

Introduction

*Marie-Claire Cordonier Segger, David Andrew Wardell
and Alexandra Harrington*

1.1 IMPLEMENTING CITES FOR SUSTAINABLE DEVELOPMENT

Endangered species conservation is a critical challenge for sustainable development. Although serious attempts are being made to reverse current trends, many species and their crucial habitats continue to be degraded and lost at alarming rates. Various international agreements, notably the venerable Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), have aimed to regulate trade in listed species through the development of national frameworks and international collaborative measures. In spite of these initiatives, the implementation of international regulations remains a challenge for developing countries, especially for countries with limited scientific, human, technical and financial capacity and resources.

October 2013 marked the fortieth anniversary of CITES. In October 2015, *Transforming Our World – the 2030 Agenda for Sustainable Development*, together with 17 global Sustainable Development Goals (SDGs) encompassing 169 specific targets, was agreed at the United Nations.¹ In SDG 15, states and stakeholders committed to take urgent and significant action to reduce the degradation of natural habitats, to halt the loss of biodiversity and, by 2020, to protect and prevent the extinction of threatened species (SDG 15.5), and to take urgent action to end poaching and trafficking of protected species of flora and fauna and address both demand and supply of illegal wildlife products (SDG 15.7). In order to do all this, they committed, inter alia, to mobilize and significantly increase financial resources from all sources to conserve and sustainably use biodiversity and ecosystems (SDG 15.a) and to enhance global support for efforts to combat poaching and trafficking of protected species, including by increasing the capacity of local communities to pursue sustainable livelihood opportunities (SDG 15.c). In December 2022, the Kunming-Montreal Global Biodiversity Framework was adopted during the

¹ See UN General Assembly, *Transforming Our World: The 2030 Agenda for Sustainable Development*, 21 October 2015, A/RES/70/1. See also UN Convention on Biological Diversity, CBD, Dec. 15/4 CoP15 (2022) Doc. CBD/COP/DEC/15/4

Convention on Biological Diversity 15th Conference of the Parties (COP 15) in Montreal, Canada.

This volume focuses on the legal aspects of implementing CITES to achieve the world's SDGs. It provides a serious contribution to the current scholarly debates on the protection of listed species, by analyzing key issues under CITES that affect the design and implementation of national regulatory regimes, as well as existing policies and laws on CITES-listed species as they relate to the sustainable development objectives of each country. It also examines the practical, legal, political and economic problems encountered in the attempt to implement these regulations in contemporary settings. It considers, in particular, how regulations that implement CITES can also foster more sustainable development worldwide.

The importance of understanding how the CITES regime contributes to sustainable development was highlighted in the outcomes of the 2019 CITES 18th Conference of the Parties (CITES COP 18). This CITES COP, originally scheduled to be held in May and June 2019 in Colombo, Sri Lanka, was ultimately held in August 2019 in Geneva, Switzerland. During CITES COP 18, state parties adopted an implementation strategy for 2020 and beyond, also recognizing the need to ensure that the strategy complemented the post-2020 strategy developed by the UN Convention on Biological Diversity (CBD) and the SDGs and 2030 Agenda adopted by the global community in 2015.² Indeed, as noted in CITES' *Strategic Vision: 2021–2030*, CITES provides

a global framework for the legal and sustainable international trade in CITES-listed species. Today, CITES regulates trade in more than 36 000 species of wild animals and plants. CITES is widely regarded as one of the most important international conservation instruments. Since 1975, the Conference of the Parties has adapted this framework to changing circumstances and, through the adoption of Resolutions and Decisions, has demonstrated an ability to construct practical solutions to increasingly complex wildlife trade and conservation challenges.³

The CITES *Strategic Vision: 2021–2030* highlights the contribution of CITES' activities to achievement of the Strategic Plan for Biodiversity 2011–2020 and the relevant Aichi Biodiversity Targets adopted by the parties to the CBD, as well as to achievement of the 2030 Agenda for Sustainable Development and its SDGs and targets relevant to CITES; it also outlines the Convention's direction for the 2021–30 time frame in fulfillment of its mandate and emphasizes that parties' efforts to implement the Convention may also provide benefit to, and draw strength from, efforts being undertaken in the 2030 Agenda for Sustainable Development and its SDGs and targets relevant to CITES, including those for terrestrial and marine wildlife, among other fora. Indeed, in their vision statement, CITES parties declare that by 2030 all international trade in wild fauna and flora shall be "legal and

² CITES Resolution CoP Doc. 18.3 on CITES' *Strategic Vision: 2021–2030*, https://cites.org/sites/default/files/document/E-Res-18-03_0.pdf, accessed June 11, 2022.

³ *Ibid.*

sustainable, consistent with the long-term conservation of species, and thereby contributing to halting biodiversity loss, to ensuring its sustainable use, and to achieving the 2030 Agenda for Sustainable Development.” Further, in their agreed values, CITES parties commit to “act in the best interest of the conservation of species, working to ensure their use is legal and sustainable, and aim to adopt measures proportionate to the anticipated risks to the species under consideration.” They recognize “a shared commitment to fairness, impartiality, geographic and gender balance, and to transparency.” According to the *Strategic Vision*, its purpose includes, as a priority, both “to improve the working of the Convention, so that international trade in wild fauna and flora is conducted legally at sustainable levels and supports the conservation of listed species; and to ensure that CITES policy developments are mutually supportive of international environmental priorities and take into account new international initiatives, consistent with the terms of the Convention.”⁴

