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Understanding synergies and mainstreaming among the biodiversity related conventions

A special contributory volume by key biodiversity convention secretariats and scientific bodies

Publication: Understanding synergies and mainstreaming among the biodiversity related conventions: A special contributory volume by key biodiversity convention secretariats and scientific bodies.

Published in September 2016

ISBN No: 978-92-807-3571-0
Job No: DEL/1993/NA

Produced by UN Environment, Law Division

Director of Publication: Elizabeth Maruma Mrema, UN Environment, Law Division

Editor : Balakrishna Pisupati, UN Environment, Law Division

Citation
UN Environment (2016) Understanding synergies and mainstreaming among the biodiversity related conventions: A special contributory volume by key biodiversity convention secretariats and scientific bodies. UN Environment, Nairobi, Kenya. Pp: 67.

This publication is available online at: www.unep.org/environmentalgovernance/

Cover photo credits left to right: Martin LaBar, Peter Prokosch/Grid Arendal, Peter Prokosch/Grid Arendal, UN Photo/Martine Perret

Design: Jinita Shah/ UNON
Printing: UNON/Publishing Services Section/Nairobi, ISO 14001:2004-Certied
Job No: D1 - 16-07412/300 copies

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UNEP

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Summary

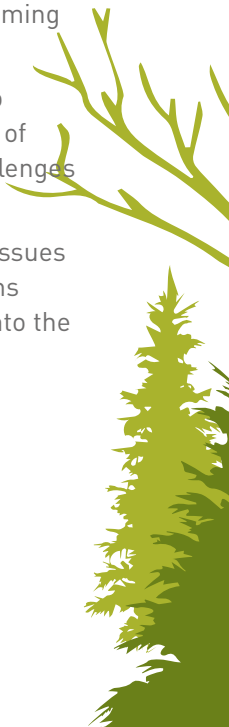
Over the past decades, countries have negotiated and agreed to be bound by a number of biodiversity-related conventions and other multilateral environmental agreements. These efforts have put in place a comprehensive governance regime addressing the conservation and sustainable use of biodiversity and ecosystem services. However, as the number of obligations under such legal instruments has grown, so have concerns about how to implement them effectively and coherently, ensuring all relevant sectors consider the relevance of their actions to conservation and sustainable use. As a result, significant efforts have already been made to improve alignment among the biodiversity-related conventions, and to identify and build on opportunities for collaboration, cooperation, and coordination as well as promote mainstreaming of biodiversity across agencies and sectors.

Article 6a of the Convention on Biological Diversity calls for countries to develop National Biodiversity Strategies and Action Plans, while Article 6b calls for mainstreaming biodiversity across sectors and agencies at national levels. The Strategies and Action Plans are many times considered key entry points for supporting actions related to mainstreaming and synergies. Currently there is significant focus on promoting synergies among the conventions and effective mainstreaming of biodiversity at various levels supported by the decisions of Governing Bodies of various biodiversity related conventions.

The Second meeting of the United Nations Environment Assembly (UNEA 2) in May 2016 resolved to further support work on enhancing synergies and mainstreaming issues through resolution 2/17.

This multi-author volume is an attempt by the United Nations Environment to engage with the Heads of various biodiversity related conventions and Chairs of Scientific Bodies of the conventions to understand the opportunities and challenges related to promoting synergies and mainstreaming issues.

We envisage that this publication will provide further guidance to promoting issues of synergies and mainstreaming from the perspective of individual conventions that have contributed to this volume at various levels and guide our actions into the future.



Short biographies of the authors

Dr Shakeel BHATTI

He is the first Secretary of the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA) at the FAO. Since he took office in 2007, Dr Bhatti managed the launch of the Multilateral System of Access and Benefit-sharing and the Benefit-sharing Fund. He was the Head of the 'Genetic Resources, Biotechnology and Associated Traditional Knowledge Section' at the United Nations' World Intellectual Property Organization (WIPO). He has taught international patent law and genetic resource policy at several universities in India, Japan and Sweden.

Carolina CACERES

Carolina Caceres's childhood love of nature has led to a career in wildlife conservation. She studied ecology at McGill University and the University of Calgary, where she researched the private lives of Canadian forest bats.

Carolina works for Environment and Climate Change Canada on implementing Convention on the International Trade in Endangered Species of Wild Fauna and Flora (CITES). She has participated in the 13th, 14th and 15th CITES Conference of the Parties as a member of the Canadian delegation and was selected to chair one of the two CITES decision-making Committees during the 16th Conference of the Parties. Carolina has served on the CITES Animals Committee since 2010 and as its Chair since 2013.

She is a recipient of the Queen Elizabeth II Diamond Jubilee Medal in recognition of her contributions to Canada as a representative to CITES. Carolina hopes to use her experience to inspire a new generation of nature lovers, starting with her own two children.

Bradnee CHAMBERS

Dr. Bradnee Chambers is the Executive Secretary of the UNEP Convention on the Conservation of Migratory Species of Wild Animals (CMS) and the acting Executive Secretary of the Gorilla Agreement and the Agreement on the Conservation of Small Cetaceans in the Baltic, North East Atlantic, Irish and North Seas (ASCOBANS). Bradnee is a well-known expert in international law and governance and has worked in the UN for nearly 20 years in various capacities including in UNEP as Senior Legal Officer and Head of Policy and Synergies between Multilateral Environmental Agreements as well as playing a leading role in the Helsinki Ministerial Consultative Process on International Governance and at the Rio+10 Summit which led to the upgrading and strengthening of UNEP in the outcome document "The Future We Want".

Bradnee has published over the course of nearly two decades on Interlinkages and Synergies between MEAs, International Environmental Governance, and Trade and Investment and the Environment.

Braulio Ferriera de Souza DIAS

Braulio Ferreira de Souza Dias is the Executive Secretary of the Convention on Biological Diversity. Mr. Dias has over three decades of experience in biodiversity science and policy and its implementation at national and international levels. He previously served as a Vice-President of the International Union of Biological Sciences, Coordinator of the Steering Committee of the Inter-American Biodiversity Information Network, Member of the Scientific and Technical Advisory Panel of the Global Environment Facility, Director for Biodiversity Conservation, and National Secretary for Biodiversity and Forests at the Brazilian Ministry of the Environment.

Royal GARDNER

Royal C. Gardner has been a member of the Ramsar Convention's Scientific and Technical Review Panel since 2005 and its Chair since 2013. He is Professor of Law and Director of the Institute for Biodiversity Law and Policy at Stetson University College of Law (USA). His teaching and research focus on wetland law and policy, with particular emphasis on biodiversity offsets and the Ramsar Convention.

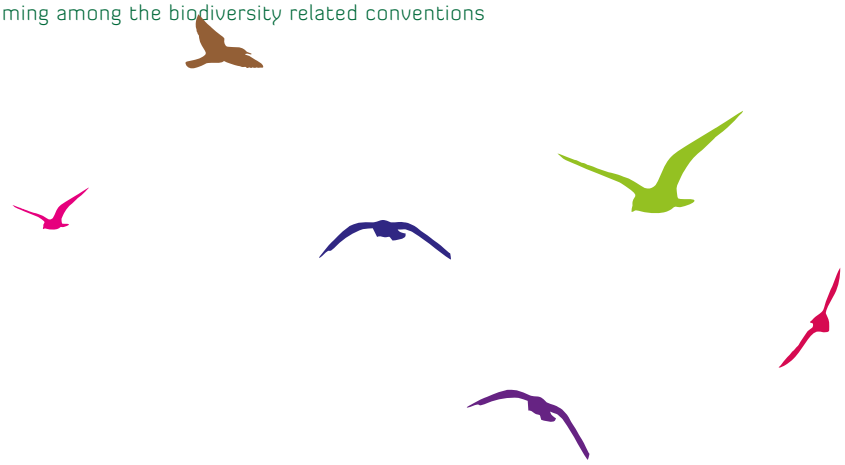
He began working on wetland policy at a national level while at the Pentagon (from 1989-1993) and served on the (U.S.) National Research Council's Committee on Mitigating Wetland Losses. A member of the U.S. delegation to Ramsar COPs 8 and 9, Roy participated in COP10, COP11, and COP12 as an STRP representative. He is the former Chair of the U.S. National Ramsar Committee and the recipient of the 2006 National Wetlands Award for education and outreach.

Ania GROBICKI

Ania Grobicki has degrees in Chemical Engineering and in Economics, and a PhD in Biotechnology. In March 2015 Ania took up the position of Deputy Secretary General of the Ramsar Convention on Wetlands, and since November 2015 she has been leading the Convention Secretariat as Acting Secretary General of the Convention.

Previously, Grobicki worked in the oil industry in South Africa, started a consultancy firm, developing projects on the restoration of urban wetlands and urban catchment management, as well as writing and publishing on the water needs of cities, industry, agriculture and energy.

From 2002, Ania led the CGIAR Challenge Programme on Water and Food, based in Sri Lanka. Thereafter she was based for 3 years at WHO in Switzerland working on issues of Research for Health. As Executive Secretary of the Global Water Partnership (2009-2015), based in Sweden, she managed a world-wide network of over 3000 partner organizations, and developed global action programmes including a focus on water and climate change adaptation.



Haruko OKUSU

Haruko Okusu is Chief of Knowledge Management and Outreach Services at the CITES Secretariat. She has 20 years of experience in the areas of biodiversity, biotechnology, natural resource management policy, multilateral environmental agreements, project management and capacity building.

Before joining the CITES Secretariat in 2012, Haruko served in a number of posts, including the UNEP regional office for Asia and the Pacific, the Scientific Council Secretariat of the Consultative Group for International Agricultural Research (CGIAR), hosted by the Food and Agriculture Organization (FAO) of the UN, as well as for UNEP headquarters in Nairobi.

Haruko has a PhD in law from the University of Sheffield and a Master's degree in biochemistry from the University of California at Berkeley.

Muhammad SABRAN

He was elected Chairperson of the Seventh Session of the Governing Body of the International Treaty in 2015. He is a senior researcher at Indonesian Centre for Agricultural Biotechnology and Genetic Resources Research and Development (ICABIOGRAD) of the Indonesian Agency for Agriculture Research and Development (IAARD). Before that, he was the deputy director for collaboration and public relations at the IAARD.

John SCANLON

John joined the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) as Secretary-General in May, 2010.

His previous international appointments include: Principal Advisor to the Executive Director of UNEP (Nairobi, Kenya) and Team Leader, Strategic Implementation Team; Strategic Advisor, the World Commission on Dams (Cape Town, South Africa); Head, IUCN Environmental Law Programme and Director, IUCN Environmental Law Centre (Bonn, Germany), Legal advisor on projects in Botswana, Guyana, the Russian Federation, and Viet Nam.

John served as President of the National Environmental Law Association of Australia (SA Division) for three terms, was the founding chair of the Environmental Law Community Advisory Service (SA) in 1992 (now called the Environmental Defender's Office), and is a member of the IUCN World Commission on Environmental Law (since 1995) and the World Commission on Protected Areas.

John has been awarded: the Member of the Order of Australia (AM) for service to environmental law nationally and internationally (2011); the Center for International Environmental Law (CIEL) International Environmental Law Award (2013); and the Baobab Award for Innovation (UNEP 2014). In 2015 John was made an Honorary ZSL Conservation Fellow (Zoological Society of London) and awarded the Doctor Honoris Causa by the Ilia State University, Georgia. John has Australian and British nationalities.

Adrianne SINCLAIR

Adrianne Sinclair is the Interim Chair of the CITES Plants Committee and Head of the CITES Scientific Authority in Canada within the Canadian Wildlife Service of Environment and Climate Change Canada. She has actively participated in the work of the Plants Committee since 2003, including serving as the Alternate Representative for North America. She received her doctorate in conservation biology from the University of Ottawa in Canada in 2002. Her thesis focused on conservation of the medicinal, CITES-listed plant, goldenseal. In the same year, soon after submission of her thesis, she joined the Canadian Wildlife Service as a CITES science advisor for plants.

Greatly motivated by the CITES goal of sustainable trade, work on non-detriment findings has been a key focus for Adrianne internationally and nationally.

Oystein STORKERSEN

Mr. Øystein Størkersen is the Principal coordinator at the Norwegian Environment Agency in Trondheim, Norway. He is recognized as a national expert on wild flora and fauna, with broad experience in management of species and habitats. In addition to serving as the Norwegian National Focal Point for UNEP Convention on the Conservation of Migratory Species of Wild Animals (CMS) and the Chair of the CMS Standing Committee, Øystein has a wide portfolio of international engagements such as being the National Focal Point for African-Eurasian Waterbirds Agreement (AEWA) and chairing the Standing Committees of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) and the Bern Convention.

He has long been a key backer of CMS and has helped to ensure continued Norwegian support for conservation activities implemented under the Convention.

I.

The International Treaty on Plant Genetic Resources for Food and Agriculture and its role in enhancing synergies between multilateral environment agreements for the protection of biodiversity for sustainable development

Muhamad Sabran[1] and Shakeel Bhatti[2]

A. Introduction

Conserving the biodiversity of plants cultivated for food and agriculture is not the same as protecting other plant and animal species given that crops have two main distinctive features: firstly, there is human intervention in their development, and secondly, they are important for our subsistence.

Crop biodiversity is represented by a unique genetic pool that grew over the millenniums out of human intervention, as well as natural selection, with farmers mixing the genes of different varieties and even species to create new, more robust ones. Most of those varieties and species are kept from extinction by human interaction. In other words, when it comes to the genetic resources of plants used for food and agriculture, it really is a case of use it or lose it.

We have already lost a great deal. Over the millenniums, humans have relied on 10,000 plant species for food. So much of that diversity has now gone that there are currently just 150 crops under cultivation. Four of those crops – rice, wheat, maize and potatoes – provide around 60 per cent of our food needs.[3] Such loss of agricultural biodiversity caused by the fast-growing human population and the development of monocropping and other modern farming methods ranks among one of the greatest challenges facing humanity's ability to feed itself and meet the 2030 Agenda for Sustainable Development and its Sustainable Development Goals.

The very objective of the International Treaty on Plant Genetic Resources for Food and Agriculture, also referred to in this document as "the Treaty", is to protect crop biodiversity for human development.

The Treaty preamble calls for the conservation and sustainable use of plant genetic resources for food and agriculture and the fair and equitable sharing of the benefits arising out of their use, in harmony with the Convention on Biological Diversity, for sustainable agriculture and food security. The importance it attaches to sustainable development is further emphasized by the fact that the Treaty has decided to adopt it as the theme for the seventh session of its Governing Body, to be held at the end of 2017.

The 17 Sustainable Development Goals, adopted by the United Nations General Assembly in resolution 70/1 "Transforming our world: the 2030 Agenda for Sustainable Development," places great importance on the role played by agricultural diversity in development and fighting poverty. The work of the Treaty directly relates to two of those goals: Goal 2, which calls on Governments to end hunger, achieve food security, improve nutrition and promote sustainable agriculture, and Goal 15, which calls for, among other things, the halting of biodiversity loss. The fulfilment of those goals requires States Members of the United Nations to promote fair and equitable sharing of the benefits arising from the utilization of genetic resources and to promote appropriate access to such resources, as internationally agreed.

The benefit-sharing component of the Treaty will be discussed in greater detail below, but it is worth mentioning that it was the first international legally binding instrument to recognize the efforts and enormous contribution of farmers worldwide to the development and conservation of crop diversity. It advises contracting parties to take measures to ensure that farmers who have been

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1 Senior Researcher at the Indonesian Centre for Agricultural Biotechnology and Genetic Resources Research and Development and Chairperson of the seventh session of the Governing Body of the International Treaty.

2 Secretary of the International Treaty.

3 Food and Agriculture Organization of the United Nations, The State of the World's Plant Genetic Resources for Food and Agriculture. Available from ftp://ftp.fao.org/docrep/fao/meeting/015/w7324e.pdf

conserving and further developing such agricultural diversity for hundreds of years receive due recognition and financial support with which to continue their valuable work.

Many countries have now adopted the benefit-sharing concept through the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from Their Utilization to the Convention on Biological Diversity, which came into force in October 2014 as a way of encouraging countries to preserve biodiversity; to develop an economy that is more sustainable and in which the value of natural resources will be truly acknowledged; and to open new opportunities for the establishment of fair and just compensation mechanisms.

Multilateral cooperation is key to preserving agricultural biodiversity. No country is self sufficient in terms of plant genetic resources for food and agriculture: in depth analysis demonstrates that national food supplies and production systems are highly interdependent worldwide with regard to plant genetic resources.

Countries strongly depend on crops whose genetic diversity largely originates from outside their borders, both in their food supplies (65.8 per cent dependence on non-indigenous crops for calories, 66.6 per cent for protein, 73.7 per cent for fat and 68.6 per cent for food weight as an average across countries worldwide). Countries also need non-indigenous genetic resources in their production systems (71 per cent for production quantity, 64 per cent for harvested area and 72.9 per cent for production value). The global average of the degree of countries' dependence on crop genetic diversity originating from outside their borders is 68.7 per cent across food supply variables, 69.3 per cent across production variables and 68.9 per cent across all variables for all countries.[4]

If we acknowledge variation across countries and across food supply and production metrics in the degree of dependence on foreign plant genetic resources, the results clearly demonstrate extensive interdependence worldwide, in all regions and on all continents, including in countries located in areas of high indigenous crop diversity. National dependence on non-indigenous crops has increased over the past 50 years as countries' food systems have become more diverse and more homogeneous worldwide. Dependence is positively correlated with diversity in food systems and with national gross domestic product.

Photo credit: UN Photo/Martine Perret

Governments face ravages to food supplies caused by virulent funguses or pests resulting from the extended use of more uniform varieties and monocultures, which may lead to genetic vulnerability as crops have less in-built resistance to hostile pathogens and insects. That inherent weakness represents a major risk to global food security. A good example is the current threat to the survival, outside of research institutions and botanical gardens, posed by a new strain of the so-called Panama fungus to the Cavendish banana variety.

[4] Source: Ximena Flores Palacios, "Contribution to the Estimation of Countries' Interdependence in the Area of Plant Genetic Resources", Food and Agriculture Organization of the United Nations. Available from ftp://ftp.fao.org/docrep/fao/meeting/015/j0747e.pdf. C. K. Khoury et al., "Estimation of countries' interdependence in plant genetic resources provisioning national food supplies and production systems", International Centre for Tropical Agriculture (2014). Available from http://www.planttreaty.org/content/research-paper-8.

Cavendish bananas account for almost half of the bananas consumed worldwide and there is no doubt that the loss of the species would have a significant impact on the nourishment and livelihoods of many people. If bananas as a crop are to survive and flourish, the existing diversity must be protected and enhanced so that suitable replacements to the Cavendish are available.

Diversity within a field or production system enhances stability in overall food production. Farmers can hedge their bets about the biotic and abiotic challenges of the coming growing season by planting several varieties. A farmer in Papua New Guinea, for example, can plant up to 50 varieties of sweet potatoes in a field.

Accelerating climate change makes it even more pressing to conserve, exchange, use and further develop ancestral crops to produce new varieties that are not only more productive but also more resistant to shocks such as droughts, floods, pests and diseases. In the future, many parts of the world will need crops that can survive with less water.

B. Background to the International Treaty on Plant Genetic Resources for Food and Agriculture

Because of the dependency on genetic resources and the importance of such resources for research and food security, Governments agreed on a common set of exchange rules and mechanisms and included them in a Treaty that took seven years of negotiations and was adopted by the Conference of the Food and Agriculture Organization of the United Nations (FAO) in November 2001. The Treaty, which is the only binding international agreement specifically dealing with the sustainable management of plant genetic resources for food and agriculture, has its own governing body and rules that allow its 139 contracting parties to discuss policy and governance issues related to implementation.[5]

By article 5 of the Treaty, which is concerned with the conservation, exploration, collection, characterization, evaluation and documentation of plant genetic resources for food and agriculture, contracting parties are required to promote an integrated approach to the exploration, conservation and sustainable use of plant genetic resources for food and agriculture. In particular, contracting parties are asked to draw up where appropriate plant genetic resources for food and agriculture surveys and inventories. Those surveys should classify plants to include the status and degree of variation in existing populations, including those that are of potential use and, as feasible, assess any threats to them. Contracting parties also pledge to promote the collection of plant genetic resources for food and agriculture and relevant associated information on those plant genetic resources that are under threat or are of potential use.

In article 6 of the Treaty, contracting parties pledge to develop and maintain appropriate policy and legal measures that promote the sustainable use of plant genetic resources for food and agriculture. Suggested measures include fair agricultural policies to promote the development and maintenance of diverse farming systems that enhance the sustainable use of agricultural biological diversity and other natural resources.

Contracting parties also vow to strengthen biological diversity research and plant breeding efforts to develop varieties that are particularly adapted to social, economic and ecological conditions, including in marginal areas; to broaden the genetic base of crops; and to increase the range of genetic diversity that is available to farmers. The Treaty calls for the expanded use of locally produced crops and the wider use of a diversity of varieties.

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[5] Source: FAO Legal Office (April 2016). Available from http://www.fao.org/legal/home/legal-office/en/.

1. The Multilateral System of Access and Benefit-Sharing for crops

One of the early achievements of the Treaty was the setting up of a multilateral system both to facilitate access to plant genetic resources for food and agriculture and to share, in a fair and equitable way, the benefits arising from the utilization of such resources on a complementary and mutually reinforcing basis.

Multilateral in this context means that a global pool of plant genetic resources for food and agriculture are shared and managed jointly by all contracting parties to the Treaty. The Standard Material Transfer Agreement, which has been multilaterally agreed as the standard private law contract to be used for the exchange of material from the Multilateral System of Access and Benefit Sharing, reconciles the global nature of plant genetic resources. For example, a user in France who wants to obtain plant genetic material from the Multilateral System that is held in a seed bank in Brazil for an agricultural purpose can use the Standard Material Transfer Agreement, rather than having to embark on lengthy negotiations of a case-specific new contract with Brazil. The Agreement also addresses the difference between raw and improved plant genetic material, including domesticated crops.

