



An analytic review of past responses to  
**ENVIRONMENTAL CRIME**  
and programming recommendations

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# Introduction

## Background

Over the past 15 years, there has been significant growth in awareness that environmental crime constitutes serious organized crime. There has also been a development of laws and policies to accompany that. However, despite the urgency and importance of the issue, responses still fall far short of what is needed.

Leading scientists have contributed to these shifts in awareness by producing major syntheses that delineate the vast scale of global risk that environmental damage is unleashing. The Intergovernmental Panel on Climate Change (IPCC) and Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) have both released dire warnings, with the landmark 2019 IPBES report concluding that over a million species are at risk of extinction in the coming decades.<sup>1</sup> IPBES has also warned that environmental crisis undermines progress towards 80% of the assessed targets of the Sustainable Development Goals (SDGs).<sup>2</sup>

Environmental crime has a key and underappreciated role in this developing crisis. Our analysis shows that all of the contributing factors identified by IPBES have both direct and indirect connections to criminal networks and transnational criminal flows. We also know that, at its worst, environmental crime is intimately bound up with threats to global peace and stability. It provides a soft entry point into global illicit flows for traffickers,<sup>3</sup> and is often accompanied by widespread human-rights abuses and dispossession by criminal networks and actors.<sup>4</sup> The corruption related to environmental crime can be so damaging that it creates political instability and entrenches systems of patronage or the elite capture of democratic institutions.<sup>5</sup>

While there has been a significant increase in multilateral investments in responding to wildlife and timber crime, some of these interventions are themselves producing harms that outweigh or undermine their benefits. Human-rights abuses, such as torture, rape and displacement, are also bound up in militarized responses to environmental crime.<sup>6</sup> All of this points to the conclusion that the international community is still failing to support effective, sustainable ways of combating environmental crime. There is still much to do and much to learn – all within a narrow window of time.

The severity of these problems and the pressing time constraints on responding are linked to their intersection with other crises – a broader global failure to address the drivers of climate change; the rapid growth of organized crime and illicit trade over the past two decades; and the fall-out of the enormous shifts wrought by the greater social and economic integration of globalization, particularly through the changes introduced by digital communication and commerce on virtual platforms. The latter is having a transformative impact on all sectors, not least of which is the illicit trafficking of multiple commodities.

While this picture is bleak, it also presents new opportunities. Significantly, the debate is shifting in several areas. There is growing popular pressure on governments to act on the climate crisis, which indirectly raises the profile of biodiversity issues, and there are moves in important jurisdictions to better regulate cyberspace,<sup>7</sup> and to revitalize the multilateral response to environmental crime through new legal instruments.<sup>8</sup> There is also scope to re-evaluate the global response to risks of zoonotic disease from wildlife trade following the COVID-19 pandemic, as well as the risks posed by illicit financial flows (IFFs), most notably as a result of decisive action in this regard in the wake of the war in Ukraine.<sup>9</sup> These shifts support the chances for improving global action, whether against environmental crime specifically or organized crime more generally.

Now, then, is a good time to take stock of what has and has not worked, and to chart new directions for responding to this threat.

## Scope of the report

This report has been commissioned by the European Commission's Service for Foreign Policy Instruments (FPI), to inform its use of EU resources to have the greatest impact in disrupting illicit flows, stopping or diverting actors operating outside or on the margins of legal and regulatory frameworks, and reducing the overlapping harms associated with environmental crime.

While providing a synthesis of knowledge about environmental crime that can be applied by a broad range of actors, this report has been structured to inform the programming of FPI in countries outside of the EU.<sup>10</sup> However, while commissioned for internal purposes, we believe that this report can also contribute to debates about the response to environmental crime that extend beyond the EU's role.

The focus of this report has been defined through engagement with FPI, as well as through a range of consultations with other EU directorates and services as well as EU-financed projects within the EU, who are working on responses to environmental crime. The authors of this report have also drawn on our own expertise working in the sector, additional interviews, and research to arrive at a scope that provides an analysis that is applicable to many areas of environmental response.

Environmental crime is a vast topic, which, defined in its broadest sense, draws together an enormous array of illicit flows of animals, including fish, plants and other commodities (such as minerals and waste). To the extent that this report discusses high-level trends – such as globalization, and the increased use of digital technology – its analysis is relevant to this inclusive definition.

However, it is worth noting that we are not covering all areas of environmental crime in equal detail or attempting to be comprehensive across all markets. Such attempts often produce 'laundry lists' of (frequently divergent) crime trends and responses, rather than an overarching analysis of what can be done. We are guided here by the EU's identification of wildlife, timber and waste as its three core priorities,<sup>11</sup> as well as by principles drawn from years of work on illicit markets writ large. Our analysis draws most of its historical components, case studies and programming recommendations from the global trajectory of wildlife (fauna) and timber (or more broadly, flora) responses.<sup>12</sup> While waste is a critically important illicit flow, it implies a substantially different conversation about regulation and responses, whose geographic locus, particularly around crime prevention, turns inward to the EU and other industrialized countries.

To understand how to proceed, we look both backwards and forwards. The first section provides a brief history of responses to fauna and flora trafficking to date, including those by the EU – and suggests a periodization of crisis and response, showing how these have interacted with major socio-economic trends, such as globalization and increased connectivity through the internet. This section ends by assessing the trends that are shaping the current moment and its probable trajectory.

The next section draws together lessons learned from the history of environmental-crime response, drawing out the themes that cut across them. Lastly, we chart out 'tracks' of responses that could fill crucial gaps, reinforce work in key problem areas, and send resources towards key, but under-served, problems.