Of high relevance for this volume are four of the five broad Strategic Goals identified by parties as the key components of the *Strategic Vision*. Goal 1 is that “[t]rade in CITES-listed species is conducted in full compliance with the Convention in order to achieve their conservation and sustainable use.” Under this Goal, Objective 1.1 is that “Parties comply with their obligations under the Convention through the adoption and implementation of appropriate legislation, policies, and procedures”; Objective 1.2 is that “Parties have established CITES Management and Scientific Authorities and enforcement focal points that effectively carry out the duties required of them under the Convention and relevant Resolutions”; and Objective 1.3 is for “[i]mplementation of the Convention at the national level [to be] consistent with Resolutions and Decisions adopted by the Conference of the Parties.” Goal 2 is that “Parties’ decisions are supported by the best available science and information.” Under this Goal, Objective 2.2 is that “Parties cooperate in sharing information and tools relevant to the implementation of CITES”; and Objective 2.3 is that “Parties have sufficient information to enforce the Convention.” Goal 3 is that “Parties (individually and collectively) have the tools, resources and capacity to effectively implement and enforce the Convention, contributing to conservation, sustainable use and the reduction of illegal trade in CITES-listed wildlife species.” Under this Goal, Objective 3.1 is that “Parties have in place administrative procedures that are transparent, practical, coherent and user-friendly, and reduce unnecessary administrative burdens”; Objective 3.3 is that “[s]ufficient resources are available at the national and international levels to support necessary capacity-building programmes and ensure compliance with and full implementation and enforcement of the Convention”; Objective 3.4 is that “Parties recognize illegal trade in wildlife as serious crime and have adequate systems in place to detect and deter it”; and Objective 3.5 is for “Parties [to] work collaboratively across range, transit and destination states, to address entire illegal

⁴ Ibid.

trade chains, including through strategies to reduce both the supply of and [the] demand for illegal products, in order for trade to be legal and sustainable.” Goal 4 is that “CITES policy development also contributes to and learns from international efforts to achieve sustainable development.” Under that Goal, Objective 4.1 is that “Parties support sustainable wildlife trade policies, especially those that increase the capacity of Indigenous peoples and local communities to pursue livelihoods”; Objective 4.2 is that “[t]he importance of achieving CITES’ aim as a contribution to achieving the relevant Sustainable Development Goals, as well as the post-2020 global biodiversity framework, is recognized”; Objective 4.3 seeks to ensure that “[a]wareness of the role, purpose and achievements of CITES is increased globally”; and Objective 4.4 is that “CITES Parties are informed of international actions for sustainable development that may have a bearing on achieving the goal of CITES.”⁵

These strategic priorities highlight myriad practical correlations between conservation efforts, the regulation of key species throughout the global trading system and across chains of supply and demand, and the pressing need to identify and strengthen sustainable development. They recognize the inherent connections between the use of trade controls and mechanisms to protect and conserve species and other multilateral environmental agreements such as aspects of the World Heritage Convention, plant conservation measures and combating international wildlife crimes.⁶ Further, they emphasize the need for domestic trade and market regulation for the prevention of illicit flows of protected species as well as the need for an international system of oversight to ensure that these mechanisms are created and implemented.⁷ This volume explores these challenging themes, considering the role of law and governance reform in strengthening implementation of CITES worldwide for more sustainable development.

1.2 STRUCTURE OF THIS VOLUME

In **Part I**, this volume lays the foundations for the book, explaining the problems that CITES was created to address and the role of law and legal regimes in shaping the relevant environmental, economic and social policies, regulations and institutions for implementing CITES as a treaty. This initial **Chapter 1** features a brief introduction to the CITES regime and its links to the world’s SDGs, highlighting the relevant aspects of the CITES Strategic Vision and laying out the structure of the volume. Then, in **Chapter 2**, John E. Scanlon, Marcos Regis Silva and Marceil Yeater discuss the origins and evolution of CITES and its contributions to sustainable

⁵ *Ibid.*

⁶ See CITES CoP Doc. 15. 1, Cooperation with Other Biodiversity-Related Conventions; CITES CoP Doc. 15.3, Global Strategy for Plant Conservation; CITES CoP Doc. 15.5, International Consortium on Combating Wildlife Crime; CITES CoP Doc. 15.6, Cooperation between CITES and the World Heritage Convention.

⁷ CITES CoP Doc. 31, Domestic Markets for Frequently Traded Illegal Specimens.

development. By itself, CITES is a regulatory instrument that aims to ensure that international trade in wildlife is legal, traceable and sustainable. These authors argue that while there is no explicit reference to sustainable development within the Convention itself, which was concluded in 1973, the treaty provisions are aligned with the concept of sustainable development. Further, its mechanisms establish a practical framework for enabling regulation of the international wildlife trade to contribute towards achieving sustainable development. The authors outline the genesis of CITES and the governance processes supporting its operation, including regular amendments to its species lists, interpretive Resolutions and action-oriented Decisions adopted at meetings of the COP. They also discuss the evolution of CITES, including within the context of decisions taken at global sustainable development summits, such as Rio+20, and explore how these summits have recognized and further enhanced the contributions of CITES to sustainable development. Finally, they detail some of the practical tools and mechanisms of CITES, such as legal acquisition findings, non-detriment findings (NDFs) and quotas for proposed trade, the Review of Significant Trade in Commercially Exploited Species and guidance on addressing livelihood issues, and outline how these mechanisms support the sustainable use of wildlife; in so doing they make a tangible contribution to sustainable development.

