

# Sustainability vs Overexploitation: A Nexus Between Illegal Wildlife Trafficking and the Climate Crisis

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## I. Introduction

Almost every country on this planet recognizes that sustainable development and use are primary drivers in environmental policy agendas.<sup>1</sup> With these ideas at the forefront, it is the hope that biodiversity resources will continue to perpetuate far into the future lest there be disastrous environmental consequences. Environmentalists once thought that the concept of sustainable development would lead to the creation of legal rules and principles that would resolve disputes

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<sup>1</sup> Dijan Widijowati, et al., *Sustainable Development: Legal Status and Formulation*, KNE SOCIAL SCIENCES (Mar. 25, 2019), <https://knepublishing.com/index.php/KnE-Social/article/view/4334/8950#info>.

without sacrificing the interests of either the environment or development.<sup>2</sup> This hope has never come to fruition.

Although sustainable development is recognized as a general overarching objective in international law, it remains a collection of competing sub-principals that cause a lack of clarity and an amorphous legal status.<sup>3</sup> This means that this massively recognizable concept that countries have acknowledged and adopted into their environmental objectives since the 1990s<sup>4</sup> remains largely unimplemented and poorly understood. This failure has caused what should be primary drivers to take a backseat to the dual climate and biodiversity crises. Both the international and domestic legal communities urgently need to rectify the failure of properly utilizing sustainable development to combat the existential threats of our time.

## **II. The Growth of Sustainability**

Sustainable development is a phrase we hear in popular media and academic circles as if it has been ingrained into our collective psyche. Indeed, the origin of sustainable development can be traced back to the eighteenth century. In 1798, Thomas Malthus published *An Essay on the Principle of Population* where he set out his famous “theory of population.”<sup>5</sup> He identified one of today’s key elements of sustainable development, the link between overpopulation and the emergence of social problems.<sup>6</sup> His theory states that populations tend to grow quicker than the resources they utilize.<sup>7</sup>

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<sup>2</sup> Luis A. Avilés, *Sustainable Development and the Legal Protection of the Environment in Europe*, 12 SUSTAINABLE DEVELOPMENT LAW & POLICY 29, 29 (2012).

<sup>3</sup> *Id.* at 30.

<sup>4</sup> Dijan Widijowati, et al., *Sustainable Development: Legal Status and Formulation*, KNE SOCIAL SCIENCES (Mar. 25, 2019), <https://knepublishing.com/index.php/KnE-Social/article/view/4334/8950#info>.

<sup>5</sup> See Thomas R. Malthus, *An essay on the principle of population, as it affects the future improvement of society. With remarks on the speculations of Mr. Godwin, M. Condorcet, and other writers*, 281-282, (1798).

<sup>6</sup> *Id.*

<sup>7</sup> *Id.*

Ecologist Garrett Hardin furthered this ideal in 1968 with his influential work, *The Tragedy of the Commons*,<sup>8</sup> where he coined the term “mutual coercion mutually agreed upon.”<sup>9</sup> In this essay, Hardin brings forth the ideal that if individuals continue to take what is beneficial to their personal entity without thought of the adverse effects to others, this action will deplete the collective commons. The only way to keep a resource from running dry is to cede that personal freedom for a collective good to sustain the common resource.<sup>10</sup>

However, the term sustainable development that we accept as a paradigm came into prominence in the 1980s. The definition refers to the work of the Brundtland Commission and their ground-breaking report *Our Common Future* in 1987.<sup>11</sup> In essence, the Brundtland Commission characterized sustainable development as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs.”<sup>12</sup> The mandate of the Brundtland Commission was to address environmental issues as well as problems traditionally considered the domain of international law, and this definition captured both objectives.<sup>13</sup>

According to the Commission, changes in agriculture, energy, and industry will cause a combination of systems, such environment and development, to ‘lock together’ instead of operating separately.<sup>14</sup> “Separate policies and institutions can no longer cope effectively with

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<sup>8</sup> See Garrett Hardin, *The Tragedy of the Commons*, 162 *SCIENCE* 1243–1248 (1968).

<sup>9</sup> *Id.* at 1247.

<sup>10</sup> *Id.*

<sup>11</sup> World Commission on Environment and Development, *Our Common Future*, Oxford: Oxford University Press (1987), <https://sustainabledevelopment.un.org/content/documents/5987our-common-future.pdf>.

<sup>12</sup> *Id.* at 43

<sup>13</sup> Ralf Barkemeyer, Philippe Givery, & Frank Figge, *Trends and patterns in sustainability-related media coverage: A classification of issue-level attention*, 36 *ENVIRONMENT AND PLANNING C: POLITICS AND SPACE* 939 (2018).

<sup>14</sup> World Commission on Environment and Development, *Our Common Future*, Oxford: Oxford University Press (1987), <https://sustainabledevelopment.un.org/content/documents/5987our-common-future.pdf>.

these interlocked issues. Nor can nations, acting unilaterally.”<sup>15</sup> The interdependent nature of the challenges discussed contrasted sharply with the way institutions operated in that time.

Institutions tended to be “independent, fragmented, and working to relatively narrow mandates with closed decision processes.”<sup>16</sup> The individuals who made decisions regarding the

management of natural resources and protecting the environment were siloed off in one department while those in charge of managing the economy existed in a different department.

