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SUSTAINABLE USE OF BIODIVERSITY: BUSHMEAT AND SUSTAINABLE WILDLIFE MANAGEMENT: INFORMATION IN RESPONSE TO DECISION XII/18 PARAGRAPH 13

Note by the Executive Secretary

I. INTRODUCTION

1. The Conference of the Parties at its twelfth meeting encouraged Parties to develop, revise, or update, as appropriate, their regulatory systems to differentiate among subsistence uses, illegal hunting, and domestic and international trade of specimens of wild species and products. Parties were also encouraged to assess, minimize and mitigate the impacts of illegal hunting on the subsistence hunting and livelihoods of indigenous peoples and local communities. In addition, Parties and other Governments were invited to strengthen the capacity of indigenous peoples and local communities to exercise their rights and responsibilities in relation to sustainable wildlife management and to review, and, as appropriate, reform, incentives that might encourage unsustainable consumption of bushmeat (decision XII/18, paragraphs 9, 10, 11 and 12).

2. In the same decision (decision XII/18, paragraph 13), the Conference of the Parties requested the Executive Secretary, working with the Collaborative Partnership on Sustainable Wildlife Management (CPW), to prepare technical guidance on the role of sustainable wildlife management for the implementation of the Strategic Plan for Biodiversity 2011-2020, and an analysis of the impacts of subsistence use of wildlife on the survival and regeneration of wild species, in the context of growing human populations and pressures on wildlife resources. The Executive Secretary was also requested to enhance communication and information sharing among the members of the Partnership, to prepare joint awareness-raising and outreach materials, and to support Parties in developing and implementing integrated sustainable wildlife management programmes. Finally, the Executive Secretary was requested to report on progress to the Subsidiary Body on Scientific, Technical and Technological Advice prior to the thirteenth meeting of the Conference of the Parties.

3. The present note provides a report on progress on the aforementioned issues. Section II briefly notes how sustainable wildlife management is addressed under the Convention. On the basis of information provided in submissions and national reports. Section III summarizes approaches undertaken by Parties to gather better knowledge of the use and trade of bushmeat, the development and/or revision of legal frameworks, the provision of food and livelihood alternatives and the sustainable use of wildlife through co-management arrangements and community based approaches. Section IV briefly highlights other activities of the CPW since the twelfth meeting of the Conference of the Parties to date¹ and

* UNEP/CBD/SBSTTA/20/1/Rev.1.

¹ Until March 2016- submission date.

activities planned for the remainder of 2016. Section V provides a summary of the analysis of the impacts of subsistence use of wildlife on the survival and regeneration of wild species. Section VI presents an approach to secure wildlife and food security, based on a report presented to the XIV World Forestry Congress in September 2015. Conclusions and suggestions are presented in section VII and VIII, respectively.

4. Information note UNEP/CBD/SBSTTA/20/INF/46 provides additional information on the role of subsistence hunting of wildlife and the impacts on socioeconomic, health and ecological related aspects. Further details on issues concerning decision XII/18 based on Parties' national reports and national biodiversity strategies and action plans as well as in response to notification 2015-048 are presented in information note UNEP/CBD/SBSTTA/20/INF/47. A detailed review of CPW activities and achievements from 2015-2016 is covered in information note UNEP/CBD/SBSTTA/20/INF/48.

II. BACKGROUND

5. Addressing the use of wildlife, in particular bushmeat hunting in tropical and subtropical countries, is an increasingly urgent concern not only for biodiversity, but also for food security and nutrition, livelihoods, and the cultural and spiritual well-being of indigenous peoples and other forest dependent communities. It is also a concern connected to human and animal health and zoonotic diseases.

6. Ensuring that bushmeat use and other potential livelihood alternatives are sustainable requires attention to social, cultural, ecological and economic dimensions. Sustainable wildlife management should therefore be viewed more broadly as a mechanism to promote species and ecosystem conservation, while fostering sustainable use of biodiversity and enhancing the well-being of indigenous peoples and local communities.

7. The global community is increasingly mobilizing attention and concerted efforts to conserve and sustainably use wildlife in order to counter detrimental economic, social and environmental impacts. In July 2015, the United Nations General Assembly adopted resolution 69/314 on tackling illicit trafficking in wildlife, in which it emphasized that "the protection of wildlife must be part of a comprehensive approach to achieve poverty eradication, food security, sustainable development, including the conservation and sustainable use of biological diversity, economic growth, social well-being and sustainable livelihoods." It also stressed the need for collective efforts to address wildlife crime and to put an end to the global poaching crisis, acknowledging the broader impacts of wildlife crime on the well-being of communities.

8. Further, the 2030 Agenda for Sustainable Development² includes ending poaching and wildlife trafficking among its targets. Under Sustainable Development Goal 15, Target 15.7 calls on Governments to "take urgent action to end poaching and trafficking of protected species of flora and fauna and address both demand and supply of illegal wildlife products" and Target 15.c addresses the need to "enhance global support for efforts to combat poaching and trafficking of protected species, including by increasing the capacity of local communities to pursue sustainable livelihood opportunities."

9. The sustainable use of the components of biodiversity is one of the objectives of the Convention (Article 1). Article 2 of the Convention defines sustainable use as "the use of components of biological diversity in a way and at a rate that does not lead to the long-term decline of biological diversity, thereby maintaining its potential to meet the needs and aspirations of present and future generations".

10. The Strategic Plan for Biodiversity 2011-2020 provides a global framework for action on biodiversity. While there is no specific Aichi Biodiversity Target relating to the sustainable use of terrestrial wildlife, wildlife is inherently interconnected within many of the issues the Plan aims to address.

