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MAINSTREAMING AND THE INTEGRATION OF BIODIVERSITY WITHIN AND ACROSS SECTORS

Note by the Executive Secretary

INTRODUCTION

1. The Convention on Biological Diversity (CBD) calls for Parties to “integrate, as far as possible and as appropriate, the conservation and sustainable use of biological diversity into relevant sectoral or cross-sectoral plans, programmes and policies” (Article 6(b)). Parties have adopted numerous decisions and resolutions since the Convention came into force to address mainstreaming. For instance in 2002 Parties underscored, as part of a high-level ministerial declaration made during the sixth meeting of the Conference of the Parties, that “the most important lesson of the last ten years is that the objectives of the Convention will be impossible to meet until consideration of biodiversity is fully integrated into other sectors. The need to mainstream the conservation and sustainable use of biological resources across all sectors of the national economy, the society and the policy-making framework is a complex challenge at the heart of the Convention”.

2. Mainstreaming is embedded in the Strategic Plan for Biodiversity 2011-2020, adopted in 2010. In particular, Goal A focuses on cross-cutting policies, including development processes and planning, economic policies, and sustainable consumption and production. Further Goal B is relevant to mainstreaming in sectors such as agriculture, forestry and fisheries. While Parties to the Convention, and numerous stakeholder have undertaken efforts to address mainstreaming, GBO-4 and other analyses have concluded that this continues to be a key area requiring attention if the Convention is to be implemented and the Strategic Plan achieved.

3. The Conference of the Parties decided, in its multi-year programme of work up to 2020 (decision XII/31), to address at its thirteenth meeting (COP 13), among other issues, strategic actions to enhance national implementation, in particular through mainstreaming and the integration of biodiversity across relevant sectors, including agriculture, forests and fisheries, as well as the implications of the 2030 Agenda for Sustainable Development and of other relevant international processes for the future work of the Convention.

4. Mexico, as host of COP 13, in consultation with the Bureau of the Conference of the Parties and the Secretariat of the Convention on Biological Diversity, has decided to use the High-level Segment

(HLS) of COP 13 to highlight the importance of biodiversity mainstreaming for the achievement of the Aichi Biodiversity Targets and to contribute to the achievement of the Sustainable Development Goals. In preparation for COP 13, the Ministry of Environment and Natural Resources of Mexico and the Secretariat of the Convention on Biological Diversity are convening an International Expert Workshop on Mainstreaming Biodiversity, which will be held from the 17 to 19 of November 2015 in Mexico City, Mexico with the following objectives:

- (a) To facilitate a common understanding of “biodiversity mainstreaming” in the context of local, national and intergovernmental processes contributing to the implementation of the Strategic Plan for Biodiversity 2011-2020 and related Sustainable Development Goals;
- (b) To highlight the importance of coherent policy frameworks, institutions, incentives and other tools in enhancing policy effectiveness and achieving desired policy outcomes;
- (c) To identify good case examples of these, including institutional arrangements that have worked to help mainstream biodiversity at national and sub-national levels;
- (d) To identify challenges and opportunities for biodiversity mainstreaming within and across sectors, bearing in mind the different planning and harvesting life cycles involved in specific sectors;
- (e) To advance understanding of key technical and policy issues and possible opportunities related to biodiversity mainstreaming;
- (f) To leverage the support of partner organizations;
- (g) To brainstorm on how COP 13 and its preparatory processes can further contribute to the mainstreaming of biodiversity, secure the engagement of key actors in the broader CBD process and facilitate the presence in the HLS of Ministers responsible for agriculture, forests, fisheries and tourism as well as key actors in planning and finance.

5. This note is prepared as a background document for the International Expert Workshop on Mainstreaming Biodiversity. It is being provided to support relevant discussions during the workshop. It is anticipated that the report of the Workshop will be made available to the twentieth meeting of the Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA 20) and the first meeting of the Subsidiary Body on Implementation (SBI 1) as an information document.

I. BACKGROUND AND CONTEXT FOR MAINSTREAMING UNDER THE CONVENTION AND RELATED INTERNATIONAL PROCESSES

6. There is no single definition of “biodiversity mainstreaming”, however the concept is generally understood as ensuring that biodiversity and the services it provides, is appropriately and adequately factored into the policies and practices that impact it. In the context of the Convention on Biological Diversity, Articles 6(b) and 10(a), respectively, call on Parties to “integrate, as far as possible and as appropriate, the conservation and sustainable use of biological diversity into relevant sectoral or cross-sectoral plans, programmes and policies” and to “integrate consideration of the conservation and sustainable use of biological resources into national decision-making”. These articles provide the overarching mandate for “mainstreaming” under the Convention. However other articles of Convention also have implications for biodiversity mainstreaming – including the requirements to use impact assessment (Article 14), incentive measures (Article 11) and to regulate or manage processes and activities that have significant adverse impacts on biodiversity (Articles 7(c) and 8(l)).

7. Successive editions of the *Global Biodiversity Outlook (GBO)* have highlighted the importance of addressing the drivers of biodiversity loss and of mainstreaming biodiversity across sectors. In the second edition (GBO-2), the importance of the food and energy sectors was highlighted. Further the third edition (GBO-3) concluded that: “There has been insufficient integration of biodiversity issues into broader policies, strategies and programmes, and the underlying drivers of biodiversity loss have not been

addressed significantly. Actions to promote the conservation and sustainable use of biodiversity receive a tiny fraction of funding compared to activities aimed at promoting infrastructure and industrial developments. Moreover, biodiversity considerations are often ignored when such developments are designed, and opportunities to plan in ways that minimize unnecessary negative impacts on biodiversity are missed.”

8. The Strategic Plan for Biodiversity 2011-2020 was developed, based in part, on the conclusions from GBO-3 and in particular the conclusion that biodiversity loss could only be effectively addressed with simultaneous and coordinated action at a number of levels. Thus, among the Strategic Plan’s five Goals are those focusing on addressing the underlying causes (or indirect drivers) of biodiversity loss (Goal A), the pressures or direct drivers (Goal B) and the benefits of biodiversity and ecosystem services to human societies (Goal D). Thus the importance of mainstreaming is embedded in the logic of the Strategic Plan.