This sectioning off of policymakers did not reflect the interconnected nature that existed outside the rooms where decisions were made, and that needed to change.<sup>17</sup> As the Commission

proclaimed:

Environmental protection and sustainable development must be an integral part of the mandates of all agencies of governments, of international organizations, and of major private sector institutions. These must be made responsible and accountable for ensuring that their policies, programs, and budgets encourage and support activities that are economically and ecologically sustainable both in the short and longer terms. They must be given a mandate to pursue their traditional goals in such a way that those goals are reinforced by a steady enhancement of the environmental resource base of their own national community and of the small planet we all share.<sup>18</sup>

The United Nations 1992 Rio Declaration on Environment and Development capitalized on the ideas of the Report when it set out twenty-seven principles with the aim of forming an

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<sup>15</sup> *Id.*

<sup>16</sup> *Id.*

<sup>17</sup> *Id.*

<sup>18</sup> World Commission on Environment and Development, *Our Common Future*, Oxford: Oxford University Press (1987), <https://sustainabledevelopment.un.org/content/documents/5987our-common-future.pdf>.

“equitable global partnership.”<sup>19</sup> Of these twenty-seven principles, the first four are of particular importance in defining sustainable development:

Principle 1: Human beings are at the center of concerns for sustainable development. They are entitled to a healthy and productive life in harmony with nature.<sup>20</sup>

Principle 2: States have the sovereign right to exploit their own resources pursuant to their own environmental and developmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction.<sup>21</sup>

Principle 3: The right to development must be fulfilled so as to equitably meet developmental and environmental needs of present and future generations.<sup>22</sup>

Principle 4: In order to achieve sustainable development, environmental protection shall constitute an integral part of the development.<sup>23</sup>

The Brundtland Commission and its progeny started a sweeping movement to harmonize ecological, economic, and social demands to come together to find a solution that would lead to prosperity.

### **III. The Dark Side of Development**

As the movement gained speed, so did the global population. The idea brought forth by Malthus is as true today as in the eighteenth century. While the Brundtland Report hoped to find this harmony of ecology, economy, and society, we live in an overpopulated world that exploits its resources ever further. Additionally, there is an innate difficulty in the incorporation of

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<sup>19</sup> See generally Gen. Assembly, *Report of the United Nation Conference on Environment and Development*, U.N. DOC. A/CONF. 151/26 (June 13, 1992).

<sup>20</sup> *Id.* at prin. 1.

<sup>21</sup> *Id.* at prin. 2.

<sup>22</sup> *Id.* at prin. 3.

<sup>23</sup> *Id.* at prin. 4.

sustainability when a government runs on a regulatory scheme. Indeed, the Environmental Protection Agency (EPA) only started considering sustainability in its policy decisions in 2011 when then Administrator Gina McCarthy made sustainability one of her “core themes” for 2014-2018.<sup>24</sup>

But, taking the necessary steps to “work[] toward a sustainable future”<sup>25</sup> showed a tension between an innovative, adaptable initiative and a narrowly-targeted, top-down regulatory regime.<sup>26</sup> Unfortunately, regulation is what is much needed and much harder to come by. As Hardin wrote, “[r]uin is the destination toward which all men rush, each pursuing his own best interest in a society that believes in the freedom of the commons. Freedom in a commons brings ruin to all.”<sup>27</sup> Nowhere is this more prominent than in one of the largest crises to face mankind to date, the climate crisis.

#### **IV. The Climate Crisis and Sustainable Development**

Internationally, the political response to the climate crisis began at the Rio Earth Summit in 1992, which gave birth to the UN Framework on Climate Change (UNFCCC).<sup>28</sup> This convention set out an action plan with the aim to stabilize atmospheric concentrations of greenhouse gases (GHGs) to avoid “dangerous anthropogenic interference with the climate system.”<sup>29</sup> The UNFCCC now has a membership of 197 parties.<sup>30</sup> In 2015, the 21st Session of the Conference of the Parties (COP21/CMP1) adopted the Paris Agreement, a universal

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<sup>24</sup> George B. Wyeth & Beth Termini, *Regulating for Sustainability*, 45 ENVIRONMENTAL LAW 665 (2015), <https://law.lclark.edu/live/files/20064-45-3wyethpdf>.

<sup>25</sup> *Id.*

<sup>26</sup> *Id.* at 666.

<sup>27</sup> Garrett Hardin, *The Tragedy of the Commons*, 162 SCIENCE 1244 (1968).

<sup>28</sup> See United Nations, *United Nations Framework Convention on Climate Change*, (1992), <http://unfccc.int/resource/docs/convkp/conveng.pdf>.

<sup>29</sup> *Id.* at 4.

<sup>30</sup> United Nations, *Climate Change*, SUSTAINABLE DEVELOPMENT GOALS KNOWLEDGE PLATFORM, <https://sustainabledevelopment.un.org/post2015/transformingourworld> (last visited May 6, 2020).

agreement which aims to limit a global temperature rise to 1.5° C above pre-industrial levels.<sup>31</sup> These are just examples of the plethora of legal instruments related to the curtailing the climate crisis.

Yet, ecosystems and natural resources continue to decline. Even with the acknowledgement of the undeniably strong link between the climate crisis and sustainable development, poor and developing countries are among those most adversely affected and least able to cope with the anticipated shocks to their social, economic, and natural systems.<sup>32</sup> In the 2030 Agenda for Sustainable Development, Member States identified the climate crisis as “one of the greatest challenges of our time,”<sup>33</sup> and they worry about “its adverse impacts undermine the ability of all countries to achieve sustainable development. Increases in global temperature, sea level rise, ocean acidification and other climate change impacts... The survival of many societies, and of the biological support systems of the planet, is at risk.”<sup>34</sup>

Environmental challenges such as the climate crisis and biodiversity loss continue to accelerate our planet on the path to ruin, and legal framework the global community developed to ensure environmental sustainability is not meeting the ever-growing challenge. This raises questions of implementation and effectiveness of law and governance structures in the environmental context.<sup>35</sup> After all, “countries are good at coordinating and bad at cooperating voluntarily.”<sup>36</sup> A prime example of this is in the attempts to instill the climate crisis and

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<sup>31</sup> United Nations, *Paris Agreement*, 1, 3 (2015), [https://unfccc.int/sites/default/files/english\\_paris\\_agreement.pdf](https://unfccc.int/sites/default/files/english_paris_agreement.pdf).