11. The Convention has developed a number of tools and guidance relevant to the sustainable management of wildlife. This includes the Addis Ababa Principles and Guidelines for the Sustainable Use of Biodiversity, adopted by the Conference of the Parties in decision VII/12.³ These principles and

² General Assembly resolution 70/1 of 25 September 2015 on "Transforming our world: the 2030 Agenda for Sustainable Development".

³ <https://www.cbd.int/sustainable/addis.shtml>.

guidelines, in addition to the ecosystem approach, and relevant elements of the expanded programme of work on forest biological diversity,⁴ selected targets from the Global Strategy for Plant Conservation and the Action Plan on Customary Sustainable Use, can help Parties to work towards developing measures to ensure the sustainable use of wild species for consumptive and non-consumptive purposes, as well as to reduce illegal and unsustainable harvest and trade.

12. Of particular relevance are the revised recommendations of the Liaison Group on Bushmeat (decision X1/25, annex). The importance and complexity of the use of wildlife for food was acknowledged by the Liaison Group in 2009, recognizing the need to widen the focus from an ecological perspective to one that includes socioeconomic, cultural and ecological aspects to ensure that bushmeat use and trade does not lead to the extirpation of wildlife species.

13. Other guidance has been developed under the framework of CPW as further elaborated in section IV.

III. ACTIVITIES BY PARTIES

14. While addressing global and regional commitments on forests and wildlife, Parties have been promoting efforts to gather better knowledge of the use and trade of bushmeat. In this regard, concerted efforts have been taken to examine legal frameworks, explore livelihood alternatives, and address the sustainable use of wildlife through collaborative management approaches and community-based management, among other private-public arrangements.

15. Measures taken have focused on regulatory systems and legal frameworks to distinguish among subsistence uses, illegal hunting, and domestic and international trade of specimens of wild species and products. Incentive measures, monitoring systems, research and other efforts to reduce demand for wild species as food and to create enabling conditions for regulated and sustainable bushmeat use have also been applied.

16. The role of indigenous peoples and local communities in conservation efforts related to wildlife has also been leveraged through, among other things, integrated approaches incorporating livelihood perspectives into protected area management plans and programmes.

17. Further details of activities undertaken by Parties as per information presented in their fifth national reports and national biodiversity strategies and action plans and in response to notification 2015-048 are contained in information document UNEP/SBSTTA/20/INF/47.

A. Response to notification 2015-048

18. Pursuant to decision XII/18, paragraphs 9 to 13, the Executive Secretary invited Parties and relevant organizations, through notification 2015-048: to provide pertinent information on efforts taken to develop and/or revise regulatory systems to differentiate among subsistence uses, illegal hunting, and domestic and international trade in specimens of wild species and products; to examine impacts of unsustainable hunting on the subsistence hunting and livelihoods of indigenous peoples and local communities; to review incentives that might encourage unsustainable consumption of bushmeat; and to strengthen the capacity of indigenous peoples and local communities to exercise their rights and responsibilities in relation to the sustainable management of wildlife.

19. As of July 2015, 23 submissions had been received from 17 Parties, 2 organizations and 4 members from academia.⁵

20. Most submissions demonstrate the severity of unregulated hunting to species extinction. Challenges noted relate to habitat loss, deforestation and forest degradation, human wildlife conflict, weak and fragmented approaches to law enforcement, political conflicts, lack of knowledge of

⁴ Objective 2 under goal 4 of the expanded programme of work on forest biological diversity (decision VI/22, annex).

⁵ See information note UNEP/CBD/SBSTTA/20/INF/47.

economically and ecologically important wildlife species, limited awareness of threatened and non-threatened species, the lack of sustainability criteria and measures used, and vulnerable borders prone to illicit activities. Rapidly growing human populations was also reported as a major cause of unsustainable consumption and species decline.

21. One submission specifically noted that, in Central and East Africa, hunting for both local consumption and large commercial markets has become the most immediate threat to the future of wildlife. The emphasis on bushmeat trade, driven by international markets in Asia, Europe and North America, was also highlighted. In the same vein, the challenge of inadequate capacities in terms of manpower and equipment required to monitor and regulate the utilization of and the trade in wildlife species was noted. The need for policy harmonization on wildlife management and trade to promote sustainable wildlife management effectively was underscored.

22. Other submissions, noted the implementation of CITES obligations, the use and periodic review of management plans, incentive driven conservation strategies, governance and compliance systems, collaborative management with the private sector, the role of local government and local communities to manage wildlife outside protected areas, and the use of legislative frameworks to regulate consumptive and non-consumptive uses of wildlife in a manner that does not penalize subsistence hunters.

B. Review of fifth national reports and national biodiversity strategies and action plans

23. In addition to the submissions received, a total of 131⁶ fifth national reports and 71 national biodiversity strategies and action plans (NBSAPs) were analysed on the basis of data describing the role of subsistence hunting for human well-being; the impacts of subsistence use of wildlife on the survival and regeneration of wild species; other causes triggering a decline in wildlife, in particular in bushmeat species; policies, legal frameworks and regulatory systems, governance processes, and incentives that encourage sustainable consumption of bushmeat. The review also addressed lessons learned and experiences in wildlife management practices.

24. The review included reports submitted to the Secretariat through 5 October 2015. In these reports, 65 Parties explicitly referred to bushmeat or wild meat issues, 57 Parties described sustainable use of wildlife and wildlife management practices, and 55 Parties reported on illegal hunting and poaching-related challenges. Not all of the reports assessed included relevant information to the topics mentioned in the above paragraph and therefore were not included in the information document (UNEP/SBSTTA/20/INF/47).