9. The fourth edition of the *Global Biodiversity Outlook* (GBO-4) provided a mid-term review of progress towards the goals of the Strategic Plan for Biodiversity 2011-2020, and the Aichi Biodiversity Targets. Among the key messages of GBO-4 (page 10 of the *Outlook*) are, in summary, that:

(a) Meeting the Aichi Biodiversity Targets would contribute significantly to broader global priorities addressed by the Sustainable Development Goals (SDGs). The SDGs provide an opportunity to bring biodiversity into the mainstream of decision-making;

(b) Plausible pathways exist for simultaneously achieving biodiversity goals, climate goals and human development goals. However, reaching these goals requires changes in society, including much more efficient use of land, water, energy and materials, and rethinking of consumption habits;

10. GBO-4 further concluded that mainstreaming, both across and within sectors, was extremely important for achieving the Strategic Plan. It found that achieving Strategic Goal A is critical to all other parts of the Strategic Plan for Biodiversity. The Strategic Plan for Biodiversity 2011-2020 demands policy coherence and the integration of biodiversity into decisions at all levels. Failure to address the underlying causes of biodiversity loss would threaten to undermine many positive actions resulting from policies directly targeting conservation and sustainable use. GBO-4 has identified important progress towards some of the targets included in this goal, for example on awareness of biodiversity in some countries, in the integration of biodiversity into some systems of national accounting and planning, and on the creation of positive financial incentives for protecting biodiversity and ecosystem services. This progress varies greatly among countries and regions, however. It is also still counterbalanced by negative drivers such as widespread subsidies harmful to biodiversity, and continuing unsustainable patterns of production and consumption. Stepping up action to address these underlying causes will be essential if the Aichi Biodiversity Targets are to be achieved.

11. The key instruments for the implementation of the Convention on Biological Diversity at the national level are national biodiversity strategies and action plans (NBSAPs), developed in accordance with Article 6. The early NBSAPs developed by Parties tended to not address mainstreaming, but this has improved in more recent NBSAPs. Guidance for NBSAPs adopted at the eighth meeting of the Conference of the Parties called for NBSAPs to address mainstreaming issues. Numerous efforts to support and strengthen mainstreaming through NBSAPS have been undertaken by the Secretariat of the CBD and other entities

The 2030 Agenda for sustainable Development and other relevant international processes

12. The Conference of the Parties, at its thirteenth meeting, will consider the implications of relevant international processes for the future work of the Convention. These processes provide important context for work under the Convention, including on mainstreaming and the integration of biodiversity within and across sectors. These processes include:

(a) *The 2030 Agenda for Sustainable Development Goals* - In September, 2015, at the beginning of its seventieth session the United Nations General Assembly adopted the outcome document Transforming our World: the 2030 Agenda for Sustainable Development, including its 17 Sustainable Development Goals (SDGs). Biodiversity features prominently in the 2030 Agenda. Virtually all of the elements of the Aichi Biodiversity Targets are reflected among the goals and targets of the SDGs, including in the two Goals (Goals 14 and 15) that are focused on biodiversity and ecosystems (oceans and coasts, and terrestrial, respectively). Many other Sustainable Development Goals include targets related to biodiversity and ecosystems, including Goal 2 (food security), Goal 6 (water resources), and Goal 12 (sustainable consumption and production). The linkage between biodiversity and poverty eradication and development is explicitly set out in target 15.9, as well as the need to address biodiversity in national and local planning processes. The 2030 Agenda provides an important platform to undertake actions that will be directly relevant to achievement of the Strategic Plan for Biodiversity 2011-2020. Conversely the 2030 Agenda also makes it clear that biodiversity, and therefore the Strategic Plan for Biodiversity, has a central role to play in the attainment of the Sustainable Development Goals.

(b) *The Sendai framework for disaster risk reduction* - The Sendai Framework for Disaster Risk Reduction, adopted by the Third World Conference on Disaster Risk Reduction, held in Sendai, Japan in March 2015, will serve as the global framework to guide disaster risk reduction efforts over the next 15 years (2015-2030). The framework puts emphasis on disaster prevention through risk-sensitive development programming, as well as on disaster response and reconstruction. For the first time in an international disaster risk reduction framework the sustainable management of ecosystems is recognized as a way to build disaster resilience and ecosystems need to be taken into account in three priority areas: undertaking risk assessments; risk governance; and investing in resilience. The framework further acknowledges the need to tackle environmental drivers of disaster risk, including ecosystem degradation and climate change, as well as the environmental impacts of disasters. The Conference of the Parties to the Convention on Biological Diversity has already adopted decisions relating to disaster risk reduction, notably decision XII/20 that encourages Parties to incorporate disaster risk reduction into relevant national plans and strategies. The Sendai Framework further supports this integration. There is a clear opportunity for national level biodiversity-related agencies to fully engage in national follow-up processes to further mainstream biodiversity and ecosystem based approaches to disaster risk reduction.

(c) *The international arrangement on forests after 2015* - On the basis of discussions in the United Nations Forum on Forests, the Economic and Social Council of the United Nations adopted a resolution on the international arrangement of forests after 2015. The resolution strengthens the international arrangement on forests, extends the Global Forest Objectives to 2030 and calls for the elaboration of a Strategic Plan 2017-2030. This provides an opportunity to promote a coherent approach to the achievement of the multilaterally agreed forest goals including the relevant Aichi Biodiversity Targets. Further information on the role of international organizations in supporting the achievement of the Aichi Biodiversity Targets was made available to the nineteenth meeting of SBSTTA (UNEP/CBD/SBSTTA/19/8).