<sup>32</sup> United Nations, *Climate Change*, SUSTAINABLE DEVELOPMENT GOALS KNOWLEDGE PLATFORM, <https://sustainabledevelopment.un.org/post2015/transformingourworld> (last visited May 6, 2020).

<sup>33</sup> United Nations, *Transforming our world: the 2030 Agenda for Sustainable Development*, SUSTAINABLE DEVELOPMENT GOALS KNOWLEDGE PLATFORM, <https://sustainabledevelopment.un.org/post2015/transformingourworld> (last visited May 6, 2020).

<sup>34</sup> *Id.*

<sup>35</sup> International Union for Conservation of Nature, *Law for Sustainability*, IUCN.ORG (2020), <https://www.iucn.org/theme/environmental-law/our-work/governance-and-meas/law-sustainability>.

<sup>36</sup> Stephen Battersby, *Can humankind escape the tragedy of the commons?*, 114 PNAS 9 (Jan. 3, 2017) (quoting economist Scott Barnett).

sustainability into decisions made by the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) and illegal, overexploitative activities that undermine that effort.

## **V. Incorporation of the Climate Crisis into the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)**

Before we delve into the issues, we must be clear on how CITES operates on a global level. CITES is an international agreement to protect endangered plants and animals.<sup>37</sup> It was drafted because of a resolution adopted in 1963 at a meeting of members of the International Union for Conservation of Nature (IUCN).<sup>38</sup> As the name implies, this convention deals with international trade in wildlife. Its aim is to ensure that the international trade in specimens of wild animals and plants does not threaten the survival of the species in its natural habitat.<sup>39</sup> The way this is achieved is through either the prohibition or the control of trade. There are 183 nations around the world that are parties to CITES with about 37,000 plant and animal species subject to its regulations, and this agreement provides levels of protection.<sup>40</sup> Species listed in Appendix I of the CITES cannot be traded commercially.<sup>41</sup> Those species in Appendix II can be traded in but require export and import permits.<sup>42</sup> For species listed in Appendix III, countries ask other parties for support in monitoring trade.<sup>43</sup> The CITES parties meet once every three years to vote on protections and the treaty's interpretation.<sup>44</sup> The CITES Strategic Vision Post-

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<sup>37</sup> Convention on International Trade in Endangered Species of Wild Fauna and Flora, *What is CITES?*, <https://www.cites.org/eng/disc/what.php> (last visited May, 6, 2020).

<sup>38</sup> *Id.*

<sup>39</sup> *Id.*

<sup>40</sup> *Id.*

<sup>41</sup> Convention on International Trade in Endangered Species of Wild Fauna and Flora, *How CITES Works*, <https://www.cites.org/eng/disc/how.php> (last visited May, 6, 2020).

<sup>42</sup> *Id.*

<sup>43</sup> *Id.*

<sup>44</sup> Convention on International Trade in Endangered Species of Wild Fauna and Flora, *What is CITES?*, <https://www.cites.org/eng/disc/what.php> (last visited May, 6, 2020).



2020 document, for example, is a draft vision that foresees “[b]y 2030, all international trade in wild fauna and flora is legal and sustainable, consistent with the long-term conservation of species, and thereby contributing to halting biodiversity loss.”<sup>45</sup> It also highlights CITES’ role in contributing to the achievement of the Sustainable Development Goals of the 2030 Agenda for Sustainable Development.<sup>46</sup>

While CITES has a handle on international trade, what it does not do is control domestic trade or management of species.<sup>47</sup> However, decisions taken on the CITES level also reverberate into domestic trade and management systems.<sup>48</sup> This is why it is imperative to incorporate the effects of the climate crisis into management decisions when it comes to wildlife trade.

An intergovernmental panel of the world’s foremost scientists released the *2019 Global Assessment Report on Biodiversity and Ecosystem Services* (IPBES Report). The IPBES Report warns of an acceleration in the loss of species worldwide. It predicts that around one million species face extinction, many within the next few decades, unless we take drastic steps to change the way we interact with animals, plants, and the entire natural world.<sup>49</sup> The IPBES Report lists five major drivers of biodiversity loss. “The direct drivers of change in nature with the largest global impact have been changes in land and sea use; direct exploitation of organisms; climate change; pollution; and invasion of alien species.”<sup>50</sup> The causes of these five drivers are

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<sup>45</sup> Convention on International Trade in Endangered Species of Wild Fauna and Flora, *CITES conference to strengthen wildlife trade rules for fisheries, timber, exotic pets, elephants and more*, (Aug. 7, 2019), [https://www.cites.org/eng/news/pr/cites-conference-to-strengthen-wildlife-trade-rules-for-fisheries-timber-exotic-pets-elephants-and-more\\_07082019](https://www.cites.org/eng/news/pr/cites-conference-to-strengthen-wildlife-trade-rules-for-fisheries-timber-exotic-pets-elephants-and-more_07082019).