In [Chapter 3](#), Blessing Ajayi, Jorge Cabrera Medaglia, Marie-Claire Cordonier Segger and David Andrew Wardell link the work of CITES and other treaties to protect species at risk with broader recent discussions in international law and policy on sustainable development. Reviewing recent international, regional and national developments on these issues, they highlight recent law and policy reform innovations across multiple levels of governance, identifying major implementation challenges and achievements and suggesting key areas for additional research, analysis and capacity-building. Further, the authors discuss the regimes that regulate international trade and investment in certain species as commodity value-chains, providing examples of comparisons between non-CITES species versus CITES species. The focus is on analyzing regulations that implement the sustainable development provisions of CITES that affect trade and investment flows, globally. The authors explain value-chains approaches, then discuss endangered species commodity value-chains, including how global trade in species products can be demand driven, and how non-CITES and CITES species can be compared. The authors then present the key concepts in value-chains analysis, explaining the law and governance aspects. These aspects are illustrated with examples of regulatory regimes with national and transnational dimensions, taking into account species highlighted in the rest of the volume. In conclusion, the authors highlight emerging concepts and consider the utility and limitations of a law and governance approach, and its broader linkages to global landscapes governance.

In **Part II**, this volume examines emerging challenges for CITES in relation to law and sustainable development, including sustainable livelihoods, land tenure reform and rural communities, Indigenous and traditional knowledge, economic incentives for the sustainable use of CITES-listed species, CITES trade measures and sustainable development, demand reduction and management for ensuring legality and sustainability, criminal prosecution and enforcement challenges, criteria for listing species in Appendices I and II, access to information and public participation and related issues.

Chapter 4 by Lydia Slobodian highlights that addressing biodiversity loss requires more than appropriate laws; it also requires effective enforcement and implementation. However, many of the most biodiverse countries in the world lack the necessary capacity and resources to effectively enforce wildlife protection laws, particularly against increasingly organized and powerful criminal networks. Building the capacity of these countries is an important but incomplete part of a fair and lasting solution; it must be accompanied by action on the part of more developed countries to take responsibility for their role in driving, controlling and perpetrating wildlife crime outside their borders. While CITES itself is a landmark agreement in recognizing this responsibility, countries can fulfill the responsibility by expanding jurisdiction through measures such as trade-based and supply chain regulations and long-arm legislation. These measures can allow more capable countries to take on a larger share of the burden of enforcing wildlife legislation, resulting in fairer, more effective and more efficient implementation of CITES. However, such extraterritorial jurisdiction raises practical, legal and ethical issues, including questions of sovereignty. In this chapter, the author analyzes some of the possibilities and potential problems of expansion of jurisdiction in the context of CITES, the UN Convention on Transnational Organized Crime and other sources of international law.

In **Chapter 5**, Blessing Ajayi, Marie-Claire Cordonier Segger, Markus W. Gehring, and David Andrew Wardell consider evidence of sustainable development challenges in implementing CITES trade measures, such as leakage along global value chains, as well as CITES loopholes in European Union Forest Law Enforcement, Governance and Trade (FLEG-T) measures, and third-party trading. Relying on new data from International Tropical Timber Organization (ITTO) databases, developing country archives, and analysis of regional and bilateral trade agreements and economic partnerships that seek to support environmental and social objectives, the chapter provides a discussion of possible constructive ways forward. First, the authors introduce the potential contributions of CITES trade measures to sustainable development and explain recent challenges in implementing CITES trade measures. Second, they consider CITES trade measures in law and policy, reviewing the structure of CITES treaty provisions and institutions, and the use of trade and criminal law measures. Third, the authors consider the potential for trade and investment regimes to frustrate or foster CITES objectives, drawing on

experiences in the World Trade Organization (WTO), regional/bilateral trade agreements/economic partnerships, FLEG-T and the Peru–US free trade agreement (Peru–US FTA). In conclusion, they canvass the areas of progress, the need for better horizontal integration across silos and instruments, and the need for harmonization and enforcement.

Finally, in [Chapter 6](#), Clarissa Castillo Cubillo, Jorge Cabrera Medaglia and Laura Elizondo García note that the Central America–Dominican Republic free trade agreement (CAFTA-DR) is one of the trade agreements that dedicates a complete chapter ([Chapter 17](#)) to environment protection. The accord establishes a Submission Mechanism for Matters related to the Enforcement of Environmental Legislation. The “Public Communication” mechanism seeks to encourage citizen participation, allowing individuals and non-governmental organizations (NGOs) to seek the enforcement of any environmental law when the party has not enforced properly their own environmental provisions. Although the Submission Mechanism is not a CITES mechanism per se, the authors propose that it can contribute to the protection of the species listed in the CITES Appendices. The authors concisely discuss the Environmental Submission Process, its characteristics, weaknesses and strengths, and the types of submission that are submitted to the Secretariat for Environmental Matters. They then focus specifically on a case from the Dominican Republic dealing with the protection of the hawksbill turtle (*Eretmochelys imbricata*) listed in Appendix I, as well as sea turtles in general. The authors emphasize the value of public involvement in decision-making, in the enforcement of laws, and the value and importance of this kind of alternative mechanism that encourages public involvement while supporting the enforcement of national and international laws such as CITES.

In [Part III](#), this volume examines the global implementation of CITES by considering specific species and commodity value chains. It considers concerns related to regulating global trade in CITES-listed species for use as exotic pets and entertainment (large cats and other mammals, exotic birds, fish); CITES-listed species for use in medicines and cosmetics (horn bark, plants, leeks, mammals like primates for scientific research, etc.); CITES-listed species for use in clothing, fashion and ornaments (reptiles, amphibians, ivory, mammals like vicuña); CITES-listed species for use in construction and furnishings (hardwoods, trees, plants); and CITES-listed species for use in food and gardens (mammals, fish, plants, trees).