25. Bushmeat or wild meat issues were most commonly referred to by African and Latin American countries: 31 out of 41 countries from Africa⁷ mentioned the consumption of wildlife, as compared to 9

⁶ Afghanistan, Albania, Angola, Antigua and Barbuda, Argentina, Armenia, Australia, Austria, Azerbaijan, Belarus, Belgium, Belize, Benin, Bosnia and Herzegovina, Botswana, Brazil, Brunei Darussalam, Bulgaria, Burkina Faso, Burundi, Cambodia, Cameroon, Canada, Chad, China, Congo, Cote d'Ivoire, Croatia, Cyprus, Czech Republic, Democratic Republic of the Congo, Denmark, Dominica, Egypt, Eritrea, Estonia, Ethiopia, European Union, Fiji, Finland, Gambia, Georgia, Germany, Grenada, Guinea, Guinea-Bissau, Guyana, Hungary, India, Indonesia, Iran (Islamic Republic of), Iraq, Ireland, Italy, Japan, Jordan, Kazakhstan, Kenya, Kiribati, Latvia, Lebanon, Liberia, Liechtenstein, Madagascar, Malawi, Malaysia, Maldives, Mali, Malta, Mauritania, Mauritius, Mexico, Micronesia, Mongolia, Montenegro, Mozambique, Myanmar, Namibia, Nauru, Nepal, Netherlands, New Zealand, Niger, Nigeria, Niue, Norway, Oman, Pakistan, Palau, Philippines, Poland, Republic of Korea, Republic of Moldova, Romania, Rwanda, Saint Lucia, Samoa, Sao Tome and Principe, Saudi Arabia, Senegal, Serbia, Seychelles, Sierra Leone, Slovakia, Slovenia, Solomon Islands, Somalia, South Africa, Sri Lanka, Saint Vincent and the Grenadines, Sudan, Suriname, Swaziland, Sweden, Switzerland, Tajikistan, Thailand, the former Yugoslav Republic of Macedonia, Togo, Tonga, Turkey, Uganda, Ukraine, United Kingdom of Great Britain and Northern Ireland, United Republic of Tanzania, Uzbekistan, Vanuatu, Viet Nam, Yemen, Zambia, Zimbabwe.

⁷ Angola, Botswana, Burkina Faso, Burundi, Cameroon, Congo, Cote d'Ivoire, Democratic Republic of the Congo, Egypt, Eritrea, Ethiopia, Gambia, Guinea, Liberia, Madagascar, Malawi, Mali, Mozambique, Namibia, Niger, Nigeria, Rwanda, Sierra Leone, Somalia, South Africa, Swaziland, Togo, Uganda, United Republic of Tanzania, Zambia and Zimbabwe.

out of 11 Latin American countries,⁸ 1 North American country,⁹ 25 out of 40 countries from Asia and the Pacific,¹⁰ and 3 out of 38 countries in Europe.¹¹

26. Bushmeat¹² hunting refers to the harvesting of wild terrestrial animals in tropical and subtropical countries. In Africa and in other parts of the world, bushmeat is recognized as a legitimate source of protein for indigenous peoples and local communities. It provides up to 80 per cent of the protein in rural diets in tropical developing countries, making this issue highly relevant to the livelihoods of the rural poor in mega-diverse areas. In Central Africa alone, it is estimated that over 4 million tons of bushmeat are consumed each year, increasingly also in urban areas.

27. In Malawi, hunting constitutes the main use of wildlife resources and is known to be the oldest subsistence and livelihood use of biological resources. In areas of Malawi where the human population is small and game is common, nearly all animal protein consumed by the local population is derived from wildlife. In South Africa, for example, bushmeat was reported as especially important during times of hardship, aiding poor communities in meeting their nutritional requirements. In Tajikistan, income generated from hunting improves food security and has been used to reduce poverty. About 80 per cent of the population living in mountainous areas in Tajikistan depend on the use of wildlife. Consumptive and non-consumptive use of wildlife resources were reported to contribute significantly to the well-being of Tanzanians and the country's national economy. Notably, Burkina Faso is the only country to state in their NBSAP that they will attempt to improve the organization of their bushmeat sector.

28. The assessment notes that African countries are focusing more on the sustainable use of wildlife as compared to countries in Asia, which address the conservation of wildlife through the use of hunting bans on endangered species and provisions of alternative and sustainable livelihoods. In this context, many countries in Africa stated the need for developing the capacity to monitor wildlife and to enforce the law. Measures to engage and involve local communities were also noted. For example, South Africa stated that a major constraint is limited research and monitoring approaches on wildlife both to determine sustainable quotas and to ensure compliance. The country noted that few examples exist of resource monitoring to assess the sustainability of terrestrial resource use. Mozambique also reported challenges due to weak capacity of State law enforcement, vulnerable borders, corruption, weak legal and judicial frameworks, and population growth impacting wildlife. Challenges with the criteria used for setting quotas for hunting specific wild species by tour operators, and the underreporting from such entities, were also noted.

29. On the topic of local community engagement, Gambia reported that the participation of local communities has been improving with the establishment of site management committees in all protected areas, as well as the formation of community forest committees and community-owned protected areas. Guidelines for private sector involvement have also been developed, supporting the establishment of private game reserves and joint private government-led management of nature reserves. The establishment of by-laws with the adjacent communities for the sound exploitation of wildlife resources has also generated benefits for local communities.