Although the Treaty covers all plant genetic resources for food and agriculture, only 64 crops, which are listed in Annex I to the Treaty, were agreed by the contracting parties to the Treaty as subject to the Multilateral System. Accession of those 64 crops is available for exchange when they are under the management and control of the contracting parties and in the public domain. The Treaty has also developed agreements with the international research centres of the Consortium of International Agricultural Research Centres, which have put most of their collections, including those outside the initial crop list, in the global gene pool of the Treaty up to a total of 1.7 million accessions.

With a view to achieving the fullest possible coverage of the Multilateral System, the Treaty invites all holders of the plant genetic resources for food and agriculture listed in annex I to include those plant genetic resources for food and agriculture in the Multilateral System. The Treaty Secretariat is actively working with the contracting parties during this biennium to get a better picture of the resources that are available in order to improve the service provided to farmers, plant breeders and scientists.

Photo credit: UN Photo/Eskinder Debebe

All exchanges of genetic resources in the Multilateral System are done according to the provisions of the Standard Material Transfer Agreement, which is a standardized private law contract between a provider and a recipient (user) of material. That standard contract was adopted by the Governing Body at its first session in 2006. While the providers of material are usually public or international gene banks, the users – both providers and recipients – can be organizations, private entities or individuals. More than 3.2 million crop accessions have been transferred and reported since January 2007 through the Standard Material Transfer Agreement.[6]

[6] Source: Data produced by Easy-SMTA. Secretariat of the International Treaty on Plant Genetic Resources. April 2016. Available from https://mls.planttreaty.org/itt/index.php?r=stats/pubStats.

The Multilateral System also contains dispute resolution procedures for the gene pool of the Treaty.[7] FAO has accepted in principle to represent the interests of the third party beneficiary under the Standard Material Transfer Agreement and to initiate dispute resolution procedures to protect those interests. FAO and the Treaty have developed and documented useful experiences with a view to enabling other multilateral environmental agreements or United Nations agencies to resolve genetic resource disputes.

Nevertheless, plant genetic resources for food and agriculture operate in a dynamic and evolving context. At its fifth session, the Governing Body agreed to work on enhancing the functioning of the Multilateral System and the benefit-sharing mechanisms under the Treaty, and at its sixth session, the Governing Body agreed to give particular attention to developing a possible subscription system that would reach the twin goal of counteracting the avoidance of material from the Multilateral System and of ensuring a sustainable and predictable income stream for the Benefit-sharing Fund. A working group was tasked with elaborating a draft revised Standard Material Transfer Agreement and proposing a subscription system.

2. Benefit-sharing: the Treaty as a pioneer

The International Treaty on Plant Genetic Resources was one of the first international legal instruments to put into practice the principle of benefit-sharing when accessing plant genetic material and resources, and in 2010 started to provide financial support to farmers and local and indigenous communities conserving valuable plant genetic material for plant breeding and agriculture. The Treaty's Benefit-sharing Fund utilizes four types of benefit-sharing mechanisms, namely information exchange, technology transfer, capacity building and monetary benefit-sharing.

Since 2009, the Treaty has disbursed almost $20 million to directly help an estimated 683,000 farmers stay ahead of climate change in more than 55 countries through 61 projects. More than 220 civil society organizations, non-governmental organizations, universities, gene banks, national and international research institutions, rural community groups and producers' organizations joined forces in the execution of projects by linking the Benefit-sharing Fund activities to broader initiatives and strengthening cross-border cooperation. Special emphasis has been put on farmers' traditional knowledge, their sociocultural systems and institutions, and the role of local communities in securing access to agricultural biodiversity.

Photo credit: John Isaac

Farmers have been involved in the collection, characterization, evaluation and development of new varieties in crops like rice, maize, potato, wheat and barley, as well as in the compilation of information on existing crop diversity. A total of 28 studies have been undertaken to create strong baselines and shape project activities according to identified community needs from a bottom-up perspective.

Engaging women to actively participate in project activities was a challenge for various project partners. Nevertheless, over 50 per cent of the 340,000 direct beneficiaries of Benefit-sharing Fund projects have been women involved in activities aimed at ensuring conservation and biodiversity based livelihoods.

[7] Third Party Beneficiary Procedures and Mediation Rules, available at: http://www.planttreaty.org/content/what-third-party-beneficiary.

Special sessions for women only and with women facilitators have been organized throughout the implementation of the portfolio that have allowed for their socially appropriate participation and contributed to building social trust. For example, partners in India have engaged 138 women's self-help groups in field activities, and partners in Jordan and the Islamic Republic of Iran have implemented gender-sensitive plant breeding programmes.

A total of 16 community seed banks have been established, together conserving a total of 1120 crop varieties of rice, wheat, maize, beans, sorghum, potato, black gram, chilli, bottle gourd and pumpkin. Those seed banks serve as platforms for access to seeds at the community level, for conservation of local varieties and for the sharing of agricultural biodiversity and knowledge. Seed clubs have been set up to secure local seed systems and to facilitate discussion and sharing of information on seed development. Similarly, at least 14 biodiversity fairs and 37 filed days have taken place in Bhutan, Guatemala, India, Islamic Republic of Iran, Jordan, Morocco, Peru and Tunisia, thus providing excellent opportunities for exchanging knowledge, building on established good practices and giving farmers the opportunity to showcase seed collections that are representative of their selection and conservation practices.

A total of 1149 accessions of plant genetic resources for food and agriculture resulting from the projects have been made available through the Multilateral System, thus broadening the base of genetic material available across borders for research and breeding for future needs. Activities supported through the Fund have increasingly focused on enabling farmers to face climate change. The projects funded have empowered local communities to cope with global challenges by supporting activities such as the characterization of more than 1083 varieties of 16 crops and the evaluation of more than 1374 genetic material to identify and develop crops with higher tolerance for climate induced stresses and with resistance to increasingly occurring pests and diseases.

In India, partners identified rice varieties with high drought tolerance and rice with good flood adaptability in Indonesia. Partners in Morocco and Tunisia engaged in targeted breeding for specific stresses, crossing resistant varieties of bread and durum wheat with farmers' preferred landraces.

Targeted hybridization, especially when accompanied by full documentation, is a key way of adding value to genetic resources, and lessons learned through such activities can help to adapt agriculture to climate change in the coming decades. Training and capacity-building in conservation, management and virtuous agricultural practices have further broadened the spectrum of coping strategies available to farmers and created an enabling knowledge base for facing future challenges.

The year 2014 saw the launch of the third round of project cycles under the Benefit-sharing Fund, with over $10 million to be invested in immediate impact projects and projects on the co development and transfer of technology.

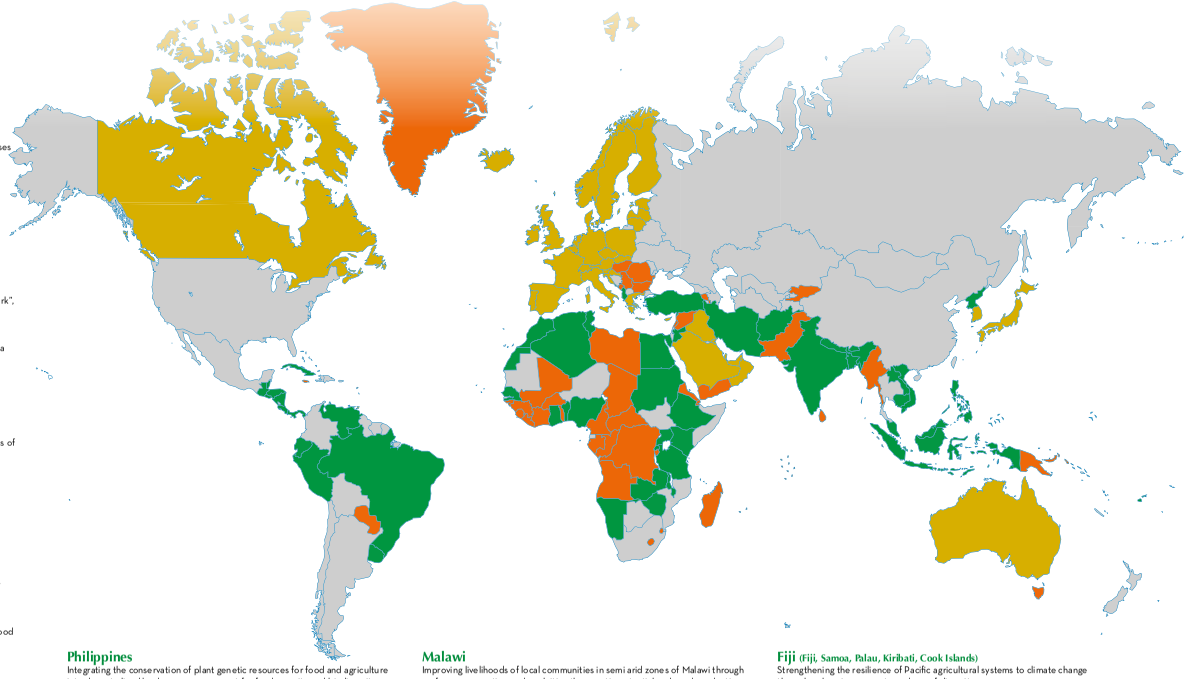
The call has received a great deal of attention from all corners of the world, including from government agencies, international research institutes, non-governmental organizations, farmers and farmers' organizations, gene banks and international development organizations. Based on the screening of the Panel of Experts of the Call for Proposals 2014[8] and the decision of the Bureau, 22 projects are expected to obtain funding.

[8] The list of members is available at: http://www.planttreaty.org/node/2606/.

Food and Agriculture Organization of the United Nations

PROJECTS FUNDED UNDER THE BENEFIT-SHARING FUND OF THE INTERNATIONAL TREATY ON PLANT GENETIC RESOURCES FOR FOOD AND AGRICULTURE

The International Treaty ON PLANT GENETIC RESOURCES FOR FOOD AND AGRICULTURE



1 CYCLE

Costa Rica
Identification of useful potato germplasm adapted to biotic and abiotic stresses caused by global climate change

Cuba
Contribución de los métodos tradicionales de conservación y gestión de la variabilidad in situ de maíz y frijol a la seguridad alimentaria de familias campesinas en Cuba

Nicaragua
Rescate, conservación y manejo sostenible del teocintle de Nicaragua (Zea nicaraguensis Iltis & Benz) en la reserva de Recursos Genéticos de Apacunca

Peru
Conservation and sustainable use of native potato diversity in the "Potato Park", Cusco, Peru

Uruguay
Ampliación de la base genética de la papa (Solanum tuberosum) a través de la utilización de la especie silvestre local Solanum commersonii

Egypt
On farm Conservation and In Vitro preservation of Citrus local varieties and sustainable utilization in Egypt

Morocco
On farm Conservation and mining of local Durum and Bread Wheat landraces of Morocco for biotic stresses and incorporating UG99 resistance

India
Conservation, Dissemination and Popularization of location specific farmer developed varieties by establishing village level enterprises

Kenya
Characterization, genetic enhancement and Revitalization of finger millet in western Kenya

Senegal
Préservation de l'agrobiodiversité des cultivars locaux: Mils, Mais, Sorgho par l'amélioration participative pour l'Alimentation et l'Agriculture au Sénégal

Tanzania
Strenghtening on farm conservation and use of crop diversity for improved food security and adaptation to climate changes in Tanzania

2 CYCLE

Window 1 - Strategic Action Plans

Brazil
Shared management and use of (agro)biodiversity by indigenous and the traditional communities from the semi-arid region of Minas Gerais State as a strategy for food security and to reduce climate risks

Costa Rica (Guatemala, Belize, El Salvador, Honduras, Nicaragua, Panama, Mexico)
Participatory and science-based formulation of a Strategic Action Plan to strengthen the conservation of plant genetic resources and their enhanced use in adapting to climate change in Mesoamerica

Brazil (Brazil, Paraguay, Uruguay)
Latin American Network for the Implementation of the International Treaty on Plant Genetic Resources for Food and Agriculture (LANIT) to improve food security in Latin America (Brazil, Paraguay and Uruguay) within the climate change scenario

Peru
Garantizando la Seguridad Alimentaria de Agricultores Andinos Vulnerables al Cambio Climático y la Conservación de Recursos Fitogenéticos en un Centro de Origen y de Diversificación

DPR Korea
Development of a National Strategic Action Plan for the Food Crop Genetic Resources Management to Adapt to Climate Change in the Democratic People's Republic of Korea

Nepal (Bangladesh, Benin, Brazil, Ecuador, India, Guatemala, Malawi, Nepal, Nicaragua, Zambia, Zimbabwe)
Community based Biodiversity Management for Climate Change Resilience (in short, CBM for Resilience Project)

Philippines (Bhutan, Cambodia, Lao PDR, Philippines, Vietnam)
Strategic Partnership with Farmer Innovators for Adaptation and Management of Plant Genetic Resources to Climate Change

Philippines
Integrating the conservation of plant genetic resources for food and agriculture into decentralized landscape management for food security and biodiversity conservation in critical eco-regions of the Philippines

Sudan
Development of A Strategy for Building the Resilience of Pastoral Communities to Climate Change in Two Ecosystems of Sudan

Tunisia
Promotion de la reconnaissance des systèmes ingénieux du patrimoine agricole mondial (SIPAM)

Kenya
Integrating the conservation of plant genetic resources into national climate change adaptation planning in Kenya

Namibia
Building the foundation for a national approach to climate change adaptation in Namibia

Window 2 - Immediate Action Projects

Bhutan
Participatory conservation & utilization of rice genetic resources for livelihood and food security

India
Using rice genetic diversity to support farmers' adaptation to climate change for sustainable food production and improved livelihoods in India

India
Seeds for life-action with farmers in Uttar Pradesh-IGP region to enhance food security in the context of climate change

Indonesia
Management, development and utilization of various crop plants for sustainable food availability

Ethiopia
Using local durum wheat and barley diversity to support the adaptation of small-scale farmer systems to a changing climate in Ethiopia

Malawi
Improving livelihoods of local communities in semi arid zones of Malawi through on farm conservation and exploiting the genetic potential and seed production of yams, sorghum, pearl millet, finger millet and cowpeas germplasm in mitigating climate change

Zambia
Strengthening community-based on-farm conservation and sustainable use of crop diversity in semi arid Zambezi-Gwembe Valley of Zambia

Ethiopia
Maintaining and establishing the Community Gene Banks to insure on-farm conservation of farmers' varieties

Kenya
Community-Based Seed Systems for Drought Tolerant Crops (DTCs)

Peru
Conservación y manejo sostenible del germoplasma de papas nativas en las comunidades campesinas de la Provincia de Andahuaylas

Guatemala
Establecimiento de una red preliminar de bancos comunitarios de semillas, en regiones vulnerables del país, para disponer de semillas en caso de desastres naturales

Egypt
Sustainable use of landraces and genetic resources to improve wheat tolerance to heat stress

Jordan (Jordan, Iran)
Use of genetic resources to establish a multi country program of evolutionary-participatory plant breeding

Morocco
On farm conservation and mining of local faba bean landraces of Morocco for biotic and abiotic stresses

Tunisia
On-farm conservation and mining of local durum wheat and barley landraces of Tunisia for biotic and abiotic stresses, enhanced food security and adaptation to climate change

Fiji (Fiji, Samoa, Palau, Kiribati, Cook Islands)
Strengthening the resilience of Pacific agricultural systems to climate change through enhancing access to and use of diversity

3 CYCLE

Window 2 - Immediate Action Projects

Albania
Strengthening on-farm conservation and utilization of PGRFA to support farmers' adaptation to climate change and improved livelihoods in Albania

Ghana
Sustainable utilization of cowpea genetic resources for enhanced food security and poverty alleviation in the dry savannah northern regions of Ghana

Zimbabwe
Community based conservation, utilization and management of climate adapted Sorghum, Pearl-Millet, Cowpea and Bambaranuts in Matebeleland South Province of Zimbabwe

Uganda
Strengthening Seed Delivery System for Dryland Cereals and Legumes in Drought-prone Areas of Uganda

Cuba
La diversidad de recursos forrajeros en los sistemas ganaderos para atenuar el efecto del cambio climático en Cuba (FITORED)

Guatemala (Guatemala, Honduras, Nicaragua, Costa Rica)
Uso sostenible de la agro-biodiversidad de maíz, frijol y especies sub-utilizadas en comunidades indígenas de Centroamérica: Una estrategia para la seguridad alimentaria y adaptación climática

Peru (Peru, Bhutan, Nepal)
Exchanging and Developing Biodiverse Potato Varieties in Peru, Nepal and Bhutan

Kenya (Kenya, Tanzania, Uganda)
Promoting open source seed systems for beans, forage legumes, millet and sorghum for climate change adaptation in Kenya, Tanzania and Uganda

Turkey (Turkey, Afghanistan, Islamic Republic of Iran)
Improving food security by enhancing wheat production and its resilience to climate change through maintaining the diversity of currently grown landraces

Zimbabwe (Zimbabwe, Malawi, Zambia)
Policies and practices to facilitate the implementation of developed Strategic Action Plans for Plant Genetic Resources conservation and use for the improvement of food and nutrition security under changing climatic conditions

Window 3 - Co-development and transfer of technologies

Indonesia
Development of Biomarkers Tools for Improved Production and Climate Change Resistance in Indonesian Rice

Costa Rica
Tecnología informática para el uso y la conservación de recursos fitogenéticos de raíces tropicales (yuca, ñame,camote, tiquizque y malanga) que contribuyen a la alimentación humana y animal en Costa Rica

DPR Korea
Genetic base broadening and germplasm enhancement for the development of drought tolerant cultivars of wheat and barley in DPR Korea

Jordan (Jordan, Egypt, Ethiopia, Sudan)
An Integrated Approach to Identify and Characterize Climate Resilient Wheat for the West Asia and North Africa Region

Peru (Peru, Ecuador, Venezuela)
Marker assisted selection for potato germplasm adapted to biotic and abiotic stresses caused by global climate change

Indonesia (Indonesia, Malaysia, Lao PDR, Philippines)
Co-Development and transfer of Rice Technologies

Turkey (Turkey, Iran, Morocco)
Addressing the challenges of climate change for sustainable food security in Turkey, Iran and Morocco, through the creation and dissemination of an international database to promote the use of wheat genetic resources and increase genetic gains

Morocco (Morocco, Tunisia, Algeria)
In vitro culture and genomics-assisted fast track improvement of local landraces of wheat and barley in Morocco, Tunisia and Algeria for enhancing food security and adaptation to climate change

Malaysia (Malaysia, Nigeria, Ghana, Indonesia)
Genetic and trait characterisation of farmer and genebank sources of bambara groundnut for the development of drought tolerant lines in sub-Saharan Africa and Southeast Asia

Indonesia (Indonesia, Rwanda, India, Brazil)
Multicountry construction of a test platform for the development and allocation of globally unique identifiers for rice germplasm, linking the MLS information infrastructure and the DivSeek repository

Tanzania (Tanzania, Kenya)
Marker assisted selection of useful cassava germplasm adapted to biotic and abiotic stresses caused by global climate change

Fiji (Fiji, Kiribati, Marshall Islands, Palau, Samoa, Tonga, Cook Islands)
Using modern biotechnologies to sustain food security in Pacific island countries

Australia • Austria • Belgium • Canada • Croatia • Cyprus • Czech Republic • Denmark • Estonia • European Union • Finland • France • Germany • Greece • Iceland • Iraq • Ireland • Italy • Japan • Kuwait • Latvia • Lithuania • Luxembourg • Netherlands • Norway • Oman • Poland • Portugal • Qatar • Republic of Korea • Saudi Arabia • Slovakia • Slovenia • Spain • Sweden • Switzerland • Trinidad and Tobago • United Arab Emirates • United Kingdom

Angola • Armenia • Bulgaria • Burkina Faso • Burundi • Cameroon • Central African Republic • Chad • Congo • Cote d'Ivoire • Democratic Republic of the Congo • Djibouti • Eritrea • Gabon • Guinea • Guinea-Bissau • Hungary • Jamaica • Kyrgyzstan • Lebanon • Lesotho • Liberia • Libya • Madagascar • Maldives • Mali • Mauritania • Mauritius • Montenegro • Myanmar • Pakistan • Papua New Guinea • Paraguay • Romania • Saint Lucia • Sao Tome and Principe • Serbia • Seychelles • Sierra Leone • Sri Lanka • Swaziland • Syrian Arab Republic • Togo • Yemen

LEGEND

- Contracting Parties that received funds under the Benefit-sharing Fund
- Contracting Parties not eligible to apply for funding under the Benefit-sharing Fund
- Contracting Parties eligible to apply for funding that didn't receive funds/didn't apply for funding

3. Spreading valuable rice genes in South-East Asia

Rice is one of the most important food crops, and in South-East Asia it is the predominant staple. The fact that the Treaty now has within its Multilateral System around 20 per cent of the world's rice varieties is an enormous achievement, but more needs to be done to encourage the sharing of databases on characterization and evaluation data, including genomics and phonemics, which will contribute to the sharing of the characteristics of traditional locally grown varieties.

The Benefit-sharing Fund of the Treaty is funding an ongoing multi-country project led by the Indonesian Agency for Agricultural Research and Development on co-development and transfer of rice technologies in South-East Asian Countries. The project consists of three components: the first is to create a gene pool of traditional and locally adapted varieties of rice from participating countries; the second is to develop and improve local rice varieties across South-East Asia; and the third is to exchange modern varieties from participating countries.

The creation of a gene pool is aimed at evaluating traditional varieties from South-East Asian countries both phenotypically and molecularly. Some of those traditional varieties might have been evaluated and available at the collection of the International Rice Research Institute; however, some others may remain untouched. The gene pool, which will then be used as source materials for breeding and research, has also become the subject of the multilateral system of access at the regional level and will be included in the Treaty's Multilateral System.