In [Chapter 7](#), scientists Anthony B. Cunningham and Terry Sunderland explain that *Prunus africana* (listed in CITES Appendix II in 1995) is at the confluence of the “northern perspective” on bans as a conservation tool and the “southern perspective” on sustainable use as a conservation incentive. After forty-two years of international trade in wild harvested medicinal bark from Africa and Madagascar, the experience with *Prunus africana* holds several lessons for both policy and practice in forestry, conservation and rural development. First, the authors note, commercial harvesting is allowed in protected areas in Cameroon

and is proposed for protected areas in Burundi and the Democratic Republic of Congo (DRC). Second, the authors argue that hopes of decentralized governance were misplaced due to elite capture, concentration of power and corruption in several range states, plus warfare in the eastern DRC. Third, in contrast to lucrative bark exports, livelihood benefits to local harvesters from wild harvest are less than USD 1 per day from bark harvests, due to a net bark price of USD 0.33 per kg. As with CITES cases like orchids, crocodiles and *Aquilaria* resin, the authors recommend developing separate, traceable *Prunus africana* bark supply chains based on cultivated stocks, unlocking opportunities for more than 3,500 small-scale farmers currently growing this species.

In **Chapter 8**, Laura Elizondo García, Jorge Cabrera Medaglia and Clarissa Castillo Cubillo begin with the observation that it is estimated that between 26 million and 73 million sharks are killed every year to meet the fin market demand. The hammerhead shark (*Sphyrna lewini*), the great hammerhead shark (*Sphymamo karran*) and the smooth hammerhead shark (*Sphyrna zygaena*) are among the most commonly found species in the global fin trade. Estimations suggest that 1 million to 3 million of these sharks are killed every year, causing the International Union for Conservation of Nature (IUCN) to classify them as globally endangered since 2006. The authors describe the general situation of global fin trade and specifically the particularities surrounding the *Sphyrna lewini* fin trade. They focus on the problem of shark finning, on how this practice reduces the number of specimens and on the potential consequences of not taking measures to establish regulations that aim for a sustainable use. They also examine the process that led to the proposal to include this species in CITES Appendix II, the legal implications internationally of having the *Sphyrna lewini* listed and the positive implications that this could have for the preservation of its population and for future proposals of other shark species that may be affected by the fin trade.

In **Chapter 9**, Daniel W. S. Challender and Douglas C. MacMillan note that historical responses to the conservation and sustainable use of wildlife have been predominantly regulatory, relying largely on the implementation of CITES. However, these supply-centric approaches have at best had mixed effectiveness, while CITES largely disregards the economic reality of wildlife trade in implementation terms. In this chapter, the authors examine the outcome of CITES policies on the trade and conservation of pangolins (*Manis* spp.) in Asia, specifically an Appendix II listing, inclusion in multiple phases of the Review of Significant Trade process and a proposed transfer to Appendix I at COP 11 in 2000. They argue that reforms to this supply-centric approach are needed urgently, and that these should include an explicit and in-depth understanding of consumer demand factors and changing market dynamics (e.g. rapidly increasing demand, rising prices). Such approaches could involve the monitoring of demand and consumer preferences, and could be used to inform demand management measures such as social marketing programs to change consumer behavior. In a world of rapid

economic and social change, “keeping up” with markets and managing demand as well as supply is essential to conserving trade-threatened species.

In [Chapter 10](#), Peter Stoett and Rob White highlight that trade in endangered species is one of the most pernicious forms of transnational environmental crime, involving several layers of participants and facilitated by systemic corruption. It persists despite the fact that CITES permits states to take pre-emptory actions to curtail it. The intervention of INTERPOL in the trade reflects the difficulties that states experience in enforcing CITES, but the authors question whether it is an effective approach to this transnational environmental crime. The chapter summarizes, analyzes and evaluates the current role of INTERPOL’s Project Predator (focused on Asian large cats) and Project Wisdom (focused on elephants and rhinoceros), two ongoing efforts to curb illegal wildlife trade. While there are many challenges to the success of these projects, the chapter suggests that the projects are a necessary spoke in the evolving wheel of global environmental governance. It focuses specifically on whether the projects have helped or hindered the advent of sustainable development in key focus countries. It also questions whether global governance enforcement impedes or encourages key development indicators in tourism, local development, agricultural production, national legislative construction and other important areas, and concludes with specific suggestions for improvement.

In [Part IV](#), this volume considers regional and national innovations in CITES implementation for sustainable development. Its chapters examine objectives, obstacles and experiences with legal innovations from Africa (Cameroon, Kenya, Zambia), from Latin America and the Caribbean (Peru, Costa Rica, Jamaica and others), from Asia-Pacific (Vietnam, Indonesia, China, Oceania and others) and from Europe (the EU, Norway, Switzerland and others), as well as legal innovations from North America (the USA, Canada, Mexico).

In [Chapter 11](#), Adeshola Olatunde Adepoju, Oyetayo Oyelowo, Collina Kambai and Babajide Charles Falemara begin by signaling the decline of biodiversity and its economic and ecological consequences. The chapter highlights the conflicts that arise when balancing competing economic and environmental interests and values. Highlighting the successes and problems faced in implementing CITES, the authors focus on the involvement of local peoples in the implementation of biodiversity-related conventions, penalties for defaulters, and capacity challenges faced by law enforcement in carrying out obligations. Experiences with the Omo Forest Reserve and the Yankari Game Reserve located in southwestern (Ogun State) and northeastern (Bauchi State) Nigeria, respectively, are explored as a baseline for other potential biosphere reserves. These reserves contain several populations of globally endangered and near-threatened species from the IUCN Red List and the CITES-listed species. Unfortunately, the authors explain, there are high levels of illegal trade in endangered and protected species, coupled with community conflicts. Though conservation efforts have a long history in the country, achievements are not encouraging. The authors argue that

implementation of policies has not achieved the desired result of properly conserving the country's biodiversity, and that applicable laws on wildlife and game management can be implemented in an exploitative manner. The challenge confronting effective implementation, they suggest, is multifaceted and requires a sociolegal approach. They argue that the law alone cannot regulate, protect and preserve these forests; there is a need to engage communities, building popular awareness, culture and concern for conservation. They propose the development of profitable and sustainable enterprises for wealth and employment creation to enhance poverty alleviation coupled with sustainable management and conservation of endemic and threatened plant and animal species. Capacity-building, appropriate legislation, socioeconomic consideration and enlightening of the locals are recommended.