<sup>46</sup> *Id.*

<sup>47</sup> Convention on International Trade in Endangered Species of Wild Fauna and Flora, *What is CITES?*, <https://www.cites.org/eng/disc/what.php> (last visited May, 6, 2020).

<sup>48</sup> *Id.*

<sup>49</sup> Sandra Diaz, et. al. *Summary for policymakers of the global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services*, 1, 3 (May 6, 2019).

<sup>50</sup> *Id.*

underpinned by production and consumption patterns, human population, dynamics and trends, trade, technological innovations and global governance.<sup>51</sup> Land-use change, also known as habitat degradation, may have the largest relative negative impact on nature, but the overexploitation of animals, plants, and other organisms is a definitive driver.<sup>52</sup>

Annually, the international wildlife trade is estimated to be worth billions of dollars and include hundreds of millions of plant and animal specimens.<sup>53</sup> The trade is diverse, ranging from live animals and plants to a substantial array of wildlife products.<sup>54</sup> For some species, levels of exploitation are high, and the trade in them is capable of heavily depleting their populations with the possibility bringing some close to extinction.<sup>55</sup> Many wildlife species in trade are not endangered, but the existence of an agreement to ensure sustainability is important to safeguard these resources future generations.<sup>56</sup> It is crucial that CITES parties adapt their trade management practices to account for climate crisis impacts.<sup>57</sup> Failure to do so may lead to the overexploitation of species in contravention of the goals of CITES from a legal standpoint.<sup>58</sup> With this being said, even though CITES parties agree to the legal trade and management of species to counteract possible exploitation, the illegal trade of species threatens the very nature of this action.

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<sup>51</sup> *Id.* at 3-4

<sup>52</sup> *Id.* at 4

<sup>53</sup> Convention on International Trade in Endangered Species of Wild Fauna and Flora, *What is CITES?*, <https://www.cites.org/eng/disc/what.php> (last visited May, 6, 2020).

<sup>54</sup> *Id.*

<sup>55</sup> *Id.*

<sup>56</sup> *Id.*

<sup>57</sup> NRDC, et. al., *CITES and Climate Change: A Need for Integration*, 1,8 (Mar. 2012),

<https://defenders.org/sites/default/files/publications/cites-and-climate-change-a-need-for-integration.pdf>.

<sup>58</sup> *Id.*

## VI. The Overexploitative Nature of Illegal Wildlife Trafficking

Illegal international trafficking in wildlife is no longer an abstract concept. The wildlife trade is increasingly recognized as both a specialized area of organized crime and a significant threat to many plant and animal species.<sup>59</sup> A report from the United Nations indicates that although there are a number of international conventions, like CITES, and national initiatives that seek to address this reality, the financial loss is running into the billions of dollars.<sup>60</sup>

The Global Environment Fund describes the illegal wildlife trade as “one of the most lucrative illegal businesses in the world.”<sup>61</sup> It is now ranked as the fourth largest source of criminal earnings, generating up to 23 billion dollars, annually.<sup>62</sup> Illegal wildlife trafficking deprives nations of their biodiversity, income opportunities, and natural heritage and capital.<sup>63</sup> This industry is mature and complex with diverse customers that make it problematic to narrow down demand to a single class, culture, or region.<sup>64</sup> At the heart of these activities is a network of crime spanning from Africa to the Amazon, Western Central Pacific, Indonesia and South East Asia with the main destination countries as China, Japan, Western European countries, and North America.<sup>65</sup> Additionally, the growing involvement of organized crime groups increases the complexity of enforcement investigations and the risks faced by enforcement officers.<sup>66</sup>

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<sup>59</sup> See United Nations Office on Drugs and Crime, *World Wildlife Crime Report: Trafficking in protected species*, UNITED NATIONS 1-101 (2016), [https://www.unodc.org/documents/data-and-analysis/wildlife/World\\_Wildlife\\_Crime\\_Report\\_2016\\_final.pdf](https://www.unodc.org/documents/data-and-analysis/wildlife/World_Wildlife_Crime_Report_2016_final.pdf).

<sup>60</sup> See *id.*

<sup>61</sup> Sharon Guynup, *To Help Save the Planet, Stop Environmental Crime*, NEW SECURITY BEAT (Jan. 6, 2020), <https://www.newsecuritybeat.org/2020/01/save-planet-stop-environmental-crime/>.

<sup>62</sup> *Id.*

<sup>63</sup> Ross Harvey, *Explainer: what is CITES and why should we care?*, THE CONVERSATION (Sept. 18, 2016), <https://theconversation.com/explainer-what-is-cites-and-why-should-we-care-65510>.

<sup>64</sup> Erica Lyman, *Now Is the Time to Revolutionize Our Relationship with Wildlife*, CENTER FOR ANIMAL LAW STUDIES (Mar. 25, 2020), <https://law.lclark.edu/live/news/43107-now-is-the-time-to-revolutionize-our-relationship>.

<sup>65</sup> *Id.*

<sup>66</sup> Convention on International Trade in Endangered Species of Wild Fauna and Flora, *CITES conference to strengthen wildlife trade rules for fisheries, timber, exotic pets, elephants and more*, (Aug. 7, 2019), [https://www.cites.org/eng/news/pr/cites-conference-to-strengthen-wildlife-trade-rules-for-fisheries-timber-exotic-pets-elephants-and-more\\_07082019](https://www.cites.org/eng/news/pr/cites-conference-to-strengthen-wildlife-trade-rules-for-fisheries-timber-exotic-pets-elephants-and-more_07082019).

