as adopted, is contained in the annex to the present report.

New and emerging issues relating to the conservation and sustainable use of biological diversity

149. At the 9th session of the meeting, on 18 October 2013, the chair of the session invited the Subsidiary Body to consider the draft recommendation on new and emerging issues relating to the conservation and sustainable use of biological diversity.

150. Statements were made by the representatives of Argentina, European Union, France, Mexico and United Kingdom of Great Britain and Northern Ireland.

151. Following an exchange of views, the draft recommendation, as orally amended, was approved for formal adoption by the Subsidiary Body as draft recommendation UNEP/CBD/SBSTTA/17/L.3.

Action by the Subsidiary Body

152. At the 9th session of the meeting, on 18 October 2013, the Subsidiary Body took up draft recommendation UNEP/CBD/SBSTTA/17/L.3 and adopted it, as orally amended, as recommendation XVII/2. The text of the recommendation, as adopted, is contained in the annex to the present report.

The contribution of the Convention to the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services

153. At the 9th session of the meeting, on 18 October 2013, the chair of the session invited the Subsidiary Body to consider the draft recommendation on the contribution of the Convention to the Intergovernmental science-policy platform on biodiversity and ecosystem services.

154. Statements were made by Argentina, Bolivia (Plurinational State of), Brazil, Colombia, Czech Republic, European Union, France, Guatemala, India, Japan, Liberia (on behalf of the African Group), Mexico, Norway, Russian Federation, Senegal, South Africa, Sweden, Switzerland, United Kingdom of Great Britain and Northern Ireland, Uganda and Uruguay.

155. A statement was also made by the representative of the International Indigenous Forum on Biodiversity.

156. Following an exchange of views, the draft recommendation, as orally amended, was approved for formal adoption by the Subsidiary Body as draft recommendation UNEP/CBD/SBSTTA/17/L.4.

Action by the Subsidiary Body

157. At the 10th session of the meeting, on 18 October 2013, the Subsidiary Body took up draft recommendation UNEP/CBD/SBSTTA/17/L.4 and adopted it, as orally amended, as recommendation XVII/3. The text of the recommendation, as adopted, is contained in the annex to the present report

ITEM 8. OTHER MATTERS

158. At the 6th session of the meeting, on 16 October 2013, the Subsidiary Body observed a minute of silence in memory of the victims of the recent earthquake in the Philippines and of Ms. Soledad Blanco of the European Commission who had recently passed away.

159. At the 9th session of the meeting, on 18 October 2013, the representative of Sweden announced that Sweden would contribute 200,000 Swedish kroner to the Secretariat of the Convention on Biological Diversity for further development and capacity-building for community-based monitoring related to Aichi Target indicators, in particular Target 18, in partnership with International Indigenous Forum on Biodiversity and other relevant organizations.

160. The representative of Canada asked that the following statement be included in the record of the meeting. “Canada takes its obligations as host country of the Secretariat of the Convention on Biological Diversity very seriously and is committed to respecting all of its obligations under the host country agreement. We would like to thank those people who had previously brought to our attention the matter of visas which had not been issued for those who wished to participate at this meeting. Our diplomatic and immigration services are looking into the issue to determine what happened in those particular cases. Canada values the contributions of all members and observers from the civil society and strives to deliver visa services around the World in a way that ensures the full participation by all interested parties while maintaining the integrity of its immigration programmes. We regret that not all those people who wished to participate are able be with us in the deliberations of this Working Group this week.”

ITEM 9. ADOPTION OF THE REPORT

161. The present report was adopted, as orally amended, at the 10th session of the meeting, on 18 October 2013, on the basis of the draft report prepared by the Rapporteur (UNEP/CBD/SBSTTA/17/L.1).

ITEM 10. CLOSURE OF THE MEETING

162. The representative of Colombia, speaking on behalf of the Group of Latin American and Caribbean countries, commended the Secretariat of the Convention for its efforts to enrich and strengthen the technical and scientific work of the Subsidiary Body to support the implementation of the Strategic Plan for Biodiversity 2011-2020 and the Aichi Targets. The group welcomed the quest for new formats for the functioning of the Subsidiary Body and the outcome of the first meeting under the new format, which had facilitated broader and more dynamic discussions on the scientific and technical issues on the agenda, was

encouraging. The working methods of the Subsidiary Body certainly required further refinement in order to ensure that it would deliver on the expectations of the Conference of the Parties. The spirit and format of work should be maintained, drawing on the lessons learned from the present meeting.

163. The representative of Liberia, speaking on behalf of the African group, expressed his thanks to the donor countries for contributing to the Voluntary Fund and aiding the least developed countries, small island developing States and countries with economies in transition in sending delegations to the present meeting. However, the African Group would have liked to have seen greater participation in the meeting by representatives from the indigenous peoples and local communities of Africa. The African Group was also supportive of the new format for the present meeting. That had allowed the participants to benefit from the input of a number of agencies and institutions. He requested the Secretariat to assist those institutions to address the capacity needs of Africa and to assist in establishing subregional and regional centres of excellence in Africa.

164. The representative of Kiribati, speaking on behalf of the Asia and Pacific region, said that the successful implementation of the outcomes of the meeting required adequate funding for developing country Parties, in particular the least developed countries and small island developing States, and countries with economies in transition. She requested the support of the Secretariat, donor communities, scientific and research organizations to provide innovative, cost-effective and practical solutions; and to work in partnership with those countries. Parties in her region had concerns about sustainable consumption and they wished to consider elements of food sovereignty and security as indicators towards Aichi Biodiversity Targets 3, 7 and 13. They welcomed the new format for the meetings of the Subsidiary Body. The presentations and panel discussions had brought out concrete ideas and issues for the consideration of Parties. However, to improve that format there needed to be more balanced representation among the panellists and presenters. Practical and realistic examples needed to be provided which least developed countries, small island developing States and countries with economies in transition could relate to. Her region also wished to see a more transparent process in the selection of presenters and panel members and more time allocated to the presenters and panel members to facilitate their exchange of views.

165. The representative of the Russian Federation, speaking on behalf of the countries of Central and Eastern Europe, commended the Secretariat for its boldness in trying out new approaches to improve the scientific and technical outcomes of the Subsidiary Body. The results achieved at the present meeting were noteworthy, although not all countries in the region shared a common view on the value of the new approach, which could certainly be improved. He commended the openness and focused nature of the debates, which had helped enhance the scientific outcomes. Those positive elements should be retained and built on. The countries of Central and Eastern Europe looked forward to the analysis to be undertaken by the Secretariat in order to draw lessons and identify those areas that needed improvement, and shared the views expressed regarding the process for selecting panellists and speakers. More timely submission of information on the format, requirements and expected outcomes of future meetings would certainly be appreciated.