In [Chapter 12](#), Ajay Kumar Saxena points out that states can be part of a multitude of different regional and multilateral environmental agreements (MEAs). In this chapter, the author analyzes the current implementation status of various biodiversity MEAs, along with their possible synergies and future challenges, in the conservation landscape of fast-developing India. He suggests that while various biodiversity MEAs have independent origins, development history, scope and modalities, in each MEA parties have provided for their respective capacities for the conservation and sustainable use of biological resources and, consequently, share common areas of work and responsibility. He notes that India, which is home to 1.2 billion citizens, is among the 17 megadiverse countries of the world and that, while the country covers only 2.4 percent of the world's land surface, it is home to 8 percent of the known global biodiversity. However, he highlights, Indian biodiversity faces challenges such as habitat loss, invasive alien species, biopiracy, illegal wildlife trade, genetic load and climate change. To support global efforts toward tackling these challenges, the author underlines, India has ratified biodiversity MEAs such as CITES, CBD and the Convention on the Conservation of Migratory Species of Wild Animals (CMS), creating a matrix of national biodiversity-related laws and policies. While being successful to various extents, the isolated, ad hoc and nonharmonized efforts toward implementation of these MEAs limit their effectiveness, and the author calls for critical examination of possible synergies in order to optimize conservation efforts. Suggested measures include development of national biodiversity MEA expertise, adoption of common framework laws for implementing MEAs, strengthening of local biodiversity management practices and adoption of ecosystem approaches.

In the context of the ivory trade, in [Chapter 13](#) by Alex Kisingo, the focus is on the African elephant (*Loxodonta africana*), which is facing the greatest crisis in decades as a result of a surge in illegal ivory trade despite the presence of a ban by CITES. The author recognizes a growing concern that Tanzania is among the leading source and a trafficking route for ivory to South-East Asian markets, claims that have been refuted by the Tanzanian government and conservation authorities. The author

describes the failures by Tanzania to comply with international laws, especially CITES, in curbing illegal ivory trade, examining various aspects of controlling the illegal killing of elephants and casting a light on their performance using data derived from qualitative research and secondary data sources. According to the author, the results reveal a failure by Tanzania to curb ivory trade on various levels such as protection for elephants and confiscation of the ivory that originates within or transits through its borders. The author recommends increasing efforts to curb the ivory trade in compliance with CITES and the various other international laws that Tanzania has ratified. Action is proposed on multiple fronts, including improvement in capacity for law enforcement and anti-poaching efforts, motivation and discipline for protection staff, public awareness activities and increases in penalties for offenders. The author also recommends more cross-border cooperation to increase efforts to disrupt smuggling networks and fight the markets for illegal ivory in consuming countries.

In [Chapter 14](#), Carlos Antonio Martín Soria Dall’Orso reviews the national and international context of CITES COP 12 in 2002, focusing on the Peruvian timber trade data of the time, to draw findings and conclusions on the relevance of CITES as a tool for sustainable development. The author argues that in Peru hopes have been high for sustainable forest management at least since the nineteenth century. However, he suggests, these dreams have not been realized due in part to the absence of effective state engagement and to informality, corruption and other common factors that affecting the forest sector globally. However, under the mandate of previous United Nations Framework Convention on Climate Change (UNFCCC) decisions, the trilogy of COP 19 2013 in Warsaw, COP 20 2014 in Lima and COP 21 2015 in Paris 2015, the author argues, sought to deliver economic mechanisms and institutions favoring, among other things, sustainable forest management in synergy with REDD++ (reduce emissions from deforestation and forest degradation, and foster conservation and sustainable management of forests and enhancement of forest carbon stocks) projects under a “green economy” framework. In this chapter, the author draws key lessons emerging from an integrated analysis of CITES, UNFCCC and CBD as a basis for intersectoral articulation and approaches to the sustainability of species and ecosystems. He also explores recent developments in Peru’s forests policy and the new context for agreement on and investment into securing land rights both to Indigenous peoples, under the consultation law, and to other ecosystem tenants based on their right to be taken into account in participatory processes. The author recommends possible future developments, emphasizing the importance of coordination between the mandates and the measures for implementation of the UNFCCC, CITES and CBD.

In [Chapter 15](#), Haifeng Deng underlines that traditional Chinese medicine (TCM) is an important part of Chinese cultural heritage and has been playing an essential role in preventing and treating diseases for thousands of years. He explains that Chinese materia medica derived from natural sources such as plants, minerals

and animals, and that natural medical therapies increase standards of health, with growing attention and approval globally. However, the author notes, the environment is being destroyed at an alarming rate, with natural resources being unsustainably depleted and a large number of species upon which these therapies depend now in danger of extinction. In the current situation, medicinal utilization has become an important factor leading to the extinction of endangered medicinal animals. The author highlights the conflict between the demand for animal drugs in TCM and the conservation of endangered animals. He argues that further efforts are essential for China to implement CITES effectively, improving management of resources and addressing cross-border wildlife trade. He underscores the need to study the status of China's practice in managing trade in wild endangered medicinal animals and fulfilling CITES and proposes corresponding measures for improvement. He does this by introducing the basic situation of medically used animal resources, the trade status quo relating to living-body medical species and produced medicine, as well as the illegal use and smuggling situation mentioned in CITES. He then introduces Chinese regulatory measures governing every link in the chain of "Demand–Breeding–Trade–Illegal Use," including organization structuring, legislative guarantee, policy implementation, supervisory processes and legal liability, etc. The author also introduces a comprehensive analysis of measures taken and the achievements in each link in China under CITES. Further, taking two endangered medicinal animals, the musk deer and the pangolin, as specific cases, the author analyzes the resource conservation, utilization and trade status quo, along with the effectiveness and ineffectiveness of current management measures. Finally, the author proposes feasible measures to promote the sustainable development of CITES implementation and preservation of wild endangered medicinal animals in China.