(d) *Reviewed Strategic Framework of the Food and Agriculture Organization of the United Nations* - The Conference of the Parties, at its twelfth meeting recognized the Reviewed Strategic Framework 2010-19 of the Food and Agriculture Organization of the United Nations (FAO) as an important contribution to the implementation of the Strategic Plan for Biodiversity 2011-2020 and to the achievement of the Aichi Biodiversity Targets. The framework addresses agriculture, forestry, fisheries and aquaculture, with its mutually reinforcing objectives to eradicate hunger, food insecurity, malnutrition and poverty while sustainably managing and utilizing natural resources. In the context of this framework, FAO has elaborated a number of principles for sustainable agriculture that could provide guidance for the implementation of Aichi Biodiversity Target 7¹. These principles are:

¹FAO. 2014. Building a common vision for sustainable food and agriculture: Principles and Approaches. <http://www.fao.org/publications/card/en/c/bee03701-10d1-40da-bcb8-633c94446922/>

- (i) Principle 1. Improving efficiency in the use of resources is crucial to sustainable agriculture;
 - (ii) Principle 2. Sustainability requires direct action to conserve, protect and enhance natural resources;
 - (iii) Principle 3. Agriculture that fails to protect and improve rural livelihoods, equity and social well-being is unsustainable;
 - (iv) Principle 4. Enhanced resilience of people, communities and ecosystems is key to sustainable agriculture;
 - (v) Principle 5. Sustainable food and agriculture requires responsible and effective governance mechanisms.
- (e) *Climate Change* - The 21st meeting of the Conference of the Parties to the United Nations Framework Convention on Climate Change (UNFCCC) is expected to adopt an agreement to effectively address climate change with a view to keeping global temperature increases within 2 degrees or lower. Climate change is already impacting negatively on biodiversity as further explored in section III of this note. In addition, climate-change mitigation and adaptation measures may impact biodiversity in positive and negative ways. Therefore the agreement will have major implications for work under the Convention on Biological Diversity.

II. MAINSTREAMING OF BIODIVERSITY IN CROSS-SECTORAL POLICIES AND ACTIONS

Cross-sectoral enabling conditions, policies and tools

The mainstreaming of biodiversity in cross-sectoral policies is critically important, not only for the achievement of specific Aichi Biodiversity Targets (for example in Aichi Biodiversity Target 2 on development and planning processes), but also to provide an enabling context for mainstreaming in specific sectors. Many relevant types of cross-sectoral policies are embodied in the Convention text, in the Strategic Plan for Biodiversity 2011-2020, as well as in various decisions of the COP. Key areas for cross-sectoral mainstreaming include:

(a) *National decision making* - Pursuant to Article 10(a) of the Convention, Parties “shall, as far as possible and as appropriate, integrate consideration of the conservation and sustainable use of biological resources into national decision-making.” National decision making can be understood to encompass all major national policies, such as on transport, energy, infrastructure, and budgets, that could impact biodiversity and ecosystems. National-level planning processes will determine where trillions of dollars are invested for infrastructure and other investments over the next decades. One policy approach that has been applied by numerous countries is the use of strategic environmental assessment, which focuses on assessing the impacts of policy-level decisions. Other tools that can ensure the proper consideration of biodiversity in national decision making include laws and regulations, and institutional arrangements to ensure consideration of biodiversity across different governmental bodies.

(b) *Development and poverty reduction strategies and planning processes* - Article 6 of the Convention calls for the integration of biodiversity into cross-sectoral plans, programmes and policies. One of the most important areas for such integration is development and poverty reduction strategies and planning processes. Target 2 of the Strategic Plan for Biodiversity 2011-2020 recognizes the importance of such actions, and calls on Parties to ensure that “By 2020, at the latest, biodiversity values have been integrated into national and local development and poverty reduction strategic and planning processes.” The importance of biodiversity to development and poverty reduction has been further recognized in the Sustainable Development Goals of the 2030 Agenda for Sustainable Development. In particular, Aichi Biodiversity Target 2 is reflected in SDG target 15.9, thus directly linking biodiversity to Goal 1 of the

SDGs, on poverty eradication. The Conference of the Parties to the CBD has adopted numerous decisions on the integration of biodiversity into development and poverty reduction strategies and planning processes. Further in 2008, the Secretariat of the CBD launched an initiative on biodiversity for poverty eradication and development. Later, during COP12, the Conference of the Parties adopted a decision, as well as extensive policy guidance, for work in this area, and called on the Executive Secretary to provide support to Parties in implementing the decision (decision COPXII/5).

(c) *Environmental impact assessment* - Environmental impact assessments is one of the foundational elements of many countries' national and subnational environmental laws. Article 14 of the text of the Convention on Biological Diversity calls on Parties, as far as possible and as appropriate, to introduce procedures requiring environmental impact assessment of its proposed projects that are likely to have significant adverse effects on biological diversity with a view to avoiding or minimizing such effects and, where appropriate, allow for public participation in such procedures as well as to introduce arrangements to ensure that the environmental consequences of its programmes and policies that are likely to have significant adverse impacts on biological diversity are duly taken into account. At COP 8, the Conference of the Parties adopted voluntary guidelines on biodiversity-inclusive impact assessment. The guidelines addressed both the use of strategic environmental assessments, as well as environmental impact assessments. In the context of its work on resource mobilization, the twelfth meeting of the COP (decision XII/3, Annex III) also addressed the potentially negative impacts some financing mechanisms may have on different elements on biodiversity and the livelihoods of indigenous peoples and local communities. The voluntary guidelines on safeguards in biodiversity financing mechanisms that were adopted identify the need to take both opportunities and risks into account in selecting, designing and implementing mechanisms for financing biodiversity. They also emphasize that safeguards in biodiversity financing mechanisms can help to promote the positive effects and avoid or mitigate unintended negative effects on biodiversity and livelihoods. Further, updated environmental assessment policies were recently adopted by the International Finance Corporation (IFC). The IFC standard, Performance Standard 6 (PS6), explicitly includes the need to consider the value of ecosystem services. The World Bank is now in the process of modifying its own standards, and other multi-lateral development banks may follow suit. Moreover, multinational development banks have agreed to apply a new approach for measuring biodiversity impacts, using existing databases, to address the lack of national data. Such an approach is a useful model for countries to apply through their national laws, as the use of existing tools and databases can reduce costs and data gaps.