166. The representative of the Republic of Korea said that his country was honoured to host the twelfth meeting of the Conference of the Parties in 2014 and hoped that Parties would agree on a “Pyeongchang Roadmap” that should set forth the actions and initiatives needed to give momentum to the Aichi Biodiversity Targets. Over the course of the present meeting, the Subsidiary Body had recognized the need to strengthen efforts for technical and scientific cooperation, and his Government was exploring ways to support cooperation in that area. The twelfth meeting of the Conference of the Parties would also be an opportunity for ministers to transmit a clear message on the importance of integrating biodiversity and the Aichi Targets into the Sustainable Development Goals in the post-2015 framework.

167. The representative of the International Indigenous Forum on Biodiversity said that indigenous people had been encouraged by the accomplishments of the eighth meeting of the Working Group on Article 8(j) and Related Provisions. However, reflecting on the methodology used at the present meeting,

and the degree of their inclusion in the discussions at the meeting, indigenous people were leaving Montreal with a feeling of disappointment. They were not convinced that the new format for the meetings of the Subsidiary Body would assist in achieving the Aichi Biodiversity Targets. Indigenous peoples and local communities had been excluded from making presentations until the end of the discussions. Their interventions had been truncated, with no more than one minute allowed for presentations. Although they had been told that their full intervention would be posted on the website at a later time, a true dialogue came about with live engagement among all relevant parties. As the oldest conservationists on earth, indigenous people had important views and knowledge to share about their indigenous science and technology related to the conservation and sustainable use of biodiversity. Unless the format for the meetings of the Subsidiary Body was improved, it could not be defined as the full and effective participation of indigenous peoples and local communities.

168. The representative of the Secretariat conveyed the gratitude of the Executive Secretary and his staff to the Chair of the Subsidiary Body, the members of the Bureau of the Subsidiary Body, the Friends of the Chair, panellists, and all Parties and observers for the important work achieved over the course of the meeting. He thanked everyone for the patience and constructive spirit in which they had met the challenges and seized the opportunities presented by the new format piloted in the present meeting. He thanked the representative of indigenous and local communities, in particular, for their patience and understanding and expressed regret that time constraints had limited their valuable contributions. The Executive Secretary was deeply committed to facilitating the full and effective participation of indigenous peoples and local communities and efforts would be made to create a more inclusive process. Thanking those Parties that had already expressed views on the new format, he invited comments and observations from all participants, which would help refine the working methods of the Subsidiary Body. The Secretariat stood ready to engage with Parties and observers in order to build on the lessons learned.

169. After expressing his own thanks to the Secretariat and to all participants, the Chair declared the seventeenth meeting of the Subsidiary Body closed at 5 p.m. on Friday, 18 October 2013.

Annex

RECOMMENDATIONS ADOPTED BY THE SUBSIDIARY BODY ON SCIENTIFIC, TECHNICAL AND TECHNOLOGICAL ADVICE AT ITS SEVENTEENTH MEETING

(Montreal, 14-18 October 2013)

CONTENTS

XVII/1. Scientific and technical needs related to the implementation of the Strategic Plan for Biodiversity 2011-2020

The Subsidiary Body on Scientific, Technical and Technological Advice,

Recalling paragraph 2 of decision XI/13 B in which the Conference of the Parties requested the Subsidiary Body to identify scientific and technical needs related to the implementation of the Strategic Plan for Biodiversity 2011-2020 and to report thereon to the Conference of the Parties at its twelfth meeting,

Also recalling that the format of the seventeenth meeting of the Subsidiary Body provided introductory presentations, followed by panel discussions and question and answer sessions to facilitate in-depth consideration of the issues on the agenda, and *expressing* its appreciation to the presenters and panellists,

1. *Notes with appreciation* the reports prepared by the Executive Secretary in accordance with decision XI/13 B, paragraph 1, contained in documents UNEP/CBD/SBSTTA/17/2, UNEP/CBD/SBSTTA/17/2/Add.1, UNEP/CBD/SBSTTA/17/2/Add.2, UNEP/CBD/SBSTTA/17/2/Add.3, UNEP/CBD/SBSTTA/17/2/Add.4, and UNEP/CBD/SBSTTA/17/3, and, after considering them, found key scientific and technical needs related to the implementation of the Strategic Plan for Biodiversity 2011-2020;

2. *Considers* these needs in the overarching context of the vision of the Strategic Plan for Biodiversity 2011-2020 "Living in Harmony with Nature" and the Aichi Biodiversity Targets. Any actions or measures to address these needs should focus on sharing and applying existing tools and methodologies, which may require adaptation to specific national circumstances, respecting sovereign right of countries to choose their own approaches, visions, models and tools. Addressing these needs will require strengthening scientific and technical capacities and new, predictable and adequate funding by Parties, especially to developing country Parties, in particular the least developed countries and small island developing States, and countries with economies in transition;

3. *Identifies* key scientific and technical needs related to the implementation of the Strategic Plan for Biodiversity 2011-2020, including:

(a) *Social science* - The need for better ways to draw on social sciences to motivate choices consistent with the objectives of the Strategic Plan for Biodiversity 2011-2020 and to develop new approaches through, *inter alia,* better understanding of behavioural change, production and consumption patterns, policy development, and the use of non-market tools. The need for more effective communication, education and public awareness to be spread more widely through school systems and other channels and to devise communication and awareness strategies on biodiversity, complementing communication, education and public awareness efforts with other perspectives including research on intercultural and intracultural communication experiences;

(b) *Data and information* - The need for more accessible, affordable, comprehensive, reliable and comparable data and information streams through, *inter alia,* facilitated access to remote sensing, better collection and use of *in-situ* observations, proxies, citizen science, modelling, biodiversity monitoring networks, better application of data standards and interoperability related to data acquisition and management to produce policy-relevant products, including indicators and scenarios to inform decision-making;

(c) *Evaluation and assessment* - The need for improving and promoting methodologies for assessing the status and trends of species and ecosystems, hotspots and conservation gaps as well as ecosystem functions, ecosystem services and human well-being, at national, regional and global levels;

(d) *Planning and mainstreaming* - The need for improvement and better use of appropriate planning tools, and approaches for mainstreaming, in implementing the Strategic Plan for Biodiversity 2011-2020 through, *inter alia*: biodiversity safeguards, tools and methods for spatial planning, including integrated land use and coastal and marine planning, valuation of biodiversity, ecosystem functions and ecosystem services; and mainstreaming biodiversity into sustainable development and other relevant policy sectors;

(e) *Linking science and policy* - The need for better integration of science and policymaking and for improved science-policy interfaces, particularly at local and national levels and through the use of IPBES, and the improved and wider use of tools to promote policy coherence and policy evaluation and to produce scenarios and options relevant to policymakers;