The reason for improving traditionally grown local crops, rather than pursuing modern varieties, is that by improving traditional varieties, farmers will be encouraged to conserve and reproduce them, which represents an important step towards improving nutrition and economic sustainable development. Many of those crops contain genes that are resistant to certain abiotic and biotic stresses. However, the project is also facilitating the exchange of modern varieties that are available in participating countries with a view to increasing production and implementing the non monetary benefit-sharing of the Multilateral System.

Indeed, knowledge of genetic diversity within a crop is essential for the long-term success of a breeding programme and maximizes the use of germplasm resources. Knowledge of the structure of genetic diversity within a large germplasm collection is of great help in making decisions concerning germplasm management and in developing breeding strategies.

Photo credit: Lucien Rajaonina

The other ongoing multi-country project, also led by the Indonesian Agency for Agriculture Research and Development, is designed to create a common system for the identification of rice genes and is expected to greatly simplify the work of plant breeders seeking new material and strengthen the Treaty's Multilateral System.

4. Science and technology transfer as a driver for sustainable agricultural development

The importance of technology transfer from north to south and from rich to poor is well recognized as being one of the most important drivers of economic and social development. The exchange of genetic resources for plant breeding is no exception and can benefit from similar experiences in other multilateral environmental agreements.

There is, however, a pressing need, resources permitting, to scale up cooperation and synergies and to avoid a clash of perceived interests between north and south. Although, as described below, the Treaty recognizes and seeks to protect the rights of farmers who have conserved biodiversity, there is also a need to quickly develop improved plant varieties to boost global nutrition and help to feed the 725 million people worldwide who are not adequately nourished.

Although crop productivity growth in many countries has been estimated at between 1.4 per cent and 2.8 per cent, recent studies show that gains related to crop breeding will need to increase if countries want to sustain or increase crop production figures. In addition, Governments will have to intensify public sector investments in research and development and in partnerships with the private sector. In fact, most developing countries are still dependent on technology spillovers from developed countries.

Investment in technology is not an issue that solely affects countries with limited resources. Some developed countries could also slow their progress towards reaching the Sustainable Development Goals, or could slip behind if they fail to participate in international research programmes and projects to achieve economies of scale with regard to plant breeding.

5. Farmers' rights

The International Treaty on Plant Genetic Resources is the only multinational legal entity to recognize what are known as farmers' rights. In its article 9, the Treaty recognizes the enormous contribution that the local and indigenous communities and farmers of all regions of the world, particularly those in the centres of origin and crop diversity make to the conservation and development of plant genetic resources. It gives Governments responsibility for the implementation of farmers' rights, and lists measures that could be taken to protect, promote and realize those rights.

Because of the importance the Treaty attaches to farmers, the Governing Body at its sixth session encouraged contracting parties to organize meetings and consultations. Indonesia, which is currently chairing the Governing Body, announced that it would host an international global consultation in Bali at the end of September. The meeting will facilitate dialogue among countries and stakeholder representatives with a view to advancing on the elaboration of options to facilitate national implementation.

6. Working in partnership with multilateral environmental agreements

Actions to ensure the conservation and sustainable use of biodiversity have to be integrated and mainstreamed into development plans and strategies across all sectors in order to realize the Sustainable Development Goals, a global overarching integrated strategy to realize human well-being. The biodiversity-related conventions collectively address each of the components of biological diversity

(genetic, species and ecosystems) and each contributes to major sectoral and development objectives and human well-being.

The text of the Treaty emphasizes the importance of working in collaboration with the Convention on Biological Diversity, a matter that has been on the agenda of all Governing Body sessions.

The Nagoya Protocol and the International Treaty on Plant Genetic Resources are part of the international regime on access and benefit-sharing, but the Treaty is specialized in plant genetic resources for food and agriculture and is liaising closely with the secretariat of the Convention on Biological Diversity on the interfaces with the Nagoya Protocol. Current activities are related to the identification of legal barriers that prevent data sharing and to possible incentives for users to contribute data.

The collaboration also includes the exploration of issues relating to the enhancement of the scope of the Multilateral System and its implementation; the recognition of the Treaty's Global Information System and its connection to the Access and Benefit-Sharing Clearing House; the promotion of transparency of the rights and obligations of users for accession; and the sharing of genetic resource information to explore ways in which to exercise those rights, including the analysis of institutional, organization governance and legal factors.

7. The International Treaty on Plant Genetic Resources for Food and Agriculture and the Aichi Biodiversity Targets

The Treaty is a cornerstone of the international architecture set up to respond to the urgent need to address the issues of biodiversity loss and to achieve the Aichi Biodiversity Targets. The twenty goals were agreed by nearly 200 Governments that adopted the Strategic Plan for Biodiversity 2011–2020 at the tenth meeting of the Conference of the Parties to the Convention on Biological Diversity, held in Nagoya, Japan, in October 2010.

The Treaty is a member of the Aichi Biodiversity Targets Task Force, established as part of a memorandum of cooperation on the implementation of the Strategic Plan for Biodiversity 2011–2020 and the achievement of the Aichi Biodiversity Targets, between the Convention on Biological Diversity and 27 of the largest international agencies, organizations and environmental conventions, including the secretariats of the Treaty and 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 the Convention on Wetlands of International Importance especially as Waterfowl Habitat.

The work of the Treaty is of direct relevance to at least six of the targets.

Strategic goal	Aichi Target	Description	The contribution of the Plant Treaty
A. Address the underlying causes of biodiversity loss by mainstreaming biodiversity across Government and society	Target 1	By 2020, at the latest, people are aware of the values of biodiversity and the steps they can take to conserve and use it sustainably	ITPGRFA resolutions promote information systems on national plant genetic resources as well as public access to such systems. Contracting parties are encouraged to engage farmers' organizations and relevant stakeholders in matters related to the conservation and sustainable use of plant genetic resources through awareness-raising and capacity-building
	Target 4	By 2020, at the latest, Governments, business and stakeholders at all levels have taken steps to achieve or have implemented plans for sustainable production and consumption and have kept the impacts of use of natural resources well within safe ecological limits	ITPGRFA decisions encourage contracting parties to engage the participation of farmers' organizations and relevant stakeholders in matters related to the conservation and sustainable use of plant genetic resources through awareness-raising and capacity-building
B. Reduce the direct pressures on biodiversity and promote sustainable use	Target 7	By 2020 areas under agriculture, aquaculture and forestry are managed sustainably, ensuring conservation of biodiversity	Following resolution 7/2011, ITPGRFA developed a programme of work on the conservation and sustainable use of plant genetic resources for food and agriculture in a participatory manner by means of a stakeholders' consultation and in collaboration with relevant international organizations and key actors. The programme of work allows coordination with the secretariats of the Convention on Biological Diversity, the FAO Commission on Genetic Resources for Food and Agriculture and the Global Forum on Agricultural Research. ITPGRFA has established the Committee on Sustainable Use and supporting initiatives of the Programme include awareness-raising

Photo credit: Martin LaBa

Strategic goal	Aichi Target	Description	The contribution of the Plant Treaty
C. To improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity	Target 12	By 2020 the extinction of known threatened species has been prevented and their conservation status, particularly of those most in decline, has been improved and sustained	This is a fundamental concept and objective of all the work of ITPGRFA, particularly in relation to plant genetic resources for food and agriculture
	Target 13	By 2020, the genetic diversity of cultivated plants and farmed and domesticated animals and of wild relatives, including other socioeconomically as well as culturally valuable species, is maintained, and strategies have been developed and implemented for minimizing genetic erosion and safeguarding their genetic diversity	Among the seven biodiversity-related conventions, apart from the Convention on Biological Diversity, ITPGRFA is the only instrument to have an article that outlines specific responsibilities related to progress in achieving Aichi Biodiversity Target 13. Article 6 of ITPGRFA relates directly to maintaining or enhancing the genetic diversity of crop species, as well as promoting local and locally adapted crop varieties ITPGRFA decisions foster the use of the Multilateral System in accordance with the Treaty text and, in particular, address reporting availability of information to potential users (including on conservation and sustainable use of plant genetic resources), and access to plant genetic resources for food and agriculture by farmers to broaden the genetic base of crops in use. Contracting parties should submit a report on the measures they have taken to implement their obligations under the treaty every five years
E. Enhance implementation through participatory planning, knowledge management and capacity building	Target 17	By 2015 each party has developed, adopted as a policy instrument, and has commenced implementing an effective, participatory and updated national biodiversity strategy and action plan	ITPGRFA has encouraged contracting parties to develop such plans and to take into account the needs and gaps related to the crop genetic resources sector in their national strategies and action plans

Photo credit: Peter Prokosch/Grid Arendal

As the international legal landscape for protecting agricultural biodiversity develops, the Treaty has a particular interest in working closely with the Convention on Biological Diversity and the Nagoya Protocol, as recognized by the Governing Body at its sixth session, during which some areas for improved collaboration were identified.

By its resolution 10/2015, the Governing Body noted, with appreciation, the work of the biodiversity related conventions to strengthen synergies among them and stressed the importance of supporting the conventions to improve collaboration, communication and coordination at all levels. It also urged contracting parties to take measures to enhance synergies among the biodiversity-related conventions to promote policy coherence, improve efficiency and enhance coordination and cooperation at all levels. The Governing Body requested the Secretary to continue the collaboration with other conventions and relevant international organizations for the implementation of the 2030 Agenda for Sustainable Development, in particular the Sustainable Development Goals and targets that touched on the provisions of the Treaty.[9]

The Governing Body also called on contracting parties, in the review and updating of their national biodiversity strategies and action plans and the implementation of the Strategic Plan for Biodiversity 2011–2020 and the Aichi Biodiversity Targets, to ensure that their commitments under the Treaty were fully reflected, especially through enhanced involvement of all relevant stakeholders.

The Treaty secretariat is also working on proposals to streamline the reporting process through electronic means to place the standard reporting format online and, subject to available resources, to support contracting parties in fulfilling their reporting commitments under the Treaty's compliance procedures. The online reporting system is being developed in cooperation with the World Conservation Monitoring Centre of UNEP.

The Governing Body at its sixth session established a scientific advisory committee to provide guidance on the development and strengthening of the Global Information System. The secretariat of the Convention on Biological Diversity will participate in the Committee.

However, more synergies and uniform systems between agencies would facilitate the work not only of plant breeders but also of policymakers and extension workers in the places of genetic origin where the resources are found.

By its resolution 4/2015, the Governing Body endorsed a revised programme of work on sustainable use of plant genetic resources for food and agriculture and supporting initiatives. The programme of work acknowledged the Aichi Biodiversity Targets and a number of its components foresaw cooperation with the Convention on Biological Diversity.

The resolution also included a request for the secretariat of the Treaty to collaborate with other relevant initiatives, in particular with regard to the Convention on Biological Diversity, on interaction between genetic resources, community and farmer-led system activities and protected area systems. The contracting parties also decided to reconvene the Ad Hoc Technical Committee on Sustainable Use of Plant Genetic Resources for Food and Agriculture, of which the secretariat of the Convention on Biological Diversity is a member.

The Governing Body acknowledged the need for continued capacity-building support to contracting parties, especially developing countries, for the mutually supportive implementation of the Treaty, the Convention on Biological Diversity and its Nagoya Protocol.

[9] See http://www.planttreaty.org/content/resolution-102015-cooperation-other-international-bodies-and-organizations.

The Secretary of the International Treaty on Plant Genetic Resources was requested to continue to explore, alongside the Executive Secretary of the Convention, practical means and activities to further enhance cooperation. The Governing Body also welcomed the efforts of the two secretariats, in collaboration with the African Union Commission, Biodiversity International, the ABS Capacity Development Initiative and other partners, to bring together stakeholders and experts involved in the implementation of the Treaty, the Convention on Biological Diversity and the Nagoya Protocol.

Five representatives from contracting parties to the Treaty actively participated in a workshop on synergies among the biodiversity-related conventions, held in Geneva from 8 to 11 February 2016, during which initial discussions began on these and other issues based on the areas previously identified by the secretariat in a landscape study.

Some valuable options for strengthening coordination were identified as good bases for further discussion and elaboration. Also discussed was the possibility of setting up a mechanism for the multilateral environmental agreements involved in conserving and propagating agricultural diversity to speak with one voice with a view to cutting back on overlaps and bureaucracy and ensuring that money was well spent.

To conclude, the contribution of agricultural biodiversity to human development has long been recognized at national and international levels in government programmes of work, declarations and international conventions.

What needs to be done to protect agricultural biodiversity is clear. If humanity is to be able to grow enough food to survive the impact of climate change, the challenge lies in further improving collaboration between Governments, international bodies, research institutions, farmers and breeders in order to conserve what we have.

II.

Mainstreaming biodiversity: ensuring sustainable development

Braulio Ferreira de Souza Dias[10]

A. Introduction

"Biological diversity" is broadly understood as the variety of life on Earth. This includes diversity within species, between species and of ecosystems. Biodiversity underpins human

well-being. It provides the food we eat and materials for the homes in which we live, and supports jobs, economic security and development. However, many of the important roles of biodiversity often go largely unrecognized and are not widely understood.

The parties to the Convention on Biological Diversity recognized in 1992, when the Convention was adopted, that in order to halt biodiversity loss the values of biodiversity needed to be better understood and the underlying causes and drivers of biodiversity loss therefore addressed. The Convention calls for parties to "[i] ntegrate, as far as possible and as appropriate, the conservation and sustainable use of biodiversity into relevant sectoral or cross-sectoral plans, programmes and policies" (art. 6 (b)), and to "[i]ntegrate consideration of the conservation and sustainable use of biological resources into national decision-making" (art. 10 (a)). These kinds of actions are often referred to as "biodiversity mainstreaming".

The parties have adopted numerous decisions and resolutions to address mainstreaming. In 2002, for example, the parties underscored, in the annex to a high-level ministerial declaration adopted during the sixth meeting of the Conference of the Parties to the Convention, 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".

Mainstreaming is embedded in the Strategic Plan for Biodiversity 2011–2020. Adopted in 2010, the Strategic Plan is a ten-year framework for action by all countries and stakeholders, including the entire United Nations system, to conserve biodiversity and enhance its sustainable use and benefits for people. The Strategic Plan comprises a shared vision, a mission, strategic goals and 20 ambitious yet achievable targets, collectively known as the Aichi Biodiversity Targets. The Strategic Plan serves as a flexible framework for the establishment of national and regional targets. Strategic goal A, in particular, focuses on cross-cutting policies, including development processes and planning, economic policies and sustainable consumption and production. Further, strategic goal B includes a focus on mainstreaming in sectors such as agriculture, forestry and fisheries. Other targets of the Strategic Plan are also relevant to mainstreaming.

The thirteenth meeting of the Conference of the Parties to the Convention on Biological Diversity, to be held in Cancun, Mexico, in December 2016, will address, among other issues, strategic actions to enhance national implementation, in particular through mainstreaming and the integration of biodiversity into relevant sectors, including agriculture, forestry and fisheries. The thirteenth meeting will also address the implications of the 2030 Agenda for Sustainable Development and other relevant international processes for the future work of the Convention.

[10] Executive Secretary, Convention on Biological Diversity

1. National biodiversity strategies and action plans

National biodiversity strategies and action plans provide one important entry point for mainstreaming biodiversity at the national level. Numerous efforts to support and strengthen mainstreaming through national biodiversity strategies and action plans have been undertaken by the secretariat of the Convention and other organizations. The effectiveness of the strategies and action plans in supporting actions on the mainstreaming of biodiversity will depend on the extent to which they are policy instruments, applicable government-wide; the extent to which they include targets and actions related to addressing the underlying causes of biodiversity loss and direct pressures on biodiversity (goals A and B of the Strategic Plan for Biodiversity); and the priority given by the parties to implementing them.

In order to support mainstreaming efforts it will be important to link the national biodiversity strategies and action plans with other relevant international processes, such as the implementation of the 2030 Agenda for Sustainable Development and its Sustainable Development Goals, including national development planning processes. Furthermore, there is a need to better reflect within the national strategies and action plans, and in efforts related to their implementation, the international obligations to be met under other biodiversity-related conventions.

One issue that needs to be addressed is the current lack of information on the specific obstacles and challenges faced by individual parties in implementing their national biodiversity strategies and action plans. While national reports and other sources of information provide information on the general challenges faced – such as lack of capacity, legislative gaps and the low political priority given to strategy and action plan implementation – information on the specific nature of those challenges is not generally available. Similarly, there is a lack of information regarding the effectiveness of the processes and institutional arrangements in place at the national level for developing and implementing the strategies and action plans, which are intended to be policy instruments applicable government-wide. These issues and ways to address them will be discussed at the twentieth meeting of the Convention's Subsidiary Body on Scientific, Technical and Technological Advice and the first meeting of the Subsidiary Body on Implementation, taking place in the last week of April and first week of May 2016, respectively.

2. Integrating biodiversity into specific sectors

Photo credit: UN Photo/Eskinder Debebe

Addressing the direct and indirect drivers of biodiversity loss requires a focus on primary sectors: agriculture, forestry and fisheries and aquaculture. These sectors both affect biodiversity and are dependent on biodiversity. The demand for the goods and services produced by the sectors is projected to increase over the coming decades as a result of population growth, increasing average wealth and other demographic changes. Mainstreaming biodiversity considerations across these sectors is essential to ensuring not only the conservation and sustainable use of biodiversity

but also the continued vitality of the sectors. There is great potential for more biodiversity-friendly management measures in the sectors. A range of stakeholders will need to be engaged to promote those measures and achieve mainstreaming.

The technical arguments for the integration of biodiversity into sectors such as agriculture, forestry and fisheries are broadly accepted. However, major challenges to the mainstreaming of biodiversity into those sectors remain. There are a number of options for enhanced work under the Convention to further promote the mainstreaming of biodiversity within and across sectors. These include developing comprehensive and coherent policy frameworks; engaging indigenous peoples and local communities and stakeholders effectively; enhancing coordination and information flows across sectors; leveraging support from partner organizations; improving awareness of the importance and benefits of biodiversity mainstreaming; and making greater use of international frameworks for sustainable development. Furthermore, additional technical guidance on biodiversity mainstreaming may be needed, particularly on issues related to spatial planning and management to promote integrated landscape and seascape approaches; on the integration of biodiversity into various sectors with direct or indirect dependencies on biodiversity; and on methods for altering incentives, including economic and social incentives, that may lead to changes in behaviour and help to address obstacles related to political economy, human behaviour and institutional issues.

3. Integration of biodiversity into the food and agriculture sector

The food and agriculture sector alone is estimated to account for some two thirds of the recent and projected loss of terrestrial biodiversity, mainly due to land-use change. Agriculture also has major impacts on freshwater biodiversity and coastal biodiversity, particularly through nutrient loading. Loss of biodiversity has negative impacts on agriculture, including through the erosion of the genetic resource base of agrobiodiversity, which undermines current gains and future increases in productivity; the significant decline in pollinators, which is affecting crop productivity; and the loss of soil carbon and fertility in farming systems.

The mainstreaming of biodiversity is more likely to succeed when it is 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 the improved availability of food, fish and wood and improved soil productivity. In the agriculture sector, pathways that achieve joint biodiversity, climate and human development goals require a combination of measures, including increases in productivity and in the efficiency of the use of land, water, fertilizers and other inputs; the deployment of biodiversity in agricultural production and the wider landscape; and measures to moderate increases in demand for food by reducing food waste and promoting sustainable diets. A range of stakeholders – producers, consumers and the private and public sectors – will need to be engaged to promote those measures and achieve mainstreaming.

4. Integration of biodiversity into forestry

Land-use change is the biggest driver of deforestation, and biodiversity mainstreaming therefore needs to be considered in agriculture and forestry 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. The systematic application of sustainable forest management practices can advance the integration of biodiversity-related concerns in all types of forests. Increasingly, there is a call for regional initiatives on criteria and indicators for sustainable forest management to report on the outcomes of forest operations with a view to enabling verifiable assessments of the degree of their sustainability.

5. Integration of biodiversity into fisheries and aquaculture

About 260 million people are directly or indirectly 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, although pollution and nutrient loading are also very important factors in coastal areas. Climate change and ocean acidification are also becoming important drivers. All of these impacts affect the livelihoods of the 22 million small-scale fishers estimated to be operating primarily in coastal waters.

Sustainable fishery principles are reflected in a number of international instruments, including the United Nations Convention on the Law of the Sea; the 1993 FAO Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas; the 1995 United Nations Fish Stocks 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 the mainstreaming of biodiversity into fisheries.

Reducing overcapacity is key, including through 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 term and the long term. Increasing participation in the decision-making process, including through enhancing the mandate of fisheries management authorities, 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.

6. Integration of biodiversity into the tourism sector

Tourism and travel are major economic activities, accounting for 9 per cent of the world's gross domestic product and 6 per cent of exports and contributing, directly or indirectly, to one in eleven jobs. The travel and tourism sector is growing rapidly. From 2011 to 2013, total international arrivals increased by 9.2 per cent, reaching 1.087 billion, with total receipts growing even faster, by 11.2 per cent, to reach $1,159 billion.[11] Because of the importance of the sector, the issue of biodiversity and tourism has been on the agenda of the Conference of the Parties to the Convention on Biological Diversity for a number of years; at its seventh meeting, in 2006, the Conference adopted guidelines on biodiversity and tourism development. A user manual for the guidelines has also been developed and made available.[12]

A multi-stakeholder approach to planning and managing sustainable tourism is fundamental. This may involve an interministerial or inter-agency body for coordination at various levels of government (national, subnational and local), as well as for engaging the private sector. Local authorities have a particularly important role to play in providing leadership in conjunction with other local stakeholder interests.

A range of tools can be used to manage the impacts of tourism on biodiversity. Regulations may be adopted, such as minimum standards for construction and decommissioning, operational standards and measures to control visitor movements and activities. Voluntary tools can be implemented, such as product

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[11] World Tourism Organization, UNWTO Tourism Highlights, 2014 Edition (2014). Available from http://www.e-unwto.org/doi/pdf/10.18111/9789284416226.