In [Chapter 16](#), Karen Alvarenga de Oliveira begins by noting that Brazil ranks in second place when it comes to the number of wildlife species under threat. The main causes of the decline in wildlife populations in Brazil are loss/reduction of habitat, increased human occupation, economic exploitation of forest and wetland areas, wildlife trafficking and hunting. The 1988 Constitution of Brazil establishes the obligation of the federal government to enact environmental criminal legislation. Federal Law 9.605/1998 (also known as the Environmental Criminal Law) used command-and-control as an attempt to halt environmental crimes. The author argues that the majority of the environmental crimes described in this law allow for execution of agreements between prosecutor and the violator to minimize penalty and avoid incarceration. She observes that such agreements do not take into account protection of the environment and that, after two decades, inadequate enforcement of the criminal environmental legislation has not succeeded in halting illegal trade of wildlife, especially of pets. She examines the criminal penalties established in Federal Law 9.605/1998 and explores ways of setting different conditions for violation and the use of economic instruments to effectively reduce domestic (70 percent

of trade is for domestic consumption) and international illegal trade of pets, in and from Brazil. She focuses on successful cases of reducing illegal trade through creating alternative sources of income for poor individuals involved in the illegal trade chain, concluding that economic instruments are more adequate to protect CITES-listed species and combat illegal trade of pets while fighting poverty. In Brazil, she proposes, the illegal trade of wildlife is clearly divided into two basic types. First, there is internal trafficking, which is mainly practiced by ordinary citizens – truckers, bus drivers, shopkeepers and others – who leave their cities taking wild animals that can be traded for money for travel and food. Second, there is international trafficking – sophisticated, outlined, planned by smart people who are big names in international society, artists, millionaires, countless businesses and large laboratories; these organized groups adopt creative and unique layouts, distribute bribes and can influence government officials, airline companies and politicians. Further, the author notes that trafficking of Brazilian wildlife has three distinct objectives: animals for private collectors; animals for scientific purposes; and pets for international markets of pet shops. All these animals leave the country through ports and airports in major Brazilian cities and then across the borders of neighboring countries to Brazil, Argentina, Paraguay, Bolivia, Colombia, Venezuela, Guyana and Suriname, mainly, where private jets await the arrival of dozens of Brazilian trucks that take animals by the thousands. According to the author, the use of economic instruments such as payment for environmental services (PES) could be a long-term solution to convince the local communities to stop (or reduce) activities related to the capture of wildlife to be sold as pets for the national and international markets. She proposes key elements for developing a PES program in order to motivate local communities (e.g. hunters, truck and bus drivers and owners of shops) to adopt a conservationist approach, which would bring alternative income and protect the animals. For raising awareness of local communities about the economic and environmental losses of hunting and commercializing wildlife, she also notes another economic instrument – the economic valuation of biodiversity and its ecosystem services. She proposes that use of economic valuation would assist in showing local communities the value of the wildlife in its habitat and the importance of such wildlife in the functioning of the ecosystem for both present and future generations, as well as for their livelihoods (e.g. pollination for their agriculture practices).

In [Chapter 17](#), Miguel Saldivia discusses the larch tree, as the second longest-living vegetable species in the world, with specimens of more than 3,600 years old found in Chile. This tree grows in the mountains and can reach up to 50 meters high and 5 meters in diameter. Although the larch has been declared a National Monument and is protected by CITES, government policies have failed to effectively protect the species and ensure its future conservation. This ancient tree is included in Appendix I of CITES; therefore, its international trade is forbidden. However, two exceptions have been applied for the export of this species: (i) that

permitting trade of larch prior to the Convention (pre-CITES); and (ii) the exception that allows the use of dead trees. In Chile, the author notes, this exception was deleted in 2005, although, according to the domestic law, the trade of dead trees is permitted within the country. Notwithstanding the above, year after year, hundreds of complaints of illegal felling of larch are filed under the Chilean courts, which apply millions in fines. In the meantime, living species of larch decrease. This situation is repeated with other wildlife in several countries of Latin America and the Caribbean. The author analyzes certain possible steps to resolve these conflicts and to improve the implementation of CITES such as: (i) introducing flexible measures of trade (i.e., reactivating the reserve that allows use of dead trees in the case of the larch) or any other successful policies applied in countries of Latin America and the Caribbean; (ii) increasing domestic penalties for illegal trade; and (iii) strengthening the oversight institutions at both national and international levels.

Then, in [Chapter 18](#), Tatjana Rosen and Stefan Michel consider the markhor (*Capra falconeri*), a wild goat listed under Appendix I of CITES and classified as Endangered under the IUCN Red List of Threatened Species. They argue that recent conservation efforts involving the legal and regulated sustainable use of the species through trophy hunting have not only led to the recovery of the species across parts of its range and benefited the markhor's top predator, the snow leopard, but also brought substantial benefits to the livelihoods of local communities. The authors examine two case studies: the first on the legal and regulated sustainable use of the markhor in Pakistan, facilitated by CITES Resolution 10.15 (Rev. CoP14) on "Establishment of quotas for markhor hunting trophies," which establishes a quota of twelve trophies for export from Pakistan; and the other on the emerging framework for the legal and sustainable use of markhor in Tajikistan. They argue why CITES membership can lead to an improved framework for the sustainable of huntable species, one that leads to greater transparency in the flow of funds and greater support for community-based conservation models.