(f) *Maintenance, conservation and restoration of ecosystems* - The need for better understanding of ecosystem processes and functions and their implications for ecosystem conservation and restoration, ecological limits, tipping points, socio-ecological resilience and ecosystem services; and improved methodologies and indicators for monitoring ecosystem resilience and recovery, in particular for vulnerable ecosystems;

(g) *Economic instruments* - The need for better understanding of the performance of economic instruments and their wider use in achieving the objectives of the Strategic Plan for Biodiversity 2011-2020, as well as poverty eradication strategies, taking into account national socioeconomic conditions, and the need for improved guidance and tools to develop positive incentives and for the identification, elimination, phasing out or reform of harmful incentives, consistent and in harmony with the Convention and other relevant international obligations, as well as the integration of biodiversity in national accounting, as appropriate, and reporting systems;

(h) *Traditional knowledge* - The need for better ways to include relevant indigenous and traditional knowledge systems and the collective actions of indigenous and local communities to complement scientific knowledge in support of the effective implementation of the Strategic Plan for Biodiversity 2011-2020, with the approval and involvement of the holders of such knowledge, innovations and practices;

(i) *Scientific and technical cooperation* - The need to foster improved scientific and technical cooperation among Parties, scientific networks and relevant organizations, in order to match capabilities, avoid duplication, identify gaps and achieve efficiencies. The need to enhance the clearing-house mechanism of the Convention to make scientific and technical cooperation more effective;

(j) *Different approaches* – The need to strengthen non–monetary valuation tools and methodologies for the maintenance of ecosystem functions;

4. *Recommends* that the Conference of the Parties, at its twelfth meeting:

(a) Take note of key scientific and technical needs relating to the implementation of the Strategic Plan for Biodiversity 2011-2020, as identified in this document, and use the key findings in future considerations on the implementation of the Strategic Plan and achievement of the Aichi Biodiversity Targets;

(b) Take note of the collation of further views of Parties with regard to cross-cutting issues in annex I below and specific Aichi Targets of the Strategic Plan for Biodiversity 2011-2020, as provided in annex II;

(c) Invite the Group on Earth Observations Biodiversity Observation Network (GEO BON) to engage with Parties, indigenous and local communities and other relevant stakeholders on selected and clearly defined priority needs related to building observing systems and biodiversity monitoring;

5. *Further recommends* that the Conference of the Parties *request* the Executive Secretary, subject to the availability of the necessary resources:

(a) To prepare a report on existing and possible ways and means to address the key scientific and technical needs as identified in paragraph 3 above and to strengthen scientific and technical capacities especially in developing country Parties, in particular the least developed countries and small island developing States, and countries with economies in transition;

(b) To further enhance the clearing-house mechanism of the Convention to enable the provision of targeted technical support to Parties, especially developing countries, in particular the least developed countries and small island developing States, and countries with economies in transition, on the identification and use of suitable policy support tools, and to strengthen synergies across national, regional and international institutions;

(c) To convene a meeting of the Ad Hoc Technical Expert Group on Indicators for the Strategic Plan for Biodiversity 2011-2020;[4]

(d) To review national experience in the use of tools to evaluate the effectiveness of policy instruments for delivery of the Strategic Plan for Biodiversity 2011-2020, using information contained in the fourth and fifth national reports and report to a meeting of the Subsidiary Body before the thirteenth meeting of the Conference of the Parties.

6. *Requests* the Executive Secretary:

(a) To facilitate timely collaboration with the Biodiversity Indicators Partnership, the Group on Earth Observations Biodiversity Observation Network, the Food and Agriculture Organization of the United Nations, the International Union for Conservation of Nature and other relevant international organizations, including the Working Group on Indicators of the International Indigenous Forum on Biodiversity, with a view to filling the gaps in coverage of indicators for all 20 Aichi Biodiversity Targets by 2014;

(b) Recalling paragraph 17 of decision XI/2, to undertake, in collaboration with relevant centres of expertise and relevant organizations and networks, including the Global Biodiversity Information Facility (GBIF), GEO BON and the Biodiversity Indicators Partnership, regional capacity-building activities and training related to mobilization, management and analysis of data, information and knowledge suitable for monitoring and managing biodiversity, including by strengthening national clearing-house mechanisms;

(c) In line with paragraph 16 of decision XI/3 A, to report to the twelfth meeting of the Conference of the Parties on progress in carrying out the requests in decision XI/3, and taking into

[4] Terms of reference to be developed by the twelfth meeting of the Conference of the Parties on the basis of the elements referred to in paragraph 6 (c).

account the progress made and the use of indicators in the fifth national reports and the fourth edition of Global Biodiversity Outlook, to prepare, for consideration by the Conference of the Parties at its twelfth meeting, possible elements for the terms of reference for a meeting of the Ad Hoc Technical Expert Group on Indicators for the Strategic Plan for Biodiversity 2011-2020;

(d) To include in his analysis of the fourth and fifth national reports an analysis of methodologies used in self-assessments of progress towards implementation of the Convention reported in those and other reports and to report to the fifth meeting of the Working Group on Review of Implementation and the twelfth meeting of the Conference of the Parties as appropriate;

(e) To conduct an evaluation of the approach and format used in the seventeenth meeting of SBSTTA as part of his work in response to paragraph 2 of decision XI/10 on improving the efficiency of structures and processes under the Convention and its Protocols, and to report the Conference of the Parties at its twelfth meeting.

7. *Notes* that the Aichi Biodiversity Targets provide readily available elements for biodiversity-related goals, targets and indicators that could be integrated into the set of sustainable development goals currently under development;

8. *Highlighting* the urgency of implementing measures, including those noted in paragraphs 11 and 24 of decision XI/18, to achieve Target 10, *notes* that this matter will be considered as part its work at its eighteenth meeting to update the specific work plan on coral bleaching, in line with paragraph 13 of decision XI/18, as well as in the context of its consideration of the systematic review document on the impacts of ocean acidification on biodiversity and ecosystem functions.

Annex I

CROSS-CUTTING ISSUES IDENTIFIED BY PARTIES

Policy tools and guidance

1. There is an abundance of policy support tools and methodologies available to Parties that enable action to implement the Strategic Plan for Biodiversity 2011-2020 and achieve the Aichi Biodiversity Targets. The lack of tools or guidance, for some targets, or the difficulties of applying them in some countries, should not prevent most countries from taking effective action to implement the Strategic Plan. New tools should only be developed when there is a clearly demonstrated need. The focus should be on facilitating the use of existing tools by making them easily available, explaining their conditions of use, and by adapting them to specific national circumstances, bearing in mind the sovereign right of countries to choose their own approaches, visions, models and tools in accordance with national circumstances and priorities.