[12] www.cbd.int/tourism/guidelines.shtml.

and destination standards, certification systems, codes of conduct and recognition of best practices, including through awards. Economic instruments might include penalties to discourage environmentally harmful investments and activities, incentives such as concessions to operate in protected areas and other incentives such as relatively large grants, loans and micro-credit schemes for sustainable tourism delivered through multilateral and bilateral funding entities.

Certification agents, non-governmental organizations, educational bodies and other entities can provide capacity-building and, together with the media, can promote awareness of sustainable tourism for consumers, indigenous peoples and local communities, governments, businesses and educational bodies. Training and resource mobilization can help to build capacity within governments, protected area authorities and other stakeholders.

One promising area for future work is building the capacity of national and subnational parks and protected area agencies to develop partnerships with the tourism industry as a means of contributing, financially and technically, to the establishment, operation and maintenance of protected areas. Significant experience has been gathered on tourism concessions, public-private partnerships, payback mechanisms and other forms of payment for ecosystem services. Information is also available on a wide range of experiences – involving public, non-profit and private conservation agencies, academic institutions and community organizations – with improving visitor services and adequately protecting the natural and cultural heritage of protected areas and increasing public support for their conservation. Concessions and related public-private partnerships are one possible answer, particularly in cases where government conservation agency budgets and payrolls are limited. Financial instruments that are based on tourism and visitation, such as entrance and service fees, concessions and licences, are already the largest market-based source of revenues to park systems globally. They are often combined with safeguards, such as trust funds associated with park agencies, to ensure the stability of revenues for public use.

B. Mainstreaming biodiversity into cross-sectoral policies and actions

The mainstreaming of biodiversity into cross-sectoral policies is critically important, not only for the achievement of specific Aichi Biodiversity Targets but also to provide an enabling context for mainstreaming across all sectors. There are many types of policies and tools that support cross-sectoral mainstreaming. Some that are particularly relevant are described below.

1. Development and poverty reduction strategies and planning processes

One of the most important areas for the mainstreaming of biodiversity is that of 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 the Convention on Biological Diversity to ensure that "[b]y 2020, at the latest, biodiversity values have been integrated into national and local development and poverty reduction strategic and planning processes". At its twelfth meeting, the Conference of the Parties adopted extensive policy guidance on actions that could be taken in this regard, known as the "Chennai guidance for the integration of biodiversity and poverty eradication", along with a decision urging its implementation. The guidance covers the need to link efforts on poverty eradication and development in national biodiversity strategies and action plans, as well as the role of biodiversity in national development plans. 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 (discussed below).

2. Environmental impact assessments and strategic environmental assessments

Environmental impact assessments are among the foundational elements of many countries' national and subnational environmental laws. Article 14 of the Convention on Biological Diversity calls on parties, as far as possible and as appropriate, to introduce "procedures requiring environmental impact assessment of 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 ... programmes and policies that are likely to have significant adverse impacts on biological diversity are duly taken into account". Numerous countries also utilize strategic environmental assessments, most often at the national level, which focus on assessing the impacts of policies – in contrast to environmental impact assessments, which are project-level reviews. There is an important opportunity to use strategic environmental assessments more widely in policy-level decisions.

3. Incentive measures

Incentive measures are among the main drivers of decisions and actions that affect biodiversity. Actions related to incentive measures are captured by Aichi Biodiversity Target 3. According to the fourth edition of the Global Biodiversity Outlook, and based on an assessment of the parties' 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 in regard to removing or phasing out harmful incentives. The Conference of the Parties, at its twelfth meeting, adopted milestones for the full implementation of Target 3 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). Recent work by partners further explores how to address the obstacles; such work includes in particular the ongoing work of the Organisation for Economic Co-operation and Development, through its Working Party on Biodiversity, Water and Ecosystems, to prepare a study on how to address barriers to policy reform; it has also proposed an indicator for Aichi Biodiversity Target 3 to the Biodiversity Indicators Partnership.

Photo credit: UNTV/ Gill Fickling

4. Legislative and regulatory approaches

A key tool for achieving the effective mainstreaming of biodiversity across sectors is legislation at the national, subnational and local levels. Such legislation may be specific to biodiversity, such as a biodiversity law, or relate to national planning and budget processes, financing, accounting and similar matters. Legislation may also address institutional arrangements, such as the need for decision makers in other ministries or sectors to consider impacts on

biodiversity or for local land-use planning to include consideration of biodiversity. It can also focus on specific policies such as incentives. Furthermore, laws related to the transparency of decision-making and access to information are also important elements for achieving the effective mainstreaming of biodiversity.

5. Ecosystem accounting and valuation

Another key policy area relevant to biodiversity mainstreaming is the development and use of methodologies to assess the manifold values of biodiversity and their incorporation into national accounting, as appropriate, and reporting systems, as called for under Aichi Biodiversity Target 2. Important recent work at the international level to support the implementation of these elements of Target 2 includes the preparation of methodological guidance on implementing experimental ecosystem accounting, which is part of the revised United Nations System of Environmental-Economic Accounting, and feasibility studies in seven pilot countries, undertaken by the United Nations Statistics Division in cooperation with United Nations Environment Programme and the secretariat of the Convention on Biological Diversity with financial support from the Government of Norway, complementing the progress made under the World Bank-coordinated Wealth Accounting and Valuation of Ecosystem Services partnership.[13]

Another initiative of note is the development of the Natural Capital Protocol, which is led by the Natural Capital Coalition, of which the secretariat of the Convention is a member. The overall vision of the Protocol is to transform the way businesses operate by increasing their understanding of their impacts on biodiversity and reflecting them in their business practices. The intention 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 learned and gaps to be better understood. It is anticipated that the resulting framework will be the starting point for informing future standards for businesses.

6. Sustainable consumption and production

Aichi Biodiversity Target 4 focuses on sustainable production and consumption. Efforts made in the public sector, such as a shift to sustainable procurement, are important to reducing biodiversity loss. Yet biodiversity is rarely considered in policies and international efforts on sustainable consumption and production. One example of the importance of including biodiversity concerns government procurement, which is of considerable economic significance at both the domestic and international levels. Through their purchasing choices, Governments have the potential to significantly influence the consumption of products that have been produced in a sustainable manner.

7. Resource mobilization

The importance of mainstreaming has been recognized in the work of the Convention on resource mobilization. One resource mobilization target adopted by the Conference of the Parties at its twelfth meeting was for 100 per cent, and 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 Conference of the Parties 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 of

[13] http://unstats.un.org/unsd/envaccounting/eea_project/default.asp and https://www.wavespartnership.org/.

identifying the linkages between biodiversity investments and solutions to wider problems and the challenges to 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 Convention's 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.

8. Institutional arrangements

Perhaps one of the most important elements for mainstreaming of biodiversity is the use of effective institutional arrangements, at the national and other levels of government. One aspect of this is the use of effective interministerial 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 to national biodiversity strategies and action plans, the key framework for implementing the Convention at the national level.

C. The relevance of other international processes for biodiversity mainstreaming

A number of key international processes are relevant to biodiversity and will have major implications for national actions for the implementation of the Convention and the Strategic Plan for Biodiversity and for the achievement of the Aichi Biodiversity Targets. These include commitments under other biodiversity-related conventions; commitments on climate change and desertification as part of the negotiations under the United Nations Framework Convention on Climate Change and the United Nations Convention to Combat Desertification in Those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa; and the implementation of the 2030 Agenda for Sustainable Development and its 17 Sustainable Development Goals. These international processes are very relevant to the mainstreaming of biodiversity within and across sectors at the national level.

1. The 2030 Agenda for Sustainable Development

Photo credit: UN Photo/Logan Abassi

On 25 September 2015, the United Nations General Assembly adopted the outcome document of the United Nations Sustainable Development Summit, entitled "Transforming our world: the 2030 Agenda for Sustainable Development", which includes 17 Sustainable Development Goals. Biodiversity features prominently in the 2030 Agenda. Virtually all of the elements of the Aichi Biodiversity Targets are reflected in the targets associated with the Sustainable Development Goals, including the targets of the two Goals that are focused on biodiversity and ecosystems: Goals 14 (oceans and coastal

Photo credit: UN Photo/Nicole Algranti

ecosystems) and 15 (terrestrial ecosystems). Many other Goals include targets related to biodiversity and ecosystems, including Goal 1 (poverty eradication), 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, which calls on member States, by 2020, to "integrate ecosystem and biodiversity values into national and local planning, development processes, poverty reduction strategies and accounts".

The 2030 Agenda provides an important platform for undertaking actions that will directly contribute to the implementation of the Strategic Plan for Biodiversity 2011–2020. As countries move towards implementation of the 2030 Agenda, this will also provide a major opportunity for the mainstreaming of biodiversity and the achievement of the Strategic Plan.

2. Climate change

The ability of parties to implement the Convention and the Strategic Plan for Biodiversity effectively and to pursue the Aichi Biodiversity Targets is closely tied to climate change. Healthy biodiversity and ecosystems are essential to combating climate change and, at the same time, climate change is already having negative impacts on biodiversity. The Conference of the Parties to the United Nations Framework Convention on Climate Change at its twenty-first session, in Paris, adopted an agreement to address climate change effectively with a view to keeping global temperature increases to 2°C or lower.[14] The agreement will have major implications for work under the Convention on Biological Diversity.[15]

3. The Sendai Framework for Disaster Risk Reduction 2015–2030

The Sendai Framework for Disaster Risk Reduction 2015–2030, adopted at the Third United Nations World Conference on Disaster Risk Reduction, held in Sendai, Japan, in March 2015, serves as a global framework for guiding disaster risk reduction efforts until 2030.[16] The sustainable management of ecosystems is recognized as a way to build disaster resilience. Ecosystems need to be taken into account in three priority areas: undertaking risk assessments, risk governance and investing in resilience. The Sendai Framework further acknowledges the need to tackle the 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 related to disaster risk reduction that encourage the parties to

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14 Decision 1/CP.21, adopted by the Conference of the Parties to the United Nations Framework Convention on Climate Change at its twenty-first session (FCCC/CP/2015/10/Add.1).

15 See document UNEP/CBD/SBSTTA/20/10, on biodiversity and climate change, submitted to the Subsidiary Body on Scientific, Technical and Technological Advice at its twentieth meeting.

16 United Nations General Assembly resolution 69/283, annex II.

incorporate disaster risk reduction into relevant national plans and strategies. The Sendai Framework further supports this integration. There is a clear opportunity to engage both international and national follow-up processes to further mainstream biodiversity and ecosystem-based approaches into disaster risk reduction.

4. The United Nations Conference on Housing and Sustainable Urban Development

In September 2016, the Third United Nations Conference on Housing and Sustainable Urban Development (Habitat III), to be held in Quito, Ecuador, will provide an important opportunity to mainstream the issues of biodiversity and ecosystem services into the broader United Nations agenda on cities and human settlements. Biodiversity is essential for sustainable cities, supporting fresh water supply, food and resilience.

D. Conclusion

There is no question that integrating biodiversity values into other sectors and into cross-cutting policies is essential to achieving economic and development goals, as well as the Strategic Plan for Biodiversity 2011–2020. Yet it is clear that we do not have an easy task before us. With five years left to implement the Strategic Plan, we need to significantly increase our efforts. We would do well to realize the potential of biodiversity mainstreaming to shift human behaviour and markets that have often ignored their reliance on nature. By mainstreaming biodiversity, we recognize the critical role of biodiversity for human well being and move to a path that secures our future.

III.

Mainstreaming CITES and synergies for contributing to the Aichi Targets and the 2030 Agenda for Sustainable Development and its Sustainable Development Goals

Øystein Størkersen,[17] Adrianne Sinclair,[18] Carolina Caceres,[19] John E. Scanlon[20] and Haruko Okusu [21]

A. Introduction

The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) was adopted on 3 March 1973 in Washington, D.C., at a plenipotentiary conference hosted by the Government of the United States of America, following recommendation 99 of the 1972 United Nations Conference on the Human Environment. Of the seven global biodiversity-related conventions – CITES, the Convention on Biological Diversity, the Convention on the Conservation of Migratory Species of Wild Animals, the International Plant Protection Convention, the International Treaty on Plant Genetic Resources for Food and Agriculture, the Convention on Wetlands of International Importance, especially as Waterfowl Habitat, and the World Heritage Convention – CITES was the earliest to enter into force (on 1 July 1975) and the first multilateral environmental agreement to have its secretariat administered through the United Nations Environment Programme when it moved from its initial home at the International Union for Conservation of Nature in 1984.

Today, the 182 parties that have signed up to CITES regulate international trade in more than 35,000 species of wild animals and plants – including 1,500 bird, 2,200 invertebrate and 30,000 plant species – in order to ensure that any such trade is legal, sustainable and traceable. This translates into nearly 1 million recorded trade transactions per year and a significant coordinated effort to tackle illicit wildlife trafficking.

CITES predates the adoption within the United Nations system of the terms "sustainable development" and "biological diversity" (biodiversity), which have been articulated in global environmental summits and international agreements.[22] As a result, there is no explicit mention of those terms in the Convention text. Nevertheless, the broad contributions of CITES to maintaining biodiversity and achieving sustainable development result directly from the obligations spelled out in the Convention text and the way in which the Convention is applied.

The Convention's core objectives of ensuring that trade is not detrimental to the survival of species in the wild and that species are maintained throughout their range at a level consistent with their roles in their ecosystems are direct descriptions of sustainable production and consumption, which are the key elements of sustainable development. The Convention's requirement that traded specimens be lawfully obtained and that parties take appropriate measures to enforce the Convention also contribute to those objectives, as do efforts under the Convention to combat illegal trade in wildlife.

Approximately 3 per cent of the 35,000 species regulated by CITES are considered to be threatened with extinction and, consequently, international commercial trade in specimens of wild origin of these species is generally prohibited. These species are included in Appendix I of the Convention. The vast majority of CITES-listed species – about 96 per cent – are included in Appendix II, which contains species that are not necessarily threatened with extinction but which may become so unless international trade is strictly regulated, together with so-called "look-alike species", i.e. species whose specimens in trade look like those of species listed for conservation reasons. Commercial international trade in these species

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17 Chair of the CITES Standing Committee and Principal Advisor to the Norwegian Directorate for Nature Management.
18 Vice-Chair of the CITES Plants Committee, Environment and Climate Change Canada.
19 Chair of the CITES Animals Committee, Environment and Climate Change Canada.
20 Secretary-General, CITES Secretariat.
21 Chief, Knowledge Management and Outreach Services, CITES Secretariat.
22 For more on the origins of those terms see http://www.uncsd2012.org/history.html (sustainable development) and http://www.worldwildlife.org/leaders/thomas-lovejoy (biological diversity).

Photo credit: UN Photo/Logan Abassi

is authorized, albeit subject to strict regulations to ensure that it is legal, sustainable and traceable.[23]

CITES recognizes that "commercial trade may be beneficial to the conservation of species and ecosystems and/or to the development of local people when carried out at levels that are not detrimental to the survival of the species in question".[24] Well-regulated trade in wild fauna and flora can be an incentive for wildlife conservation and sustainable management and can have a significant positive economic impact on local livelihoods.

The enduring relevance of CITES was expressed through the outcome document of the 2012 United Nations Conference on Sustainable Development, "The future we want", which in paragraph 203 recognized "the important role of the Convention on International Trade in Endangered Species of Wild Fauna and Flora, an international agreement that stands at the intersection between trade, the environment and development, promotes the conservation and sustainable use of biodiversity, should contribute to tangible benefits for local people and ensures that no species entering into international trade is threatened with extinction".

CITES is therefore increasingly being recognized not only as a multilateral environmental agreement but also as a sustainable development convention.

We have also seen an increased recognition of the economic, social and environmental impacts of illicit trafficking in wildlife over the last years, which calls for the tackling of both the supply of and demand for illicit wildlife products. By virtue of it being illicit, making a quantitative assessment of the impacts caused by the illegal taking and trafficking of natural resources remains difficult. The trafficking of wildlife, however, is thought to be increasing at such a rate that it may become one of the most lucrative kinds of transnational crime, approaching in scale that of narcotics, human beings and arms.

Resolution 69/314, on tackling illicit trafficking in wildlife, adopted by the United Nations General Assembly at its sixty-ninth session in July 2015, reflects a heightened level of political concern over the illicit trafficking in protected species of wild fauna and flora, which is in some cases an increasingly sophisticated form of transnational organized crime that poses a threat to health and safety, security, good governance and the sustainable development of States. The resolution "[u]rges Member States to take decisive steps at the national level to prevent, combat and eradicate the illegal trade in wildlife, on both the supply and demand sides, including by strengthening the legislation necessary for the prevention, investigation and prosecution of such illegal trade as well as strengthening enforcement and criminal justice responses, in accordance with national legislation

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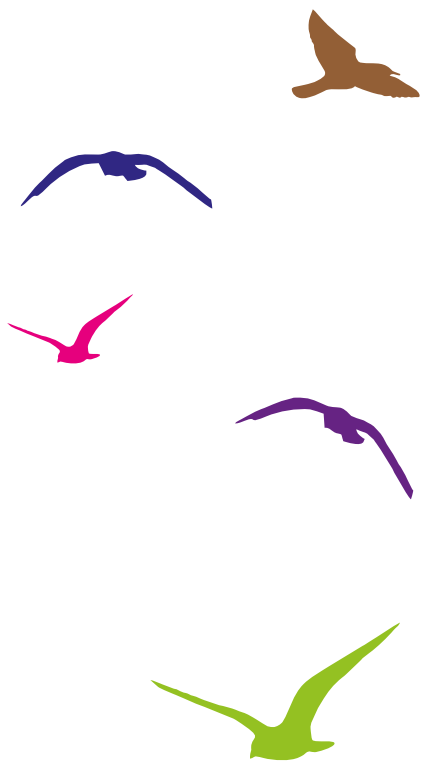
23 The remaining 1 per cent of the 35,000 species regulated by CITES belong to Appendix III, which lists species that are protected in at least one country that has asked other CITES parties for assistance in controlling the trade in those species. Changes to Appendix III follow a procedure distinct from that for changes to Appendices I and II, with each party entitled to make unilateral amendments to it.

24 See resolution conf. 8.3 (Rev. CoP13). Available from https://cites.org/eng/res/08/08-03R13.php.



and international law, acknowledging that the International Consortium on Combating Wildlife Crime can provide valuable technical assistance ...".[25]

Discussions also took place in the forums of the General Assembly of the United Nations in preparation for the United Nations summit for the adoption of the post-2015 development agenda (New York, 25–27 September 2015), which resulted in the adoption of the outcome document entitled "Transforming our world: the 2030 Agenda for Sustainable Development". The outcome document envisages a world "in which humanity lives in harmony with nature and in which wildlife and other living species are protected" and includes the Sustainable Development Goals of the 2030 Agenda for Sustainable Development, which build on and replace the Millennium Development Goals.

Many of the 17 Goals and 169 targets of the 2030 Agenda are of specific relevance to CITES. Of particular importance are the following targets:

15.2 By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally;

15.5 Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species;

15.7 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

15.c 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.

Because of the multifaceted nature of the work of dealing with trade in wildlife, as outlined above, it is imperative that CITES be mainstreamed into various processes and sectors at the international and national levels. The following section summarizes some examples of CITES experience in the last 40 plus years in regard to how various sectors and decision-making processes are at the heart of ensuring that international wildlife trade is legal, scientific and traceable and combating illegal wildlife trade.

B. Mainstreaming CITES

1. Law enforcement

Illicit trafficking in wildlife can undermine the positive effects of legal trade and have devastating environmental, social and economic impacts. Among the most obvious environmental effects are reductions in wild populations due to overharvesting or the illegal killing of target species, driven by demand and the resulting illegal trade. The broader environmental impacts of illegal harvesting and trade include the cascading effects that the decline of a species may have across an ecosystem, and the social and economic ramifications of illegal trade in wildlife are also severe.

Moreover, illegal offtake and trade is often driven by organized crime, particularly in industrial biodiversity commodities, such as fishery products and timber, and in a number of specific animal products such as ivory and rhino horn. Like organized

[25] The International Consortium on Combating Wildlife Crime is the collaborative effort of the International Criminal Police Organization, the United Nations Office on Drugs and Crime, the World Bank, the World Customs Organization and CITES. Further details on the work of the Consortium can be found in section A.1 on law enforcement, below.

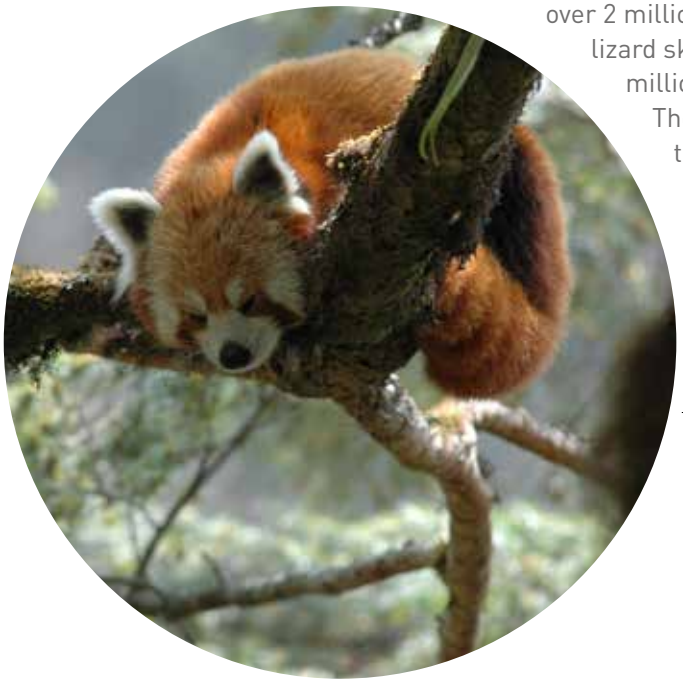
crime in other sectors, to which it is often linked, organized wildlife crime is posing a serious threat to the social and economic stability and national security of many countries and regions.