## The challenges of definitions: What is 'environmental crime'?

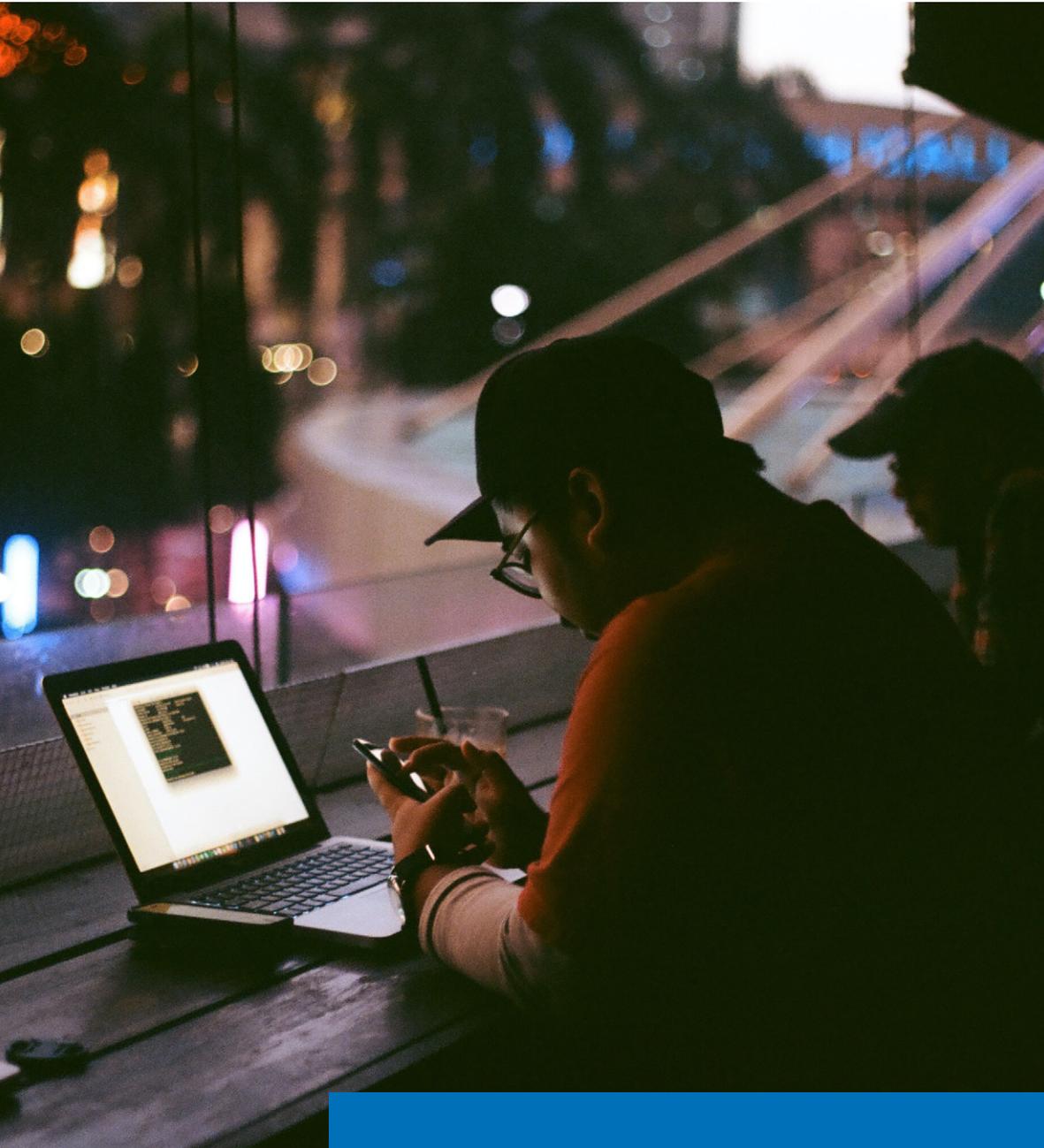
*The debate about how to programme responses has been marked by conceptual dilemmas, which arise from the fact that there is no universally accepted definition of environmental crime. In fact, in international law there is no agreed-upon legal definition of 'the environment'. Broadly – and vaguely – some take environmental crime to be any illegal activity that harms the environment, which could – and for many police forces, does – include acts as minor as fly-tipping. At the level of debate about international responses, the substance of discussions tends to revolve around crimes whose harms are seen as global problems, because their effects cross borders (like airborne and waterborne pollution) or because they damage ecosystems or species that are seen to be part of a global environmental heritage. While debates about organized crime involvement tend towards discussing illegal trade and trafficking, 'environmental crime' encompasses many different activities, including those that destroy habitats for non-trade-related reasons (like pollution).*

*In practice, the boundaries of what is considered a global problem are contested and contestable. Many organizations are concerned specifically about subsets of environmental harm, like illegal wildlife crime, or flora and fauna trafficking, but avoid crimes that call into question economic growth models, like those that facilitate expansion of land for plantations or valuable industries that create intense pollution.*

*'Wildlife' is also a term with shifting boundaries. Plants are often included under this definition, but mass tree felling (e.g. logging), which is seen to have different economic role, is often treated separately. For similar reasons, illegal, unreported and unregulated (IUU) fishing is often treated separately from 'wildlife', as it has a much more contentious political and economic meaning in national debates (as well as an even more complex problem of legal jurisdiction in the high seas), which creates a different politics to the discussion about responses.*

*As will be discussed in this report, these debates in part reflect the fragmented and in many ways inadequate international legal framing of these issues, though they also clearly reflect the tense political and socio-economic valence of responses to – and identification of – 'environmental crime'.*

*Given the multiple definitions in circulation and the absence of any single accepted one, this report openly takes the stand of talking about environmental crime in its broadest definition at some points, and to discuss flora and fauna trafficking specifically at others. 'Flora', in our usage, concerns both plant species, like trafficked orchids and illegal logging; 'fauna' covers land and marine animals.*



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# Evolution of the response

Although the remit of the report is forward-looking, we believe that the best way to begin is by looking at the history of the international response to flora and fauna trafficking. In order to understand the evolution of the debate and responses, we have undertaken a periodization of the major turning points of the global response.

This brief history has been drawn from interviews with people working in various organizations – including NGOs, international organizations and governmental organizations – for different durations across the past few decades, as well as from the academic and policy literature. It is selective, not comprehensive, and cleaves to the major themes we believe important to highlight.

The development of both illicit markets and the responses to them can be usefully periodized in the following four phases: 1970s to mid-1990s; mid-1990s to mid-2010s; 2014 to 2019; and 2020 to present. The progressive shortening of the periods described is a feature of the more rapidly evolving situation and a recognition of the advance of illicit markets and their harms.



**The four periods in the evolution of the response to flora and fauna trafficking.**

SOURCE: Authors' own research

# 1 1970s to mid-1990s: the creation of CITES and growing activism within global civil society

The first phase of crisis and response to flora and fauna trafficking runs from the 1970s to the mid-1990s, spanning the major extinction crises at this time and the birth of the multilateral architecture for dealing with them.<sup>13</sup> The 1970s ushered in, more broadly, a greater recognition of the essentially

international character and importance of environmental problems, for which the Stockholm Conference in 1972 is widely seen as being the opening act.<sup>14</sup> The year 1973 saw the creation of what has become the defining legal treaty for dealing with wildlife trade – CITES (ratified in 1975).

## What are the CITES Appendixes?

*At the international level, CITES is the main instrument governing trade in endangered species of flora and fauna. The CITES appendixes segregate species according to their conservation status.*

- *Appendix I indicates those species threatened with extinction. Commercial trade in wild-captured specimens of these species is completely prohibited.*
- *Appendix II indicates species that are not necessarily threatened with extinction, but whose trade must be strictly regulated to avoid overexploitation, which may jeopardize the species' survival in the wild. In this category, wild-caught specimens may be traded commercially in accordance with CITES permit rules.*
- *Appendix III indicates species that are not threatened by extinction, but are listed at the request of one member country to the other signatories, for assistance in controlling the trade in species. As is the case with Appendix II, commercial trade must adhere to CITES permit rules.*

Extinction crises were largely driven by dynamics where flora and fauna products were trafficked to North America and Europe, and parts of central and east Asia. This affected several species. In the 1970s, there was a rhino-poaching crisis that nearly drove three species to extinction.<sup>15</sup> In fact, one of the first major trade bans of the newly minted CITES treaty – an Appendix 1 listing – was on rhino horn, in 1977. There was also an ivory poaching crisis in the 1980s – where the major consuming countries were Japan, China and the US – which resulted in a CITES Appendix 1 listing in 1989.

However, it was not only charismatic megafauna at risk. Through the 1970s, 1980s and 1990s, there were repeated poaching crises affecting reptiles and birds, largely driven by the live pet trade in Europe and the US. Some species were driven to extinction through trade in this period.<sup>16</sup> The 1970s and 1980s also saw long and devastating periods of illegal (or unregulated) logging that wiped out substantial portions of tropical forest in South East Asia and Latin America, largely for American and European consumer markets.<sup>17</sup>

However, while the ‘trade’ aspects of these crises – and sometimes political corruption issues, such as the deforestation crises under dictatorships in South East Asia – were acknowledged, the criminal elements were largely not.<sup>18</sup> These crises were primarily seen as environmental problems that were solved through making interdictions, changing the rules and educating the public, so that consumers made better choices.<sup>19</sup> This was also evident in forums such as CITES, where an attempt to create an enforcement group in the mid-1990s failed.<sup>20</sup>

Civil-society groups, rather than governments, were the first organizations to identify (and in some cases expose, although initially in a very limited way) the criminal elements that made the trafficking of flora and fauna products possible. They advocated strongly for these problems to be seen as criminal, and not just environmental, problems.