2. A limited number of additional tools and methodologies are needed, which include:

(a) Guidance on the social, economic and cultural drivers motivating behavioural change, their interplay, and the implications for policy design;

(b) Tools and methods that, in conjunction, are able to recognize the full range of biodiversity values, including its social, spiritual, and cultural importance;

(c) Approaches to using non-economic incentives and implementing associated measures, such as the incentive effects of societal institutions, including collective property institutions and associated governance arrangements, and the contribution of indigenous and local communities;

(d) Good practice guidance for identifying incentives that are harmful for biodiversity, and means to reform these, based on successful case studies and lessons learned;

(e) Tools and methodologies for achieving sustainable production and consumption;

(f) Integrated land-use planning and sustainable land management to address multiple Aichi Biodiversity Targets within the broader landscape and seascape;

(g) Methodologies to improve the success of ecosystem conservation and restoration and the maintenance of ecosystem resilience;

(h) Guidance on best practices for appropriate access to and use of traditional knowledge, innovations and practices for conservation and customary sustainable use;

(i) Guidance on the opportunities and limitations of transferring good practices across different biomes and sectors, for example between forestry and agriculture, or from terrestrial to marine systems;

(j) Tools for assessing, communicating and managing potential trade-offs among poverty eradication, food security, and biodiversity conservation objectives.

3. Technical and scientific cooperation among Parties should be promoted through the clearing-house mechanism. This could include the sharing of experiences and good practices on the development and application of national tools; and the application of global tools for use at national level.

4. The Convention's clearing-house mechanism should enable Parties, especially developing countries Parties, in particular the least developed countries and small island developing States, and countries with economies in transition, to express their specific technical and scientific needs. The clearing-house mechanism should also enable Parties, as well as scientific networks, relevant organizations and funding bodies to indicate their areas of competence and expertise. The mechanism could thereby facilitate the matching of needs and capabilities.

Data, monitoring, observation systems and indicators

5. Citizen and community based initiatives have an important and growing role to play in helping deliver *in-situ* monitoring, while innovative application of remote sensing and other sensor technologies can complement this with measurements at larger scales. Standardization of protocols for both, as well as platforms and mechanisms for their use and integration, will help make individual efforts more effective and enable aggregation to support needs at larger scales.

6. There are opportunities for much greater systematic use of remote sensing data and of cost-effective and standardized *in-situ* observations.

7. Indigenous and local knowledge systems are an important element of sustainable management of many ecosystems. Local knowledge and monitoring efforts are often a critical source of information, complementing scientific approaches and frequently covering different temporal and spatial scales. Respect, trust, equity and transparency are essential for enabling monitoring that draws on combinations of indigenous, traditional and scientific knowledge systems.

8. There is a need for long-term data series to facilitate the monitoring of change in the status of biodiversity over time, and for the measuring of progress towards 2020 and beyond.

9. Better access to near-real-time biodiversity monitoring data can promote greater public interest in biodiversity policymaking and enable the participation of a wider range of stakeholders.

10. There is a need to continue and enhance the dialogue between policymakers and the Earth observation community with a view to enhancing the collection and access to data for monitoring progress in achieving the Aichi Biodiversity Targets and associated national targets and indicators.

11. Free and open access to satellite data has enabled greater use of remote sensing data for the monitoring of biodiversity. The salience of remote sensing data is much improved if it can be made available in near-real-time and processed into key products that are useful to decision makers and environmental protection agencies (e.g. land-use maps).

12. Establishing and sustaining biodiversity observing systems at national, regional and global levels require data standards, interoperability and coordination among institutions as well as capacity-building and sustained funding, especially to developing country Parties, in particular the least developed countries and small island developing States, and countries with economies in transition.

13. Regional collaborative programmes, or regional centres, could promote biodiversity observation networks and support data analysis for use by countries of the region.

14. Essential Biodiversity Variables developed by GEO BON and other comparable approaches or variables, once clearly defined and tested, have a potential to improve the efficiency of monitoring by focusing observations on a limited number of key attributes. Such information on the types of observations most useful to the biodiversity community will enable space agencies to deploy appropriate sensors for the relevant variables.

15. A toolkit ("BON-in-a-Box") that can be tailored to national and regional needs would fill a major gap. Such a toolkit might include a handbook, Essential Biodiversity Variables in support of indicators and database structures, strategies to integrate remotely-sensed and *in-situ* data, and guidance on terminology, methods and standards.

16. The Global Biodiversity Informatics Outlook (GBIO) represents a roadmap and a framework to enhance access to and sharing of historic and legacy data, as well as new observations and measurements from remote sensing, local monitoring activities and citizen science. It thereby allows for the analysis of data across different data sets. GBIO thus promotes a globally coordinated approach, to mobilize biodiversity information and to enhance efforts to make data public and accessible for use in policy and research.

Challenges

17. Implementing the Strategic Plan for Biodiversity 2011-2020 presents significant challenges to all Parties, especially developing countries Parties, in particular the least developed countries and small island developing States, and Parties with economies in transition. Challenges relate to, *inter alia:*

(a) Limited human and financial resources at the national and subnational levels to develop and implement the national biodiversity strategy and action plan;

(b) The absence of baselines or of sufficient information on current trends to facilitate target setting;

(c) Limited capacity to conduct meaningful consultations and stakeholder engagement;

(d) Limited capacities to manage biodiversity effectively;

(e) Limited availability of, or access to, context-specific guidance and tools, and limited capability to adapt global guidance and tools for application at national and subnational levels;

(f) The inadequacy of monitoring systems to track progress;

(g) Limited policy coherence and integration.

18. A multitude of efforts is being undertaken to overcome the challenges and limitations noted in the subparagraphs above, both through innovative local solutions and by fostering partnership and collaboration among Parties and other partners.