For these reasons, CITES has long worked with the law enforcement community to support parties' ability to detect, apprehend and bring criminals engaged in wildlife crime to justice. The work of the Convention has been greatly enhanced by the establishment of the International Consortium on Combating Wildlife Crime, which is the collaborative effort of the International Criminal Police Organization (INTERPOL), the United Nations Office on Drugs and Crime, the World Bank, the World Customs Organization (WCO) and CITES. The International Consortium partners aim to bring coordinated support to national wildlife law enforcement agencies and subregional and regional networks that, on a daily basis, act in defence of natural resources. Through the combined experience, technical knowledge and capacity, communication channels and field networks of the five partners, the Consortium has allowed CITES to become firmly placed in the law enforcement sector, including customs, police and border control authorities.

Furthermore, CITES has also worked with the judges and prosecutors of various parties over the years to raise their awareness on the issue of illegal wildlife trade and to support their effective implementation of the Convention. For example, CITES cooperated with the Asian Development Bank to organize a 2013 symposium on "combating wildlife crime: securing enforcement, ensuring justice and upholding the rule of law".[26] Another example is the first global meeting of wildlife enforcement networks, also held in 2013, which scaled up regional enforcement capacity and coordination to respond to the serious threat posed by wildlife crime networks.[27] The second meeting of the wildlife enforcement networks is planned to take place in the margins of the seventeenth meeting of the Conference of the Parties.

2. Trade

CITES is both an environmental convention and a trade regulatory agreement. The Convention uses trade-related measures to achieve its conservation objective, which is to ensure that wildlife – both animals and plants – is not unsustainably exploited through international trade. With its 182 parties, CITES rules on international trade in wildlife carry substantial weight of a global scale.



CITES-regulated trade involves annually more than 317,000 live birds, over 2 million live reptiles, 2.5 million crocodilian skins, 1.5 million lizard skins, 2.1 million snake skins, 73 tons of caviar, 1.1 million coral pieces and nearly 20,000 hunting trophies. The overall economic value or importance of the legal trade in wildlife is not well documented, although some information exists for certain sectors. For example, it has been estimated that the trade from South-East Asia in skins of three species of pythons is worth about $1 billion per year.[28] The value of legal wildlife products traded globally is increasing, and

Photo credit: Peter Prokosch/Grid Arendal

[26] The proceedings of the symposium are available at http://www.adb.org/sites/default/files/publication/149395/combating-wildlife-crime-proceedings.pdf.

[27] https://cites.org/eng/news/pr/2013/20130307_wen.php.

[28] Kasterine, Alexander, Arbeid, Ralph, Caillabet, Olivier and Daniel Natusch (2012). The Trade in South-East Asian Python Skins. Geneva: International Trade Centre (ITC). Available at http://www.intracen.org/uploadedFiles/intracenorg/Content/Publications/The%20Trade%20in%20Southeast%20Asian%20Python%20Skins%20for%20web.pdf.

is estimated to have grown from around $160 billion in the early 1990s to $323 billion in 2009, including fishery products and timber.[29] The wildlife products legally imported into the European Union alone were worth an estimated Đ93 billion in 2005 and increased to nearly Đ100 billion in 2009.[30]

A recent achievement in mainstreaming CITES-related issues into the trade sector was seen in the inclusion of the obligation to curb wildlife trafficking and illegal fishing in the final Trans-Pacific Partnership agreement, which involves 12 countries in the Asia-Pacific region.[31] The provisions of the agreement make an explicit reference to CITES, requiring Trans-Pacific Partnership countries to fulfil their obligations under the Convention; to protect and conserve iconic species; and to combat wildlife trafficking, illegal logging and illegal fishing through enhanced national and regional actions.[32]

In 2015, CITES and the World Trade Organization (WTO) joined forces to publish CITES and the WTO: Enhancing cooperation for sustainable development, which looks at the relationship between the organizations, showing how it has evolved into a leading example of global trade and environmental regimes supporting each other and working coherently to achieve shared objectives.[33] The cooperation and cohesion between the two organizations is seen as particularly relevant at a time when the world is embarking on the achievement of the Sustainable Development Goals. The new WTO Trade Facilitation Agreement provides even further opportunities to enhance cooperation between customs, wildlife and trade officials and to support efforts by CITES to better regulate legal wildlife trade and intercept illegal trade.

The BioTrade Initiative of the United Nations Conference on Trade and Development (UNCTAD) and its national programmes are key partners in looking at real-life cases that highlight how the operationalization of CITES contributes to the enhancement of sustainable trade.[34] The cooperation started in 2001 with the purpose of ensuring the conservation of CITES-listed species; enhancing the livelihoods of poor people in remote and marginal areas; and promoting business opportunities for entrepreneurs that comply with CITES requirements and national legislation. A number of national BioTrade programmes have selected CITES-listed species as a component, with particular attention paid to the role of economic incentives for sustainable management and benefit-sharing with local communities.

Photo credit: Peter Prokosch/Grid Arendal

Various trade-related sectors and organizations also contribute to ensuring the traceability of CITES-listed species in trade, which is one of the three main pillars of CITES. The traceability of CITES-compliant trade is ensured through a system of permits and certificates used to authorize, accompany and

29 http://www.traffic.org/trade/.

30 Engler, Maylynn and Parry-Jones, Robert (2007). Opportunity or threat: The role of the European Union in global wildlife trade. Brussels: TRAFFIC Europe. Available at http://www.traffic.org/general-reports/traffic_pub_trade15.pdf.

31 See the New York Times article on this topic: http://www.nytimes.com/2015/10/06/business/environmentalists-praise-wildlife-measures-in-trans-pacific-trade-pact.html?_r=0.

32 See the Trans-Pacific Partnership fact sheet entitled "Preserving the environment", published by the Office of the United States Trade Representative. Available at https://ustr.gov/sites/default/files/TPP-Preserving-the-Environment-Fact-Sheet.pdf.

33 Available at https://www.wto.org/english/res_e/booksp_e/citesandwto15_e.pdf.

34 http://www.biotrade.org/.

track particular shipments. Some parties have implemented electronic permitting systems in order to enhance security and efficiency, as well as to bring the CITES permitting system in line with the Single Window Environment of WCO.

A CITES e-permitting toolkit has been developed to provide standard guidance to interested countries, with particular attention paid to cooperation with the United Nations Centre for Trade Facilitation and Electronic Business, WCO and other relevant organizations to ensure the alignment of CITES e permits with international trade standards and norms. Cooperation is also ongoing with UNCTAD to develop "eCITES", which is a CITES-specific module in the Automated System for Customs Data that can act as an out-of-the-box CITES electronic permitting system for use by developing countries.

More recently, discussions have been taking place with the International Plant Protection Convention to share experience in the development of electronic trade certificates and permits. The International Plant Protection Convention has recently received funding from the WTO Standards and Trade Development Facility to develop the "ePhyto" voluntary system for the electronic exchange of phytosanitary certificates between national plant protection organizations, which has been encouraged by the Commission on Phytosanitary Measures.[35] The ePhyto project has many parallels with the work on CITES e-permitting systems and the progress of the project is expected to have a significant impact on the CITES e-permitting discussion.

CITES works closely with a number of private sector companies and trade associations whose trade transactions include commodities in CITES-listed species. The cooperation ranges from sharing information on traceability standards and marking methodologies to advising on corporate social responsibility programmes that lead to the highlighting of good practices in sustainable trade;[36] undertaking assessments of how the flow of CITES-related commodities and associated information may be enhanced by existing business chain processes;[37] and tackling specific queries and challenges faced by various private sector entities in implementing the Convention. Also, the CITES secretariat recently signed a memorandum of understanding with the International Air Transport Association to cooperate on the implementation of trade standards and best practices in the air transport sector in order to combat illegal wildlife trade.[38]

3. Natural resource management

In terms of both volume and value, timber and fishery products are two of the most highly traded forms of wildlife. However, only a small proportion of the vast numbers of fish and timber species that are in international trade are currently included in the CITES Appendices.

In recent years, CITES parties have brought a growing number of new marine and timber species under the control of the Convention's provisions, making the best use of emerging technologies and strengthening cooperation and enforcement efforts. For example, at the sixteenth meeting of the Conference of the Parties, held in Bangkok in 2013, parties decided to include, among others, over 200 commercially significant timber species from across Africa, Asia and Latin America, as well five species of commercially significant sharks and manta rays.

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35 https://www.ippc.int/en/ephyto/.

36 See, for example, the vicuña raw materials project of the Ermenegildo Zegna Group: http://www.zegnagroup.com/materie_prime/vicun.
See also the python conservation partnership formed by Kering, the International Trade Centre and the International Union for Conservation of Nature: http://www.kering.com/en/communiques-de-presse/kering_luicn_et_le_cci_forment_un_partenariat_pour_contribuer_a_un_commerce_de.

37 See, for example, the project description presented at the twenty-eighth meeting of the CITES Animals Committee in document AC28 Inf.33 on linking information and physical flows through GS1 management processes and system. Available at https://cites.org/sites/default/files/eng/com/ac/28/Inf/E-AC28-Inf-33%20(1).pdf.

38 http://www.iata.org/pressroom/pr/Pages/2015-06-08-05.aspx.

In the proposals for the upcoming seventeenth meeting of the Conference of the Parties, to be held in Johannesburg in September and October 2016, some parties may seek to expand CITES coverage of marine and timber species even further.[39]

These developments have made it vital that CITES continue to strengthen its mainstreaming efforts with the natural resource management sector,[40] particularly in fisheries and forestry, in order to respond to the increasing use of CITES by range States to ensure the legal, sustainable and traceable trade of the species in these sectors. CITES recognizes that there are existing instruments – bilateral, regional and international – where international trade may be regulated and where there is a wealth of data, knowledge and expertise on fisheries and forestry resource management.

The Food and Agriculture Organization of the United Nations (FAO) is the only global agency with a mandate that includes fisheries and aquaculture, as well as working with national Governments and regional fishery bodies. For this reason, CITES and FAO have collaborated over a number of years to provide advice on, among other matters, the listing proposals for CITES Appendices concerning commercially significant aquatic species.[41] Equally, regional fisheries management organizations and regional fishery bodies are also vital partners for CITES in research, training, data collection, data analysis and the development of management plans for commercially significant marine species, and CITES has participated in the meetings of those organizations and bodies as observers. Joint work with FAO and the regional fisheries management organizations and fishery bodies has been particularly extensive since 2013, under the European Union-funded project to implement the listing of sharks and manta rays adopted by the Conference of the Parties to CITES at its sixteenth meeting.[42]

It is widely recognized that tropical forests are under severe pressure from logging and land conversion. FAO estimates that the world lost over 0.8 per cent of its tropical forests every year between 1980 and 1990. From 1990 to 2000, the annual loss of forest cover in many tropical countries continued to be significant, in many cases over 1 per cent per year. Timber trees, like fishery species, have only recently started to be covered by CITES. However, as loggers scour the remaining tracts of forest and selectively remove high-value timber species, concern has grown over the need for better controls. CITES member States have already agreed to include the Latin American big-leaf mahogany and South-East Asian ramin and agarwood trees in Appendix II.

CITES has collaborated with the International Tropical Timber Organization since 2006 on a capacity-building programme aimed at ensuring that international trade in CITES-listed timber species is consistent with their sustainable management and conservation.[43] The aim of the project is to assist parties in meeting the scientific, administrative and legal requirements for managing and regulating trade in a number of timber species found in Africa, Asia and Latin America. The project is currently finalizing its second phase and the third phase is currently being planned for launch in mid-2016.

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39 Proposals for amendments to Appendices I and II will be posted after 27 April 2016 on the dedicated Conference of the Parties page of the CITES website: https://cites.org/eng/cop/index.php.

40 http://nr.iisd.org/guest-articles/cites-cop16-bangkok-2013-a-%E2%80%98watershed-moment%E2%80%99-for-combating-wildlife-crime/.

41 http://www.fao.org/fishery/topic/16340/en.

42 https://cites.org/prog/shark.

43 http://www.itto.int/cites_programme/.

4. Livelihoods

The price of a live animal or plant or product thereof at the point of import, export or re-export is just one aspect of its economic importance. Incremental value addition throughout its trade chain can add significant amounts to its final value. Furthermore, the utilization and subsequent trade in wildlife can have substantial wider benefits. The manufacturing of species-derived products – or the production, processing or handling of wildlife for trade – can contribute considerably to local livelihoods and economies and generate incentives to preserve ecosystems and the services that they provide.

Well-regulated trade in wild fauna and flora can be an incentive for wildlife conservation and sustainable management and can have a significant positive economic impact on local livelihoods.

Parties to CITES recognize not only the potential impacts on the livelihoods of rural communities of CITES-listing decisions but also the opportunities that they provide for sustainable incomes and resource provision through long-term species conservation strategies. In this regard, CITES cooperates with international, regional and non-governmental organizations to promote the documenting of successful livelihood experiences and to stimulate the exchange of lessons learned regarding the conservation and sustainable use of CITES-listed species.

Collaboration with the Organization of American States has resulted in the development of a handbook on CITES and livelihoods,[44] as well as an ongoing project in a number of countries to showcase livelihood experiences. CITES and the International Trade Centre – which is a subsidiary body of WTO and UNCTAD – have worked closely for the last few years to support countries in enhancing the livelihood benefits of rural communities involved in global wildlife trade.[45]

Close communication is maintained also with the International Union for Conservation of Nature Sustainable Use and Livelihoods Specialist Group.[46]

5. Financial support

International cooperation among relevant multilateral environmental agreements and international organizations is vital in technical areas of the work of CITES as well as for the financing of various initiatives. The donor roundtable on wildlife and forest crime – established in 2015, with CITES, the United Nations Development Programme, the United Nations Environment Programme, the United Nations Office on Drugs and Crime and the World Bank, and hosted by the United Nations Development Programme – is currently undertaking a study to analyse multilateral, bilateral and other international funds used to finance efforts directly addressing the illegal wildlife trade crisis. The results and recommendations of the study will provide a baseline and indicators with which international coordination and the scaling up of global support actions may be more effectively considered. There is also a plan to establish a new donor roundtable focusing on sustainable wildlife use in 2016.

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44 https://cites.org/eng/prog/livelihoods.

45 https://cites.org/eng/news/pr/2014/20140123_cites-itc_loa.php.

46 http://www.intracen.org/news/Opening-address-at-the-ITC-CITES-side-event-Supporting-livelihoods-through-sustainable-use-of-biodiversity/. https://www.iucn.org/about/union/commissions/ceesp_ssc_sustainable_use_and_livelihoods_specialist_group/.

Another notable example of progress took place at the forty-eighth meeting of the Global Environment Facility (GEF) Council, in June 2015, where members approved a new global wildlife programme: the Global Partnership on Wildlife Conservation and Crime Prevention for Sustainable Development.[47] This new programme, funded by GEF and partner organizations, draws upon existing programmes and is aimed at promoting wildlife conservation, wildlife crime prevention and sustainable development in order to reduce the impacts of poaching and illegal trade on protected species.

During the first ever intervention by CITES at a GEF Council meeting, in 2011, the CITES Secretary-General drew attention to the immediate threats posed by the overexploitation of biodiversity through illegal and unsustainable international trade in wildlife and to the need for GEF to direct funding towards tackling the issue. Subsequently, the importance of parties gaining access to GEF funding to combat illegal trade in wildlife was highlighted at the sixteenth meeting of the Conference of the Parties to CITES, held in Bangkok in 2013, following which CITES priorities were relayed directly to the Chief Executive Officer of GEF.

Today there are nearly 20 projects included in the programme, or currently in the pipeline for inclusion, with national Governments – in partnership with non-governmental organizations and civil society organizations – acting as executing agencies. The CITES secretariat sits as a non implementing member of the Programme Steering Committee and provides technical advice, shares its knowledge and experience and brings its network to bear through the Monitoring the Illegal Killing of Elephants programme and International Consortium on Combating Wildlife Crime partnerships.

CITES is seeking to ensure that the final programme is aligned with the CITES legal framework and supports countries in accessing the new funding to enhance delivery of their front-line priority actions and, in particular, to implement their commitments under CITES, such as through national ivory action plans, and to support initiatives of the International Consortium on Combating Wildlife Crime, such as the Wildlife and Forest Crime Analytic Toolkit.

6. Public outreach

Global recognition and cooperation on CITES-related issues is also promoted through a bottom-up approach. The United Nations General Assembly decided at its sixty-eighth session, in 2013, to proclaim 3 March of each year, the anniversary of the day of the signature of CITES in 1973, as World Wildlife Day in order to celebrate and raise awareness of the world's wild animals and plants.[48] General Assembly resolution 68/205 also designates the CITES Secretariat as the facilitator for the global observance of this special day for wildlife on the United Nations calendar.

Photo credit: © Bazuki Muhammad / Reuters

[47] https://cites.org/eng/gef_wildlife_prog_2015.

[48] http://www.wildlifeday.org/.

World Wildlife Day has since been celebrated by countries all around the world to highlight the intrinsic value of their wild animals and plants, with specific themes attached every year to focus on different aspects and challenges. Under the theme of World Wildlife Day 2016, "The future of wildlife is in our hands",[49] the CITES Secretariat brought together States, the United Nations system, intergovernmental organizations, the private sector and civil society, with over 70 countries registering events in various forms of celebration, as well as a successful social media campaign.

C. Synergies for contributing to the Aichi Targets and the 2030 Agenda for Sustainable Development and its Sustainable Development Goals

The CITES Strategic Vision 2008–2020, which outlines the Convention's direction, takes into account its contribution to the relevant United Nations Millennium Development Goals, the Strategic Plan for Biodiversity 2011–2020 and the relevant outcomes of the 2012 United Nations Conference on Sustainable Development. Goal 3 of the Strategic Vision is to "[c]ontribute to significantly reducing the rate of biodiversity loss ... by ensuring that CITES and other multilateral instruments and processes are coherent and mutually supportive". The effective implementation of CITES will be indispensable in meeting the Aichi Biodiversity Targets and, in particular, will contribute to the achievement of targets 1, 2, 3, 4, 6, 7, 9, 12, 17, 18, 19 and 20.[50]

CITES parties have acknowledged the importance of working with other biodiversity-related conventions. In resolution conf. 16.4, on the cooperation of CITES with other biodiversity-related conventions, the parties confirm their commitment to "demonstrate how the effective implementation of CITES contributes to the implementation of the Strategic Plan for Biodiversity 2011–2020 and the relevant Aichi targets", while recognizing that there is already a wealth of existing cooperation with other biodiversity-related conventions.[51] CITES decisions 16.11 and 16.22 pertain to cooperation of CITES with other biodiversity-related conventions, with the former directing the Standing Committee to "explore further options to strengthen cooperation, collaboration and synergies between CITES and the other biodiversity-related conventions at all relevant levels, including through their respective programmes of work and Secretariats".[52]

Similarly, in resolution conf. 16.5, on cooperation with the Global Strategy for Plant Conservation of the Convention on Biological Diversity, the parties are invited to "take note of the potential contribution of CITES to the objectives and targets of the consolidated update of the Global Strategy for Plant Conservation 2011–2020" and commit themselves to promoting and enhancing communication and collaboration with the Convention on Biological Diversity in that regard.[53] Particular areas of linkages with the Global Strategy that have been identified by the parties include the Review of Significant Trade; the Periodic Review of the Appendices; proposals to amend the Appendices; the formulation of non-detriment findings; and streamlined reporting.

Resolution conf. 16.4 also refers to the outcome document of the United Nations Conference on Sustainable Development, "The future we want", calling on the parties to "further opportunities to strengthen the cooperation, coordination and

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49 https://cites.org/eng/news/pr/World_Wildlife_Day_2016_generates_huge_show_of_support_for_wildlife_2016_18032016.

50 Scanlon, J.E. (2011). CITES' contribution to the new strategic biodiversity plan 2011–2020 and Aichi Biodiversity Targets, September 2011. Available from http://nr.iisd.org/guest-articles/cites%E2%80%99-contribution-to-the-new-strategic-biodiversity-plan-2011-2020-and-aichi-biodiversity-targets/.

51 https://cites.org/sites/default/files/eng/res/16/E-Res-16-04.pdf

52 https://cites.org/eng/dec/valid16/182

53 https://cites.org/eng/res/16/16-05.php

synergies among the biodiversity-related conventions at all relevant levels" and to "further strengthen the cooperation, coordination and synergies among the focal points of the biodiversity-related conventions and other partners at the national level to enhance coherent national-level implementation of the Convention".

In order to enhance coherence and cooperation in implementation, the Liaison Group of Biodiversity-related Conventions – or Biodiversity Liaison Group – was established in 2002,[54] pursuant to decision VII/26, adopted by the Conference of the Parties to the Convention on Biological Diversity at its seventh meeting.[55] The Biodiversity Liaison Group currently comprises the heads of the secretariats of the seven biodiversity-related conventions: the Convention on Biological Diversity; CITES; the Convention on the Conservation of Migratory Species of Wild Animals; the Intergovernmental Panel on Climate Change; the International Treaty on Plant Genetic Resources for Food and Agriculture; the Convention on Wetlands of International Importance, especially as Waterfowl Habitat; and the World Heritage Convention. They meet regularly to explore opportunities for synergistic activities and increased coordination and to exchange information.

Following a suggestion made by the CITES Secretariat at the fourth meeting of the Biodiversity Liaison Group, held in Bonn in October 2005, the Group agreed to propose a meeting of the chairs of the scientific advisory bodies of the biodiversity-related conventions (CSAB). The purpose was for the chairs of those bodies, together with representatives of the secretariats, to enhance scientific cooperation; to share information about their conventions' scientific activities and processes; and to collectively support progress towards the global biodiversity targets. CSAB has, in particular, contributed to the consolidated representation and inputs of the biodiversity-related conventions to the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services.[56] CSAB was also one of the first entities to work towards the cross-mapping of the strategic plans, priorities and targets of the biodiversity-related conventions and the Aichi Biodiversity Targets, which was later merged with the broader exercise under the auspices of the United Nations Environment Management Group.