(d) *Incentives* - Incentive measures are among the main drivers of decisions and actions that impact biodiversity. Aichi Biodiversity Target 3 of requires that “By 2020, at the latest, incentives, including subsidies, harmful to biodiversity are eliminated, phased out or reformed in order to minimize or avoid negative impacts, and positive incentives for the conservation and sustainable use of biodiversity are developed and applied, consistent and in harmony with the Convention and other relevant international obligations, taking into account national socio economic conditions.” According to the GBO-4, and based on an assessment on fifth national reports, the progress being made towards this target has tended to focus on positive incentives, but little to no overall progress can be detected on removing or phasing out harmful incentives. The Conference of the Parties at its twelfth meeting adopted milestones for the full implementation of this target, in the context of its work on resource mobilization (decision XII/3, Annex I), and identified further concrete actions including on addressing obstacles encountered in addressing harmful incentives (decision XII/3, Annex IV, paragraph 34). Under the programme of work on incentive measures, examples of good practices and lessons learned were developed by an international expert group and published as Technical Series No. 56². Further significant guidance is also provided by international partner organizations and initiatives including FAO, UNDP and its Biodiversity

² Secretariat of the Convention on Biological Diversity (2011). CBD Technical Series No. 56. Incentive measures for the conservation and sustainable use of biological diversity. Case studies and lessons learned. <https://www.cbd.int/doc/publications/cbd-ts-56-en.pdf>

Finance Initiative (BIOFIN), UNEP and the initiative on the Economics of Ecosystems and Biodiversity (TEEB), the World Trade Organization, and the OECD.

(e) *Resource mobilization* - The importance of mainstreaming has been recognized in the work of the Convention on resource mobilization. One of the resource mobilization targets that were adopted by the COP at its twelfth meeting endeavours for 100 per cent, but at least 75 per cent, of Parties to have included biodiversity in their national priorities or development plans by 2015, and to have therefore made appropriate domestic financial provisions (decision XII/3, paragraph 1 (b)). In annex IV of the same decision, the COP pointed to the regional assessments conducted by the High-level Panel on Global Assessment of Resources for Implementing the Strategic Plan for Biodiversity 2011-2020, as a means to identify the linkages between biodiversity investments and solutions to wider problems and challenges of sustainable development, such as food security, water management, disaster risk reduction, livelihoods and poverty reduction. It also pointed to the Chennai guidance for the integration of biodiversity and poverty eradication and the CBD good practice guide on ecosystem goods and services in development planning, as possible guidance to be used as appropriate and in accordance with national circumstances.

(f) *Natural capital and ecosystem valuation* - Another key policy area relevant to biodiversity is the use of natural capital accounting and ecosystem valuation. Aichi Biodiversity Target 2 calls for Parties to incorporate biodiversity values “into national accounting, as appropriate and reporting systems.” Natural capital can be defined as the world’s stocks of natural assets which include geology, soil, air, water and all living things. It is from this natural capital that humans derive a wide range of services, often called ecosystem services. The most obvious ecosystem services include food, water regulation, and plant materials used for fuel, building materials and medicines. There are also many less tangible ecosystem services such as the climate regulation and natural flood defences carbon sequestration, and pollination. Even less tangible are cultural ecosystem services such as the inspiration taken from wildlife and the natural environment. A number of activities on natural capital and ecosystem valuation are ongoing. Of particular significance is the development of the Natural Capital Protocol (NCP) which is being led by the Natural Capital Coalition of which the Secretariat of the CBD is a member. The overall vision of the NCP is to transform the way business’ operate by increasing their understanding of their impacts on biodiversity and incorporating these in their business practices. The intent is not to invent new methods, but to build on those that already exist, and to enable their use in different sectors. This will enable lessons to be learnt and gaps to be better understood. It is anticipated that the resulting framework would be the starting point to inform future standards. A further initiative related to natural capital and ecosystem valuation is the Wealth Accounting and the Valuation of Ecosystem Services (WAVES) partnership. WAVES aims to promote sustainable development by ensuring that natural resources are mainstreamed in development planning and national economic accounts. WAVES brings together a broad coalition of UN agencies, governments, international institutes, nongovernmental organizations and academics to implement natural capital accounting where there are internationally agreed standards, and develop approaches for other ecosystem service accounts. A further project relevant to this issue is the Advancing Natural Capital Accounting project which is funded by the Government of Norway. The project brings together a number of United Nations agencies, including the United Nations Statistics Division, UNEP, and the Secretariat of the CBD, to develop global guidance on ecosystem accounting and to create an enabling environment for ecosystem accounting in six pilot countries.

(g) *Regulatory approaches and incentives for private sector performance* - A key element to mainstreaming is the effective engagement of the private sector. Target 4 of the Strategic Plan states that “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.” The COP has taken a number of decisions

relevant to this issue³. For example the COP 12 decision on business engagement (decision XII/10) called on Parties and businesses to undertake increased actions, and gave the Secretariat significant additional responsibilities in the area of business engagement. Key among these are supporting Parties in their efforts to promote the integration of biodiversity considerations into the business sector, reviewing and developing reports on the progress of biodiversity mainstreaming by businesses through corporate reporting, supporting capacity-building for businesses with a view to mainstreaming biodiversity into business decisions, enhancing the contribution of the business sector to the achievement of the Aichi Biodiversity Targets, promoting cooperation and synergies with other forums regarding issues such as commodity indicators and sustainable production and consumption, and analyzing and disseminating best practices, standards and research about biodiversity and ecosystem functions and services, and valuation of those services.

(h) *Institutional arrangements* - An important element for effective mainstreaming of biodiversity into cross-sectoral policies has to do with the kinds of institutional arrangements that are in place. One aspect of this is the use of effective inter-ministerial processes for developing government-wide policies that consider biodiversity in government-wide or sector-specific priorities. Such mechanisms can also be used effectively to ensure that there is “buy in” across government agencies for NBSAPS, the key framework for implementing the Convention at the national level. One example of work to support these efforts, the International Institute for Environment and Development (IIED), in collaboration with governments and UN agencies, including the Secretariat of the CBD, has developed tools on mainstreaming biodiversity and development, starting with work on NBSAPS. This work is now moving into a second phase that will focus on mainstreaming biodiversity into development plans⁴. Another key aspect of institutional arrangements is the effective engagement of civil society, indigenous peoples, and local communities, and their ability to contribute to decision making that impacts biodiversity. The use of robust, inclusive mechanisms for stakeholder engagement is an important element for ensuring mainstreaming and effective implementation.

III. THE INTEGRATION OF BIODIVERSITY IN KEY SECTORS

13. This section draws upon GBO-4 and its technical reports, in particular Technical Series No. 79⁵, to explore how biodiversity may be integrated within key sectors. The analysis is based on scenarios examining current trends (“business-as-usual”) and alternative pathways to achieve the 2050 vision of the Strategic Plan for Biodiversity 2011-2020, as well as a broader set of human development goals while also limiting climate change to within 2 degrees. This scenarios were originally developed for the Rio+20 Conference and subsequently extended to explore the implications for biodiversity mainstreaming in the sectors of food and agriculture, wood production, water management, and marine fisheries and aquaculture. A summary of the results was provided in GBO-4 (pages 134-139).