## History of the EU's response to environmental crime

The EU's legislative framework to respond to environmental crime has grown in both scope and effectiveness as the understanding of the drivers behind these crimes and how to tackle them has developed. Through reviews and revisions, the collection of resolutions and directives has attempted to keep pace with the criminal landscape by focusing on both the supply and demand side of the illicit economy.

In 2003, the EU published the Forest Law Enforcement, Governance and Trade Action Plan (FLEGT). This recognized the important role consumer states play in reducing the demand for timber and sets out a range of measures aimed at tackling illegal logging.<sup>21</sup> Among these was the EU Timber Regulations, which prohibited operators in the EU from placing illegally harvested timber on the EU market. These were passed in 2010 and entered into force in March 2013.<sup>22</sup> However, although FLEGT addresses the issues of illegal logging and the associate trade, it does not address the link between deforestation and agricultural expansion in source countries.<sup>23</sup> To remedy this issue, the EU proposed regulation to ensure that products consumed within the Union do not contribute to global deforestation by requiring companies to ensure that the production of their products was not the result of deforestation. These regulations will replace the Timber Regulations.

In September 2008, the EU established a community system to prevent, deter and eliminate IUU fishing.<sup>24</sup> The regulation entered into force in January 2010 and aimed to ensure that no illegally caught fish ended up on the EU market through three core components: use of a catch certification scheme; a third-country carding scheme; and penalties for EU nationals.<sup>25</sup> Despite a slow start in implementing the regulations,<sup>26</sup> the carding scheme is seen as the most notable achievement of the IUU regulation, which has resulted in substantial improvements in Belize, Fiji, Panama, Tonga and Vanuatu, all of which now meet international standards.<sup>27</sup>

In November 2008, the EU issued a directive aimed at protecting the environment through criminal law by requiring all member states to ensure that the illegal wildlife trade, illegal waste management and other wildlife crimes were considered a criminal offence under national law, and that effective, proportionate and dissuasive criminal sanctions were available.<sup>28</sup> However, following a review it was found that the directive was having negligible effect in practice, with the number of environmental crimes successfully prosecuted being described as 'very low'. Furthermore, the criminal sanctions were not believed to be strict enough to be a deterrent, and cross-border cooperation between member states was not effective.<sup>29</sup> After the Commission adopted a new EU directive in December 2021 to crack down on environmental crime, a legislative proposal was submitted to the European Parliament, which includes new environmental offence categories, including the illegal trade in timber, the penalties for which were inconsistent between member states.<sup>30</sup>

The CITES convention has been implemented in EU law since 1984, though it joined as a party only in 2015 following an amendment to CITES in 2013 that allowed regional economic integration organizations to join. Due to the single market and the absence of internal borders, the CITES provisions must be implemented uniformly in all member states.<sup>31</sup> This is achieved through the Wildlife Trade Regulations and associated implementing regulations.<sup>32</sup> These regulations concern both international and internal wildlife trade, and go beyond the provisions of CITES in several regards, including the addition of a fourth annex, which includes species for which the

EU holds a reservation, or for non-CITES species that are protected by other EU regulations.

Two examples of these are the Habitats Directive and the Birds Directive,<sup>33</sup> the latter of which was in response to the global outbreak of H5N1 avian flu in 2005. In response to the outbreak, the EU temporarily banned the import of wild birds to curtail the spread of the virus. The decision to make the ban permanent in 2007<sup>34</sup> received mixed reactions, with the CITES secretariat voicing its disappointment at the decision, saying that the EU risked 'driving the market underground and making it less transparent'.<sup>35</sup>

The results of this ban – and that of the US in 1992 – provide interesting lessons about regulation. It is estimated that the ban resulted in a 90% decrease in the global trade in wild birds.<sup>36</sup> However, experts do not attribute this solely to enforcement of the prohibition, but to extensive behaviour-change campaigns in both countries, which sought to dissuade consumers from keeping parrots in captivity, as well as the fact that the wealth of EU and US populations made captive-breeding industries (for certain species) viable.<sup>37</sup>

Another single-issue wildlife trade problem that the EU has taken a strong stand on is that of ivory. In July 2017, the EU recommended that member states stop issuing export documents for raw ivory, with some exceptions.<sup>38</sup> Although this resulted in several member states legislating against the ivory trade, calls for further action continued. In December 2021, the EU suspended all trade in raw ivory except for the purpose of repairing objects containing ancient ivory.<sup>39</sup> This happened alongside bans in China and other jurisdictions.

Attempts to encourage member states to improve enforcement of CITES within the EU, including the Commission adopting an EU Enforcement Plan in 2007, were not deemed successful, as the non-binding recommendation was implemented unevenly across the EU and did not address the organized crime angle of wildlife trafficking.<sup>40</sup>

In January 2014 the European Parliament called for a dedicated EU Action Plan against wildlife crime and trafficking.<sup>41</sup> This was to address significant gaps regarding the effective enforcement of existing rules and a coordinated and comprehensive approach that addresses both the supply and demand sides while also involving all relevant actors across different policy areas.<sup>42</sup> In July 2015, the Commission prepared a roadmap for an EU action plan against wildlife trafficking that summarized all existing data and experience on wildlife trafficking in the EU, and suggested three options for action. These were greater enforcement, better cooperation and more effective prevention.

The EU adopted the Action Plan in February 2016 to run for four years until 2020. In 2018, a progress report was published, which concluded that the Action Plan had generated considerable political attention and support at the EU level, and that it had raised the profile of wildlife trafficking as a priority issue. It also stated that good progress had been made on most of the 32 actions in the Action Plan. However, despite encouraging signs, wildlife trafficking continued to thrive. Nevertheless, the report's authors concluded that the Action Plan's objectives remained appropriate and relevant.<sup>43</sup> In 2021 the Commission held a public consultation with stakeholders on the new Action Plan.<sup>44</sup> At time of writing, it was being revised, with publication expected in 2022.



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## 2 Mid-1990s to mid-2010s: acceleration of illicit trade

In the 1990s, the processes collectively known as globalization rapidly accelerated – global trade levels increased as infrastructure and technology linked new parts of the globe, and regulatory barriers to the movements of both goods and money were removed. Internet access began to spread, and enabled the growth of virtual and anonymous modes of communication.

Within this, what enabled licit trade equally enabled the illicit, and organized crime across most commodities surged. This was particularly visible in the flora and fauna trades, as consumer demand in regions where species had already been exploited to extinction (like Europe and Asia) was connected to regions where the desired species were plentiful – or simply cheaper to procure. The continued growth in Asian demand as a major driver of illicit wildlife trade was reinforced by the global financial crisis, which, while reducing incomes in the West, left the growing middle class in Asia largely untouched.

This led to specific species-focused crises, which have ultimately reshaped the terrain of the global response to the wildlife trade – the rhino and elephant poaching crises that unfolded in Southern and East Africa between about 2008 and 2016 (ongoing, for rhino).<sup>45</sup> These weren't the only animals heading towards extinction, but the crises were particularly galvanizing:<sup>46</sup> population losses were steep and, crucially, these losses were visible because regular censuses were conducted.