In [Chapter 19](#), Denis Ruyschaert signals that lowland tropical forests are being converted into agricultural lands at a fast rate, especially in South-East Asia. As he underlines, this has dire consequences for great apes; all species of great apes are categorized as (Critically) Endangered according to the IUCN Red List. The author explains that Sumatran orangutan (*Pongo abelli*) could be the first of the great apes to face extinction, highlighting the agricultural deforestation taking place in the remote areas of Indonesia and that access to information is limited, making difficult to take decisions and enforce law. However, in the case of the coastal peat swamp forest of Tripa, the author explains that NGOs have been able to use modern technology and field verification tools to access, gather, monitor and widely provide accurate and up-to-date evidence on pressing environmental issues (e.g. deforestation trends, peat depths, fires). The technology used ranges from satellite images to fire hotspot identification to create user-friendly digital maps. The author highlights that NGOs were also able to establish and maintain a broad network at the local level

(from human rights to environmental organizations) and at the international level (from advocacy organizations and media) through new digital tools (e.g. Internet, digital photos, Facebook, Twitter). These tools helped to get broad local support and maintain pressure. As a result, the author finds, NGOs, the Indonesian state and the local communities have been able to collaborate to secure a judgment from the administrative court of justice taking the exceptional decision to revoke an oil palm permit on the grounds of environmental offenses, and deciding to sentence the culprit to a prison term of several months and a fine of several million US dollars. Further, the government established a protected area instead of this agricultural zone. As the author argues, the Tripa landmark decision illustrates how new technological tools can be an effective means to gather the needed information and foster participation, which ultimately enforces the law. The author questions whether effective biodiversity protection is more linked to enhanced local biodiversity governance, rather than the accumulation of layers of legislation. He explores how accurate information and wide public participation through new technological tools can facilitate the emergence of good biodiversity governance, and how this can be seen in the enforcement of environmental laws that protect biodiversity in general and specifically highly endangered species on the IUCN Red List. The author links the local realities on the ground – the acute and rapid destruction of biodiversity-rich habitats – with the global political and legal framework for its protection through the emblematic “Coastal Tripa peat swamp forest” case. He argues that this dispute showcases how technological tools can be used to find and package information, foster public participation and ultimately enforce the law.

In [Chapter 20](#), Tarun Kathula notes that many countries, including India, have witnessed the importation of hunting trophies of exotic species in large numbers, most of which are hunted and taxidermied from African countries. These imports, he explains, are regulated under the provisions of CITES. As a forerunner of conservation of wildlife, India has long banned the hunting of wild animals and has taken a holistic approach toward the conservation of wildlife in India. With the exception of use in educational and research institutes, the uninterrupted importation of hunting trophies of exotic wild animals for display in private or public places serves no public interest and may even increase the tendency of locals acquiring Indian wildlife, thereby indirectly encouraging the illegal activity of hunting and trade of wildlife within India. Additionally, the author underlines the difficulties of distinguishing imported hunting trophies of exotic species from the species that are look-alikes with Indian wild fauna, which are accorded the highest degree of protection under the domestic legislation, namely, the Indian Wild Life (Protection) Act, 1972 (WLPA). At times, such imports camouflage the hunting of Indian wildlife and consequently encourage killing of protected Indian species, thus rendering violations of the WLPA. Recognizing the need to regulate such imports, the author suggests, the government of India has framed a policy on “import of hunting trophies” into India to prevent likely illegal hunting/poaching

of the species protected under the WLP, thereby gradually discouraging the import of hunting trophies from African and other countries. In essence, the author explores various key aspects of the look-alike policy, its evolution and implications for regulation of import of hunting trophies of exotic species into India.

In [Chapter 21](#), Erick Kassongo discusses the use of legislation for control of the timber trade in the DRC and the Congo Basin, noting the successes and challenges faced in this regard. This highlights many of the issues encountered in the application of CITES law and regulations from the international sphere into the reality of the legal, regulatory and societal spheres at the national level.

Finally, in [Chapter 22](#), Stephen Johnson, Anjanette DeCarlo, Frans Bongers and Anthony B. Cunningham discuss methods of sustaining the global trade in frankincense through CITES, with a particular focus on the ways in which governance mechanisms can be used.

In [Part V](#), this volume considers broader cross-cutting challenges, emerging issues and possible synergies for the implementation of CITES in the context of sustainable development. The analysis includes synergies among international treaties and instruments in relation to monitoring and compliance with the treaty, as well as broader issues of sustainable use of biodiversity, synergies and relationships with trade and economic agreements, and also the place of CITES in the context of global SDGs.

In [Chapter 23](#), Anastasia Telesetsky notes that a number of global commercial fisheries are facing imminent crisis as the fishing industry extracts fish across the high seas at unsustainable rates. She argues for the need in the coming decades for states, as part of their fishery management programs, to compromise and propose listing of a number of commercially threatened fish in the CITES Appendices. She focuses on interpretation of the requirements under CITES Articles I, III and IV related to “introduction from the sea” (IFS) as potential drivers for sustainable high seas fisheries. She notes that as many key coastal states and organizations, including the United States and the European Commission, undertake to implement obligations under the 2009 Food and Agriculture Organization of the United States (FAO) Port State Measures Agreement, IFS permitting becomes particularly important as a trade and environment practice to ensure sustainable high seas fishery products. In a revision to COP Resolution 14.6, parties at the CITES COP 16 agreed to assign IFS permitting jurisdiction to flag states when the flag state and the port state differ. While this enhances the predictability of CITES implementation, the author suggests that continuing to perpetuate the legal fiction of the flag state as an effective enforcer for environmental measures may prove problematic in the long term due to the ongoing availability of “flags of convenience.” The author proposes that, for ease of oversight, port states through their “national environmental security taskforces” should manage IFS import and export permitting for products that will be consumed in the port state.