Success stories

19. There are many areas in which good progress has been made to support implementation of the Strategic Plan for Biodiversity 2011-2020, including, *inter alia*:

(a) Many Parties report that national biodiversity strategies and action plans are effective means to implement actions to achieve the targets and foster improved intersectoral coordination;

(b) The identification of relevant national institutions, and assignments of targets (clusters of targets or Strategic Goals) to them, as "biodiversity champions", has helped enhance ownership, implementation and inter-agency cooperation; similarly, some Parties have greatly benefitted from the establishment of national biodiversity institutions focused on facilitating the science-policy interface;

(c) Regional initiatives, such as regional biodiversity corridors and transboundary protected areas have been instrumental in mobilizing collaborative actions for biodiversity conservation and enhancing regional cooperation;

(d) Biodiversity guidelines developed in partnership with sectors, for example mining or energy, can be a particularly useful tool to reach consensus on objectives, create transparency and certainty for the business sector, and represent important decision-support tools;

(e) Improved attention to restoring ecosystem services in agricultural systems has delivered both increased agricultural productivity and benefits beyond farming communities, across a large number of countries and regions and under a wide variety of climatic zones and agro-economic settings, convincingly demonstrating that food security and environmental sustainability can be mutually supporting through the more effective management of biodiversity;

(f) Significant advances have been made in monitoring ocean and coastal biodiversity such as early warning systems for algal blooms and coral bleaching as well as monitoring of mangrove ecosystems in certain regions;

(g) The development and implementation of policy mixes, entailing enhanced monitoring, surveillance and enforcement capacities combined with incentives, collaborative activities and enhanced stakeholder engagement has helped curb deforestation in some parts of the world;

(h) The dissemination of publicly available information has helped mobilize public opinion in support of measures responding to biodiversity loss;

(i) The combination of top-down policies at national level with community-driven bottom-up actions at local level has strengthened the sustainable management of biodiversity in many parts of the world.

Assessing effects of types of measures taken under the Convention

20. While policy evaluation is a commonly applied approach, it is difficult to discriminate and measure the specific effects of policies, especially those which have multiple objectives and which are delivered in a complex policy landscape. The feasibility of such evaluations should be explored by undertaking pilot assessments of the effects of measures taken in specific thematic areas or case studies.

Annex II

I. VIEWS ON STRATEGIC GOAL A IDENTIFIED BY PARTIES

1. Implementation of Aichi Targets 1 to 4 is critical as it will provide a significant stimulus to the implementation of many other Aichi Targets and to resource mobilization.

2. It is essential for effective mainstreaming to achieve better policy coherence, that is, the development and application of common objectives across sectors, and the implementation of activities that are mutually supportive activities. Good governance arrangements are critical in achieving this.

3. Further research is needed on the social, economic, and cultural drivers motivating behavioural change, their interplay, and the implications for policy design.

4. It is important to reaffirm that the values of biodiversity include intrinsic value as well as ecological, genetic, social economic, scientific, educational, cultural, recreational and aesthetic values of biological diversity and its components.

5. It is critical to align policies, incentives and business within safe ecological limits.

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.

6. The programme of work on communication, education and public awareness (CEPA) provides the main framework for action towards this target. Toolkits and other support resources have been developed by the Secretariat as well as by other relevant global, regional and national actors. These resources are adequate but additional resources are needed for adaptation of these to local conditions and languages.

7. In order to overcome remaining gaps, create the additional tools and methodologies needed, and integrate these actions to promote behavioural change, there is a need to:

(a) Identify target groups and their needs and interests;

(b) Identify most effective communication means and technologies for these, including intercultural approaches to communication;

(c) Gather information on methodologies for motivating behaviour change, such as the report of the Organisation for Economic Co-operation and Development (OECD) “Greening Household Behaviour: The Role of Public Policy”, and implement campaigns on the basis of this data;

(d) Work with local authorities, including cities, and with indigenous and local communities, to develop and achieve domestic targets and to extend and adapt tools and campaigns; and

(e) Increase impact at the local level by using locally relevant approaches to apply global principles.

8. Recent good practice includes integrating biodiversity into the curriculum of primary and secondary formal education, as well as developing informal education tools in collaboration with botanical gardens, natural history museums, zoos and aquariums.

9. Monitoring progress against this target, using a range of methodologies and indicators, is advancing, but challenges remain. Comprehensive data remains limited at the global level. The Biodiversity Barometer of the Union for Ethical BioTrade was recognized as an indicator of global significance. Progress could be further improved by agreeing on core concepts and common methodologies for use by Parties.

10. Given their particular role as traditional stewards of biodiversity, the role of indigenous and local communities needs to be reflected in public awareness indicators, such as for instance in the form of measurement of the number of cooperative activities between Governments and indigenous and local communities.

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.

11. There are a variety of tools and methodologies available to help assess the values of biodiversity at different levels, including in the private sector. While many tools and methodologies focus on economic values, guidance has been developed in some countries on integrated assessments of values of biodiversity. While there are indications that such tools and methodologies are increasingly being applied, there is a need to further develop and apply tools and methods that, in conjunction, are able to recognize the full range of biodiversity values, including its social, spiritual, and cultural importance.

12. There is also a need to further develop, through inter-scientific dialogue and the use of different knowledge systems, tools that reflect and strengthen alternative approaches, such as collective action of indigenous and local communities in biodiversity management and the conservation of the system of life, in order to achieve well-being in harmony and balance with Mother Earth.

13. Reflecting the values of biodiversity in development and poverty reduction strategies and national accounting systems can rely on a broad range of policies, tools and methodologies, in accordance with national circumstances and priorities. This can be a technically challenging task and there are major obstacles to the implementation of the policies, tools and methodologies associated with this target.

14. The work of several international partner organizations and initiatives, such as the United Nations Committee of Experts on Environmental-Economic Accounting, The Economics of Ecosystems and Biodiversity (TEEB), and the global partnership on Wealth Accounting and Valuation of Ecosystem Services (WAVES), is critical for advancing implementation of some aspects of this target. Guidance and tools have been developed by these organizations and initiatives and several pilot initiatives are already ongoing to further adjust and test them.

15. Applying these tools and methodologies requires significant expertise and capacity, as well as data, and collaboration with local and subnational governments. This is further compounded by the complexity of establishing national development strategies, poverty reduction plans, national accounting and reporting processes. The continuation and expansion of capacity-building will be important to speed up the use of such tools and methodologies and implement Aichi Target 2.

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

16. It is important to follow a two-pronged approach that would consist of both promoting positive incentive measures, bearing in mind potential budgetary implications, while simultaneously eliminating, phasing out or reforming harmful incentives, as a critical and necessary step that would also generate net socioeconomic benefits.

17. Several relevant policy tools and associated guidance material have been developed under the Convention, while international organizations and initiatives have also prepared analysis and guidance on incentive measures. Considering that incentives, including subsidies, have case-specific contexts, some countries have further developed step-by-step guidance tools and analyses at national level, such as on existing incentives, including subsidies, harmful to biodiversity, in order to identify priority candidates for elimination, phase-out, or reform.

18. Tools and methodologies could be further developed to address non-economic incentives and implement associated measures, such as the incentive impacts of institutions, including collective property and associated governance arrangements, the capacity to enforce regulation, and the availability of information.

19. Good practice guidance could be developed in identifying incentives that are harmful for biodiversity and means to reform these, based on successful case studies and lessons learned.

20. There is significant information on subsidies and incentives more generally, available at least for some sectors at the global level; however, indicators need to be further developed to be ready for use at global level.

21. Additional assessments may be needed in order to ensure that incentive measures are implemented in a manner that is consistent and in harmony with the Convention and other relevant international obligations.