From the 1990s, many forests, particularly in South East Asia, had fallen under 'logging bans' but threats had not gone away – and in the first decade of the 2000s the threat to forests across the world began to change. Demand diversified; as demand for wood for its furniture industry grew, export of illegal cut logs to China grew massively. This rise in illegal imports followed domestic efforts to prevent deforestation within national boundaries – an example of the criminal-displacement effects of unilateral action.<sup>47</sup> Highly prized species also continued to be shipped to Europe and the US, although growing due diligence requirements made laundering and fraud more important for traders. Source areas had also begun to change: African old-growth forests now also came under threat, not just from land conversion but for intense logging for export. Overall, this period saw the intensification of a trend that had been building since the 1960s: a switch from primarily south–north timber flows to south–south trade,<sup>48</sup> primarily driven by demand from large developing countries such as India, Brazil and China.

This dynamic could be seen across other fauna species too, as the US (in 1992)<sup>49</sup> and EU (in 2005) instituted bans on the import of wild birds, radically shifting the dynamics in the two major markets towards captive-bred birds, which was still economical for consumers in these relatively wealthy markets, whose behaviour was probably also affected by campaigns against keeping wild-caught parrots as pets. However, South East Asian countries have since emerged as major importers.

Debates about the value of prohibition (trade bans) versus legal and sustainable trade began to intensify. Some observers believed that the ivory crisis was triggered by one-off sales of ivory stockpiles (the first in 1999 and the second in 2007), which re-energized the market, both by reactivating suppliers and stimulating demand.<sup>50</sup> It is likely that there were other complicating factors, such as increased incomes across Asia, which interacted with cultural practices around ivory as a status symbol. But the possibly catalytic role played by these sales – which had been called for by southern African countries and ivory-industry lobbyists – contributed to increasing polarization in CITES.<sup>51</sup>

In this period, the corrosive impact of corruption as a spoiler for any form of response became more visible – profits from high-value flora and fauna products were poured into bribes and influence buying, which wreaked havoc on government departments protecting or controlling access to, for example, abalone, rosewood and ivory, as well as border agencies and custom officials. In Mozambique, for example, from 2010, seeds were laid for the conflict that would erupt in 2017, largely through the grievances generated by

corruption, including where local officials took cuts of illegal profits from natural resources (e.g. ivory, rubies and timber). *See box: 'Intersections between environmental crime and conflict in Cabo Delgado, northern Mozambique'.*

Owing in part to the increasingly sophisticated responses to the illegal timber trade, the 2010s started with optimism regarding the fate of tropical forests.<sup>52</sup> Civil-society organizations pushed responders to take an increasing interest in understanding illicit supply chains and responding in consumer and transit states. For the illegal timber trade, this saw an increase in the number of flora species listed under the convention – a tool used by civil society, at first, to try to force consumer countries who were signatory to CITES to take measures to prevent the import of illegal timber.<sup>53</sup> The EU took up this challenge through the passing of the EU Timber Regulation in 2010, which aimed to curb the region's role in providing demand for illegal products. New satellite-imagery technology also boosted accountability, allowing NGOs and other monitors to back up their rhetoric with visual evidence of the actual state of forests, as seen from space.<sup>54</sup>

## *Intersections between environmental crime and conflict in Cabo Delgado, northern Mozambique*

*Cabo Delgado provides an example of how corruption stemming from environmental crime (and other organized-criminal activity) can have a destabilizing effect and contribute to a breakdown in governance, and also how complex the interactions between illicit economies and conflict can be.*

*Since October 2017, Cabo Delgado, Mozambique's northernmost province, has been the theatre of a conflict between jihadist insurgents (known locally as al-Shabaab, though unconnected to the Somali organization of the same name) and government forces. At the time of writing, latest data estimates that 784 000 people have been displaced from their homes,<sup>55</sup> and the conflict has claimed nearly 4 000 lives.<sup>56</sup>*

*The region has long been a key economic corridor for illicit flows that traverse the East African coast, several of which are of environmental products: illicitly exported timber, ivory and other wildlife products, and smuggled gemstones and gold. The region is also a corridor for transcontinental drug trafficking (chiefly heroin and, more recently, methamphetamine and cocaine).<sup>57</sup>*

*These illicit flows are among the factors that led to the conflict, born of an amalgam of local grievances. Chief among them is the exclusion of local communities from the benefits of the province's rich natural resources (vast reserves of natural gas and some of the world's largest deposits of rubies) by a government perceived as corrupt and self-serving. The socio-economic divides in Cabo Delgado have also fractured communities along ethnic and religious lines, meaning that economic grievances have been channelled through a jihadist narrative.<sup>58</sup> Illicit*

*environmental markets have been a long-term driver of the pervasive corruption in the province, which has, in turn, contributed to the breakdown in governance.<sup>59</sup>*

*In one specific aspect, the management of northern Mozambique's mining sector – and of informal and illegal mining for gemstones, in particular – may have driven insurgent recruitment. The brutal treatment by police and mine security of artisanal miners working illegally on private mining concessions has been documented over a number of years.<sup>60</sup> The miners perceived this as the state – principally through the police – forcing them to abandon their livelihoods in order to protect powerful interests.<sup>61</sup> This has contributed to radicalization.*

*Researchers have found no evidence that al-Shabaab has been taxing or controlling northern Mozambique's illicit gemstone or gold trade. Ivory trafficking in northern Mozambique has contracted significantly since the decade 2008–2018, when the Niassa Special Reserve lost an estimated 72% of its elephant population to poaching.<sup>62</sup> Ivory flows through key northern ports, such as Pemba, have greatly diminished due to international and local law-enforcement pressure that dismantled some key networks involved in the trade.<sup>63</sup> However, some black-market gold and ruby traders are reported to provide financial support to the insurgents.<sup>64</sup>*

*Timber logging has reportedly been most intensive in areas controlled by the Mozambican military, rather than in the insurgent-controlled areas.<sup>65</sup>*

However, many governments and corporations backslid on their forest-conservation commitments over the course of the decade, often giving in to corrupt or criminal interests, or to political pressure to convert land for food or fuel – or the intersection between the two. Forests were also affected by fires, which built on the greater incidence of drought. In 2015, the Food and Agriculture Organization (FAO) of the UN announced that global forest cover had fallen below 4 billion hectares (10 billion acres) for the first time in modern human history.<sup>66</sup>

Communities were, to varying degrees, recognized as being important actors in conservation and the local response to flora and fauna crimes. Language encouraging alignment between the needs of local communities and conservation actors became more common, especially from development donors, in this period.<sup>67</sup> It was an uneasy area of practice, and many conservation models were imposed onto local contexts where they failed to gain traction.<sup>68</sup> In several of the crisis regions of the 2010s, local people had been kept out of or removed from protected areas. Many conservationists in Africa – often outsiders – were used to operating in a people-less vacuum and were reluctant to take on community-oriented programming. But major threat areas – histories of local exclusion notwithstanding – were never really that remote: millions of people live near the parks of South Africa, the DRC and in the Amazon.<sup>69</sup> In many of these contexts, governance is weak, and communities do not live in an ordered space where laws matter and development

opportunities are available to them. This also informs their relationship to conservation (and anti-poaching) measures.<sup>70</sup>

Towards the end of this period, international organizations, which had previously not been very engaged with environmental crime began to establish dedicated units and programmes to tackle it. This was prompted by the efforts of civil-society actors, who, in addition to public advocacy in the media, had begun to bring environmental crime topics into forums such as the Commission on Crime Prevention and Criminal Justice (CCPCJ).<sup>71</sup> INTERPOL's Environmental Security Unit – its first dedicated structure focused on environmental crime – was established in 2010. In the same year, CITES, along with other partners, established the International Consortium on Combating Wildlife Crime (ICWC), a platform for a more connected response.