Looking ahead, CITES parties have started to consider how CITES could contribute to the new Sustainable Development Goals adopted by the United Nations General Assembly at the United Nations summit for the adoption of the post-2015 development agenda (New York, 2015). The new global Goals set out a "supremely ambitious and transformational" agenda to 2030 and a vision for the planet in which "humanity lives in harmony with nature and in which wildlife and other living species are protected".[57]

The CITES Secretariat issued a media release welcoming the Sustainable Development Goals on the day that they were adopted;[58] contributed to a joint statement on the Goals issued by the Biodiversity Liaison Group;[59] and co-authored an article with the Wildlife Conservation Society, also welcoming the Goals, which was published on the National Geographic Voices platform.[60] The legal and sustainable use of wildlife will contribute to a number of the Sustainable Development Goals and targets, including Goals 1, 12, 14, 15, 16 and 17.

In particular, the Sustainable Development Goals specifically address the issue of tackling illegal trade in wildlife through two targets under Goal 15:

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54 https://www.cbd.int/blg/.
55 https://www.cbd.int/decision/cop/?id=7763.
56 http://www.ipbes.net/.
57 https://sustainabledevelopment.un.org/post2015/summit.
58 https://cites.org/eng/CITES_welcomes_UN_SDGs_with_target_to_end_poaching_trafficking_wildlife_25092015.
59 http://www.cms.int/sites/default/files/uploads/BLG_Statement_SD%20Summit_25-09-15_final.pdf.
60 http://voices.nationalgeographic.com/2015/09/25/the-new-sustainable-development-goals-a-vision-for-living-in-harmony-with-nature/.

15.7 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;

15.c 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.

Many other Goals and targets under the Sustainable Development Goals are also of great relevance and significance in addressing illicit trafficking in wildlife, including under Goal 1 (to end poverty). Poverty and the lack of alternative livelihoods play an important role in the poaching and illicit trafficking of wildlife, which can only be resolved through long-term collective efforts. The CITES working group on CITES and Livelihoods is seeking to address those issues.

The adoption of the Sustainable Development Goals, with specific targets on ending poaching and trafficking in wildlife, is a powerful expression of the political determination to end these highly destructive crimes and another major step forward in combating wildlife crime.

D. Conclusion

The world has changed a lot since 1975 when CITES entered into force. In that time we have witnessed growing prosperity, changing consumption and production patterns, vastly enhanced scientific knowledge, phenomenal advances in technology and, above all, exponential growth in global trade. Looking at population figures alone, the world's population has grown from 4 to over 7 billion people – and that is an additional 3 billion potential consumers of wildlife and wildlife products.[61]

Trade can be a strong incentive for the conservation and sustainable use of wildlife. Legal, sustainable and traceable trade in wildlife exists in many forms and is regulated internationally under CITES. The benefits of effectively regulated trade can be significant both at the local level for indigenous and local communities and, from a macroeconomic perspective, at the national, regional and global levels.

CITES has continued to evolve over time in response to changing conditions in many ways, including by developing compliance procedures, bringing new marine and timber species under CITES trade controls, making the best use of emerging technologies and strengthening cooperative implementation and enforcement efforts.

The partnerships and the cooperation and collaboration summarized in the present document are examples of the many that CITES has seen over its more than 40 years in existence. The successful evolution that CITES continues to experience today is a result of committed efforts made with relevant partners and stakeholders. Those efforts have focused on a specific subject area or issue of common interest and have involved tackling many political, technical and administrative challenges along the way.

CITES therefore remains as relevant today as when it first entered into force over 40 years ago. It is a living, breathing convention that has evolved over time in response to changing conditions. CITES continues to place the focus of legal, sustainable and traceable trade in wildlife at the heart of various political, social, economic and scientific agendas. Often working through partnerships with relevant bodies, this focused and pragmatic approach greatly contributes to Governments' efforts to mainstream the Convention into economic planning and decision-making processes.

[61] http://asiapacificsd.iisd.org/guest-articles/cites-40-years-of-international-cooperation-and-national-action/.

IV.

Joining forces for biodiversity: the Convention on the Conservation of Migratory Species of Wild Animals at the forefront of synergies

Øystein Størkersen[62] and Bradnee Chambers[63]

The Convention on the Conservation of Migratory Species of Wild Animals (CMS), frequently referred to as the Bonn Convention after the city where it was negotiated in 1979, is a product of the 1972 United Nations Conference on the Human Environment in Stockholm. Administered by the United Nations Environment Programme (UNEP), which was itself also established as a result of the Stockholm Conference, CMS seeks to provide an international forum through which the range States of endangered migratory animals can agree on common policies to ensure that the conservation status of the species is favourable and their habitat is adequate.

CMS operates as an umbrella convention and has given rise to a number of subsidiary instruments that focus on particular species, often within a specific geographic range. There are seven legally binding agreements with varying degrees of autonomy, some managed within UNEP, like the parent Convention, and others operating within national and international administrations. There are also 19 memorandums of understanding. Together, the Convention, the agreements and the memorandums of understanding are often referred to as "the CMS family", and their range and how they interrelate are explained in greater detail below.

The threats facing endangered migratory species are almost as diverse as the animals themselves, and the people and agencies engaged in conservation work need all their ingenuity to devise new solutions as ever more problems emerge in a political and financial environment where there are competing priorities and limited resources. To the habitat loss and degradation caused by land-use changes to meet increasing demand for food and housing and the exploitation of natural resources must be added pollution and marine debris, by-catch, illegal killing and poisoning, the fragmentation of habitats and obstacles to migration infrastructure. Climate change is also casting its ominous shadow, bringing further imbalance to nature's equilibrium. While some species might benefit from climate change, the majority will have little time to adapt to it.

Where opportunities present themselves, the members of the CMS family work closely together and seek cooperation with partners, be they other international organizations within or beyond the United Nations system or non-governmental organizations that share similar aims. However, these "coalitions of the willing" are not sufficient. Multilateral environmental agreements need to engage with other actors such as fisheries, developers, laypeople and other stakeholders whose primary interests are not conservation and who perhaps need persuading of the importance of conserving wildlife for its cultural, economic and ecological value.

Survival of the fittest is a concept best left to describe Darwin's theories on the origin of species and should have no place in the administration of international environmental governance. The stakes are too high – a few millenniums of human domination of the Earth have brought about the devastation of wildlife on a scale not seen since a meteorite wiped out the dinosaurs. Much of the damage has been done in the last few decades, with little sign of the deterioration abating. On the contrary, things seem to be getting worse, despite the development of a panoply of international agreements, from the Convention on Wetlands of International Importance, especially as Waterfowl Habitat, the Convention on International Trade in Endangered Species of Wild Fauna and Flora and CMS in the 1970s, to the treaties born of the Rio process at the end of the last century, such as the Convention on Biological Diversity and the United Nations Framework Convention on Climate Change. What we are facing today is being described as a "wildlife crisis", and that is no exaggeration. There have always been ebbs and flows in the balance of nature: species have become extinct, ice ages have come and gone, and

62 Chair of the CMS Standing Committee
63 CMS Executive Secretary

occasionally – very occasionally – cataclysmic events have occurred. Now, however, we are witnessing such a great loss of species that a majority of biologists believe we are in the midst of a sixth mass extinction, and this one is down to us, with species disappearing at a rate between 1,000 and 10,000 times faster than would be the case without human influence. Species are vanishing faster than science can record them, with untold consequences for ecosystem services and other lost potential, such as medical advances. If the impending disaster is to be averted, synergies are not only important but necessary.

Advocates of synergies run the risk of being accused of stating the glaringly obvious, but it might nevertheless be worth repeating: two heads are better than one, and a group of people operating as a team can achieve more and have a greater impact than the same number of people working on their own. It depends on the heads and on the individuals making up the team, but essentially the extra time taken in planning and coordinating, which is not a consideration when going it alone, should derive considerable benefit from the division of labour and added strength in numbers.

One definition of synergies emphasizes the benefits of "cooperative actions". Another describes them as "the working together of two or more drugs, muscles, etc., to produce an effect greater than the sum of their individual effects" (Collins English Dictionary).

Replace the "etc." in the latter with "organizations" and the relevance of synergies to the United Nations, the biodiversity-related multilateral environment agreements and the CMS family becomes clear. What is there not to like from the point of view of managers, policymakers, accountants, donors, those working in the field and, in fact, any stakeholder when synergies result in getting "more bang for your buck"?

The mosaic of treaties and instruments dealing directly with biodiversity is, one has to admit, quite complex. The CMS family counts one convention, seven agreements, 19 memorandums of understanding and a number of action plans. There are eight models for administering those instruments: some within the CMS secretariat, others independently of CMS but within the UNEP system and a few under the wing of a leading party. CMS, however, works by devising tailor made agreements that suit the circumstances of a species needing protection and that species' range States, collaborating to achieve the aims set out in the parent Convention, namely, to secure a favourable conservation status for endangered migratory animals. The geographic range varies from the almost global in the case of the Memorandum of Understanding on the Conservation of Migratory Sharks to just two neighbouring countries in the case of the memorandums of understanding on the conservation of the huemul and the ruddy-headed goose; the taxonomic coverage can be a single species at one end of the spectrum or the two hundred plus types of waterbird covered by the Agreement on the Conservation of African-Eurasian Migratory Waterbirds at the other. Despite their great diversity, these disparate agreements and memorandums of

Photo credit: Ethan Daniels/shutterstock.com/

understanding see the merit of working together to produce better results than could be achieved if they all just ploughed their own lonely furrows.

Going beyond the CMS family the picture is even more confusing – even for the cognoscenti, let alone the layperson – as one takes into account the bodies dealing with the environment more broadly, not to mention the partners from government, academia and civil society, and stakeholders who may perceive multilateral environment agreements as rivals rather than frameworks for action.

It is fair to ask whether we are playing on too crowded a field – a case of too many cooks spoiling the broth rather than many hands making light work. The field, however, is only crowded if those occupying it have not identified their rightful place on it. Provided that their roles are clearly assigned there should be no problem: the goalkeeper stays in the penalty area and the outfield players know what their tasks are as sweepers, defenders, midfielders, wingers or forwards. Game on.

It is a matter of finding a niche rather than building bunkers. Others have paraphrased Voltaire before but for the multilateral environmental agreements one test is that if a certain convention did not exist would it be necessary to invent it? That question has, in fact, already been answered: Governments thought it worthwhile to spend time and effort on negotiating all the instruments that exist but the process was undertaken piecemeal; the institutional toolkit that we have today was not planned as a preconceived ensemble at the outset but has, to a large extent, evolved; fashions in international law change just as they do in music, dress and hairstyles, and if the international community were to wipe the slate clean and start afresh, it is highly unlikely that the treaties that emerged would look anything like the range of conventions that we have today.

Whatever the niche defined for each of the multilateral environmental agreements, however, it should not be an isolated comfort zone. In a complicated world with multiple cross currents it is impossible to surgically remove one policy area from the global body politic because the palette is too vibrant to be reduced to black and white and there are not enough shades of grey to reflect the reality of a technicolour world. A niche is in any case just a recess in a wall part of a greater structure, and a synergistic combination of bricks and mortar that together serve a greater purpose than the individual components.

The Biodiversity Liaison Group brings together seven separate conventions and treaties: the Convention on Biological Diversity, the Convention on International Trade in Endangered Species of Wild Fauna and Flora, CMS, the International Plant Protection Convention, the International Treaty on Plant Genetic Resources for Food and Agriculture, the Convention on Wetlands of International Importance, especially as Waterfowl Habitat, and the World Heritage Convention. Each is a building block in the system established by the Governments of the world, often through the United Nations system, for the governance of fauna and flora and their habitats. Each on its own is just a brick but in combination they form a structure that is solid and durable if properly fitted and cemented together.

The idea that the biodiversity-related multilateral environmental agreements might benefit from greater synergies is not a new one. Mr. Arnulf Müller-Helmbrecht, one of the previous incumbents of the post of Executive Secretary of CMS, wrote an article in January 2001 for the UNEP Synergies bulletin in which he warned against the agreements embarking on a free-for-all and urged them instead to collaborate, with each playing to its own strengths and maintaining its own identity, joining forces in pursuit of common aims and trying to solve global problems, or at least mitigate their effects, rather than engaging in self-defeating competition.

Four of the seven organizations participating in the Biodiversity Liaison Group, those most closely involved in species conservation – the Convention on Biological Diversity, the Convention on International Trade in Endangered Species of Wild

Fauna and Flora, CMS and the Convention on Wetlands of International Importance, especially as Waterfowl Habitat – now have in place strategic plans aimed at achieving the Aichi Targets adopted by the parties to the Convention on Biological Diversity. Just as the parties to the latter adopted a Strategic Plan for Biodiversity for the period 2011–2020 looking beyond the immediate limits of that Convention, CMS has adopted a strategic plan for migratory species to guide conservation efforts for the period 2015–2023 by any interested entity beyond CMS.

The adoption by the biodiversity-related conventions of closely aligned strategic plans is a powerful and multifaceted tool that should both facilitate cooperation among the players and help to put biodiversity into the mainstream of the wider social, economic and development agenda.

One disadvantage of CMS in comparison with the Convention on Biological Diversity is the lack of a dedicated funding mechanism to facilitate the implementation of its programmes. The CMS family has been involved in two projects funded by the Global Environment Facility, but these were the exception rather than the rule. Both concerned the building of a coalition of non-governmental organizations and Governments, both achieved notable successes and both have been the largest single projects in terms of overall budget that CMS and the African-Eurasian Waterbird Agreement, respectively, have been involved with. The Convention on Biological Diversity recognizes CMS as its lead partner in matters related to the conservation and sustainable use of migratory species, so avenues are being explored to enable CMS parties to convey their funding needs for implementing CMS at the national level to the Global Environment Facility through the Convention on Biological Diversity. At the same time countries can, when revising their national biodiversity strategies and action plans, ensure that programmes and policies aimed at their migratory wildlife are fully integrated. All the mechanisms have been put in place to ensure that synergistic policies can be delivered; we just need to throw the switch and we need the prerequisite financial support to help countries to ensure integration through capacity-building and technical assistance.

The approval of the Sustainable Development Goals, agreed in September 2015 in New York as successors to the Millennium Development Goals, has provided additional impetus for reporting, communication and the implementation of common goals and greater scope. It has also opened up a new opportunity for joint programmatic work because the Goals include specific targets on biodiversity that are now directly linked to the United Nations development agenda. Two of the Goals are particularly relevant to CMS: Goals 14 and 15 deal with the marine environment and ecosystems, with the latter specifically mentioning the need to halt biodiversity loss.

Photo credit: Peter Prokosch/Grid Arendal

Biodiversity, however, is relevant to other Goals, too. With regard to ending poverty, for instance, wildlife can be an essential element in job creation as it is a major draw for tourists. Many species play an important role in food production as pollinators and seed dispersers, and in pest control through eating harmful insects, and therefore contribute to food security and combating hunger. Wetland habitats, which are important for many bird species, are also part of a natural filtration system that keeps water clean, act as carbon sinks and prevent coastal erosion. Regarding health, not only are plants the source of many medicines but also scavenger species such as vultures – nature's waste disposal units – clean carcasses before diseases spread from the rotting flesh

of carrion: when vulture populations collapsed in southern Asia as a result of diclofenac poisoning the vacuum left by the birds was filled by feral dogs, leading to an estimated 10,000 extra human deaths from rabies and additional costs to the health services running into billions of dollars.

Developing hand-in-hand with institutional synergies is a wider strategic approach to international governance in a number of linked policy areas: biodiversity conservation, the environment and sustainable development.

Within the CMS family the scope for collaboration on specific issues is enormous. By working together, the members of the CMS family can contribute to the broader policy agenda, engaging with other organizations and processes in the field of biodiversity and ensuring that their individual voices stand a better chance of being heard by seizing the opportunities presented by synergies in a bottom-up approach complementing the directives agreed at the highest level by Governments through UNEP, first in the Governing Council and then reaffirmed in the United Nations Environment Assembly, and through the post-2015 development agenda process. Heeding calls from the parties in the higher echelons, the CMS family has already started turning theory into practice in tangible ways in the implementation of its mandates and in delivering conservation benefits.

For instance, by-catch is an issue high on the agenda of all the marine-related CMS instruments because it affects all types of marine species covered by the Convention: turtles, cetaceans, seabirds and sharks. By-catch, which in some cases represents the single worst threat to the survival of the species concerned, is particularly serious for species that mature late and produce few offspring, as in the case of albatrosses, dolphins and porpoises, turtles and sharks. However, while by-catch spells potential disaster for conservationists (and species), for those who are responsible for it, it is little more than an irritation. For those reeling in the longlines to examine their catches, the sight of an albatross impaled on a hook just means the disappointment of wasted bait and the bother of disentangling a worthless carcass to be discarded overboard. Within the CMS family, all the instruments with an interest in reducing by-catch – the parent Convention, all those related to cetaceans (the Agreement on the Conservation of Small Cetaceans in the Baltic, North East Atlantic, Irish and North Seas; the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area; the Memorandum of Understanding for the Conservation of Cetaceans and their Habitats in the Pacific Islands Region; and the Memorandum of Understanding Concerning the Conservation of the Manatee and Small Cetaceans of Western Africa and Macaronesia), both of the memorandums of understanding dealing with marine turtles, the Albatross and Petrel Agreement and the Memorandum of Understanding on the Conservation of Migratory Sharks) will use the occasion of the first meeting of the Sessional Committee of the Scientific Council and the presence of experts in Bonn to explore ways of working in concert. For issues related to fisheries, among which by-catch is key from the point of view

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of species conservation, the CMS family is adopting a two-pronged approach. There are currently discussions within the CMS family on a strategy for engaging with regional fisheries management organizations, but this does not preclude complementary and parallel ad hoc cooperation such as the memorandum of understanding entered into by CMS and the Indian Ocean Tuna Commission. Regional fisheries management organizations are crucial strategic partners for CMS and are relevant to the future work of UNEP in regional seas and to the UNEP Division of Environmental Policy Implementation.

Innovations in the field of energy production and deployment have the potential to produce a win-win situation by both putting the brakes on some of the worst causes of climate change and benefitting migratory species, as climate change is reckoned to be – or likely to become – the single greatest driver of biodiversity loss. The downside is that the deployment of those new technologies must be done in ways that are sensitive to the needs of migratory animals. The impact of new technologies can be significant. Thousands of migratory birds and bats, for example, have lost their lives through collisions with turbine installations that have been placed in migration flyways, that are not spaced properly or that lack simple refinements such as deflectors to deter the animals from coming too close to their rotor blades. Other types of renewable energy installations, including solar, tidal and bioenergy, have also been shown to have detrimental effects on migratory animals. The CMS family has developed guidelines, which have so far been endorsed by CMS and the African-Eurasian Waterbird Agreement, on the appropriate deployment of renewable energy technology. In addition, a CMS resolution that is relevant to the entire CMS family and many more multilateral environmental agreements calls for the establishment of an international multi-stakeholder task force to bring together conservationists, on the one hand, and power generation companies on the other, to join forces in combating climate change in a sustainable manner. Given its now universal membership, a resolution by the United Nations Environment Assembly would also offer greater possibilities for implementation with Governments.

Resolution 1/3 of the United Nations Environment Assembly, on illegal trade in wildlife, has been important to raising awareness on the issue. CMS has also passed several resolutions concerning the illegal taking of wildlife, including as recently as at the eleventh meeting of the Conference of the Parties to the Convention, held in Quito in 2014. There are major wildlife crime issues that are still not sufficiently well addressed and that require concerted efforts by Governments and stakeholders to resolve. One example is the taking of migratory birds. There are estimates that in 2015 some 20 million birds were indiscriminately taken on the seasonal migration routes between Africa and Europe.

One key measure to tackle the illegal killing, taking and trade of migratory birds in the Mediterranean region was put in place through a CMS resolution: the creation of an intergovernmental task force. The task force, which brings together all bird-related CMS instruments as well as others of relevance, aims to support Governments and other stakeholders in stopping the illegal killing, taking and trade of migratory birds. Possible solutions include exchanging best practices, promoting the monitoring of trends in those illegal activities and encouraging the development of specific action plans at the regional and international levels.

The adoption of the resolution is a milestone that complements other collaborative efforts such as those of the International Consortium on Combating Wildlife Crime and, in particular, relevant actions taken under the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). CITES and CMS are key partners, working in the Biodiversity Liaison Group and bilaterally with many species of common interest. Examples of recent joint efforts undertaken involve work on African elephants, African lions, sharks and saiga antelopes.

Action on wildlife crime, which CITES parties have sought to "mainstream" by calling on all States to consider becoming parties to the United Nations conventions against corruption and transnational organized crime, is an area where CMS and CITES can and do collaborate. Wildlife crime is the fourth largest source of illicit funds after drugs, arms and human trafficking. The UNEP Year Book 2014 estimated illegal wildlife trade to be worth $50-150 billion annually and other sources have put the figure at over $200 billion; the poacher in the African bush, however, the person burning the timber to make charcoal and the craftsman in the backstreet workshop do not see much of the profits, the lion's share of which is thought to be funding criminal gangs, terrorists and conflicts worldwide. Wildlife crime is therefore not just a conservation issue; it has serious implications for security, political stability and economic development.

One legitimate activity to which wildlife crime is a major threat is wildlife watching, one of the branches of the multimillion dollar tourism industry that has shown strong growth in terms of revenue and the jobs it supports, and which could continue to do so if its main attractions were allowed to thrive. Ecotourism, when it is well-managed and the interests of the animals and their habitats are taken fully into account, can bring enormous benefits to nature conservation. This is particularly true where local communities are provided with sustainable long-term livelihoods and therefore have a financial interest in ensuring that wildlife survives.