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.

22. Existing policy support tools and methodologies are of a general nature and need to be adapted to different governance levels (regional/national/subnational/local) and for economic sectors. In particular, in order to effectively engage businesses, there is a need for information and policy support tools as well as practical management tools for assessing corporate dependency and impact on biodiversity and ecosystem services, and to integrate biodiversity into corporate decision-making and reporting. Such tools could be disseminated for instance through the Business and Biodiversity Platform. There is also a need to reflect on potential incentives for businesses to support sustainable consumption that reflects biodiversity considerations.

23. The United Nations 10-Year Framework of Programmes on Sustainable Consumption and Production provides the general structure for taking action and existing processes thereunder could be harnessed.

24. Changing production and consumption models implicate awareness of biodiversity and behaviour change – there is a need for integrated systems, including back-casting approaches, the application of social sciences, non-market tools, and collective action.

25. While tools and methodologies seem to be available for cleaner production, recent progress includes tools and methodologies on achieving sustainable consumption, such as footprint measurement approaches that evaluate the impact of consumption at national, subnational/local, or household levels.

26. Exchange of information, including on good practices and lessons learned, could provide further guidance, such as on national targets aligned with Aichi Biodiversity Target 4.

27. The leadership and contribution of ministries of economy and finance is perceived as key to mobilize the various industry sectors and mainstream implementation.

II. VIEWS ON STRATEGIC GOAL B IDENTIFIED BY PARTIES

28. Overall policies and guidance are well developed for Strategic Goal B. Implementation of existing policies and guidance remains the major challenge. There is also a need to develop tools to assess the impact of these policies and guidance.

29. Many tools and much experience on Goal B are now available. Therefore, there is an opportunity for focussed research on the effectiveness of tools and guidance for addressing habitat loss, while balancing multiple demands on habitats, and of approaches for sustainable agriculture, forestry and aquaculture, including the role of certification schemes, as well as how effectiveness of tools and guidance varies with the scale of their deployment (local, national, regional and global).

30. Particularly, with regards to Targets 5 and 7, there is a need to strengthen policies, tools and guidance with regards to more integrated and holistic land use planning that can also take into account other relevant Aichi Biodiversity Targets (such as Targets 11, 14 and 15), including landscape scale approaches to biodiversity management such as Satoyama and related initiatives.

> ***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.***

31. Policies, tools and guidance are relatively well developed, although there is a need to develop remote sensing tools, in combination with integrated data management and analysis as well as *in-situ* observations, that can be applied at fine scales to measure habitat change. New tools may be needed for decisions makers to account for the costs related to habitat loss and degradation.

32. In terms of monitoring, data are needed to enable the assessment of the short- and long-term impacts of land use change in order to help address the drivers leading to the loss of habitat. Challenges include monitoring sectoral pressures associated with habitat loss, especially the implications of land-use change on critical ecosystems such as wetlands and fresh water.

33. Further guidance is required for classifying and mapping natural habitats and the establishment of baselines to measures progress. Lack of definitions for terms such as “degraded”, “natural habitats” and “fragmentation” remains a constraint. Some Parties recognize fragmentation as a form of degradation.

34. The proposed FAO Voluntary Guidelines for Forest Monitoring and the FAO Voluntary Guidelines on Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of

National Food Security are relevant to activities aimed at achieving a range of Aichi Biodiversity Targets, in particular Target 5, as well as Targets 7, 11 and 15.

> ***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.***

35. At the global, regional, and often national levels, policies, tools and guidance are relatively well developed with regards to fish stocks and the impacts of fishing. Monitoring of fish catches is relatively well developed, although not without gaps and constraints. At the global level this topic is already covered by FAO including attempts to improve monitoring and data.

36. Major challenges remain in monitoring the impacts of fishing on ecosystems and biodiversity (other than the fish catch itself) and the application of the term "safe ecological limits" at the population and ecosystem levels. As an interim measure, indicators and monitoring should focus on inland, coastal and pelagic fisheries to address gaps on harvesting and other aspects of fisheries management.

37. A combination of good governance, surveillance approaches, accountability among, and capacity-building for, stakeholders and law enforcement were also noted as important factors for the conservation and management of fishery resources.

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

38. For agriculture, besides the programme of work on agricultural biodiversity, and for aquaculture, there is limited guidance specifically provided under the Convention on Biological Diversity but considerable guidance available at the global, regional and national levels through partners including in particular FAO, the CGIAR centres and many intergovernmental and non-governmental organizations, and farmers' and producers' organizations. In this regard, the upcoming FAO report on the State of the World's Biodiversity for Food and Agriculture will further assess the contribution made by biodiversity to sustainable agriculture.

39. Measures to foster policy coherence among different sectors, including agriculture, aquaculture and forestry, were underscored. In many countries interministerial dialogues and networks have been created to enhance greater coordination and cross-sectoral cooperation. These measures have proved useful, for example, in balancing agricultural intensification, and in promoting small-scale ecosystem-related production systems.

40. The current guidance does not adequately address the important positive or negative influence of indirect drivers, such as incentives, trade and consumption patterns, on biodiversity.

41. Challenges that remain include finding the appropriate balance between intensive (high input) and smaller scale production systems, as well as sustaining the health of soil.

42. While there are no universally agreed criteria for sustainability for agriculture, aquaculture, and forestry, there are internationally agreed elements of sustainability, such as for forests, that should be considered. Sustainability criteria should be comparable, and support desired biodiversity outcomes.

43. The monitoring framework can use a small number of globally consistent indicators that work across ecosystems to provide an overview; as well as flexible, ecosystem specific indicators that reflect

local circumstances and are consistent with national priorities and conditions. However, there is a need to ensure that indicators reflect the area sustainably managed and not just the area certified.

44. Global and regional level criteria and indicator processes have made some advances in the collection of data that are consistent among processes and reduce the burden of reporting on countries to report on areas that are sustainably managed.

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

45. There is much policy guidance and tools available at global, regional and national levels, although with significant gaps in implementation of measures to significantly reduce pollution.

46. The Strategic Approach to International Chemicals Management (SAICM) is a policy framework to guide efforts on the sound management of chemicals globally.

47. A major gap is with regards to soils as sinks for pollutants and as a substrate for 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.

48. National invasive species strategies and action plans are developed and integrated in NBSAPs in a number of countries.

49. International standards for sanitary and phytosanitary measures were developed within the context of other international agreements and not fully focused on biodiversity. Therefore it is not simple for Parties to apply the measures under environment-related policies. Explanatory materials (decision XI/28) would assist Parties to apply these international standards and guidance to achieve Target 9 (measures to be in place) if such materials are associated with capacity-development opportunities.