Similarly, this period saw a strong push by civil society for the expansion of laws enabling criminal investigation and sanction, which drove the creation of a huge global corpus of illegal wildlife trade laws – although these are still inadequate in many jurisdictions. In practice, law enforcement remained largely fixated on interdiction, and seizures were (and in most places, still are) rarely followed up with investigations and arrests, let alone more sophisticated strategies to use new legal powers to arrest key figures in criminal networks or their enablers. The main criminal data points for understanding flora and fauna flows and criminal market dynamics were also seizures, complemented by legal trade data.<sup>72</sup>

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## How the internet has changed the fight against the illegal wildlife trade

Over the past few decades, the internet has come to transform how wildlife products are retailed. One of the appeals of trading online has been that physical markets – whether pet stores with exotic products, or ‘wet markets’ – have become more heavily regulated over the past few decades, in a complex interplay between taboo, media scrutiny and law enforcement. Across Asia, many wildlife markets that were once vibrant and overt about selling illegally harvested wildlife gradually became more covert (with stock hidden, or displayed only on request), and in many places were shut down. Across Europe and North America, pet stores became more regulated. With the advent of COVID-19, and other zoonotic events, there has been increasing scrutiny of physical markets. Virtual worlds have provided a safe haven – places for enthusiastic consumers and traders to meet, share tips and trade.

But it has not just involved a substitution – virtual markets for physical ones; image posts for display tables – but has affected the nature of the retail trade and the dynamics of consumption. The table below provides a summary of some of shifts in wildlife markets over the past few decades.

EFFECTS OF THE RISE OF DIGITAL TECH	
Online advertising	New channels for secure communication
Connects traders and consumers; generates profits	Helps criminals to network
Normalizes consumption	Helps criminals to evade detection
Creates new categories of enablers	Opportunities for intelligence and response
Problem prolific on major tech platforms	Investigate leads
‘Agents’ marketing on behalf of traders	Consumer motivation
Elevates importance of couriers, digital payment systems	Trends in the market

First, digital technology has enabled traders to market to a much wider audience, at very little cost. Many traders operate on social media or use ‘classifieds’ type e-commerce where they do not have to pay to set up accounts and the costs of marketing their products are simply those of data, internet access and time. The internet allows them to connect with prospective buyers who are far away from them, whether locally or internationally.

In addition to the direct support to their business, this has also played an important role in normalizing the trade of protected species – at a time when there has only been growing evidence of its harms (to the environment) and risks (e.g. of zoonoses and invasive species). Consider that on Facebook, for example, most of the trade in wildlife happens in social ‘groups’ – the same forums that people use for all sorts of licit hobbies and interests. Users can shop for Appendix 1-listed birds on the same platform where they

receive birthday notifications and post pictures of their families, which hardly sends the message that the first activity is a taboo, let alone a crime.

Online illicit wildlife trade has also given rise to new roles in retail-side supply chains, where licit businesses perform crucial roles that allow contraband wildlife to be marketed, sold and delivered to consumers. The virtual wildlife trade relies on various services to make up for the physical distance in these transactions: e.g. messaging apps, money-transfer platforms, delivery services and the hosting platforms (some of the most valuable companies in the world). While these services do not directly undertake wildlife trafficking, they enable it and often fail to implement basic due diligence safeguards to prevent it.

The willingness of licit companies to facilitate these crimes shows how little scrutiny they – or the traders – fall under by law enforcement or other regulators. And there are other indications that wildlife traders see the internet as a safe place to advertise and transact: as stated above, wildlife trafficking online takes place in very public parts of the internet, including on major social-media platforms. Consider that, in contrast, online markets for drugs and weapons, which come under more law enforcement scrutiny, have been – albeit imperfectly<sup>73</sup> – displaced to the ‘dark web’.<sup>74</sup>

### Where do solutions lie?

In 2018, the Coalition to end Wildlife Trafficking Online (hereafter, the Coalition) was formed, bringing together three major conservation NGOs – WWF, TRAFFIC and IFAW – into a partnership with major tech companies headquarters in Europe, North America and Asia, which includes global companies such as Meta, eBay, Baidu and Tencent. The following year, at its 18th Conference of Parties (CoP), CITES issued a decision to parties on ‘wildlife crime linked to the internet’.<sup>75</sup> The CITES decision merely asked parties to update the Secretariat on trends, new legislation and best practice, and to call on the INTERPOL Global Complex for Innovation in Singapore for support. A working group was formed but dissolved in 2021, presumably because it was felt the decision was being addressed. While CITES does provide a central resource of reference material about online trade, this decision is not perceived to have triggered a more effective response.<sup>76</sup>

The bulk of attention and energy in the response seems to have been generated by and directed at the NGO-private sector Coalition. The Coalition, in essence, is a platform to support self-regulation by the private sector members and was formed on the agreement that participating companies would beef up their internal enforcement measures to identify and remove wildlife crime content and take additional measures to prevent trade on their platforms, such as running consumer-education drives with their users. In return, they would get specialist support from their NGO partners. Private sector members also get a public relations benefit from their alliance with well-known conservation actors.

*The Coalition is relatively young and is still evolving, but since 2018 many observers believe the problem has got worse,<sup>77</sup> and the Coalition is not a sufficient response. Some of this criticism is specific to the practices of the Coalition, but much of it cuts to the question of whether self-regulation by the private sector is the right place to focus the bulk of international efforts against this problem.*

Below we outline some of the components of these arguments.

### Lack of transparency

*In 2021, the Coalition published impressive statistics about the number of posts its members have removed, including that its partners had removed over 11.5 million suspicious posts.<sup>78</sup> But it does not publish the relevant information needed to make sense of, let alone interrogate, these numbers. The progress report amalgamates the actions of all the participants into headline figures. It does not disaggregate the data by platform (which would allow observers to look put the action into the context of the user-base, and show scale of the existing problem on the platform and relative investment between partners). Even more importantly, no information is provided on the process taken to arrive at these figures. These large numbers are even harder to parse because there are no baselines provided about the extent of the problem.*

### No independent oversight

*This lack of transparency is particularly problematic, as open sharing of information for critique is perhaps the only means for there to be some accountability for the private-sector participants. In most countries, social media and e-commerce platforms do not carry legal liability for hosting illegal content, and there are no independent bodies providing a standard-setting or oversight function.*

*The NGO members of the Coalition pursue a process of ‘quiet engagement [occurring] at regular meetings, held as often as quarterly, between NGO and company representatives’.<sup>79</sup> As with any such engagement, the risk arises that this then prevents these NGOs from making more strident critiques in public. (This is one of the reasons that it has become a virtual taboo to attend events paid for with money from tobacco companies for researchers working on the illicit cigarette trade.)*

### Effective enforcement strategies may contradict platforms’ interests

*Based on the limited information released by the Coalition, as well as conversations with staff of major and small e-commerce and social media platforms, most enforcement strategies applied to the problem of online IWT are limited to removing content, once it has been identified, and banning or flagging certain keywords to enable detection.*

*However, what the GI-TOC observes through monitoring of social media and conducting market studies is that these strategies do not have sustainable effects (or they might, but only in coordination with other measures). Particularly in the case of social media, real enforcement needs to move towards more sophisticated strategies that will identify and target the traders who hold the most responsibility for creating communities around illicit trade, training others to evade detection, or whose activities suggests the links to higher-level trafficking networks. In some cases, this*

*will require that platforms do not delete content but work alongside law enforcement. Such strategies are more complicated to implement than content-flagging-and-removal practices.*