All sorts of wildlife can be a magnet for tourists. Safaris in Kenya earn the country much needed revenue and foreign exchange. The shark diving industry is worth $42.2 million (Đ30.4 million) per year in Fiji, $38.6 million per year in the Maldives and $18 million in Palau. Whale watching globally is worth about $2 billion per year. A study conducted by the United States Fish and Wildlife Service found that bird-watchers contributed about $32 billion to the United States economy.

In Kenya, the services sector generates nearly two thirds of the country's gross domestic product, with tourism being the single largest component. After years of steady growth, tourism relinquished first place to agricultural products including tea as the country's main foreign exchange earner in the wake of the 1998 bombing of the United States embassy in Nairobi. However, large numbers of Western tourists are still attracted to Kenya, principally because of its beaches on the Indian Ocean and its game reserves, despite negative travel advisories from Western Governments as a result of terrorist activities in the region.

Photo credit: Glenn Edney/Grid Arendal

As one example of cross-sectoral cooperation between conservation and tourism, in 2014 the annual World Migratory Bird Day campaign organized by CMS and the African-Eurasian Waterbird Agreement saw the United Nations World Tourism Organization participate as a partner. The theme of that year's campaign, focusing on the link between migratory birds and tourism, echoed the World Tourism Organization's efforts to enhance the conservation of key habitats and species; enhance local livelihoods; position tourism as an engine for sustainability and behavioural change; and contribute to the effective implementation of multilateral environmental agreements.

One area where there is potential for greater collaboration in the future is that of tackling marine debris. CMS parties have raised concerns about its impact on marine and waterbird species and, following the recommendations of the CMS Scientific Council, the Conference of the Parties passed resolutions 10.4 and 11.30, which call for comprehensive actions to prevent marine debris and for the development of comprehensive guidelines. There is growing scientific evidence of the effects of microplastics on migratory marine species and, hence, scope for stronger cooperation on this issue between CMS and UNEP, given that the United Nations Environment Assembly has adopted resolution 1/6, on marine plastic debris and microplastics, and that a report on the subject has been prepared for the second session of the Environment Assembly.

Plastics, ranging from the shopping bags eaten by turtles that mistake them for jellyfish to the plastic six-pack rings that snare marine wildlife and that albatrosses feed to their chicks, causing blockages in their guts that lead to slow and painful death, are also a growing problem. Six-pack rings are now photodegradable but other plastics are not. The quantity of land based rubbish accumulating in the seas is incredible, with tons of debris being swept into oceanic gyres. Microplastics in our oceans, an emerging issue that the United Nations Environment Assembly has been addressing, have also been linked to the health of migratory marine animals. CMS was pleased to give a platform to the young entrepreneur and innovator Boyan Slat at the eleventh meeting of the Conference of the Parties in Quito, where he explained the techniques that he was developing to remove plastics from the sea. CMS will have to engage with others in efforts to persuade modern society to wean itself away from plastics or to find better ways of dealing with them than dumping them at sea.

Long after they have stopped being of any use to the fishermen that have lost or discarded them, "ghost nets" continue to snare the sea creatures that swim into them but, since the nets are not retrieved, their catch dies in vain. For species with already diminished populations and slow reproduction rates this is yet another factor driving them towards extinction – seabirds, turtles, sharks and cetaceans are among the endangered species worst affected.

Given that multilateral environmental agreements do not operate in a bubble, it is self-evident in most cases that it makes eminent good sense to seek out partners and to maximize the opportunities to work together to achieve common objectives. In many cases, such an approach is not just desirable but essential. Even in circumstances where there might be some short-term costs, the medium- and

long-term advantages make the effort worthwhile. Certainly, CMS' track record bears witness to its willingness to reach out and cooperate within its "family of agreements", with other biodiversity-related multilateral environmental agreements, with the wider conservation constituency and beyond. The exhortation from the parties that "thou shalt synergize" has been heard loud and clear, the case for synergies has been made and the evidence overwhelmingly indicates that it is the most effective course. Our appeal to the parties is that there should be no mixed messages and no half measures. This will require greater coordination and, above all, consistency at the national level and greater cross-departmental awareness of the structures and mechanisms that exist in other policy spheres.

The parties have created these instruments and it is the duty of those managing the multilateral environmental agreements to demonstrate that they are synchronized components of a well-oiled machine; a harmonious cocktail blending different flavours, not a recipe for confusion and discord.

V.

Synergies between the Convention on Wetlands of International Importance, especially as Waterfowl Habitat and other multilateral environmental agreements: possibilities and pitfalls

Royal C. Gardner[64] and Ania Grobicki[65]

A. Introduction

The Convention on Wetlands of International Importance, especially as Waterfowl Habitat (Ramsar Convention), signed in 1971 in the Iranian city of Ramsar is among the first modern multilateral agreements focusing on environmental issues. Remarkably far-sighted for its time, the Ramsar Convention predates the 1972 United Nations Conference on the Human Environment and the launching of the United Nations Environment Programme (UNEP) in 1974.

Wetlands are found on every continent in the world. They are diverse ecosystems, broadly defined by the Ramsar Convention text. They range from marine and coastal areas, such as mangroves, mudflats and salt marshes, to inland waters, such as peatlands, fens and bogs, and even include human-made wetlands. The wetland classification system adopted by the contracting parties to the Ramsar Convention includes areas that some might not immediately identify as wetlands: coral reefs, rivers and subterranean karst systems. Common elements among all wetlands, however, are their importance to people and the presence of water. The drafters of the Ramsar Convention recognized that these special areas "constitute a resource of great economic, cultural, scientific, and recreational value, the loss of which would be irreparable". In the present day, when water scarcity is recognized as a key risk, the role of wetlands as freshwater providers is as vital as their biodiversity.

Wetlands provide a wide array of ecosystem services. They provide critical habitat for migratory waterbirds, as well as for fish species that support subsistence and commercial activities. Wetlands are sources of freshwater for people, plants and animals. They improve water quality by filtering contaminants, nutrients and sediments. Some wetlands contribute to disaster risk reduction by acting as sponges and offering flood storage capacity and buffering in times of drought. Others, such as mangroves and their complex root systems, reduce wave energy and stabilize soil, thereby protecting coastal areas against erosion and storms. Some wetlands, such as peatlands, are globally important because of their carbon sequestration function, altogether storing more than twice the carbon of all the world's forests. Lastly, of course, wetlands provide recreational and spiritual respite for people in rural and urban settings.

Given the diversity and geographic scope of wetlands and the benefits they provide to people and nature, it is not surprising that there are many areas of commonality with the other biodiversity-related multilateral environmental agreements.

Photo credit: Peter Prokosch/Grid Arendal

The Sustainable Development Goals further highlight these connections. For example, under the water-related Goal, target 6.6 calls for the protection and restoration of "water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes" by 2020. Similarly, under the biodiversity-related Goal, target 15.1 seeks to "ensure the conservation, restoration and

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sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands", by 2020.

Significantly, target 15.1 states that conservation, restoration and sustainable use efforts are to be "in line with obligations under international agreements", which is a clear reference to the biodiversity-related multilateral environmental agreements. What, then, are the possibilities and pitfalls for the Ramsar Convention and the various multilateral environmental agreements in seeking to cooperate and coordinate their activities?

"Synergy" is an often-invoked yet rarely attained concept. After reviewing the slightly differing UNEP and Ramsar Convention definitions of synergy, the present paper will discuss the Ramsar Convention resolutions adopted by the 169 contracting parties to the Convention regarding engagement with other biodiversity-related multilateral environmental agreements and other international processes. It will then review previous areas of collaboration at the secretariat level and on scientific and technical matters. It is important to distinguish synergies among multilateral environmental agreements at various levels, including at the site level, the national level and the global level. The paper will also identify challenges and future opportunities related to synergies among the biodiversity-related multilateral environmental agreements.

It is important to keep in mind that while synergy can result in efficiencies, it is not a cost-free activity. A true synergistic relationship among the biodiversity-related multilateral environmental agreements requires the commitment of time and of financial and administrative resources. If cooperative and coordinated actions are to be supported, their benefits must be clearly demonstrated.

B. Synergy and expectations

In nature, synergy can be viewed in a positive or negative light. For example, a recent study found that the interplay between fire and elephant disturbances in a savannah setting synergistically improved microhabitat for geckos, at least in the short term (Pringle et al., 2015). On the negative side, environmental stressors can combine to have a greater impact on a species than they would individually, as Bancroft et al. (2008) concluded with regard to ultraviolet B radiation, contaminants and other stressors in amphibian habitats. Obviously, synergies in the biodiversity-related multilateral environmental agreement context are meant to provide positive benefits. If, however, relationships are not structured properly or adequately supported, there is a risk that the effort to bring about "synergy" will merely drain and divert resources from a multilateral environmental agreement's core activities.

1. UNEP and Ramsar Convention definitions of synergy

Most definitions of synergy highlight a mutually beneficial relationship where the whole is greater than the sum of its parts. UNEP defines synergy to "include all activities that aim at enhanced collaboration of [multilateral environmental agreements] through linking processes in a way that increases the effects of the sum of the joint activities beyond the sum of individual activities, and thus making efforts more effective and efficient" (UNEP World Conservation Monitoring Centre, 2012). Thus, the goal appears to be increased impact, with the reduced duplication and greater (cost) efficiencies as co-benefits.

The Ramsar Convention definition of synergy suggests a reversal of that order. The Ramsar Convention Strategic Plan 2016–2024, adopted at the twelfth meeting of Conference of the Contracting Parties in Uruguay in 2015, provides this definition: "Synergies: Enhancing efforts to streamline procedures and processes including reporting and to facilitate data sharing amongst parties responsible for – or cooperating

in – the implementation of this and other [multilateral environmental agreements] and related agreements. Through cooperation, aim to increase the identification of synergies with collaborating [multilateral environmental agreements] and other international processes at national and global levels" (resolution XII.2, annex, para. 32). Here, the initial focus and emphasis seem to be on streamlining, data-sharing and cooperation, thereby reducing reporting burdens on the contracting parties.

2. Ramsar Convention expectations regarding synergy

While the Ramsar Convention definition begins with the goal of avoiding duplication, it also contemplates further collaboration with the biodiversity-related multilateral environmental agreements, among others. The Strategic Plan 2016–2024 states that "Contracting Parties are encouraged to synergize their efforts aimed at implementing the Convention with measures that they take to implement the Convention on Biological Diversity, the [United Nations] Convention on Migratory Species, the [United Nations] Framework Convention on Climate Change, the [United Nations] Convention to Combat Desertification, and other regional and global [multilateral environmental agreements] as they deem appropriate" (resolution XII.2, annex, paragraph 38). The expectations of the Ramsar Convention contracting parties regarding synergies are elaborated in detail in resolution XII.3, on enhancing the languages of the Convention and its visibility and stature, and increasing synergies with other multilateral environmental agreements and other international institutions. For example, under paragraph 44 the secretariat is requested to "continue its work with the Biodiversity Liaison Group to enhance coherence and cooperation and to continue efforts to improve efficiency and reduce unnecessary overlap and duplication at all relevant levels among the biodiversity-related conventions, including:

(a) To increase cooperation, coordination and attention to synergies in the exploration of reporting systems, including future online reporting systems and indicators, as a means to increase synergies in national reporting under the biodiversity-related conventions;

(b) To consider ways and means to increase cooperation on outreach and communication strategies; [and]

(c) Options for enhanced cooperation with regard to work on cross-cutting issues".

The Ramsar Convention secretariat reports annually to the Standing Committee on progress in regard to partnerships and synergies with multilateral environmental agreements and other international processes, including the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services.

The contracting parties also expect the Convention's Scientific and Technical Review Panel to engage with its counterparts in other multilateral environmental agreements. Thus, resolution XII.5, on the new framework for delivery of scientific and technical advice and guidance on the Convention, states that the Chair of the Panel will "represent the [Scientific and Technical Review Panel] at meetings of other multilateral environmental agreements (MEAs) and other processes and initiatives relevant to the [Scientific and Technical Review Panel's] work, such as meetings of the Chairs of the Scientific Advisory Bodies of the biodiversity-related conventions (CSAB) and the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services". This engagement, however, is subject to the caveat that it is to be undertaken "resources permitting".

Significantly, the contracting parties recognize that increasing synergies is not solely the responsibility of the Convention bodies at the global level. Accordingly,

Photo credit: William Dalton

paragraph 37 of resolution XII.3 calls on "all Ramsar National Focal Points to increase their efforts to coordinate with their national counterpart Focal Points of other Conventions and relevant international agreements, and with all wetland practitioners including Ramsar Site managers, to inform them of Ramsar activities and learn from them about processes and issues of common interest". Thus, coordination or collaboration at the national level is essential for delivering benefits at the local or site level, and site level collaboration itself is also a promising area for increasing synergies.

C. Areas of collaboration at the secretariat level

Since 2011, the Ramsar Convention secretariat has been reporting each year to the Ramsar Convention Standing Committee on its progress in implementing resolution XI.6, on partnership and synergies with multilateral environmental agreements and other institutions. The report covers the meetings of the Biodiversity Liaison Group, which bring together the heads of the major biodiversity-related conventions; collaboration through the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services; and increasing cooperation with other multilateral environmental agreements.[66]

The Ramsar Convention secretariat has continued to participate in the meetings and joint actions of the Biodiversity Liaison Group according to the Group's plan for joint activities. The Deputy Secretary General chaired the tenth ordinary meeting of the Biodiversity Liaison Group, in September 2015, where the key issues discussed included:

(a) A joint Biodiversity Liaison Group press release on the Sustainable Development Goals;

(b) A request of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services to the secretariats of the biodiversity-related multilateral environmental agreements to develop strategic partnerships, modelled on the existing strategic partnership arrangement with the secretariat of the Convention on Biological Diversity;

(c) Decision XII/6, on the established party-led process concerning cooperation among the biodiversity-related conventions, adopted by the Conference of the Parties to the Convention on Biological Diversity at its twelfth meeting, and the workshop on synergies for that purpose, held in Geneva in February 2016;

(d) Synergies in the development of reporting systems, including future online reporting systems;

[66] The latest Ramsar Convention secretariat report on this topic, contained in document SC52-15, is available at http://www.ramsar.org/sites/default/files/documents/library/sc52-15_progress_implementing_resxi6_e.pdf.

(e) Contributions of the biodiversity-related conventions and other organizations to the Aichi Biodiversity Targets;

(f) Outreach and communication;

(g) Decision XII/30 on the financial mechanism, adopted by the Conference of the Parties to the Convention on Biological Diversity at its twelfth meeting.

In February 2016, the Ramsar Convention secretariat participated in the workshop on national level synergies among the biodiversity-related conventions referred to above. The national focal points of the seven biodiversity-related conventions discussed options, including elements of a possible road map, for increasing synergies and improving the efficiency of the conventions in fulfilling their mandates. The findings and recommendations of the workshop will be transmitted to the first meeting of the Convention on Biological Diversity's Subsidiary Body on Implementation in May 2016, so that it can negotiate a draft decision for consideration by the Conference of the Parties at its thirteenth meeting in December 2016.

The fourth edition of the Global Biodiversity Outlook underscores the need to scale up efforts to implement the Strategic Plan for Biodiversity 2011–2020 if the Aichi Biodiversity Targets are to be met by 2020 and the implementation of the Convention on Biological Diversity is to be advanced. In line with the above, the Ramsar Convention secretariat participated in and provided inputs to a "Friends of the CBD" workshop in March 2016, in Bogis-Bossey, Switzerland, on mechanisms to support a review of the implementation of the Convention. The main outcome will be a report compiling the views and perspectives of the participants on enhancing the review of implementation to facilitate subsequent discussions of the Convention on Biological Diversity Subsidiary Body on Implementation.

Finally, the Ramsar Convention secretariat has also collaborated with the biodiversity-related conventions in other ways, including through the Multilateral Environmental Agreement Information and Knowledge Management Initiative (InforMEA); the Law and Environment Ontology project to develop an internationally accepted semantic standard for environmental law and policy; and a UNEP project on improving the effectiveness of and cooperation among biodiversity-related conventions and exploring opportunities for further synergies. The secretariat will continue to engage on these issues through participation in the Multilateral Environmental Agreement Information and Knowledge Management Initiative working group.

In March 2016, representatives of the Convention on Biological Diversity, the Convention on the Conservation of Migratory Species of Wild Animals, the Convention on International Trade in Endangered Species of Wild Fauna and Flora and the Ramsar Convention participated in a UNEP-sponsored South-South cooperation workshop on national biodiversity strategies and action plans and synergies, held in Nairobi. The multilateral environmental agreement level actions discussed included synthesizing strategic plans, targets and indicators of biodiversity-related multilateral environmental agreements; linking Sustainable Development Goal targets and indicators to available biodiversity targets and indicators for decision-making on issues related to the Sustainable Development Goals; and building national capacity for statistical and geographic information system officers and biodiversity related multilateral environmental agreement focal points. The workshop also proposed the development of a manual for stakeholders in charge of the implementation of national biodiversity strategies and action plans, to which all multilateral environmental agreements would be required to contribute. The manual would be structured as fact sheets and modules specifying some essential steps of the mission of each stakeholder in implementing the strategies and action plans. The fact sheets and modules will be organized around

broad themes related to the national biodiversity strategy and action plan goals and targets.

It was noted that national coordination committees for the strategies and action plans that could potentially help with coordination, collaboration and synergies had been established in more than 30 countries. Another way of assuring coordinated and cooperative work at the national level is to invite the national focal points of other multilateral environmental agreements to participate in the work of the Ramsar Convention national committees.[67] From the Ramsar Convention perspective, the national committees, which have been established in 82 countries, could focus on addressing the drivers of both wetland loss and biodiversity loss, which are similar in many places.

D. Areas of collaboration regarding scientific and technical guidance

After a review of how the Ramsar Convention receives its scientific and technical advice, the Conference of the Contracting Parties, at its twelfth meeting, adopted a new framework for the Convention's Scientific and Technical Review Panel. The Panel's mandate is "to provide scientific and technical guidance and advice to the Ramsar Contracting Parties, the Conference of the Parties, the Standing Committee, the Ramsar Secretariat and to other wetland users working on wetlands issues, in order to foster the implementation of the Convention".

The Panel consists of 18 appointed members – six scientific experts and 12 technical experts – all serving in their individual capacities. In addition, each of the Convention's international organization partners has a representative to the Panel.[68] Observer experts from scientific and technical organizations and networks recognized by the Conference of the Contracting Parties are also invited to participate in and support the Panel's work.

Furthermore, the chairs of the scientific and technical subsidiary bodies and relevant secretariat staff of other multilateral environmental agreements are invited to participate as observers. As described below, the Scientific and Technical Review Panel's strongest links have been with Convention on Biological Diversity, the Convention on the Conservation of Migratory Species of Wild Animals through the African-Eurasian Migratory Waterbird Agreement, the Convention on International Trade in Endangered Species of Wild Fauna and Flora and the World Heritage Convention. Interaction with the other biodiversity-related multilateral environmental agreements has been more limited.

1. Development of Scientific and Technical Review Panel work plans

Representatives from the biodiversity-related multilateral environmental agreements are invited to – and occasionally attend – Scientific and Technical Review Panel meetings. Their input has been very welcome and valuable as the Panel crafts a proposed programme of work for consideration by the contracting parties. For example, a representative of the Convention on Biological Diversity secretariat was an active participant at the seventeenth and eighteenth meetings of the Panel, as was a representative of the World Heritage Centre at the nineteenth meeting.

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[67] The number of national Ramsar committees is reported at each meeting of the Conference of the Contracting Parties through the national reports. Many countries have selected the establishment and operation of those committees as a priority action for implementing the Convention (Ramsar Convention, 2015b).

[68] BirdLife International, the International Union for Conservation of Nature, the International Water Management Institute, Wetlands International, the Wildfowl and Wetland Trust and the World Wide Fund for Nature.

Multilateral environmental agreement representatives have even influenced the Panel's tasks through interventions at meetings of the Conference of the Contracting Parties to the Ramsar Convention. At the twelfth meeting, the representative of the Convention on Biological Diversity secretariat encouraged Ramsar "to develop a high profile report on the [s]tate of the [w]orld's [w]etlands that could be periodically updated, analogous to the Global Biodiversity Outlook, the World Heritage Outlook and the Global Environment Outlook" (Ramsar Convention, 2015a). The contracting parties then requested, in resolution XII.5, that the Scientific and Technical Review Panel and the secretariat produce a periodic flagship Ramsar Convention report entitled State of the World's Wetlands and their Services to People, which could also contribute to the Global Biodiversity Outlook.

Contributions are also made between meetings. Recently, the Chair of the Technical Committee of the African-Eurasian Migratory Waterbird Agreement produced a summary of the Committee's proposed tasks that had the potential to be undertaken collaboratively with the Scientific and Technical Review Panel, including the collection of data that would be relevant to the State of the World's Wetlands and their Services to People report. The document was considered by the Panel as it produced an amended work plan for review by the Standing Committee.

2. Joint guidance and technical reports

Ramsar Convention publications include the Ramsar Technical Report series of peer-reviewed reports, which are prepared by the Scientific and Technical Review Panel to provide information to the contracting parties and the wider wetland community. These reports are often issued in collaboration with other biodiversity-related multilateral environmental agreements or international organizations. Four Ramsar technical reports have been published jointly with the secretariat of the Convention on Biological Diversity as part of that Convention's Technical Series (Convention on Biological Diversity & Ramsar Convention, 2006; De Groot et al., 2006; Gitay et al., 2011; Adams, 2012); one has been published jointly with the secretariats of the African-Eurasian Migratory Waterbird Agreement and the Convention on the Conservation of Migratory Species of Wild Animals (Global Interflyway Network, 2012); and another has been published jointly with the World Health Organization (Horwitz et al., 2012).