³ For example see COP decisions VIII/17, IX/26, X/21 and XI/7.

⁴ All available online at: <http://www.iied.org/nbsaps-20-mainstreaming-biodiversity-development> :

- Putting biodiversity at the center of development: a checklist for reviewing the mainstreaming potential of a country's NBSAP
- Developing a business case for biodiversity
- Ten steps to mainstreaming biodiversity
- A rapid diagnostic tool: biodiversity mainstreaming – integrating biodiversity, development and poverty reduction.
- Biodiversity and Development Mainstreaming – a state of knowledge review

⁵ PBL Netherlands Environmental Assessment Agency. 2014. How Sectors can Contribute to Sustainable Use and Conservation of Biodiversity. Secretariat of the Convention on Biological Diversity, Montreal, Canada. Technical Series No. 79. Secretariat of the Convention on Biological Diversity, Montreal, Canada. Technical Series No. 78, 500 pages.

Integration of biodiversity into the food and agriculture sector⁶

14. Addressing the indirect and direct drivers of biodiversity loss requires a focus on primary sectors. The characteristics of these sectors – agriculture, wood production, water management, and marine fisheries and aquaculture – are that they both impact on biodiversity and are dependent on biodiversity. Demand for the products produced by these sectors will continue to increase. If current trends continue, the demand for food, wood, water and bioenergy is projected to increase 1.5 – 2 fold due to increasing population and average wealth.

15. The food and agriculture sector alone is estimated to account for some two thirds of the recent and projected loss of terrestrial biodiversity, this mainly due to land-use change. In addition, agriculture has major impacts on freshwater biodiversity and coastal biodiversity particularly through nutrient loading. Loss of biodiversity impacts negatively on agriculture, including through: the eroding genetic resource base of agro-biodiversity undermining current gains and future increases in productivity; the significant decline in pollinators which is impacting crop productivity; and the loss of soil carbon and fertility in farming systems.

16. Mainstreaming biodiversity is more likely to succeed when aligned with the core values and interests of actors in the supply chain. This requires that sectors recognize the opportunities that biodiversity provides such as improved availability of food, fish and wood, improved soil productivity. In the agricultural sector, pathways that achieve the joint biodiversity, climate and human development goals require a combination of measures including:

(a) Increases in productivity and the efficiency of use of land, water, fertilizers and other inputs – this is necessary to contain agricultural expansion and the loss of natural habitats, reduce water use and pollution from fertilizers and pesticides, while also meeting increases in food demand;

(b) Deployment of biodiversity in agricultural production and the wider landscape – this is necessary for the sustainability and productivity of agriculture itself, and to contribute to biodiversity conservation more generally;

(c) Measures to moderate increases in demand for food by reducing food waste and promoting sustainable diets.

17. There is a large potential for more biodiversity-friendly production measures in these sectors, and to a large extent, biodiversity-based solutions have a significant part to play in these measures. For example, in the agricultural sector, greater use of crop and livestock diversity as well as pest control organisms and pollinators can support sustainable production increases.

18. These measures can be implemented through, inter alia:

(a) Comprehensive land-use management – policy frameworks and spatial planning are needed to ensure that only the most suitable lands are used for agricultural expansion, while at the same time avoiding high biodiversity areas and land/soils with high carbon stocks, and limiting the overall conversion of natural habitats;

(b) Interventions in the supply chain to improve the sustainability of agricultural commodities – these should include specific biodiversity-related criteria;

(c) Behavioural change among consumers to reduce waste and adopt sustainable diets.

Each of these approaches will be necessary.

19. A range of stakeholders will need to be engaged to promote these measures and achieve mainstreaming:

⁶ For further information on this topic see document UNEP/CBD/SBSTTA/19/INF/1 - Strategic Scientific and Technical Issues Related to the Implementation of the Strategic Plan for Biodiversity 2011-2020: Biodiversity, Food Systems and Agriculture

(a) Producers are responsible for the immediate direct impacts of agriculture and are therefore key for any transformations in agriculture. They include small-scale or family farmers, and indigenous peoples and local communities, many of whom are economically constrained in their options. They also include commercial farming operations, some of which operate under direct contract from the food processing sector. A cornerstone of appropriate policies should be the identification and removal of constraints to positive changes by this range of producers. Approaches need to identify where the economic costs are incurred, and by whom, and explore opportunities to transfer expenditures on dealing with the problem at end point to reduce the problem at source;

(b) Consumers create the demand for agricultural products. There may be opportunities for leveraging the power of consumer choice by emphasizing the food security, health and cost benefits of choices that also benefit biodiversity. However, the challenges in creating the behavioural change needed should not be underestimated. It is vital that the quality and price enable consumers to make the “appropriate choice” without incurring undue economic burden;

(c) The private sector will be instrumental in contributing to change in consumption patterns and waste reduction. Major food marketing chains in particular can be very influential on producers of food through their procurement policies. Ensuring that large purchasers of products work together to ensure ecological sustainability would be one important way of accomplishing this;

(d) The public sector remains indispensable in creating an enabling environment through an appropriate mix of regulations and incentives. These instruments need to be aligned at national and local levels and international obligations, and policy coherence is key. Governments are able to influence the integration of biodiversity into the agricultural sector through a range of policies including: awareness-raising; improved valuation, accounting and reporting of biodiversity and ecosystem services; integrated land-use planning; payments for ecosystem services and incentives to align sector activities with biodiversity conservation and sustainable use and green taxation and reforming environmentally-harmful subsidies. Sustainable public procurement policies, by creating markets for “green products”, can be a very effective tool, given the size of the public sector in most economies.

Integration of biodiversity into forestry and wood production

20. Land-use change is the largest driver of deforestation, and therefore biodiversity mainstreaming in agriculture and forestry need to be considered together in a landscape context. Efforts to promote integrated land use and spatial planning will also contribute to addressing deforestation, with forest restoration efforts becoming an increasingly important component of sustainable land management. In addition, much of the approach outlined above in relation to supply chains and the engagement of indigenous peoples, local communities and stakeholders also applies, in principle, to forests. The systematic application of sustainable forest management practices can advance the integration of biodiversity-related concerns in all types of forests. There is an increasing call on regional initiatives on criteria and indicators of sustainable forest management to report on the outcomes of forest operations with a view to enabling verifiable assessments of the degree of their sustainability.