*Beyond this, measures which may be effective at curbing the problem may run counter to the business-model of these sites by imposing real costs. To address the sale of counterfeit goods on e-commerce platforms, an issue that has resulted in considerably more pressure from brand-holding private sector companies on both the tech industry and on government to act, the measures taken have been more sophisticated. According to the OECD, best-practice measures in this problem area include cooperation with law enforcement, transparency (i.e. platforms publishing reports on the measures they have taken), the development of algorithms and machine learning for detection, as well as much greater scrutiny of sellers by platforms.<sup>80</sup> For many platforms, these recommendations run counter to business models, (e.g. making it frictionless for sellers to set up accounts and at a low cost to host them). Without the right incentives to cooperate, tech companies are also prone to resisting cooperation with law enforcement.<sup>81</sup>*

*The Coalition provides important lines of dialogue between the civil-society sphere and some of the most powerful companies on the planet, and it is here that its NGO partners surely bring vital expertise to the conversations they have with the companies. Coalition NGOs also pass on information to companies on behalf of other online trade observers and share key words with them. But the issues above raise doubts about whether the solutions to the hard problems – like social media – are going to be solved by industry self-regulation.*

### The important role of law enforcement and regulators

*Outside of these factors, there are also important questions to be asked about whether private-sector action is the right starting place, rather than law enforcement. Few people question whether both are needed (and indeed, law enforcement action sometimes requires private sector cooperation), but there is an unacknowledged trade-off in which one gets the priority.*

*One model for navigating these challenges comes from Vietnam. Illegal wildlife content is rife on both social media and e-commerce platforms in Vietnam, but in recent years there has been considerable progress in addressing the problem, much of it led by the strategy of a key local NGO, Education for Nature (ENV). ENV monitors the internet and collects detections of IWT content, which they triage between ‘light crimes’ and serious offenders.<sup>82</sup> Using relationships with law enforcement built up through years of effective cooperation, ENV requests law enforcement to take deterrent measures, such as sending warning letters against ‘light crime’. For serious offenders, ENV supports police in investigations in the hope of leading to arrests or at least confiscations of stock. Only if neither intervention proves a successful deterrent does ENV request that tech companies remove content. This strategy has led to several arrests of significant traders and discouraged many others without resorting to court processes. ENV considers this strategy to be the only sustainable way of controlling online crime, as the involvement of law enforcement has a much more powerful deterrent effect than post removals.*

Despite these evolutions, most trade and population data suggests that the effects of globalization, including growing online markets, overwhelmingly outpaced the progress made in the 1990s and first decade of the 2000s. Growing transport connections; rising connection between increasingly wealthy Asian consumers and Africa and Latin America; the increasing ease of shifting criminal profits in global financial

flows; and the influence of digital technologies on the ease of forming crime networks, as well as marketing to consumers, triggered a wave of crime that pummelled the world's most biodiverse areas. Attempts at self-regulation have proved to be weak. Transnational action also only began to take form several years after online markets became well established.

### 3 2014 to 2019: broad acceptance that environmental crime is organized crime

The third period in response began with a distinct shift in multilateral engagement with environmental crime as an international problem – prompted, unfortunately, by the precipitous decline in iconic elephant and rhino populations, as well as a global onslaught against ‘environmental defenders’, activists exposing corruption and crime linked to the environment.

In this period, at a multilateral level, questions of environmental crime shifted gear, and a series of high-level conferences on the illegal wildlife trade – in the UK, Vietnam and Botswana – and a set of resolutions from within the UN General Assembly, UN Security Council and G7 signalled wider political engagement. This created alternative venues for political agreement about the response to the international trafficking of flora and fauna, outside of CITES. Some observers, even if sceptical about the tangible impact of these conferences, believe they enlarged the conversation by moving away from trade regulation to other areas, such as community responses, demand reduction and international cooperation, and in particular, the use of sophisticated law-enforcement responses and measures to tackle IFFs.<sup>83</sup> At the same time, the CITES treaty, and its role as the main vehicle for international coordination on responses to illegal trade, was increasingly criticized.<sup>84</sup>

While multilateral engagement emphasized using law-enforcement strategies against trafficking networks at this time, counter wildlife trafficking was primarily portrayed in the media as being about anti-poaching activities.<sup>85</sup> Moreover, on the ground in protected areas, these activities were increasingly becoming militarized. This, in turn, drove a wedge between local communities and enforcement agents in many protected areas – and, in tragic cases, led directly to human-rights abuses. Private funding, which poured into

anti-poaching activities at this time, may have played a large role in securitization, as did the hiring of former military consultants to advise park managers.<sup>86</sup>

The securitization of park management meant that anti-poaching activities themselves started to become part of the problem. In several locations, these strategies undermined local governance, as under these approaches, many communities saw the laws enforced as contested at origin (because they came from colonial or authoritarian regimes, or contradicted local norms), or illegitimately applied, because violence had been used. This drove antipathy (including from criminal justice actors) against conservation organizations, such as the management of national parks, or NGOs, where they were also managing these areas.<sup>87</sup>

There were, at this time, however, key successes through use of cross-border law-enforcement tactics against criminal networks – especially where these came together with political pressure, international cooperation and demand-reduction measures. For example, the investigations into the Shuidong and Kromah networks, which heavily disrupted ivory poaching networks between Africa and China, helped elephant populations to start recovering by 2018.

*See box: “Successful examples of transnational investigations into wildlife-trafficking networks”*

China also closed its domestic markets in 2017 – an intervention that does appear to have depressed demand for ivory, though there are still gaps in its enforcement.<sup>88</sup> Interviews with people who were close to these crises and the response to them emphasized that the best law-enforcement effects were achieved when specialized law-enforcement capacity worked with local NGOs. International NGOs had also played catalytic roles.<sup>89</sup>

## Successful examples of transnational investigations into wildlife-trafficking networks: the Kromah and Shuidong networks

Two major transnational investigations into wildlife-trafficking networks operating in East and Southern Africa concluded in 2019: the US-led investigation of the Kromah network, and the Chinese-led investigation of the Shuidong network. Both were long-term investigations into transnational crime syndicates led by investigators from jurisdictions outside the continent – who had been given the mandate and resources to investigate transnational organized wildlife crime relatively recently – and are successful examples of cross-border collaboration.<sup>90</sup>

### The Kromah network

The Kromah network – named after its leader, Liberian national Moazu Kromah – was one of the major organized wildlife-crime networks operating in Africa.<sup>91</sup> Based out of Uganda, their operations stretched from West Africa, through Central Africa, to East Africa – shipping ivory in containers from Mombasa, Kenya, and Pemba, northern Mozambique, and rhino horn by air from Entebbe, Uganda, and Nairobi, Kenya.<sup>92</sup> The US indictment of Kromah claims that his wildlife-trafficking activities date back to at least December 2012.<sup>93</sup>

Kromah was first arrested in February 2017 in a compound in Kampala, Uganda, where 437 pieces of ivory weighing 1.3 tonnes were found.<sup>94</sup> The operation was carried out in collaboration between the Uganda Wildlife Authority (UWA) and members of a Ugandan investigative NGO, the Natural Resource Conservation Network (NRCN), that supports the UWA with investigations and prosecutions. This was the result of a long-term investigation involving the NRCN as part of the EAGLE Network (Eco Activists for Governance and Law Enforcement), a coalition of NGOs working on investigating wildlife crime.

The Uganda Wildlife Authority, which made the arrest, and the NRCN, a Ugandan NGO that supports the UWA with investigations and prosecutions, described Kromah as being at ‘the centre of a vast ring of organized criminals [...] connected to at least four other major criminal syndicates [...] supplying the biggest wildlife criminal syndicates worldwide.’<sup>95</sup> However, the case did not progress through the Ugandan courts.