30. Zimbabwe has also allowed for private investment in wildlife conservation with revenue accruing from hunting and other non-consumptive activities. Community participation in wildlife management through CAMPFIRE¹³ has supported various eco-tourism projects benefiting several communities

⁸ Antigua and Barbuda, Dominica, Grenada, Guyana, Mexico, Saint Lucia, Saint Vincent and the Grenadines, Suriname.

⁹ Canada.

¹⁰ Afghanistan, Azerbaijan, India, Indonesia, Iraq, Kazakhstan, Kiribati, Maldives, Micronesia, Myanmar, Nepal, New Zealand, Niue, Oman, Palau, Philippines, Republic of Korea, Samoa, Solomon Islands, Tajikistan, Thailand, Tonga, Turkey, Viet Nam, Yemen.

¹¹ Republic of Moldova, Romania and Ukraine.

¹² The CBD Liaison Group defines bushmeat (or wild meat) hunting as the harvesting of wild animals in tropical and subtropical forests for food and for non-food purposes, including for medicinal use.

¹³ See <http://www.campfirezimbabwe.org>.

throughout Zimbabwe. The CAMPFIRE programme area constitutes close to 50 per cent of the total protected area network and covers 55,208 km². Regulated hunting forms a major source of revenue for CAMPFIRE districts and has been increasing since 2010. In addition, wildlife and forest-based land reform programmes have provided the foundation for indigenous communities to engage in wildlife and forestry enterprises, resulting in community game ranches and commercial communal conservancies.

31. In Namibia, providing economic incentives or livelihood alternatives to people facing poverty has been proven to reduce pressures on wildlife. Namibia's fifth national report indicated that community conservation had generated over N\$58.3 million for local communities in 2012 while facilitating the creation of 6,477 jobs and 99 enterprises based on natural resources. This has been achieved mainly through trophy hunting, accommodation establishments, and the harvesting and sale of natural resource products and crafts.

32. Some countries in Latin America and Asia reported on wildlife legislation and policy-related implications, describing challenges and efforts to improve legal frameworks and law enforcement. For example, Viet Nam stated that there are shortcomings in biodiversity policies and challenges due to an overlap in responsibilities and regulations between key agencies, compounded by a weak and fragmented approach to law enforcement. In October 2010, the Philippines reported on the adoption of its Wildlife Law Enforcement Manual of Operations, which provides a set of standards and protocols related to the investigation, surveillance, detention, handling of evidence and prosecution of cases. Another example is drawn from Guyana's 2013 Wildlife Management and Conservation Regulations, which cover the use of wildlife for various purposes, including bushmeat, research and medicine. To complement this regulation, the Wildlife Import and Export Bill provides a national framework and mechanism to govern international trade in all species of wildlife in Guyana.

33. Constraints in monitoring wildlife were also expressed in Estonia's National Biodiversity Strategy and Action Plan. Monitoring programmes were reported to have data shortages on species and habitat types, making it difficult to provide sufficient data for making science-based decisions and fulfilling international obligations. Estonia highlighted plans to improve its monitoring methodologies, including by using remote sensing and improving the structure of monitoring stations, sites and parameters.

IV. ACTIVITIES OF THE COLLABORATIVE PARTNERSHIP ON SUSTAINABLE WILDLIFE MANAGEMENT

34. CPW was established in Bangkok in March 2013 in response to decision XI/25 on sustainable use of biodiversity: bushmeat and sustainable wildlife management. CPW is a voluntary partnership of 13 international organizations¹⁴ with substantive mandates and programmes for the sustainable use and conservation of wildlife resources.

35. The mission of CPW is to increase cooperation and coordination among its members and other interested parties on sustainable wildlife management to promote the sustainable use and conservation of terrestrial vertebrate wildlife in all biomes and geographic areas, contributing to the conservation and sustainable use of biodiversity, and to human food security, livelihoods and well-being.¹⁵

36. CPW works to facilitate knowledge sharing, to generate a better understanding of the multiple benefits and values of wildlife and to inform policy- and decision-making. CPW has been developing a range of initiatives to identify critical wildlife management issues and knowledge gaps, and to contribute to the streamlining and harmonization of sustainable wildlife management tools.

¹⁴ The members of the Collaborative Partnership on Sustainable Wildlife Management (CPW) are the secretariats of: the Convention on Biological Diversity (CBD); the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES); the Convention on Conservation of Migratory Species of Wild Animals (CMS); the Centre for International Forestry Research (CIFOR); the Food and Agriculture Organization of the United Nations (FAO); the International Council for Game and Wildlife Conservation (CIC); the International Indigenous Forum on Biodiversity (IIFB); the International Trade Centre (ITC); the International Union for Conservation of Nature and Natural Resources (IUCN); the International Union of Forest Research Organisations (IUFRO); the wildlife trade monitoring network (TRAFFIC); the United Nations Environment Programme (UNEP); and the World Organisation for Animal Health (OIE).

¹⁵ As revised at the CPW Retreat in Rome, March 2015.

37. As Chair of CPW, the Executive Secretary of the Convention collaborates with all CPW member organizations to effectively advance and track progress on wildlife-related commitments and decisions. The current vice-chair, represented by the President of the Policy and Law Division of the International Council for Game and Wildlife Conservation, and the Food and Agriculture Organization of the United Nations (FAO), as Secretariat of CPW, support the Chair in the governance of the Partnership.

38. Decision XII/18 welcomed the establishment of CPW and expressed gratitude to FAO for providing its Secretariat. CPW has also been welcomed by COP-11 Resolution 11.31 of CMS and by the 66th meeting of CITES Standing Committee in SC66 Document 45.