Then, in [Chapter 24](#), Annecoos Wiersema highlights that in order to achieve SDGs, managers and policymakers need to recognize and navigate the role of humans in

ecosystems and the complexity and uncertainty inherent in ecological systems. In the last decade, she notes, the parties to CITES have increasingly adopted strategies that are consistent with these needs by putting more emphasis on capacity-building for science-based adaptive management, monitoring and information gathering, and the needs of local communities. Examples include recent work on NDFs and the Significant Trade Review, and monitoring and information-gathering mechanisms such as MIKE (Monitoring the Illegal Killing of Elephants). Also, CITES committees have been able to cooperate with other institutions like the FAO to promote conservation of species governed by more than one institution. She argues that these developments in CITES have the potential to turn an apparently narrow wildlife trade treaty into an institution that can facilitate the achievement of SDGs, including conservation goals, by regulating and monitoring trade in wild species of fauna and flora. She analyzes these developments in CITES and addresses what more can be done to promote the SDGs through CITES.

In [Chapter 25](#), Casey Stevens asserts that the SDGs and the 2030 Agenda will need to improve on the monitoring and assessment systems of the Millennium Development Goals if they are to have a significant effect. The author emphasizes that the cross-issue focus of the SDGs and the need to make the SDGs key planning tools for actors at local, national and international levels both require systems of assessment and revision of rules to improve outcomes. In the current international political context, the author argues, chances for a centralized and firmly coordinated system of monitoring, assessment and revision are unlikely; such a system is not currently being developed in the SDG and 2030 Agenda discussions. To augment such a system, the author argues that those supporting the SDGs will need to develop decentralized systems that are perceived as legitimate by different sets of actors. The author notes that biodiversity governance systems have developed a variety of mechanisms for assessment and revision that can help provide roadmaps for the SDGs. The most advanced is the CITES listing process. The author discusses the challenges of assessment for the SDGs and the 2030 Agenda, explaining the history and system of assessment developed by CITES and the lessons offered for SDG systems. While there are some opportunities for learning from this system, the author suggests, obstacles also present themselves, as can be understood from a consideration of larger systems of organizing assessment in global environmental organizations.

In [Chapter 26](#), Patricia Farnese notes that it is estimated that up to 70 percent of recent emerging zoonotic diseases (EZD) have wildlife origins. Both the domestic and the international trades in wildlife and their parts have been implicated in the emergence and rapid spread of EZDs. Although the problem is not limited to species captured by the CITES regime, CITES contains key provisions that have influenced the structure of the international response to these disease threats. After briefly explaining the connection between wildlife trade and zoonotic disease emergence, the author evaluates existing efforts under CITES to respond to EZD threats in a manner that is consistent with the Convention's objectives while cognizant of the

livelihood concerns of those often engaged in the trade. She concludes by identifying opportunities and challenges for global leadership in this area by CITES.

In [Chapter 27](#), Ngozi Finette Stewart asserts that CBD 1992, CMS 1979 (also known as the Bonn Convention), CITES 1973 and the Ramsar Convention on Wetlands of International Importance Especially as Waterfowl Habitat 1971 have a common objective – emphasizing environmentally sound development for the conservation of biological diversity and associated habitats. The author offers a scrutiny of the accords to highlight an apparent overlap of this objective in different contexts. The author argues that since CBD has the broadest (most general) scope in terms of the above objective, all the other regimes should be sub-legislations to it where necessary. Also, the author argues that, as a way to practically and effectively implement the resultant legislation, an omnibus compromise provision should be included in CBD as an implementation guide toward the effective realization of the SDGs, demonstrating that, in the author's view, it is unrealistic to argue that all of nature can be maintained. The author highlights the need to achieve a practicable compromise (reconciliation) between development and biodiversity conservation. Beginning with the imperative of conserving biodiversity, the author discusses the existing regimes on biodiversity conservation and their (in)effectiveness and argues for synergy of the existing regimes as a major step toward effectiveness that will be enhanced by an ethical shift.

Finally, forming [Part VI](#), in [Chapter 28](#) the editors lay out new directions for law and policy on sustainable development in the context of CITES and CITES-listed species, drawing out key findings from the book, identifying elements of the future international law and governance research agenda, and offering tentative conclusions on the state of international efforts to secure implementation of CITES in the context of global SDGs.

In essence, this volume seeks to underline and explore the legal aspects of implementing CITES to achieve the SDGs. Through a series of structured and edited chapters, the authors jointly underscore emerging insights based on a careful consideration of current efforts to secure the protection of listed species. By reviewing how the obligations in CITES have affected and continue to shape the design and implementation of national regulatory regimes, as well as existing policies and laws on CITES-listed species as they relate to the sustainable development objectives of different countries, the authors provide a rich and detailed analysis of current attempts to regulate trade in threatened species. They highlight the legal obstacles that states and stakeholders are facing, and the innovations and proposed solutions that might overcome current barriers. They also jointly examine, from many diverse perspectives across different regions of the world, the practical, legal, political and economic options that might strengthen the implementation of regulations to comply with CITES in contemporary settings. The analysis considers, in particular, how regulations that implement CITES can foster sustainable development in developing countries, while also connecting the global systems of regulation that shape trade in species across global value chains, offering ideas for ways to further develop the CITES regime in the interest of future generations.