The US Fish and Wildlife Service (USFWS) began their investigation of Kromah in early 2017. New legislation – namely, the 2016 END Wildlife Trafficking Act and the February 2017 Presidential Executive Order on Transnational Criminal Organizations and Trafficking – expanded the USFWS’s mandate to investigate international wildlife traffickers.<sup>96</sup> The two-year USFWS-led



Kenyan national Feisal Mohamed Ali, convicted for owning a supply of more than 2 000 kilograms of ivory, is acquitted of all charges by a Kenyan court, August 2018. © Andrew Kasuku/AFP via Getty Images

investigation involved national law-enforcement authorities and partners in at least five African countries and was supported by the US Drug Enforcement Administration (DEA) and prosecuted in the Southern District of New York (SDNY). The case was built until it included a US nexus,<sup>97</sup> which allowed the senior figures to be prosecuted by the SDNY, which specializes in complex cases involving corruption and transnational organized crime.

In June 2019, Moazu Kromah and three associates were indicted by federal prosecutors on charges of wildlife trafficking, money laundering and heroin distribution.<sup>98</sup> The indictment documents a conspiracy to traffic 190 kilograms of rhino horn and at least 10 tonnes of elephant ivory, and intent to distribute more than 10 kilograms of heroin.<sup>99</sup> Kromah pleaded guilty to three charges relating to rhino-horn trafficking in March 2022 in a plea bargain. The court proceedings in his associates’ cases are still ongoing.

The investigation and collaboration during the Kromah investigations between a coalition of Ugandan government and law enforcement officials, US agencies and NGOs, was described as ‘unprecedented’ and ‘unparalleled’ in expert commentary at the time.<sup>100</sup> International NGO Save the Rhino expressed hope that ‘the case of Moazu Kromah gives a new example of such positive international collaboration’.<sup>101</sup>

## The Shuidong network

*The Shuidong network, named for the town in southern China, was also a major ivory-trafficking network. The network had been smuggling ivory from Tanzania to China for more than 20 years.<sup>102</sup> A two-year undercover investigation by the EIA revealed the syndicate's trafficking methods, and how they had transferred operations between East and West African hubs to avoid detection.<sup>103</sup> Accomplices, including corrupt government officials and complicit freight agents, were placed at strategic points along the trade chain, which enabled the syndicate to 'own the route'.<sup>104</sup>*

*Before publishing its report, the EIA provided confidential information to China Customs.<sup>105</sup> The China Customs Anti-Smuggling Bureau (ASB) made multiple arrests in Shuidong and launched an international investigation, engaging with law-enforcement authorities in Tanzania, Mozambique and Nigeria. Two major traffickers were arrested in Tanzania and Nigeria and subsequently convicted in China.<sup>106</sup>*

## The role of cooperation

*The Chinese and American investigative teams both worked in close cooperation with national authorities and, importantly, their civil society partners, relying on them for local investigations, expertise and operational capacity. The Kromah investigation, for example, worked with 'vetted units',<sup>107</sup> which have been established to investigate organized crime and for which personnel undergo formal vetting procedures, such as interviews, polygraph tests and background checks,<sup>108</sup> and other trusted partners.*

*These collaborations mitigated the potential for corruption to influence the investigations. In many of the countries in which these investigations took place, corruption sours prospects for effective local enforcement of wildlife-trafficking laws. The original Ugandan investigation of the Kromah network, for example, had stalled, with delays reportedly linked to corruption.*

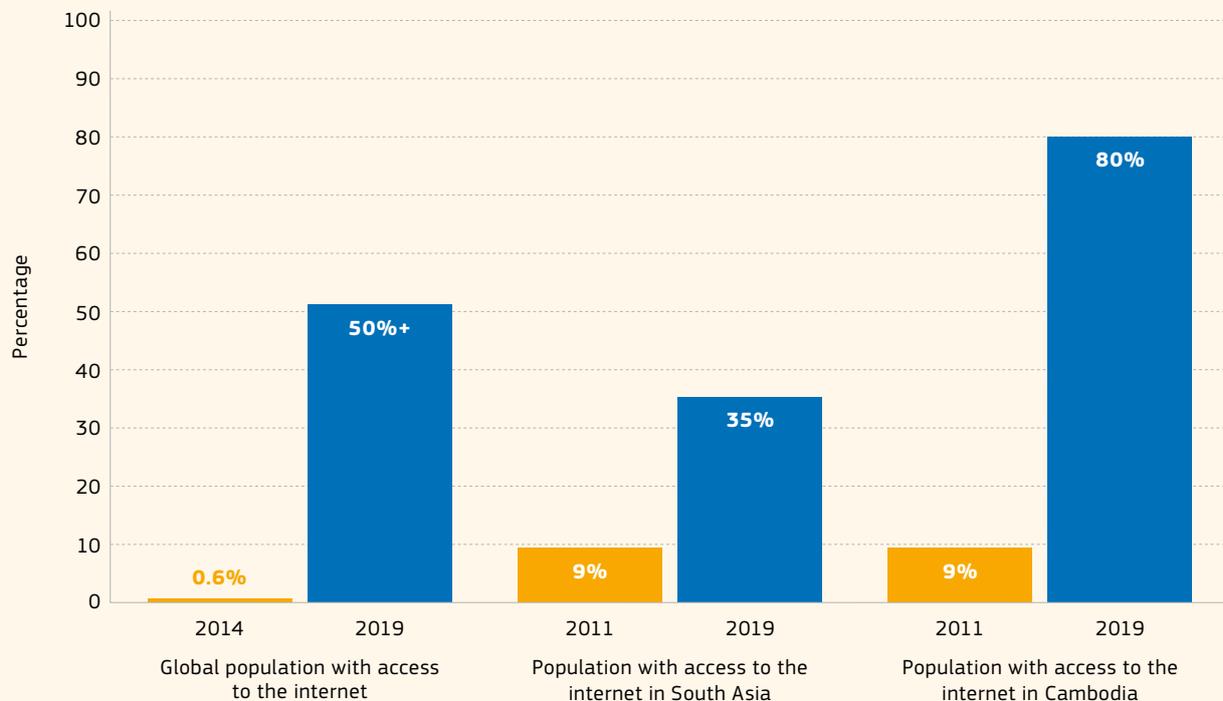


**Vietnamese national Nguyen Mau Chien, known for his role in the transnational shipment of ivory, rhino horn and pangolin scales, is arrested in Vietnam in 2018.**

© Education for Nature Vietna

*But both the Shuidong and Kromah cases demonstrate what is possible when national-level authorities – who may face domestic challenges of corruption and a lack of available resources to take on complex cases such as these – are provided with support from well-resourced countries that were given the mandate and means to operate transnationally. In ideal circumstances, cases should be heard in courts in the regions where these crimes are committed, a goal international assistance should work towards.*

*Critically these cases also demonstrate the catalytic role that civil-society conservation organizations have played in wildlife-trafficking investigations, in gathering evidence and advocating for wildlife crimes to be given priority.*



**Global access to the internet grew rapidly, though unevenly, in the 2010s, with particularly pronounced rises in Asia.**

One of the egregious ways that the convergence between corrupt and criminal interests showed itself in this period was with the increased onslaught against environmental defenders. Rising assassination and assault rates for whistleblowers and activists resisting environmental destruction was acknowledged as a global problem. In 2012, the NGO Global Witness first issued a report about the growing number of targeted murders linked to conflict over forests and land,<sup>109</sup> and by 2014 they were publishing an annual assassination tally.