39. The current CPW workplan for the period 2015-2016 includes four integral thematic areas on: wildlife and food security; human-wildlife conflict; illegal and unsustainable hunting (wildlife crime); and animal and human health. In order to complement these areas, priority attention is placed on equitable and effective governance of wildlife, and on ensuring that the values of wildlife are recognized and addressed in decision-making at all levels.

40. A major strength of CPW is its members' wide expertise and extensive experience in the wildlife management sector. Accordingly, CPW has the potential to leverage attention and enhance policy and programme coherence to promote sustainable wildlife management practices. In this regard, CPW is well placed to support collective efforts to advance the development and implementation of national wildlife management plans and strategies in a manner that contributes to global and regional commitments on the conservation and sustainable use of wildlife, including relevant Aichi Targets under the Strategic Plan for Biodiversity 2011-2020.

41. CPW achievements in 2015-2016 include the launch of the first Wildlife Forum, four SWM fact sheets, an online sourcebook on bushmeat, a work-in-progress glossary of technical wildlife management terms and various other outreach materials. Other highlights include the convening and participation in a number of meetings, in particular, the Symposium on "Beyond enforcement: Communities, governance, incentives, and sustainable use in combating illegal wildlife trade", held in South Africa in February 2015 and the workshop on "Sustainable use and bushmeat trade in Colombia: operationalizing the legal framework in Colombia", held in Leticia, Colombia, in October 2015, which helped focus attention on wildlife governance processes and sustainable management approaches.

42. Working group meetings were organized in 2014 and 2015 to address strategic issues of the Partnership, potential joint approaches to support country-level efforts and the Partnership's operational procedures, status of joint initiatives and key areas of work. The minutes of these meetings are available on the CPW website.¹⁶ Further details of these achievements and other initiatives, along with those forthcoming in 2016, are described in information note UNEP/CBD/SBSTTA/20/INF/48.

V. ANALYSIS OF THE IMPACTS OF SUBSISTENCE USE OF WILDLIFE ON THE SURVIVAL AND REGENERATION OF WILD SPECIES

43. In line with decision XII/18, paragraph 13(b), the Secretariat carried out a study on region-specific impacts of subsistence use of wildlife on the survival and regeneration of wild species, examining available sources of information, including scientific research. The full study, with references, is provided in UNEP/CBD/SBSTTA/20/INF/46.

44. The study notes that declining numbers of bushmeat species are a challenge faced in all tropical forest areas, with a suite of often interdependent causes that are exacerbated by a lack of knowledge about the hunted species, in terms of basic ecology and vital rates on which a management programme could be based. Insecurity, inadequate policy frameworks, weak governance, and lack of respect for laws and enforcement also exacerbate the issue. Erosion of the traditional control over access to land and of the traditional sets of local regulations governing hunting by members of the local communities also contributes to the overexploitation of wild species. Furthermore, the problem is enhanced by strong

¹⁶ <http://www.fao.org/forestry/wildlife-partnership/81939/en/>.

commercial interests in some species, making the selling of illegal game common and easy to accomplish, especially in the absence of other livelihood choices.

45. There is growing evidence that the scale of hunting poses a real threat to many wildlife species. While the data available preclude a firm understanding of the relative impacts of subsistence hunting and market-based bushmeat hunting, most data suggest that commercial hunting outweighs subsistence hunting for impacts on bushmeat species. Disentangling the effects of subsistence from market hunting is difficult, however, because both commercial and subsistence hunting occur together and represent a continuum from local consumption to trade.

46. Bushmeat hunting, in many cases, forms part of customary sustainable use of biodiversity to fulfil nutritional needs, although it is also done for economic gain with meat sold in markets, legally or not. For inhabitants of humid forest regions of the tropics, bushmeat often represents the main source of animal protein and cash-earning commodity. The relative amounts of bushmeat consumed by families versus sold varies considerably from 0 to 90 per cent by country and depends on alternative sources of income and food. In Colombia, for example, studies have highlighted the importance of wildlife harvest in diverse regions of the country¹⁷ but only recent research has quantified the trade. Quiceno et al. (2014) suggest that 43 per cent of the catch from hunters in Puerto Nariño is used for commercial purposes. The most representative taxa traded are mammals (60 per cent), birds (26 per cent) and reptiles (14 per cent).

47. Many local subsistence hunts persist, but data on effects are scarce. For example, conservative estimates of game yields in the Brazilian Amazon Basin alone have demonstrated that as many as 23.5 million game vertebrates, equivalent to 89,224 tons of bushmeat with a market value of US\$ 190.7 million, have been consumed each year by the rural population of the State of Amazonia. This has suggested an enormous effect of subsistence hunters on tropical forest wildlife communities, as subsistence game hunting can adversely impact species diversity and the size and structure of vertebrate assemblages. This highlights the importance of implementing monitoring and game management programs.

48. The demand for bushmeat in West and Central Africa could be as much as four times greater than that in the Amazon Basin. Studies have calculated that about 178 species, the majority of which are mammals, are hunted and used in the wild meat industry in Central Africa. Over half of these species are threatened by subsistence hunting. A recent study by Petrozzi et al. 2015 (in press) reports that as many as 129 wild vertebrate species are known to be traded and consumed in West and Central Africa.¹⁷ By class, mammals are still the most common and dominate the bushmeat trade in terms of individual animals and biomass sold.