Environmental crimes cause ecosystem disruption, biodiversity loss, and crippled ecosystem services that undermine mankind's ability to build resilient economies and adapt to the climate crisis.<sup>67</sup>

### A. Case Study: African Elephant (The Well-Known)

Examples of exploited animals and declining populations span the globe, but one of the hardest hit continents is

Africa. For instance, there has been an 85% increase in the number of African rhinos poached since 2009.<sup>68</sup> There are only about 20,000 white rhinos and fewer than 6,000 black rhinos left.<sup>69</sup>



Additionally, the Great Elephant Census reveals that there are only about 375,000 elephants remaining in Africa.<sup>70</sup> The two main sources of decline in African elephants are ivory demand and land-use changes.<sup>71</sup> To put this into perspective, crime on elephants alone could financially cost Africa 1.9 billion dollars each year.<sup>72</sup> In Asia, poached African ivory may represent a street value of about 165 to 188 million dollars.<sup>73</sup>

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<sup>67</sup> Ibrahim Thiaw, *The critical link between resource plunder and illegal trade in wildlife*, AFRICA RENEWAL, <https://www.un.org/africarenewal/web-features/critical-link-between-resource-plunder-and-illegal-trade-wildlife> (last visited May 6, 2020).

<sup>68</sup> *Id.*

<sup>69</sup> *Id.*

<sup>70</sup> *Id.*

<sup>71</sup> *Id.*

<sup>72</sup> Ibrahim Thiaw, *The critical link between resource plunder and illegal trade in wildlife*, AFRICA RENEWAL, <https://www.un.org/africarenewal/web-features/critical-link-between-resource-plunder-and-illegal-trade-wildlife> (last visited May 6, 2020).

<sup>73</sup> *Id.*

Moreover, the climate crisis is expected to reduce the size of African habitats 81% to 97% for an estimated 5,197 species, according to the *Africa Adaptation Gap Report*.<sup>74</sup> Illegal trade in wildlife can also undermine ecosystem-based adaptation as well as hinder carbon capture and mitigation efforts.<sup>75</sup> In central Africa, elephants eat fast-growing trees, which makes room for the slow-growing trees.<sup>76</sup> These slow-growers with their thick bark store more carbon than faster-developing cohorts.<sup>77</sup> It is a natural form of carbon capture. Studies have shown that if elephant populations continue to dwindle, more carbon will accumulate in the atmosphere.<sup>78</sup> By killing elephants, poachers rob the ability of slow-growing trees to thrive and for seeds to disperse.<sup>79</sup> Elephants disperse over 100 species of seeds as they forage over long distances.<sup>80</sup> Without the elephant's ability to nurture trees, there is an immense hinderance to natural carbon capture. In Africa today, up to 90% of elephant mortality is because of poaching, and more elephants die from poaching than from natural causes.<sup>81</sup>

## **B. Case Study: Seahorse (The Mismanaged)**

Although seahorses were added to the CITES agreement in 2004 as a threatened species, large volumes of illegal trade are still an issue.<sup>82</sup> These small, idiosyncratic fish are relentlessly poached around the world, with annual amounts at approximately 150 million seahorses caught

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<sup>74</sup> *Id.*

<sup>75</sup> *Id.*

<sup>76</sup> Marlene Cemons, *Elephants and Monkeys Are Working to Protect You From Climate Change*, NEXUS MEDIA (Aug. 8, 2019), <https://nexusmedianews.com/elephants-and-monkeys-are-working-to-protect-you-from-climate-change-34cbcb442d1f>.

<sup>77</sup> *Id.*

<sup>78</sup> *Id.*

<sup>79</sup> *Id.*

<sup>80</sup> *Id.*

<sup>81</sup> Ross Harvey, *Explainer: what is CITES and why should we care?*, THE CONVERSATION (Sept. 18, 2016), <https://theconversation.com/explainer-what-is-cites-and-why-should-we-care-65510>.

<sup>82</sup> *Interpretation and Implementation of the Convention Species Trade and Conservation Issues*. CITIES Cop18 1, 1-2 (May 23, 2019), [www.fws.gov/international/cites/cop18/pdfs/cop18-seahorses.pdf](http://www.fws.gov/international/cites/cop18/pdfs/cop18-seahorses.pdf).



from the wild and illegally sold.<sup>83</sup> In fact, according to data collected between 2009-2017, seahorses make up 24.4% of the total marine products confiscated globally from traffickers in the air transport sector. A single

seizure could contain up to 20,000 seahorses valued at more than €8.8 each.<sup>84</sup>

The primary reason for illegal seahorse trafficking is the Chinese traditional medical market. It is believed that seahorses exhibit antitumor, antiaging, and antifatigue properties and are able to suppress neuroinflammatory responses and collagen release.<sup>85</sup> Because of this, seahorses are harvested in mass quantities that contribute to removing them faster than they can reproduce. Compounding this massive loss in the seahorse population is the online market. Traditionally, a person would go to a physical market to buy a seahorse, take it home, and prepare it themselves.<sup>86</sup> Now, seahorse pills are bought from online retailers.<sup>87</sup> These pills

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<sup>83</sup> Daniel T. Cross, *Time is running out for the world's embattled seahorses*, SUSTAINABILITY TIMES (Aug. 19, 2019), <https://www.sustainability-times.com/environmental-protection/time-is-running-out-for-the-worlds-embattled-seahorses/>.

<sup>84</sup> Mary Utermohlen & Patrick Baine, *In Plane Sight: Wildlife Trafficking in the Air Transport Sector*, USAID ROUTES PARTNERSHIP 1, 121 (Aug. 6, 2018), [https://www.traffic.org/site/assets/files/10858/in\\_plane\\_sight.pdf](https://www.traffic.org/site/assets/files/10858/in_plane_sight.pdf).