21. Besides region-specific sustainable forest management practices, the main driver for integrating biodiversity considerations in large-scale forest operations aimed at international markets are market-driven certification and regulatory instruments such as the Forest Law Enforcement, Governance and Trade Action Plan of the European Union.

22. The degree to which biodiversity considerations factor into forest management varies between natural forests, planted forests and trees outside forests as well as the main purpose for which each of these forest categories are managed (protective, multi-use, productive).

23. The role of plantations in forestry is often controversial in the context of biodiversity conservation. On the one hand plantations generally have much reduced biodiversity and tend to focus on the delivery of only a few ecosystem services as compared to natural forests and they may also be less

resilient to climate change and other impacts. Nonetheless, plantations can play an important role in taking the pressure off natural forests for the production of wood, pulp and other forest products. Plantations can also have a primary protective function, such as for erosion control and slope stabilization.

24. Efforts to enhance the coherence of different policy instruments should include the identification of ways to transform the pressures that degrade forest ecosystems into incentives for restoring these critical ecosystems. Areas which can merit global support include the application of tools, databases and methods for inter-sectoral spatial planning; using safeguards and indicators for forest biodiversity; making real-time forest data and imagery freely available for sustainable forest management; linking secure tenure patterns with long-term sustainable management; valuing forest biodiversity and ecosystem functions and services, and fostering the certification of timber and non-timber forest products.

Integration of biodiversity into fisheries and aquaculture⁷

25. About 260 million people are directly (capture) or indirectly (processing and ancillary services) employed in the fisheries and aquaculture sector supporting the livelihoods of 10 to 12 per cent of the world's population. Overfishing and destructive fishing practices (which damage marine habitats) are the main drivers of biodiversity loss in marine environments, though nutrient loading is also very important in coastal areas. Climate change and ocean acidification are also becoming important drivers. All of these impacts affect primarily the livelihoods of the 22 million small-scale fishers estimated to operate primarily in coastal waters.

26. Sustainable fisheries principles are reflected in a number of international instruments, including the United Nations Convention of the Law of the Sea; the 1993 FAO Compliance Agreement; the 1995 United Nations Fish Stock Agreement and the 1995 FAO Code of Conduct for Responsible Fisheries. Together with other accompanying guidelines and action plans, these represent a comprehensive global framework for fisheries policy and management and support mainstreaming of biodiversity in fisheries.

27. While much of the above information on food and agriculture is also relevant to fisheries, there are also some specificities to this sector. Key interventions to ensure sustainability are listed in GBO-4 under Aichi Biodiversity Target 6 and include:

- (a) Promoting and enabling dialogue and enhanced cooperation and information exchange between fishing and conservation communities and the corresponding national agencies and associations;
- (b) Making greater use of innovative fisheries management systems, such as community co-management, that provide fishers and local communities with a greater stake in the long-term health of fish stocks;
- (c) Eliminating, reforming or phasing out subsidies that contribute to excess fishing capacity;
- (d) Enhancing monitoring and enforcement of regulations to prevent illegal, unregulated and unreported fishing by flag-vessels;
- (e) Phasing out fishing practices and gear that have serious adverse impacts on the seafloor or on non-target species;
- (f) Further developing protected area networks and other effective area-based conservation measures, including the protection of areas particularly important for fisheries, such as spawning grounds and vulnerable areas.

28. One important element for the mainstreaming of biodiversity into the fisheries and aquaculture sector is the need to ensure that specific biodiversity-related objectives are incorporated into market certification schemes and mandates, work programmes and accountability frameworks of relevant fishery

⁷ For further information on this topic see document UNEP/CBD/SBSTTA/19/INF/6 - Strategic Scientific and Technical Issues Related to the Implementation of the Strategic Plan for Biodiversity 2011-2020: Biodiversity and Fisheries.

management organizations at national and regional levels. The Code of Conduct for Responsible Fisheries remains key to achieving sustainable fisheries and it has been shown that limited compliance with the Code of Conduct correlates negatively with biodiversity. This suggests the need for international development efforts to focus on regions with poor management performance, high biodiversity, rapidly increasing human populations and a high dependence on fishery livelihoods.

29. Reducing overcapacity is key, including by the removal of perverse subsidies. The implementation of a range of social and economic measures and incentives, in addition to conventional target-species based management measures, has proven to be very effective in reducing overcapacity and overfishing. Fishing rights improve behaviour by providing a sense of long-term security in entitlements and an incentive to optimize production in the short- and long-term. A higher degree of participation in the decision-making process (including enhancing the mandate of fisheries management authority) can increase the legitimacy and relevance of the measures and promote compliance. In all measures, engaging the fisheries sector is critical to the success of implementation.

Integration of biodiversity in climate change policy areas

30. Climate-change mitigation is critically important for the protection of biodiversity and ecosystems. The effects of recent changes in climate on biodiversity and ecosystems are already evident and the recent fifth assessment report of the Intergovernmental Panel on Climate Change highlights the high risks of unchecked future greenhouse gas emissions on biodiversity and ecosystems. These include: large shifts in species ranges and biomes; changes in the ability of terrestrial and marine ecosystems to act as global sinks for carbon; substantially increased risk of extinctions, especially when combined with other types of anthropogenic pressures (e.g. pollution, land-use change); potential “tipping points” in some biomes with large detrimental effects on biodiversity and ecosystem services (e.g., coral reefs, arctic tundra, boreal forests, Amazon forest).

31. Keeping global warming within 2°C or less is essential for avoiding high risks of degradation of biodiversity and ecosystem services, especially in vulnerable systems such as coral reefs and mountains; even within these limits. Land-use change is currently the largest driver of biodiversity loss in terrestrial ecosystems and is projected to remain so for most of this century under most scenarios, as more land is required for the production of food, agricultural commodities, wood and bioenergy as well as for urban and infrastructure development. Land-based approaches to climate-change mitigation may increase or decrease land-use change, and its impact on biodiversity, depending on the strategy adopted. Efforts are now under way, in follow up to GBO-4, to develop a new generation of sustainability scenarios that will explicitly examine impacts of various climate mitigation pathways on land-use change and biodiversity.