50. Information on invasive alien species is needed and the Global Invasive Alien Species Information Partnership is filling gaps in this regard. Further information on pathways and measures to control them would be useful.

51. Tools for cost benefit analysis of the relative feasibility of eradication versus management for established invasive alien species as well as tools for prioritizing pathways for invasions and for identifying species of high impact (consistent with decision XI/28, paragraph 26 (b)) can facilitate decision-making and should be developed as a priority.

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.

52. Given the 2015 deadline for this target and the threats faced by coral reefs in particular, urgent measures are needed to achieve this target.

53. A major gap is the identification of vulnerable ecosystems at the national and regional levels using consistent assessments of relative vulnerability to climate change, other pressures and the effects of multiple pressures.

54. At the global/regional levels, these assessments should explore which areas are most vulnerable and assess the reasons for differences among them.

III. VIEWS ON STRATEGIC GOAL C IDENTIFIED BY PARTIES

55. There are many useful and technically sound tools for achieving the targets under Strategic Goal C and the main focus should be on using and implementing the already available tools rather than developing new ones.

56. Limitations for using existing tools and methodologies in some cases are their level of generality and there is a need for adjusting them to national circumstances, priorities and capacities.

57. Recent innovative approaches to support and enhance data recording, capture and flow - such as developments in sampling (e.g., through Earth Observation or DNA/eDNA survey), and developments in data capture techniques (for example, recording species observations online and through "apps" for mobile phones) are valuable tools with scope for much wider application and merit further consideration and development.

> ***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.***

58. The programme of work on protected areas provides guidance on elements of Target 11 and many organizations have contributed to the significant number of tools covering most aspects of Target 11 as well as providing support to the implementation of activities aimed to achieve the target at national, regional and global levels.

59. The organization of a series of regional workshops on ecologically or biologically significant marine areas (EBSAs) has fostered valuable scientific collaboration and contributed to capacity-building at the regional scale.

60. Marine spatial planning at a broader regional scale, building upon scientific understanding of ecological or biological values and threats, can contribute to a coordinated use of various conservation and management tools, such as Marine Protected Areas, fisheries management measures, and other policy and management interventions toward implementing the Strategic Plan for Biodiversity 2011-2020.

61. Further efforts in the following areas, *inter alia*, would be useful:

(a) Targeted research on the impacts of climate change on the functioning of protected area networks, and on the effectiveness of management actions in protected areas affected by climate change, particularly with regard to waterways, wetland ecosystems, mountain ecosystems and the species of northern habitats, could facilitate the development of robust protected area networks;

(b) Research on species-specific conservation and monitoring programmes, and management of habitats to enable effective management and monitoring of protected areas;

(c) Adapting global marine spatial planning tools and other relevant tools for the marine environment into national and regional contexts, including their application, as well as monitoring habitat loss;

(d) Further developing effective landscape/seascape-scale approaches to managing multiple drivers of ecosystem loss and degradation, including integration of effective actions to support ecosystem restoration;

(e) Developing financial sustainability plans for protected areas;

(f) Use of existing information on areas of particular importance for biodiversity (such as Key Biodiversity Areas) to improve coverage of protected areas;

(g) Further consideration of what constitutes other effective area-based conservation measures for the purpose of reporting progress toward this target;

(h) Development of indicators to assess the effectiveness and representativeness of protected areas.

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

62. The IUCN Red List of Threatened Species, and assessment of threatened species at the national level, can be used to trigger conservation action, particularly where they are aligned with existing initiatives on species conservation, including those under the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). National Red Lists, or comparable assessments, can also assist with land use planning and responsible impact assessments.

63. Scientific and technical needs related to achieving Target 12 include a better understanding of the drivers of the decline of species, including illegal trade in wildlife, the impacts of invasive alien species, the long-term implications of climate change and the role of multi-species and ecosystem approaches in recovery planning.

64. Additional efforts should be made in a number of areas, including, *inter alia*:

(a) Devising measures for addressing control or eradication of invasive alien species, including action for threatened species and their recovery;

(b) Conducting IUCN Red List assessments, or comparable assessments, for species of plants, fungi, invertebrates and marine and freshwater realms;

(c) Enhancing the capacity to interpret the IUCN Red List for setting and achieving targets;

(d) Improving regional cooperation to conserve migratory and transboundary species;

(e) Designing cost-effective conservation methods;

(f) Preparing, implementing and disseminating species recovery plans.

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

65. The programme of work on agricultural biodiversity and Target 9 of the Global Strategy for Plant Conservation are important frameworks for the development of policies for achieving Target 13.

66. The Global Plans of Action for Plant, Animal and Forest Genetic Resources, developed and adopted by the FAO Commission on Genetic Resources for Food and Agriculture,[5] and the preparation of the State of the World Report on Biodiversity for Food and Agriculture, are particularly relevant frameworks to support Target 13.

67. The FAO Commission on Genetic Resources for Food and Agriculture has developed guidance and tools which support achieving Target 13 and is developing a small number of higher order indicators relevant to this target.

68. Most of the monitoring, data, tools, policies and guidance for Target 13 are within the realm of genetic resources for food and agriculture, including forest genetic resources. Progress towards this target is highly dependent upon partners in the food and agriculture field.

69. Additional efforts should be made in a number of areas, including, *inter alia*:

(a) Maintaining and safeguarding genetic diversity *in situ* including, where appropriate, through biocultural approaches that promote conservation and restoration while valuing cultural and traditional knowledge;

(b) Arriving at optimal balance between *in situ* and *ex situ* methods of conservation and their complementarity;

(c) Enhance cooperation among Parties that use management mechanisms with biocultural approaches;

(d) Further development, in some countries, of approaches to reduce market or commercial pressures that simplify crop and livestock systems;

(e) Scaling-up of the use of gene banks;

(f) Enhancing cooperation between organizations working in the agriculture and environment sectors;

(g) Further actions to address genetic diversity of socio-economically important genetic resources not used for food, agriculture and forestry.

IV. VIEWS ON STRATEGIC GOAL D IDENTIFIED BY PARTIES

70. The information documents presented to the eleventh meeting of the Conference of the Parties on ecosystem restoration provide a wide range of guidelines, tools and technologies for addressing the targets under Strategic Goal D; therefore the few gaps identified should not constrain the implementation of this goal.

71. The work being undertaken by Executive Secretary in pursuance of request contained in decision XI/16 should also provide additional tools and guidance relevant to Targets 14 and 15.

[5] http://www.fao.org/nr/cgrfa/cgrfa-global/cgrfa-globplan/en/.

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.

72. The cultural, spiritual, economic, ecological and traditional linkages with ecosystem services should be recognized and integrated in national, regional and global policy frameworks. In that context the Satoyama Initiative may be a useful tool to facilitate such recognition.