49. In Central and West Africa, the rise in the human population and trade from rural to urban areas, combined with the lack of any substantial domestic meat sector are considered the main drivers of unsustainable levels of hunting. Even where urban consumers have access to domesticated sources of meat, they are imported and/or expensive, and, therefore, bushmeat remains an important part of their diet.¹⁸

50. Given the estimated yearly extraction rate in the Congo Basin of 4.5 million tons,¹⁹ if bushmeat consumption in this subregion were replaced by locally produced beef, an area as large as 25 million hectares would have to be converted to pastures.²⁰ Therefore, further efforts are needed to help countries explore the development of a sustainable and formal bushmeat sector. This could be a viable short- to medium-term option which could be compatible with conservation, livelihoods, food security and nutrition.

¹⁷ Petrozzi F, Amori G, Franco D, Gaubert P, Pacini N, Eniang EA, Akani GC, Politano E, Luiselli L. in press. Ecology of the bushmeat trade in West and Central Africa. *Tropical Ecology*

¹⁸ Nasi, R., and Fa, J. E. The role of bushmeat in food security and nutrition. Paper presented at the XIV World Forestry Congress, Durban, South Africa, 7-11 September 2015.

¹⁹ Nasi, R, Taber, A., and Van Vliet, N. 2011. Empty forests, empty stomachs? Bushmeat and livelihoods in the Congo and Amazon Basins. *Inter. Forestry Rev.* 13: 355-368.

²⁰ Nasi, R., and Fa, J. E. The role of bushmeat in food security and nutrition. Paper presented at the XIV World Forestry Congress, Durban, South Africa, 7-11 September 2015.

51. Bushmeat hunting for food is but one cause of the decline of species. Other anthropogenic impacts include deforestation and infrastructure expansion, climate change, pollution, and effects of invasive species. A lack of livelihood and productive alternatives, and an unregulated national and international market for bushmeat and animal parts are further causes of the overharvesting of bushmeat species. Incidental killing of non-target species is another factor that threatens species survival.

52. The extractive sector operating without sustainable management plans can also contribute to unregulated and unsustainable bushmeat use and trade. In particular, companies can cause impacts on wild species by directly damaging critical habitats, disturbing movement patterns and altering behaviour, and indirectly by providing access to hunters by building roads and/or providing transportation for hunters.

53. Hence, wildlife managers must consider which factors are most important to manage for specific species and which factors require coordination with other parts of government, the productive sectors, local stakeholders, as well as intergovernmentally on a bilateral and multilateral basis.

54. Bushmeat hunting appears to be a more severe threat than habitat loss, but the two often act synergistically, with severe ecological effects. Impacts of bushmeat hunting are often exacerbated by the use of fire by hunters, which force wildlife from protected areas in search of food.

55. A rise in human population density and food insecurity has also led to increased pressure on the use of wildlife resources. For example, in Africa, the population is expected to double by 2050, adding further pressures to the governance of natural resources, including bushmeat. These pressures also contribute to increased immigration and settlements in new, formerly undisturbed areas. This may also lead to forest degradation, increased hunting pressures and greater transport of bushmeat to markets.

56. Declines in the population of overhunted species pose critical consequences for vital ecological processes that support biodiversity. Leaving the situation unmanaged will trigger irreversible changes in ecosystems, with resultant direct and indirect pressures on human societies. Defaunation or empty forests are often cited as the most evident impact of overhunting, while prey depletion is suggested to increase human-wildlife conflicts and more subtle ecosystem changes may, over the long term, also become obvious. These changes eventually can greatly alter ecosystem functions, including the provision of ecosystem goods and services.

57. Overall, these studies underscore broad implications for human food security, nutrition, health, local livelihoods as well as national economies, as Parties can lose significant revenue if wildlife, as a key resource, is poorly managed and irreversibly lost. Not only does the degradation of forest ecosystems and decline in wildlife species weaken national and local economies, but it also makes them more vulnerable to climate change.

58. Often, top-down regulation imposed and enforced on local communities in the absence of collaborative management approaches can result in local resentment and unsustainable harvesting. The study therefore also notes that, in many tropical and subtropical regions, bushmeat use is regulated through various mechanisms that act at different levels of governance, from the local to the international level. At the individual, group or community levels, traditions may still regulate the use of bushmeat through taboos and beliefs. At the community level, customary rights may still regulate hunting and bushmeat use.

59. Formal regulations at the national level often recognize customary rights and their use, but only to a certain degree, thus limiting the potential for traditional knowledge to play a role in stemming declines in the population of many species or curbing illegal trade of wildlife. In this regard, the study suggests approaches to and gives examples of improving the management of bushmeat species through collaborative management and community-based strategies, the development, revision and enforcement of legal frameworks, research and monitoring measures.

VI. WILDLIFE FOR FOOD SECURITY: A PROPOSED ROAD MAP

60. In many countries, the poor and vulnerable are directly reliant upon wildlife for their day-to-day survival needs. For many indigenous peoples and local communities, wildlife not only provides food and other basic goods and services, but also offers a source of income to meet other rudimentary needs. Wildlife is recognized as an essential part of the spirituality of indigenous peoples, worldview and identity. Therefore, decisions about how to safeguard and use wild species, particularly important for human well-being, could gravely impact the poor and most vulnerable members of society, and hence needs to be carefully addressed.

61. If sustainably managed, wildlife can provide continuous safe nutritious food that meets people's dietary needs and food preferences for an active and healthy life. It may also enhance rural development and sustainable livelihoods, contributing to poverty alleviation.

62. National and regional bushmeat strategies could take into account multidisciplinary approaches to gather better information on the use and trade of bushmeat, in order to develop, revise and/or enforce legal frameworks and promote livelihood alternatives for the sustainable use of wildlife for food.

63. A report on the role of bushmeat in food security and nutrition²¹ presented to the XIV World Forestry Congress, in Durban, South Africa, in September 2015, examines how bushmeat consumption and food security may be linked. Data reveals the significance of bushmeat protein to overall protein consumption in Central Africa, highlighting how the loss of bushmeat consumption could be interconnected with human malnutrition in the region.