32. Three main pathways for land-based mitigation of greenhouse gas emissions are currently being explored that are likely to vary greatly in their direct land-use impacts on biodiversity and ecosystems:

(a) Bioenergy, and bioenergy with carbon capture and storage. Most scenarios presented in IPCC that are compatible with keeping temperature increases within 2 degrees or less (RCP 2.6) rely on this strategy;

(b) Halting deforestation, reducing forest degradation and ecosystem restoration: These mitigation strategies are the basis of REDD+⁸ as well as major bilateral agreements. They also correspond to key Aichi Biodiversity Targets 5, 11, 15 among others; and

(c) Reducing GHG emissions from food systems: recent studies have highlighted the importance of food systems in driving land-use change and greenhouse gas emissions. In particular, global convergence on a “healthy” diet and reductions in food waste could substantially reduce the need

⁸ REDD+ is used as a shorthand for “reducing emissions from deforestation and forest degradation, conservation of forest carbon stocks, sustainable management of forests and enhancement of forest carbon stocks in developing countries”, consistent with paragraph 70 of decision 1/CP.16 of the United Nations Framework Convention on Climate Change (UNFCCC). The acronym REDD+ is used for convenience only, without any attempt to pre-empt ongoing or future negotiations under the UNFCCC.

for additional land area to be cultivated, make significant contributions to climate mitigation and contribute to improving human health in developed and developing countries.

33. The conservation and sustainable use of biodiversity, and the ability to draw on traditional knowledge, provide a range of opportunities to contribute to climate-change mitigation and adaptation and disaster risk reduction. Options for ecosystem-based approaches to climate-change adaptation and disaster risk reduction will be considered at the twentieth meeting of the Subsidiary Body on Scientific, Technical, and Technological Advice (SBSTTA) on the basis of an examination of case studies from the fifth national reports and other sources.

Integration of Biodiversity in Tourism⁹

34. The relationship between tourism and biodiversity is complex but highly important, with significant opportunities for mutual benefit. Tourism and travel are a major activity and economic force, accounting for 9 per cent of the world's gross domestic product, 6 per cent of exports and contributing (directly or indirectly) to one in eleven jobs. Travel and tourism, as a sector, are growing rapidly. Between 2011 and 2013, total international arrivals increased by 9.2 per cent, reaching 1,087 million, with total receipts growing even faster (by 11.2 per cent), reaching US\$ 1,159 billion.¹⁰

35. Tourism can have a variety of positive and negative impacts on biodiversity including:

(a) Pressure on habitats, leading to biodiversity loss, from poorly sited, designed and managed tourism developments, operations and activities;

(b) Direct threats to individual species, for example through recreational activity, use for food items or as souvenirs, or from competition from invasive alien species introduced through tourism activity;

(c) Tourism affecting other environmental conditions which may negatively impact on biodiversity, for example through water consumption or greenhouse gas emissions contributing to climate change;

(d) Recognition of the great importance to tourism economies of attractive landscapes and a rich biodiversity, underpinning the political and economic case for their conservation and resourcing;

(e) The development and operation of nature-based tourism products providing revenue and other support for biodiversity conservation;

(f) Support for the livelihoods and cultural diversity of local and indigenous communities from tourism providing an alternative to unsustainable activities and raising and strengthening their awareness of conservation issues.

36. A multi-stakeholder approach in planning and managing sustainable tourism is fundamental. This may involve an inter-ministerial/ inter-agency body for coordination, at various levels of government (national, subnational, local). Engaging the private sector is extremely important. Local authorities have a particularly important role to play in providing leadership in conjunction with other local stakeholder interests (for instance through a destination management organization).

37. Tourism planning requires coordinating strategies among local, subnational and national authorities. Objectives should be specific, measurable, achievable and time-bound. Key outcomes of the planning process include articulating a vision and goals, determining types of tourism to be supported, ways and means to address impacts on biodiversity from planned developments, and identifying key constraints and opportunities.

⁹ Based on UNEP/CBD/COP/12/24/ADD1

¹⁰ UNWTO Tourism Highlights, 2014 Edition, UNWTO, 2014.

38. A range of tools can be used to control and influence tourism impacts on biodiversity. Regulations may be adopted, such as minimum standards for construction/decommissioning, operational standards, and measures to control visitor movement and activities. Voluntary tools can be implemented, such as product and destination standards, certification systems, codes of conduct and recognition of best practices such as through awards. Economic instruments might include penalties to discourage environmentally harmful investments and activities, incentives such as concessions to operate in protected areas, and indirect incentives such as larger grants, loans and micro-credit schemes for sustainable tourism through multi- and bilateral funding entities.

39. Management should be adaptive, in order to be able to respond to uncertainties. Monitoring and reporting should be done through a continuous participatory process, incorporating the indicator framework for baseline information collection, and focusing on outcomes, outputs and impact measurements.

40. Certification agents, NGOs, educational bodies and other entities can provide capacity-building, and together with media can promote awareness on sustainable tourism, for consumers, indigenous peoples and local communities, government, business and educational bodies. Training and resource mobilization can help to build capacity within governments, protected areas authorities and other stakeholders.

IV. POTENTIAL NEXT STEPS TO PROMOTE MAINSTREAMING IN SUPPORT OF THE STRATEGIC PLAN FOR BIODIVERSITY 2011-2020

Challenges in mainstreaming

41. The technical arguments for the integration of biodiversity into productive sectors, including agriculture, forestry and fisheries, are broadly accepted. This is especially the case for forestry and fisheries where resource managers and biodiversity managers share broad objectives (maintaining forests, fish stocks) even if they differ in their priorities. For agriculture, there is an emerging consensus at the international policy level (see for example the similarities between FAO's vision for sustainable agriculture sector production systems¹¹ and Aichi Biodiversity Target 7), but still a lack of large-scale application of integrated approaches. Overall, major challenges remain for the integration of biodiversity into agriculture, forestry, fisheries and aquaculture. Challenges in integrating biodiversity into the activities of the extractive industries (oil and gas, mining) are also becoming more apparent with the expansion of exploration and the development of new extraction approaches.