73. One of the important benefits of ecosystem services is in building resilience to the impacts of climate change and natural disasters.

74. There is a need to promote the application and use of ecosystem-based management and ecosystem-based adaptation.

75. Additional efforts should be made in a number of areas including, *inter alia*:

(a) Developing policy support and implementation tools and methodologies aimed at restoring and safeguarding vulnerable mountain ecosystems in order to maintain fragile ecological balance and ameliorate livelihoods of mountain-dwelling communities;

(b) Enhancing understanding of the contribution of ecosystem restoration and safeguarding to improved human well-being, including related socioeconomic benefits, and developing further guidance for categorizing and assessing ecosystems providing essential services that contribute to human well-being;

(c) Understanding and incorporating traditional knowledge as complementary to science in developing methodologies, baselines, and targets for restoration and safeguarding;

(d) Developing methods to prioritize areas for, and reduce costs of, ecosystem restoration and safeguarding;

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.

76. Both conservation and restoration are often ecosystem- and situation-specific and guidance needs to be adapted to local situations. Conservation and restoration projects should be conducted using adaptive management, i.e. with pre-defined targets and indicators, multiple trials to determine the best method of treatment, monitoring of results, and reporting.

77. Guidance is available to identify ecosystems that are vulnerable and which also maintain large carbon stocks.[6]

78. Guidance is available on ways to better map degraded ecosystems.[7]

[6] Such information is available on global above-ground biomass (AGB) carbon mapping, for instance on the WCMC REDD+ website. A 2008 Global Environment Centre publication on wetlands, "*Assessment on peatlands, biodiversity and climate change*" highlights the importance of peatlands in carbon storage and provides maps of deposits by depth.

79. There is limited capacity and knowledge on the restoration of coastal and marine ecosystems.

80. There is a need for efficient and effective dissemination of best practices and further development of pilot projects for achieving this target.

81. The importance of soil conservation for the achievement of Aichi Target 15 should be emphasized, particularly in those ecosystems that are rich in carbon stocks and organic soils.

82. Additional efforts should be made in a number of areas, including, *inter alia*:

(a) Developing of an indicator to determine achievement of the 15 per cent target, and additional indicators to measure ecosystem resilience, the rate and extent of habitat degradation, as well as efforts to combat desertification;

(b) Improving tools for remotely measuring carbon in terrestrial and aquatic ecosystems;

(c) Enhancing understanding of the application of the concept of ecosystem resilience, in monitoring and managing ecosystems at different levels in order to secure the provision of multiple ecosystem services, and the ability of ecosystems to adapt to a changed climate and to continue to sequester carbon over time;

(d) Further developing tools for systematically assessing and prioritizing potential areas for ecosystem restoration, taking into account the location and extent of degraded lands in relation to conservation areas and other high nature value areas, for improving habitat connectivity;

(e) Improving tools are needed for measuring carbon storage and fluxes and understanding the interplay with biodiversity conservation, including in non-forest ecosystems and at local scales;

(f) Strengthening scientific efforts to further support the development of nature-based solutions for ecosystem restoration and resilience through sustainable innovation;

(g) Developing tools for assessing the effectiveness of restoration efforts.

[7] For example recent publications on ways of assessing forest degradation: *Ecology and Society 2013, Volume 18, Number 2, article 20;* and *FAO FRA Working Paper 177*. Both of these are part of the CPF-led effort to define forest degradation and provide information on measurement.

XVII/2. New and emerging issues

The Subsidiary Body on Scientific, Technical and Technological Advice

1. *Noting* that while the issue of the impacts of neonicotinoid insecticides on biodiversity meets the criteria for new and emerging issues set out in paragraph 12 of decision IX/29, *recommends* to the Conference of the Parties that this issue not be considered as a new and emerging issue for the agenda of the Subsidiary Body, but that it could be addressed within the framework of the programme of work on agricultural biodiversity and its International Initiative for the Conservation and Sustainable Use of Pollinators;

2. *Noting* that the issue of the impacts of neonicotinoid insecticides on biodiversity, and in particular on pollinators, may be relevant to the proposed fast-track thematic assessment on pollination and food production being considered by IPBES as a possible part of its work programme, and *also noting* the relevance of ongoing work on the impacts of systemic pesticides, such as the work of the IUCN Task Force on Systemic Pesticides, *requests* the Executive Secretary, and the Chair of the Subsidiary Body as an observer of the Multidisciplinary Expert Panel, to bring these matters to the attention of the IPBES Secretariat and the Multidisciplinary Expert Panel, and to report to the Conference of the Parties at its twelfth meeting.

XVII/3. Intergovernmental Science-policy Platform on Biodiversity and Ecosystem Services

The Subsidiary Body on Scientific, Technical and Technological Advice

1. *Welcomes* the ongoing collaboration between the Executive Secretary and the Secretariat of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) as well as the participation of the Chair of the Subsidiary Body on Scientific, Technical and Technological Advice, *ex officio,* in the Multidisciplinary Expert Panel of IPBES as an observer;

2. *Welcomes* the draft work programme of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services, in particular the proposed regional, global and thematic assessments, development of tools and capacity-building activities, and *notes* that the draft work programme responds to the invitation of the Conference of the Parties in paragraph 28 of decision XI/2, and that the draft work programme is expected to provide useful and evidence-based information for the Convention;

3. *Emphasizes* the importance of the role of indigenous and traditional knowledge systems as well as of intercultural and scientific dialogues and of including a broad range of approaches, visions and models related to the conservation and sustainable use of biodiversity at multiple scales in the work of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services, in order to complement scientific and other relevant information, tools and methodologies for policymaking;

4. *Requests* the Executive Secretary:

(a) To continue and enhance collaboration with IPBES, in line with decision XI/2, with regard to the further development, scoping and implementation of the work programme of IPBES, avoiding duplication of work;

(b) To transmit to the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services the key findings on the scientific and technical needs for the implementation of the Strategic Plan for Biodiversity 2011-2020 (recommendation XVII/1) to provide further explanatory information on the requests contained in paragraph 4 of decision XI/13 C, in line with paragraph 5 of that decision;

5. *Also requests* the Chair of the Subsidiary Body, as an observer in the Multidisciplinary Expert Panel of IPBES, to facilitate the requests to the Executive Secretary in paragraph 4 above;

6. *Recommends* that the Conference of the Parties request the Subsidiary Body to evaluate the scope and process of the Global Biodiversity Outlook, following the publication of GBO-4, and in light of, and avoiding duplication with, the ongoing work of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services on a global assessment on biodiversity and ecosystem services, and to report to the thirteenth meeting of the Conference of the Parties to inform its consideration of the modalities of future editions of the Global Biodiversity Outlook.