64. The proposed road map in the above-mentioned report identifies strategies related to food security and human nutrition that could increase recognition of the economic value of bushmeat, and the need to regulate and plan its use. The road map addresses better governance for a sustainable and formal bushmeat sector that ensures food security of people using non-threatened wild species for food. The stated road map includes the following:

1. Working with the upstream actors to improve the sustainability of supply

1.a. Hunters: negotiate hunting rules and quotas allowing harvesting resilient species and banning vulnerable ones; design and agree on simple participatory monitoring tools.

1.b. Extractive industries: enforce codes of conducts and include wildlife concerns in companies' standard operating procedures; forbid transportation on company's vehicles; establish manned checkpoints; provide alternative sources of protein at cost; organize, support community hunting schemes; adopt certification.

2. Reducing the demand

2.a. Rural consumers: develop alternative sources of protein at a cost similar to bushmeat; improve economic opportunities in productive sectors; use local media (e.g. radio) to deliver environmental education and raise awareness.

2.b. Retailers, urban consumers: strictly enforce bans on protected/endangered species sales and consumption, confiscating and publicly incinerating carcasses; taxing sales of authorized species.

2.c. International consumers: Institute very heavy fines for transport – eventually targeting airline companies - possession or trade of bushmeat (whatever the status or provenance of the species); raise awareness of the issue in airports or seaports; train custom personnel.

3. Create an enabling environment for a controlled, sustainable bushmeat sector

3.a. Local institutions: negotiate full support of communities that have a vested interest in protecting the resource; increase capacity to setup and manage sustainable bushmeat markets.

3.b. National level: enhance ownership, linked to tenurial and rights reform; legitimize the bushmeat debate; make an economic assessment of the sector and include in national statistics;

²¹ Nasi, R., and Fa, J. E. The role of bushmeat in food security and nutrition. Paper presented at the XIV World Forestry Congress, Durban, South Africa, 7-11 September 2015.

acknowledge contribution of bushmeat to food security in national strategies; develop a framework to “formalize” parts of the trade; review national legislation for coherence, practicality and to reflect actual practices (without surrendering key conservation concerns); include bushmeat/wildlife modules in curricula.

3.c. International level: strictly enforce CITES with more consideration on regional trade; ensure wildlife issues are covered within internationally-supported policy processes; link international trade with increased emerging disease risks; impose tough fines and shame irresponsible behaviour.

4. Develop more targeted research

4.a. Create a shift away from descriptive studies of wildlife exploitation to more incisive investigations on the roles which bushmeat might play in poverty eradication in balance with the sustainable use of the resource (Brown 2003).

4.b. Develop cost-effective systems for examining the importance of wild meat to human populations in different ecological and socioeconomic settings. In particular, examine the further application of existing global mechanisms for data gathering on nutrition, such as FAO’s Food Balance Sheets.

4.c. Determine causal links between alternative protein sources (e.g. marine and freshwater fish supply) and wildlife populations, and the ecological footprints of increasing accessibility to domestic meats (e.g. livestock, poultry).

4.d. Elaborate effective systems for monitoring the status of hunted wildlife that can be operated by local communities and managers.

4.e. In combination with the conservation sector, instigate original research on the role of source-sink dynamics of hunted wildlife, including the role of protected areas.

4.f. Understand the relationships and trade-offs between bushmeat and other meat/protein sources for human populations inhabiting distinct faunal areas, such as those identified by Fa et al. (2015) for central Africa.

VII. CONCLUSION

65. The use of wildlife, in particular bushmeat hunting in tropical and subtropical countries, is an urgent concern not only for biodiversity, but also for food security and nutrition as well as the cultural and spiritual well-being of indigenous peoples and other forest-dependent communities. It is also a concern for human and animal health and zoonotic diseases. Ensuring that bushmeat use and other potential livelihood alternatives are sustainable therefore requires addressing criteria related to social, cultural, ecological and economic dimensions.

66. For decades, the global community has focused significant attention on the conservation and sustainable use of wildlife. Global and regional efforts are broadening their scope on wildlife to ensure that activities not only address biodiversity loss, but also help to counter detrimental economic, social and environmental impacts. The most recent political commitments include United Nations General Assembly resolution 69/314 and relevant targets of the 2030 Agenda for Sustainable Development.

67. Wildlife is central to the Strategic Plan for Biodiversity 2011-2020 and inherently interconnected with many of the issues that the Plan aims to address. While there is no specific Aichi Biodiversity Target relating to the sustainable use of terrestrial wildlife, the Strategic Plan for Biodiversity offers a useful global framework for action to address conservation and sustainable use objectives. The Convention has also developed a number of tools and guidance relevant to the sustainable management of wildlife, including the Addis Ababa Principles and Guidelines for Sustainable Use of Biodiversity and the revised recommendations of the Liaison Group on Bushmeat. Further attention could also focus on the role of the Global Action Plan on Customary Sustainable Use as a mechanism for consulting with indigenous peoples and local communities on wildlife-management-related issues.

68. Despite the complexity of the bushmeat issue, Parties have been undertaking activities to gather better knowledge of its use and trade. In this regard, a number of efforts have been taken to examine legal frameworks and to identify livelihood alternatives. Additional work is also focusing on the sustainable use of wildlife through collaborative management approaches and community-based management, among other private-public arrangements.