42. There has been progress in linking biodiversity and climate change. However, as pointed out in GBO-4 and its underlying technical report, and noted above, further work is needed to ensure that biodiversity is properly taken into account in climate mitigation.

43. A comprehensive review of the scientific and technical needs for the implementation of the Strategic Plan, including policy support tools and methodologies, was undertaken for the seventeenth meeting of the Subsidiary Body. This showed that there are many policy tools available, including for mainstreaming. However, perhaps paradoxically, much of the "mainstreaming" work remains at the project or case-study level. For example, the Global Environment Facility identifies four areas for its interventions on mainstreaming: policy development; spatial and land-use planning; production practices; and finance mechanisms, but less than 10 per cent of its efforts are dedicated to policy development; the largest share (about half of the total) going to production practices. Also, the recent STAP report on mainstreaming repeatedly refers to the lack of any systematic assessment of the effectiveness of measures

¹¹ Strategic Objective 2 of the FAO Reviewed Strategic Framework 2010-19.

taken. A review of the fifth national reports also reveals many cases of mainstreaming, but relatively few comprehensive cross-sectoral policy frameworks.

44. There are a number of technical obstacles to the practical implementation of mainstreaming that need to be acknowledged and addressed so that they can be overcome where possible. There has been much investment in recent years in studying the economics of biodiversity. Economic instruments will be important in overcoming some of the obstacles to biodiversity mainstreaming. However, efforts will need to go beyond current mainstream economics and address obstacles related to the political economy, human behaviour and institutional issues.¹² In the more general context of development, this issue is highlighted in the 2015 *World Development Report "Mind, Behaviour and Society."* This is especially the case when there are trade-offs between different objectives or "winners" and "losers" among stakeholder groups. Even in cases where the integration of biodiversity into broader policies represents a benefit to society as a whole, such an approach may not prevail in practice because some groups may lose or perceive that they risk doing so.

Options for Enhancing Mainstreaming

45. There are a number of options for enhanced work under the Convention to further promote the mainstreaming of biodiversity within and across sectors which may be explored. These include the following:

(a) *Comprehensive policy frameworks* - As noted by the Conference of the Parties, an important objective in the context of mainstreaming is to achieve policy coherence among biodiversity policies and sectoral and cross-sectoral policies, and the corresponding government ministries (decision XII/1, para. 7(c)). GBO-4 highlighted the need for coherent national frameworks comprising laws or policies with social and economic incentives working in the same direction as those laws and policies. These need to be developed in a broad manner, across sectors, and applied at various levels of government. Currently most countries have put in place many relevant policies, but fewer countries have comprehensive, joined-up frameworks that apply across the whole landscape. The Conference of the Parties at its thirteenth meeting could call for such frameworks, as a follow-up to the development of updated NBSAPs, and provide some relevant guidance for their development. The Conference of the Parties could also encourage intersectoral dialogue in countries and the development of a whole-of-government approach to biodiversity mainstreaming. Ideally, biodiversity policy should not be seen as being independent of sectoral and cross-sectoral policies; rather, sectoral and cross-sectoral policies should be seen as the vehicles through which crucial biodiversity goals are attained while enhancing human well-being. Coherent and efficient policies provide Parties with the basis for scaling up their efforts to implement the Strategic Plan for Biodiversity 2011-2020 and to achieve the Aichi Biodiversity Targets by 2020.

(b) *Technical guidance* - While there is much guidance already, gaps were identified by the Subsidiary Body at its seventeenth meeting, and others may exist. Possible gaps include:

- (i) Spatial planning to promote integrated landscape and seascape approaches;
- (ii) The integration of biodiversity into various sectors with either direct or indirect dependencies on biodiversity;
- (iii) Altering incentives (including social and economic incentives) that may lead to changes in behaviour by different groups, including businesses and consumers and addressing obstacles related to political economy, human behaviour and institutional issues.

(c) *Policies, tools, and legislation on cross-sectoral issues* - In addition to attention to sector-specific areas, gaps may need to be addressed with respect to cross-sectoral issues, such as development

¹² These include: Lack of transparency, vested interests, unequal distribution of costs and benefits from actions, short-term decision-making. Psychology of losses and gains, the need for collective action, lack of policy coherence, and inertia.

policies and finance. Further, reviewing national laws and regulations to identify positive and adverse incentives for biodiversity may also offer a means of mainstreaming biodiversity across different sectors.

(d) *Establishment of effective institutional arrangements within national governments and between levels of government* - A key mechanism for enhancing biodiversity mainstreaming is the development of effective institutional arrangements so that biodiversity is better considered by other ministries and interests, and that other government priorities are also reflected in NBSAPS.

(e) *Engagement of indigenous peoples, local communities and stakeholders* - Engaging indigenous peoples, local communities and all stakeholders and actors in the supply chain offers a means of mainstreaming biodiversity. The Subsidiary Body on Implementation could build upon existing initiatives under the Convention to promote this.

(f) *Assessments and awareness* - A concise summary of the technical arguments for mainstreaming (in particular from the perspective of productive sectors and broader sustainable development) would be useful. In addition, there is a need for more focussed assessments to fill gaps in understanding, for example, making a clear and coherent case for the role of biodiversity in supporting agricultural systems through pest control, pollination and soil fertility.

(g) *Coordination and information flows* - In the context of the Global Strategy for Plant Conservation, arrangements that facilitate communication and coordination across sectors, such as co-focal points in different institutions, could help to ensure that botanical considerations and knowledge are drawn upon in planning, implementation and reporting processes.

(h) *Leveraging of support from partner organizations* - In addition to providing technical support, organizations that relate to particular sectors offer an effective channel to influence such sectors. For example, FAO can reach the agriculture, fishery and forestry sectors through its intergovernmental processes and meetings, as well as its national networks of focal points and country offices. Likewise, certain issues, such as some financial policies, may require the engagement of governments and other institutions in other forums.

(i) *Make use of international frameworks for sustainable development* - The Conference of the Parties, at its thirteenth meeting may wish to welcome the 2030 Agenda for Sustainable Development, the Sendai Framework on Disaster Risk reduction, the FAO principles for sustainable agriculture, and other internationally agreed frameworks and encourage national level biodiversity related agencies to fully engage in national follow-up processes.