Ideally, synergy will occur when the work of one scientific body feeds into the work of another and vice versa. Good illustrations of this are the Wetland Extent Trends index, the fourth edition of the Global Biodiversity Outlook and a Ramsar briefing note on the state of the world's wetlands. The Wetland Extent Trends index was conceived as an indicator for the Ramsar Convention, filling a gap in the evidence base for the Convention. Its first iteration was developed and tested by the UNEP World Conservation Monitoring Centre, with funding from the Ramsar Convention and supported by in-kind contributions of time by the Centre. An early analysis of the index was used in the fourth edition of the Global Biodiversity Outlook by the Convention on Biological Diversity. Similarly, data from that edition of the Global Biodiversity Outlook and other reports prepared for the Convention's Subsidiary Body on Scientific, Technical and Technological Advice were relied upon by the Scientific and Technical Review Panel when it prepared the briefing note on the state of the world's wetlands (Gardner et al., 2015).

3. Retrospective harmonization and cross-adoption of scientific guidance

As previously discussed in MacKay et al. (2009), another example of synergy across the biodiversity-related multilateral environmental agreements involves the harmonization and cross-adoption of scientific guidance. After the Conference of the Parties to the Convention on Biological Diversity, at its sixth meeting, endorsed guidelines for environmental impact assessments, the Conference of the Contracting Parties to the Ramsar Convention, at its eighth meeting, adopted the guidelines as part of resolution VIII.9 on guidelines for incorporating biodiversity-related issues into environmental impact assessment legislation and/or processes and in strategic environmental assessment, adopted by the Conference of the Parties to the Convention on Biological Diversity, and their relevance to the Ramsar Convention. Similarly, resolution 7.2 on impact assessment and migratory species, adopted by the Conference of the Parties to the Convention on the Conservation of Migratory Species of Wild Animals at its seventh meeting, welcomed the Convention on Biological Diversity guidelines and urged the parties to that Convention to make use of them.

When the Conference of the Parties to the Convention on Biological Diversity later updated the environmental impact assessment guidance, at its eighth meeting, the parties to the Ramsar Convention followed suit. MacKay et al. (2009) reports that "[i]n the interests of harmonizing principles and good practice between the Ramsar Convention and the [Convention on Biological Diversity], and avoiding duplication of work, the [Scientific and Technical Review Panel] reviewed and annotated both the original and the updated [Convention on Biological Diversity] guidelines, to indicate how and when they should be made specifically applicable to wetland ecosystems, and to cross-refer to other Ramsar guidance and Resolutions as appropriate".

In resolution X.17, on environmental impact assessment and strategic environmental assessment: updated scientific and technical guidance, the parties to the Ramsar Convention welcomed the annotated guidance and expressed approval of the harmonization process as "exemplifying cost effective synergy between the two conventions".

4. Joint missions

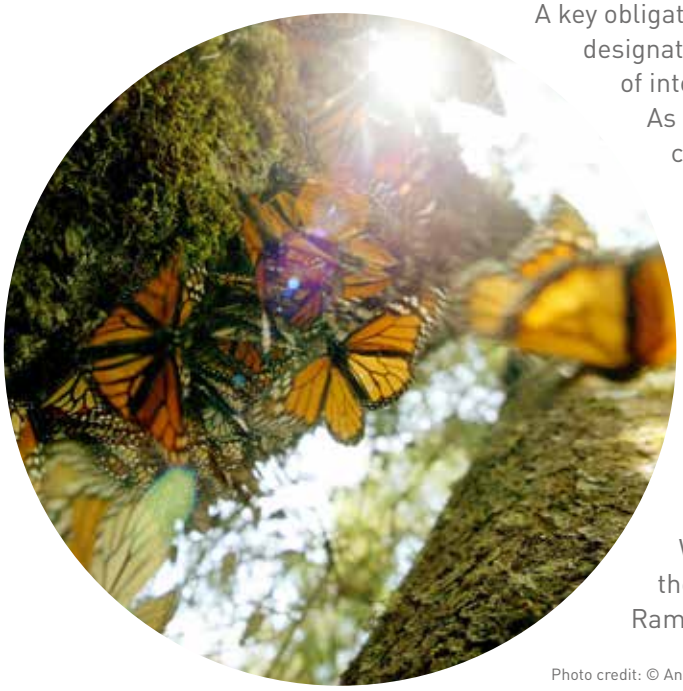


Photo credit: © Andrew Winning / Reuters

A key obligation of the Ramsar Convention contracting parties is to designate and maintain the ecological character of wetlands of international importance, also known as "Ramsar sites". As at April 2016, there were 2,234 Ramsar sites in 169 countries, encompassing a protected area network of more than 215 million hectares, which is larger than the surface area of Mexico. Many of those Ramsar sites also share other international designations. The Ramsar Sites Information Service indicates that more than 80 Ramsar sites are part of – or adjoin – World Heritage sites. Almost 150 Ramsar sites are also associated with the United Nations Educational, Scientific and Cultural Organization biosphere reserves under the Programme on Man and the Biosphere (MAB Programme).

When a Ramsar contracting party has concerns about the ecological character of a Ramsar site, it may request a Ramsar advisory mission. Typically, a small team of experts

coordinated by the secretariat then visits the site and prepares a report that includes findings and recommendations for action to conserve the Ramsar site.

This process offers an opportunity for synergies when a Ramsar site has multiple international designations. Accordingly, several missions have been conducted in collaboration with the World Heritage Convention and the MAB Programme, as well as with the International Union for Conservation of Nature. Ramsar teams and the World Heritage Convention together have carried out five joint missions to Ichkeul National Park in Tunisia (2000); to Parc National des Oiseaux du Djoudj in Senegal and Parc National du Diawling in Mauritania (2000); to Srebarna Nature Reserve in Bulgaria (2001); to Cabo Pulmo National Marine Park in Mexico (2011); and to Parc National des Virunga in the Democratic Republic of the Congo (2014). In addition, a joint Ramsar Convention/ MAB Programme mission regarding the Transboundary Danube Delta Ramsar site and biosphere reserve occurred in 2003, with a follow-up report issued in 2005.

5. Emerging issues

The Scientific and Technical Review Panel also has the responsibility to provide scientific and technical advice regarding emerging issues related to wetland conservation and wise use. Emerging issues are often cross-cutting and, thus, are an opportunity for collaboration and synergy among the biodiversity-related multilateral environmental agreements.

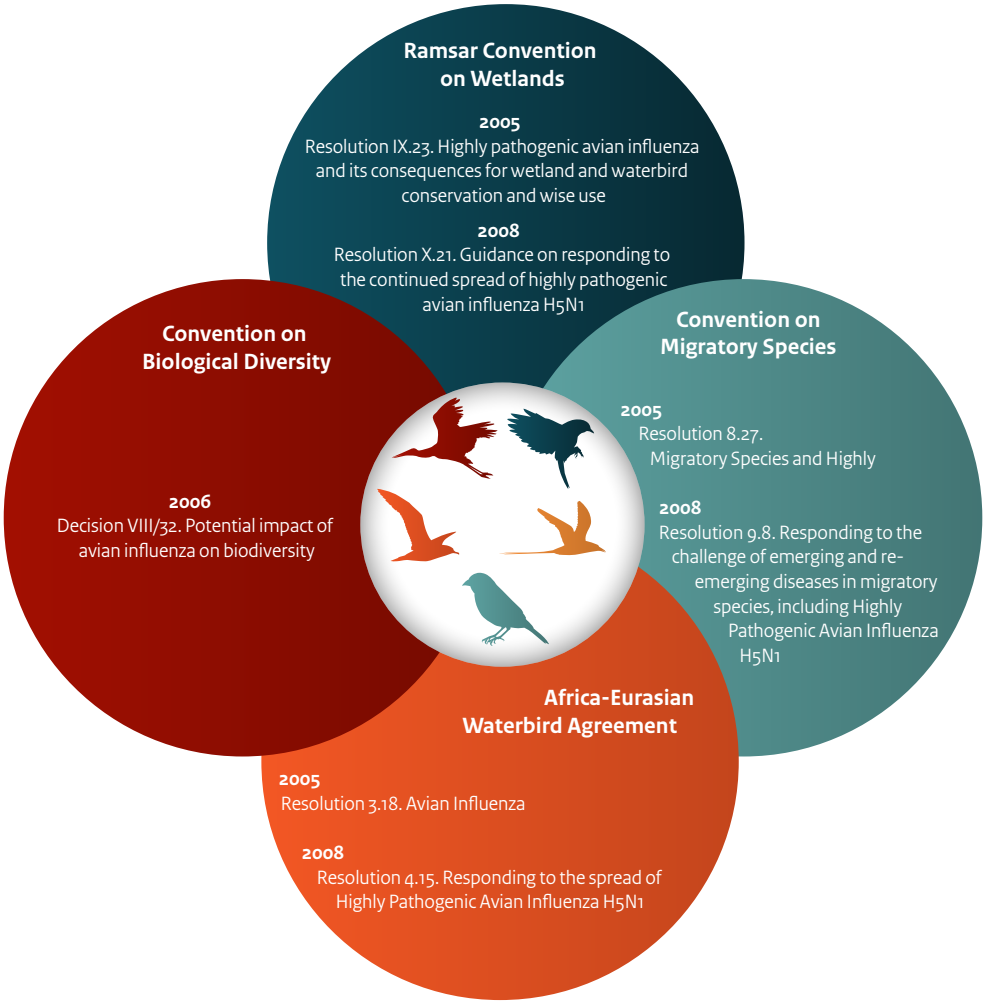
Perhaps the best example involves advice regarding highly pathogenic avian influenza. As Cromie et al. (2011) have recounted, the Convention on the Conservation of Migratory Species of Wild Animals and the African-Eurasian Migratory Waterbird Agreement convened a Scientific Task Force on Avian Influenza and Wild Birds in August 2005 that consisted of biodiversity-related multilateral environmental agreements and other international organizations.[69] The objective was to provide a platform to ensure that the issues of culling, biosecurity and vectors were appropriately considered at multilateral environmental agreement meetings. The following table lists the resolutions and decision subsequently adopted by the parties to the Ramsar Convention, the Convention on the Conservation of Migratory Species of Wild Animals, the African-Eurasian Migratory Waterbird Agreement and the Convention on Biological Diversity.

Cromie et al. suggested that "the establishment of the Task Force provides a model for international conventions to work with other interested parties on other emerging issues of concern". They also noted, however, that "the effectiveness of such a forum depends on institutional frameworks that allow organisations to respond rapidly to developing situations and the willingness of individuals to contribute their time and energy in such endeavors".

In contrast to the response to highly pathogenic avian influenza, there has been no coordinated action from the biodiversity-related multilateral environmental agreements regarding the Ebola and Marburg viruses, despite their biodiversity connections. An e-mail discussion about Ebola was initiated in October 2014 among the chairs of the scientific advisory bodies, the biodiversity-related secretariats and other partners concerning the unintended consequences of habitat destruction

[69] Members of the Task Force: the African-Eurasian Migratory Waterbird Agreement, BirdLife International, the Convention on Biological Diversity, the Convention on the Conservation of Migratory Species of Wild Animals, the Food and Agriculture Organization of the United Nations, the International Union for Conservation of Nature, the Ramsar Convention, the United Nations International Strategy for Disaster Risk Reduction, Wetlands International, the Wildlife Conservation Society, the Wildfowl and Wetlands Trust and the Zoological Society of London. Observers included UNEP, the World Health Organization and the World Organization for Animal Health.

Formal multilateral environmental agreement resolutions and decision concerning HPAI H5N1 in wild birds (2005–2008)



Source: Adapted from Cromie et al. (2011).

resulting in greater human and wildlife interaction. The Ebola issue received attention at the twelfth meeting of the Conference of the Parties to the Convention on Biological Diversity, where the representative of the International Union for Conservation of Nature noted that "the wider world is probably not aware of the ways in which the underlying drivers of disease are linked to development and biodiversity loss; the connections are rarely made", adding that "it is crucial to demonstrate how habitat change and associated biodiversity loss and human health are connected. It is of fundamental importance to explain clearly how an 'upstream' approach to protect both human health and biodiversity is absolutely essential. For example, it is not widely appreciated, even amongst biodiversity experts, that land use change through deforestation is the leading driver of disease emergence in humans".[70]

Although the multilateral environmental agreements and their partners have published guidance on different aspects of wildlife disease risk (World Organization for Animal Health and International Union for Conservation of Nature, 2014), no progress has been made regarding collaboration on joint scientific and technical guidance. The lack of a thematic mechanism to drive the process, such as the Scientific Task Force on Avian Influenza and Wild Birds, has no doubt contributed to the lack of an outcome.

[70] http://iucn.org/media/news_releases/?18439/Ebola-outbreak-highlights-critical-links-between-biodiversity-loss-and-human-health-says-IUCNs-Wildlife-Health-Specialist-Group.

E. Pitfalls

As the biodiversity "landscape" is fragmented among different conventions and organizations, both governmental and non-governmental, there is a lack of coherence and strategic thinking in addressing the urgent challenges ahead, including the dramatic decline in biodiversity on the ground. The institutional architecture for biodiversity, to the extent that it exists, is weak and this is only partly due to the fact that each convention has its own specific mandate. An invisible dividing line exists between the United Nations bodies and conventions and non United Nations entities, such as the Ramsar Convention and the International Union for Conservation of Nature, which prevents the better development of synergies. There is an urgent need to find more common ground and to agree on basic principles and coherent policies. That common ground should act as a magnet around which all the various stakeholders and organizations can coalesce.

A case in point is the development of the 17 Sustainable Development Goals. The 2030 Agenda for Sustainable Development has provided a coherent policy framework at a very high level to which all countries are now committed. Throughout 2015, the Ramsar Convention and the Convention on Biological Diversity collaborated closely on their inputs into the development of the global water-related Goal (Goal 6) as well as the biodiversity goal (Goal 15). The representative of the Convention on Biological Diversity to UN-Water worked on the indicator for target 6.6 with the Deputy Secretary General of the Ramsar Convention throughout 2015. Unfortunately, as the Ramsar Convention is not a United Nations-based convention, direct input into United Nations-based discussions is often not possible. After the representative of the Convention on Biological Diversity retired at the end of 2015, the direction taken for target 6.6 concerning water-related ecosystems changed dramatically and there was no Convention representative at the meeting of the United Nations Statistical Commission Inter-agency and Expert Group on Sustainable Development Goal Indicators at the end of March 2016, where the indicators were finalized. Hence, the resulting indicator has moved away from the proposed metric of the percentage change in the extent of wetlands over time. Indeed, although the Ramsar Convention holds the data on behalf of the contracting parties it is not mentioned as a collaborating partner organization in the latest Statistical Commission document (United Nations Statistical Commission, 2016). The process is ongoing and we hope for a better outcome; however, this experience underscores the pitfalls inherent in relying on personal connections in an ad hoc way to promote synergy.

Photo credit: Fundación Albatros

In a similar fashion, much of the collaboration across the biodiversity-related multilateral environmental agreements with regard to broader scientific and technical guidance appears to develop on an ad hoc basis and through personal contacts. Ideally, the group of chairs of the scientific advisory bodies of the biodiversity-related conventions would be the mechanism for identifying and promoting collaboration in a more systematic fashion. This has not come to pass, however.

The chairs of the scientific advisory bodies first convened in Paris in 2007 after such a meeting was suggested by the Biodiversity Liaison Group. As they concluded at their third meeting: "A good working relationship and direct communication between the scientific bodies of biodiversity-related conventions is a precondition for the identification and joint design of possible products" (Convention on Biological Diversity, 2009). Unfortunately, a precondition for an ongoing good working relationship and communication between the scientific bodies is administrative support, and the group of chairs is an orphan in that regard. The chairs of the scientific advisory bodies of the biodiversity-related conventions last met in Formia, Italy, in 2013. A planned meeting in the margins of the eighteenth meeting of the Convention on Biological Diversity's Subsidiary Body on Scientific, Technical and Technological Advice in Montreal in 2014 did not move forward, and the group has remained in hibernation ever since.

There are several reasons for the group's quiescence. Secretariats have to focus their energies on their core duties. Turnover in personnel occurs within secretariats and among the chairs of the scientific bodies. Even if one secretariat provided continuing administrative support to the group, there would still be the problem of the chairs' limited travel budgets. Furthermore, the chairs have constraints on their time that may prevent them from attending yet another international meeting. Thus, striving for synergy is not a cost—free activity.

Yet the potential benefits of synergy and collaboration make the effort worthwhile. The next section explores possibilities for collaboration at various levels.

F. Future possibilities

Opportunities for synergies among the biodiversity-related multilateral environmental agreements and other partners exist at the international, national and site levels. Success in this regard requires some type of thematic mechanism, coupled with administrative support and the dedication of individuals, for fostering collaboration. Taking a broader view, a strong multi-stakeholder partnership needs to be developed to reinvigorate the existing approaches of protecting, conserving and restoring ecosystems towards a future vision of living with nature in a sophisticated, carbon-neutral and technologically-developed world.

1. Synergies at the international level

As discussed above, the Sustainable Development Goals could provide a mechanism for spurring collaboration if approached in a strategic way with the aim of building a broad coalition of international organizations around biodiversity for the Goals. It would be important to complement the Biodiversity Liaison Group mechanism by building a broader multi-stakeholder coalition jointly around biodiversity, ecosystem services and natural solutions. The aim of such a coalition would be to support the biodiversity-related goals and targets of the Sustainable Development Goals and to highlight nature's contributions to achieving all the other Goals, as well as to implementing the biodiversity-related conventions themselves.

Within the scientific community, the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services also offers a mechanism for spurring collaboration, as recognized by the resolution XII.3 of the Contracting Parties to the Ramsar Convention. The chairs of the scientific subsidiary bodies of the multilateral environmental agreements related to biodiversity and ecosystem services have observer status at meetings of the Platform's Multidisciplinary Expert Panel, and their secretariats have entered into – or been encouraged to enter into – memorandums of cooperation with the Platform secretariat. Moreover, Platform assessments themselves can help to further collaborative

efforts. For example, the forthcoming assessment on land degradation and restoration, scheduled to be completed in 2018, has great relevance to the United Nations Convention to Combat Desertification in Those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa, and to the Ramsar Convention. That assessment should help both conventions to build upon the common commitment to land degradation neutrality made at the International Union for Conservation of Nature World Parks Congress in Sydney, Australia, in November 2014.

The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services might even play a role in reinvigorating the chairs of the scientific advisory bodies of the biodiversity-related conventions. The Platform Plenary sessions themselves can provide an occasion for collaboration among the chairs on the margins of the sessions if they attend regularly. Of course, this would require travel funding and a time commitment. Furthermore, some type of administrative support and coordination would be needed. If such support is not available through a multilateral environmental agreement secretariat, additional options, such as an international governmental organization or perhaps a university, should be considered.

2. Synergies at the national level

Resolution XII.3 of the contracting parties to the Ramsar Convention encourages Ramsar Convention national focal points to increase their efforts to coordinate with their national counterpart focal points of other multilateral environmental agreements. The goal is to exchange information about their respective multilateral environmental agreements and to learn about issues of common interest. National biodiversity strategies and action plans can be used to enhance such cooperation among the biodiversity-related multilateral environmental agreements. This strategic focus could be achieved from the strategies and action plans through the national coordinating committees and could also be supported by the more numerous national Ramsar committees. It is vital to develop intersectoral linkages with ministries of water and ministries of agriculture, for instance, as well as cross-linkages between departments within the environment ministries themselves.

It often takes an individual effort to translate these general goals into action. A good example may be found in Mexico in the context of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. Immediately after the fourth session of the Platform Plenary, at which the Plenary approved a thematic assessment on pollinators, pollination and food production, a Multidisciplinary Expert Panel member from Mexico co-organized an inter-agency meeting with that country's agriculture and environment ministries. The member introduced the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services, describing its operations and goals, and briefed the agencies on the major findings in the full pollination assessment report and accompanying summary for policymakers. A member of the Mexican National Commission for Knowledge and Use of Biodiversity facilitated a discussion to identify agencies and individuals who would be responsible for liaising with pollinator experts. With an initial list of agencies and individuals identified, additional meetings have been planned. Without such critical collaborative efforts there is a great risk that the Intergovernmental Platform will not have its intended effect of providing policymakers with relevant, rigorous, scientific information.

3. Synergies at the site level

Finally, synergies must be considered at the site level. One promising initiative flows from an international workshop in April 2015 on the theme "harmonizing the integrated management systems of areas with multiple international designations (Ramsar sites, World Heritage sites, biosphere reserves, global geoparks)", which was held in the Republic of Korea. The workshop was organized by the International Union for Conservation of Nature and Jeju Special Self-Governing Province, in partnership with the Ramsar Convention secretariat, the United Nations Educational, Scientific and Cultural Organization World Heritage Centre, Programme on Man and the Biosphere and Global Geoparks Initiative and the Ministry of Environment of the Republic of Korea.

According to the final report of the workshop, its purpose was to "gather experiences on joint management for the conservation and management of sites with multiple international designations in order to inform new guidance on how such sites should be managed", and the discussions on management challenges had emphasized "the complementarities and synergies that multiple designations can offer".[71] A guidance document on areas with multiple international designations will be launched in September 2016 at the International Union for Conservation of Nature World Conservation Congress, and a resolution on the topic will be presented at the Congress.

It is fitting to conclude with a reference to site-level collaboration, as that is the point of synergies. It is more than a matter of merely reducing costs or burdens. Ultimately, it is about improvements on the ground that can benefit both nature and people. Building a better future takes place site by site and community by community. The multilateral environmental agreements need to take up their joint responsibility of promoting the biodiversity agenda through stronger joint actions at all levels, avoiding the pitfalls and sharing the inspiring stories of how to make that future possible.

[71] http://www.ramsar.org/sites/default/files/documents/library/final_report_idas_workshop_jeju.pdf.

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