69. While experience is uneven, some Parties have developed and implemented successful policies and measures, increasing resources for patrolling and monitoring of species populations and harvests. This has helped to generate a better understanding of the role of species interactions in stabilizing forest dynamics and in maintaining ecosystem services. However, there is still a need for increased collaboration, in particular at the local, national and regional levels, to exchange information and best practices and to develop effective policies to reduce pressure on bushmeat and non-target species while recognizing potential ecological and socioeconomic impacts.

70. The experience of Parties and the foregoing analysis underscore the need for enhanced policy coherence on wildlife management and trade. It underscores the importance of rights-based management systems and the transfer of these rights and associated management responsibilities to local people, broad stakeholder involvement, monitoring tools and other approaches based on harvest data, targeted research, education and awareness of supply and demand reduction strategies, adequate legal frameworks and provisions for the creation of enabling conditions to regulate and sustainably use non-threatened species.

71. In this regard, to effectively promote sustainable wildlife management, the policy agenda on bushmeat will require further consideration of urgent and practical policies that serve to promote species and ecosystem conservation while fostering sustainable use of biodiversity and enhancing the well-being of people, in particular indigenous peoples and local communities.

VIII. RECOMMENDATIONS

72. The Subsidiary Body on Scientific, Technical and Technological Advice may wish to adopt a recommendation along the following lines:

The Subsidiary Body on Scientific, Technical and Technological Advice

1. *Takes note* of the progress report on sustainable wildlife management;²²
2. *Requests* the Executive Secretary, in collaboration with the members of the CPW, to further technical guidance, building, among other things, upon the multidisciplinary approach to sustainable wildlife management and governance elements proposed at the Symposium on “Beyond enforcement: Communities, governance, incentives, and sustainable use in combating illegal wildlife trade”, held in South Africa in February 2015, and the workshop on “Sustainable use and bushmeat trade in Colombia: operationalizing the legal framework in Colombia”, held in Leticia, Colombia, in October 2015, as well as the proposed road map on the role of bushmeat in food security and nutrition presented to the XIV World Forestry Congress in Durban, South Africa, in September 2015.

73. The Subsidiary Body on Scientific, Technical and Technological Advice recommends that the Conference of the Parties at its thirteenth meeting adopt a decision along the following lines:

The Conference of the Parties,

Noting the potential for enhanced policy harmonization on wildlife conservation, sustainable use and trade encouraged by the 2030 Agenda for Sustainable Development,²³ in particular on Targets 15.7 and 15.c under Goals 15, United Nations General Assembly resolution 69/314, and the Strategic Plan for Biodiversity 2011-2020,

Concerned with the continued decline of wildlife species due to extensive destruction and degradation of natural habitats, fragmentation and the loss of landscape connectivity, as well as other threats, including illegal exploitation and illegal wildlife trade, unsustainable use of wildlife products and

²² UNEP/CBD/SBSTTA/20/11.

²³ General Assembly resolution 70/1 of 25 September 2015 on “Transforming our world: the 2030 Agenda for Sustainable Development”.

resources, climate change, illegal land conversion, pollution, and invasive alien species, that impact negatively on the survival and regeneration of wild species, as well as on sustainable development and human well-being,

Mindful that wildlife loss has consequences for vital ecological processes that support biodiversity, and serious socio-economic, food security, nutrition and health related impacts, affecting customary sustainable use and the culture, spirituality and identity of indigenous peoples,

Noting the need for sound wildlife management programs that build upon an understanding of biological and ecological factors, and upon effective and equitable programmes, recognizing the importance of the human dimension, not only in terms of human needs and benefit-sharing, but also with respect to generating incentives for wildlife conservation and sustainable use,

Recognizing that considerable work has been done under the Convention on ways to improve the sustainability of bushmeat harvest, but noting that the issue of sustainable use of wildlife intersects with other sectors, and that a more strategic and broader approach is needed to address these issues,

1. *Encourages* Parties, other Governments and relevant organizations, to consider and implement, as appropriate and where possible, the road map on wildlife and food security and the strategies therein to strengthen governance processes for a sustainable and formal bushmeat sector;

2. *Urges* Parties when developing their sixth national reports to the Convention on Biological Diversity to report on the use of rights-based management systems and the transfer of these rights and associated management to indigenous peoples and local communities with regard to sustainable wildlife management, and *requests* the Executive Secretary, to develop guidance for Parties with respect to these preparations in the sixth national reports;

3. *Requests* the Executive Secretary to continue working with the Collaborative Partnership on Sustainable Wildlife Management to support Parties' implementation of the Strategic Plan for Biodiversity 2011-2020, by elaborating the elements within the road map for better governance towards a sustainable bushmeat sector, taking into account the perspective and knowledge of indigenous peoples and local communities in customary sustainable use of biodiversity, and reporting on progress to the Subsidiary Body on Scientific, Technical and Technological Advice at a meeting held prior to the fourteenth meeting of the Conference of the Parties;

4. *Requests* the Executive Secretary, in collaboration with the Collaborative Partnership on Sustainable Wildlife Management, to scope and organize a Wildlife Forum event, taking into account the views of, and involving, Parties and relevant stakeholders, to consider and define the priorities for work under the Convention with respect to sustainable wildlife management and to report to the Subsidiary Body on Scientific, Technical and Technological Advice at a meeting held prior to the fourteenth meeting of the Conference of the Parties;

5. *Requests* the Executive Secretary to continue to liaise and collaborate with the Convention on International Trade in Endangered Species of Wild Fauna and Flora, the Convention on the Conservation of Migratory Species of Wild Animals and other relevant conventions with respect to sustainable wildlife management and with the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services with respect to the scoping for, and subsequent thematic assessment on, the sustainable use of biodiversity.