<sup>85</sup> Chia-Hao Chang, et al. *Authenticating the Use of Dried Seahorses in the Traditional Chinese Medicine Market in Taiwan Using Molecular Forensics*, 21 J. OF FOOD AND DRUG ANALYSIS 310, 311 (Aug. 7, 2013), [www.sciencedirect.com/science/article/pii/S1021949813000434](http://www.sciencedirect.com/science/article/pii/S1021949813000434).

<sup>86</sup> Daniel T. Cross, *Time is running out for the world's embattled seahorses*, SUSTAINABILITY TIMES (Aug. 19, 2019), <https://www.sustainability-times.com/environmental-protection/time-is-running-out-for-the-worlds-embattled-seahorses/>.

<sup>87</sup> *Id.*



contain non-breeding juvenile and sub-adult seahorses and pipefish because of the rapid decline in seahorse numbers.<sup>88</sup>

Additional reasons for the worldwide decline in seahorse populations are the souvenir and aquarium trades. Many local, coastal tourist shops sell dried seahorses as mementos for tourists.<sup>89</sup> The souvenir trade is responsible for the deaths of about one million seahorses every year.<sup>90</sup> Additionally, the trade of wild seahorses for home aquariums kills a massive amount of these charismatic creatures every year with many dying within a few weeks of being in a home aquarium.<sup>91</sup> The market for trading seahorses for home use reaches about one million annually, and it is estimated that less than 1,000 survive past six weeks.<sup>92</sup>

Many countries do have seahorse export bans. For example, India banned all fisheries and exports of seahorses in 2001 with Thailand following suit in 2016.<sup>93</sup> However, as of 2016-17, there were still twenty-two countries that supplied wild, dried seahorses to Hong Kong, and many of the supplying countries had export bans in place.<sup>94</sup> A survey of traders in Hong Kong found that Thailand and the Philippines were the two largest sources, and countries throughout South Asia and Africa also illegally exported to Hong Kong.<sup>95</sup> This indicates that the seahorse trade, though illegal, is not monitored nor managed.<sup>96</sup>

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<sup>88</sup> *Id.*

<sup>89</sup> *Seahorse Facts*, THE SEAHORSE TRUST, <https://www.theseahorsetrust.org/seahorse-facts/> (last visited Ja. 8, 2021).

<sup>90</sup> *Id.*

<sup>91</sup> *Id.*

<sup>92</sup> *Id.*

<sup>93</sup> Samantha Topp, *Protected Yet Trafficked: Seahorses Offer Glimpse into the Murky World of Asian Wildlife Trade*, EARTH.ORG (Apr. 4, 2019), <https://earth.org/seahorse-trafficking-offers-glimpse-into-the-murky-world-of-asian-wildlife-trade-%EF%BB%BF/>.

<sup>94</sup> *Id.*

<sup>95</sup> *Id.*

<sup>96</sup> Peter Yeung, *An appetite for dried seahorse in China could spell the marine animal's demise*, DEUTSCHE WELLE (Jun. 26, 2019), <https://www.dw.com/en/an-appetite-for-dried-seahorse-in-china-could-spell-the-marine-animals-demise/a-49251657>.

Coastal reef destruction, deforestation, plastic pollution, ocean acidification, and the climate crisis are all contributing threats to the loss of seahorse species, as well.<sup>97</sup> Ocean acidification has the greatest impact, and while research indicates that adult seahorses have a small tolerance toward higher temperatures, the combination of acidification and warming is too much.<sup>98</sup> When exposed to lower pH, feeding rates decrease, ventilation decreases, and activity rates slow, which affect reproduction and growth rates.<sup>99</sup> The hypothesis is that because of this combination of anthropogenic causes, seahorses could be functionally extinct in some areas of the world in 25 to 30 years' time.<sup>100</sup>

### **C. Case Study: Pangolin (The Poster Child)**

Pangolins are one of the most illegally trafficked animals on the planet, today. Of the eight species of pangolin, four native to Asia and four to Sub-Saharan Africa, all of them are threatened with extinction by overexploitation for local and international use.<sup>101</sup> Admittedly, there is a lack of data on wild populations, but evidence indicates that populations have declined

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<sup>97</sup> Daniel T. Cross, *Time is running out for the world's embattled seahorses*, SUSTAINABILITY TIMES (Aug. 19, 2019), <https://www.sustainability-times.com/environmental-protection/time-is-running-out-for-the-worlds-embattled-seahorses/>.

<sup>98</sup> Claudia A., *Seahorses...even camouflage can't help them now*, MEDIUM (Oct. 15, 2016), <https://medium.com/the-life-and-times-of-earth/effects-of-climate-change-1-8-c07db20987a>.

<sup>99</sup> *Id.*

<sup>100</sup> Daniel T. Cross, *Time is running out for the world's embattled seahorses*, SUSTAINABILITY TIMES (Aug. 19, 2019), <https://www.sustainability-times.com/environmental-protection/time-is-running-out-for-the-worlds-embattled-seahorses/>.

<sup>101</sup> Daniel W.S. Challender, *Evaluating the feasibility of pangolin farming and its potential conservation impact*, 20 GLOBAL ECOLOGY AND CONSERVATION 1,2 (Oct. 2019), <https://www.sciencedirect.com/science/article/pii/S2351989419301544>.



severely in recent decades because of overexploitation.<sup>102</sup> Pangolins are nocturnal and solitary creatures that meet only to mate.<sup>103</sup> This means that the pangolin breeds and reproduces slowly, having



very few offspring in its lifetime.<sup>104</sup> Yet, tens of thousands of these adorable animals are killed annually for their meat, which is considered a luxury food in China and Vietnam.<sup>105</sup> Additionally, pangolin scales have long been sold in traditional pharmacies in China.<sup>106</sup> These keratin scales are a ubiquitous ingredient in legally allowed medications to treat everything from breastfeeding issues to arthritis.<sup>107</sup>

Not only is the overexploitation of these species decimating populations too quickly for population numbers to bounce back, but this issue is further exacerbated by habitat loss, deforestation, and the climate crisis.<sup>108</sup> With its unique eco-physiological characteristics,

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<sup>102</sup> *Id.*

<sup>103</sup> Manfredo A. Turcios-Casco & Roberto Cazzolla Gatti, *Do not blame bats and pangolins! Global consequences for wildlife conservation after the SARS-CoV-2 pandemic*, 29 *BIODIVERSITY AND CONSERVATION* 3829, 3830 (Sep. 19, 2020), <https://link.springer.com/article/10.1007/s10531-020-02053-y>.

<sup>104</sup> *Id.*

<sup>105</sup> Dina Fine Maron, *Pangolins receive surprising lifeline with new protections in China*, *NATIONAL GEOGRAPHIC* (Jun. 9, 2020), <https://www.nationalgeographic.com/animals/2020/06/pangolins-receive-new-protections-traditional-medicine-in-china/>.

<sup>106</sup> *Id.*

<sup>107</sup> *Id.*

<sup>108</sup> Manfredo A. Turcios-Casco & Roberto Cazzolla Gatti, *Do not blame bats and pangolins! Global consequences for wildlife conservation after the SARS-CoV-2 pandemic*, 29 *BIODIVERSITY AND CONSERVATION* 3829, 3830 (Sep. 19, 2020), <https://link.springer.com/article/10.1007/s10531-020-02053-y>.

pangolins are very sensitive to temperature variations.<sup>109</sup> Pressure emanating from the climate crisis, habitat loss, and subsequent migration is driving these creatures closer and closer to human living spaces and unprecedented opportunities for interactions with otherwise unknown species, which may lead to interspecies transmission of disease.<sup>110</sup>

Pangolins are ranked as a Class I species under CITES.<sup>111</sup> This means that, since their designation in 2017, international trade in pangolins or their scales is prohibited.<sup>112</sup> However, between 2017 and 2019, seizures of pangolin scales tripled in volume.<sup>113</sup> In 2019 alone, 97 tons of pangolin scales, equivalent to about 150,000 animals, were reportedly intercepted leaving Africa.<sup>114</sup>

#### **D. Difficulties in Combating Illegal Trafficking**

CITES has become the premier agreement to tackle illegal wildlife trafficking.<sup>115</sup> While it is clear that animal species need protection, it is too often that commercial interests work to block protection or regulation efforts.<sup>116</sup> A representative of this unfair treatment is the giraffe. Giraffe populations in Africa are declining due to habitat degradation, illegal poaching, illegal trafficking, and the climate crisis.<sup>117</sup> Six African countries with giraffes have proposed CITES list the giraffe on Appendix II because there is evidence of commercial and illegal trade.<sup>118</sup> Yet, there are interest groups pushing to block this protection with the claim that the species is in

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<sup>109</sup> *Id.*

<sup>110</sup> *Id.*

<sup>111</sup> Alexander Richard Brackowski, et al., *Back from extinction: a world first effort to return threatened pangolins to the wild*, THE CONVERSATION (Jun. 4, 2020), <https://theconversation.com/back-from-extinction-a-world-first-effort-to-return-threatened-pangolins-to-the-wild-138621>.

<sup>112</sup> *Id.*

<sup>113</sup> *Id.*

<sup>114</sup> *Id.*

<sup>115</sup> Ross Harvey, *Explainer: what is CITES and why should we care?*, THE CONVERSATION (Sept. 18, 2016), <https://theconversation.com/explainer-what-is-cites-and-why-should-we-care-65510>.

<sup>116</sup> Susan Liberman, *CITES 2019: What's Conservation Got To Do With It? (commentary)*, MONGABAY (Aug. 16, 2019), <https://news.mongabay.com/2019/08/cites-2019-whats-conservation-got-to-do-with-it-commentary/>.

<sup>117</sup> *Id.*

<sup>118</sup> *Id.*

good shape in southern Africa.<sup>119</sup> However, just because the species is thriving in one location does not justify the inability to protect other declining populations because of a supposed inconvenience to require permits and regulation.<sup>120</sup>

Beyond the pressures of commercial interests, CITES faces a challenge because its design is to regulate, not combat wildlife trade. Additionally, this arena includes organized crime syndicates, which is completely out of the convention's intended purview.<sup>121</sup> Poaching often requires hiring locals to move endangered species products to buyers.<sup>122</sup> They operate like global multinational businesses with high tech equipment.<sup>123</sup> Poachers are armed with assault rifles, silencers, and night vision equipment.<sup>124</sup> Because this is a low-risk, high profit enterprise, cartels that deal in weapons, drugs, human trafficking, financial crime, fraud, and corruption have expanded their portfolios to include rare species.<sup>125</sup>

Most countries cannot adapt quickly enough to enforce CITES provisions in their national laws to tackle such a prolific and daunting problem. For instance, the Democratic Republic of the Congo has a tremendous issue with internal armed conflict.<sup>126</sup> The country's leaders lack the ability and capacity to incorporate CITES recommendations.<sup>127</sup> This is why multilateral agreements across countries for purposes of penalties and legislation are crucial for

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<sup>119</sup> *Id.*

<sup>120</sup> *Id.*

<sup>121</sup> Ross Harvey, *Explainer: what is CITES and why should we care?*, THE CONVERSATION (Sept. 18, 2016), <https://theconversation.com/explainer-what-is-cites-and-why-should-we-care-65510>.

<sup>122</sup> Sharon Guynup, *To Help Save the Planet, Stop Environmental Crime*, NEW SECURITY BEAT (Jan. 6, 2020), <https://www.newsecuritybeat.org/2020/01/save-planet-stop-environmental-crime/>.

<sup>123</sup> *Id.*

<sup>124</sup> *Id.*

<sup>125</sup> *Id.*

<sup>126</sup> Ross Harvey, *Explainer: what is CITES and why should we care?*, THE CONVERSATION (Sept. 18, 2016), <https://theconversation.com/explainer-what-is-cites-and-why-should-we-care-65510>.

<sup>127</sup> *Id.*

CITES is to gain real policy efficacy.<sup>128</sup> Otherwise, this deprivation of life and economic viability will continue to rack individual countries.

## **VII. The Shortcomings of the Endangered Species Act**

On the domestic level, the United States addresses illicit wildlife trafficking through the Eliminate, Neutralize, and Disrupt (END) Wildlife Trafficking Act of 2016 and the U.S. Presidential Executive Order on Enforcing Federal Laws with Respect to Transnational Criminal Organizations and Preventing International Trafficking of 2017.<sup>129</sup> The END Act directs federal agencies to work to strengthen law enforcement, reduce demand, and build international cooperation and commitment.<sup>130</sup>

However, few people realize that the United States ranks as the second largest market for illegal wildlife trafficking<sup>131</sup>, and recent rollbacks to the Endangered Species Act (ESA) hinder the ability to list species that need protection. One of the reasons is because officials are now prohibited from considering threats that would affect species in the “foreseeable future.”<sup>132</sup> This means that the climate crisis takes no part in determining whether a species becomes listed domestically, and while ESA listings have provided CITES-protected foreign species with benefits, these will become much more difficult to obtain for species imperiled by illegal trafficking.<sup>133</sup> The new rollback eradicates trade limits for threatened species, which means when foreign species are listed as threatened under the ESA, imports, exports, and interstate trade in

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<sup>128</sup> *Id.*

<sup>129</sup> U.S. Agency for International Development, *Combating Wildlife Trafficking*, USAID.GOV (Mar. 12, 2020), <https://www.usaid.gov/biodiversity/wildlife-trafficking>.

<sup>130</sup> *Id.*

<sup>131</sup> Sharon Guynup, *To Help Save the Planet, Stop Environmental Crime*, NEW SECURITY BEAT (Jan. 6, 2020), <https://www.newsecuritybeat.org/2020/01/save-planet-stop-environmental-crime/>.

<sup>132</sup> Elly Pepper, *How Trump’s ESA Rollbacks Will Affect Foreign Species*, NRDC (Aug. 21, 2018), <https://www.nrdc.org/experts/elly-pepper/how-trumps-rollbacks-will-affect-foreign-species>.

<sup>133</sup> *Id.*

their parts will not be automatically banned.<sup>134</sup> This rollback also allows for more trophy hunting and reduces international cooperation regarding foreign species because there is reduced pressure for other countries to protect their native imperiled species.<sup>135</sup>

### **VIII. A Concluding Thought**

Historically, the United States has led the world in enacting wildlife protection laws and conserving its natural resources, but it has lost this position as a global player in recent times.<sup>136</sup> Demand for wildlife products and natural resources catalyzes and sustains the direct exploitation of our planet, incites the sixth extinction crisis, and causes massive loss of life for both humans and animals.<sup>137</sup> “Land degradation, biodiversity loss and climate change are three different faces of the same central challenge: the increasingly dangerous impact of our choices on the health of our natural environment.”<sup>138</sup>

This beautiful concept of sustainable development from 1987 for an ideal, harmonic society that works together for a common goal. However, in our efforts to be individually prosperous, we create a collective tragedy. The industries that produce both legal and illegal markets for a variety of resources operate in parallel to meet the growing demand of consumers and diversity of goods. This every man for himself mentality is destroying the earth and its biodiversity globally, and it is this dark side of exploitation that creates the barriers we face in fighting for a sustainable planet for the generations of wildlife and humans that will continue on after us. We must engage in revolutionary thinking regarding our interaction with our natural

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<sup>134</sup> *Id.*

<sup>135</sup> *Id.*

<sup>136</sup> Center for Biological Diversity, *SAVING LIFE ON EARTH A PLAN TO HALT THE GLOBAL EXTINCTION CRISIS*, 1,3 (Jan. 2020).

<sup>137</sup> Erica Lyman, *Now Is the Time to Revolutionize Our Relationship with Wildlife*, CENTER FOR ANIMAL LAW STUDIES (Mar. 25, 2020), <https://law.lclark.edu/live/news/43107-now-is-the-time-to-revolutionize-our-relationship>.

<sup>138</sup> Chelsea Harvey, *Climate Change Is Becoming a Top Threat to Biodiversity*, SCIENTIFIC AMERICAN (Mar. 28, 2018), <https://www.scientificamerican.com/article/climate-change-is-becoming-a-top-threat-to-biodiversity/>, (quoting IPBES Chairman Robert Watson).

world from a regulatory standpoint. We must change our minds before we can change our laws, or else the changes to our climate will outlast our ability to thrive in it.