The victims were often people defending land – frequently forests – against actors claiming to bring ‘developmental’ industries to local communities, like mining, agriculture or logging, though these were often directly or indirectly tied to criminal groups (*see below*). When it came to the wildlife trade, NGO activists such as Wayne Lotter – who was involved in investigations into the criminal networks behind ivory trafficking – were also murdered.<sup>110</sup>

In this period, it became clearer that the internet had revolutionized wildlife markets, and digital communications had had profound effects on the structure of criminal networks more broadly. 2019 marked the very first time that more than 50% of the world population had access to the internet – fifteen years earlier, the figure had been only 0.6%.<sup>111</sup>

Although developing countries in the South still lagged behind the North, many low-income countries saw spectacular increases in internet connectivity in this period (*see graphic*). The number of individuals with internet access in South Asia, for instance, more than tripled between 2011 (9%) and 2019 (35%).<sup>112</sup> Countries in South East Asia, such as Cambodia, saw even more spectacular increases, from a meager 1.3% in 2005 to nearly 80% in 2019.<sup>113</sup>

Civil-society studies revealed that, for several species, particularly those in the live animal trade, the major markets were now virtual<sup>114</sup> – though research was often confined to single platforms in one language and country and so only able to provide a fragmentary understanding of their dynamics. While gradually improving laws and enforcement had shut down or reformed traditional ‘wet markets’ in places, civil-society actors monitoring social-media markets increasingly came to view major platforms such as Facebook as the main location of retail trade, especially for live animals.<sup>115</sup> Wildlife was dealt a major blow in 2016, when Facebook started promoting ‘groups’ – these attracted participants who had been using open forums into spaces that – particularly after the Cambridge Analytica scandal – became almost impossible to properly monitor. At the same time, Facebook failed to curb widespread use of these groups for buying and selling endangered species and their parts.<sup>116</sup>

## Community activists opposing criminal and corrupt interests are the most at risk of assassination

The Global Assassination Monitor, a novel database on contract killings, tracks assassinations and attempted assassinations across the world. These must meet two criteria: first, they are targeted at individuals; second, they involve some kind of transactional contract, in other words a reward, which may be monetary or in-kind.

In a report issued on data from 2019–2021, the Global Assassination Monitor drew attention to killings happening at the community level, and their strong connection to environmental crime and other environmental issues, though they do not use the term “environmental defenders”.<sup>117</sup> Despite the fact that this database also records political assassinations, and “illicit market” killings directly targeting organized crime figures, local community killings constituted the largest target group. They accounted for 28% of all cases globally, followed by politics and governance at 24%.<sup>118</sup>

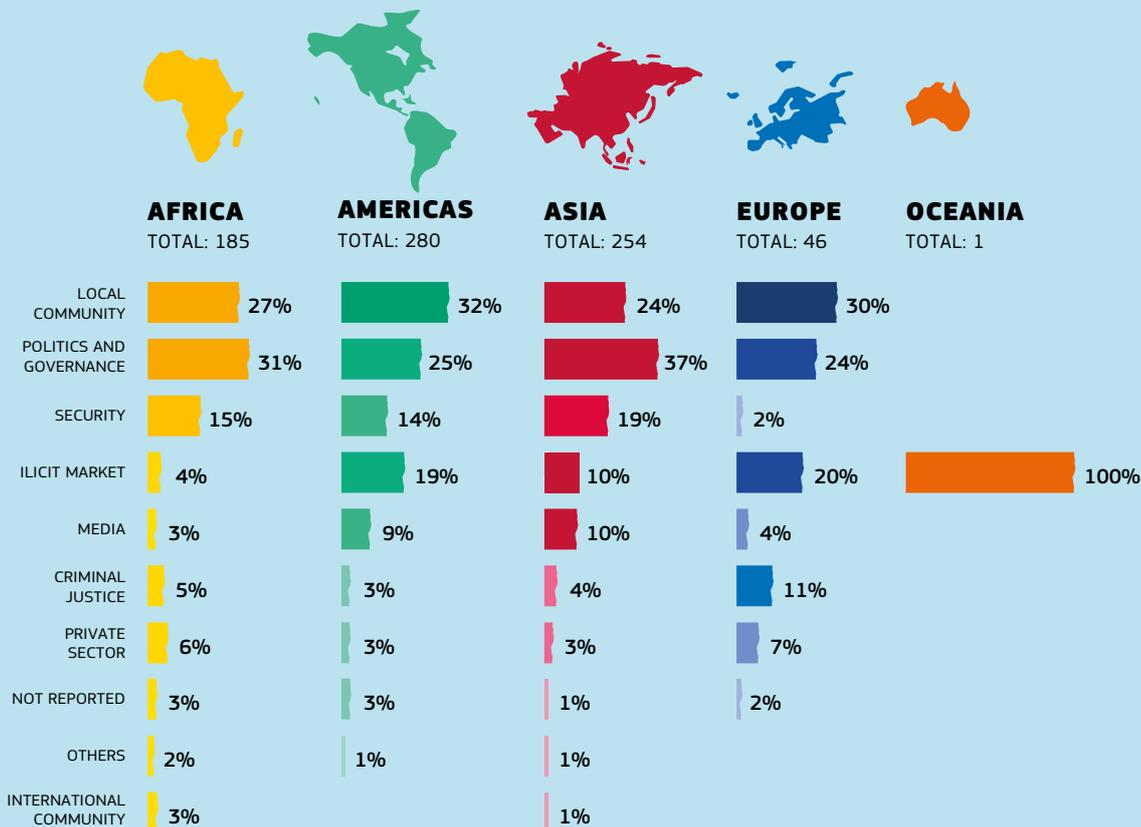
This figure is largely driven by the Americas, where 32% of the 280 known assassinations were members of the local community; the majority of which were activists, community leaders and members of indigenous communities. A similar trend is seen in Africa and Asia, where 27% of the 185 recorded victims in Africa were from local communities, mostly community leaders, activists and farmers. In Asia, it was 24% of the

254 victims, with the majority being activists, followed by community leaders.

The high number of assassinations of those from the local communities, namely activists and community leaders, shows both the important role these groups play in protecting the environment and how these conflict with the aims of organized crime groups, or corrupt political interests to which they may be linked.

Within the Americas, issues relating to land and exploitation of natural resources are believed to be the reason behind a sizeable proportion of the assassinations, likely due to the convergence between exploitation of land and the trafficking of drugs. This is seen in Central American countries, such as Honduras, Guatemala and Mexico, where drug traffickers use activities such as illegal logging, land theft and deforestation to launder money obtained through the drugs trade.

Other sources also point to land and natural-resource exploitation, often tied to government corruption, as a leading driver of community level assassination across the world. According to the Office of the High Commissioner for Human Rights, from 2015 to 2019, killings of human rights environmental defenders have been recorded in at least 64 countries.<sup>119</sup>



Breakdown of target groups for assassinations by continent (2019–2020).

SOURCE: Killing in silence: monitoring the role of organized crime in contract killings, GI-TOC, 2021

Criminologists argue that digital technologies have changed the nature of crime, making networks looser, more fluid and flatter.<sup>120</sup> This description fits many wildlife-trafficking networks – particularly those dealing with lower-value wildlife<sup>121</sup> – and may have contributed to them not being taken seriously as ‘organized crime’ by law-enforcement actors looking for more hierarchical and organized criminal groups.<sup>122</sup>

At the same time political winds began to turn against the power of ‘big tech’. This was best symbolized by the EU’s passing of the General Data Protection Regulation (GDPR) legislation, affecting laws – and norms – around online privacy, which had a cascading effect on tightening up data-privacy legislation across the world. The EU is again playing this leadership role on tech regulation with the upcoming Digital Services Act. In 2019, a global Coalition to End Wildlife Trafficking Online was formed, providing a platform for collaboration between major tech companies and three big global conservation NGOs – the World Wildlife Fund (WWF), TRAFFIC and IFAW. But its effects remain hard to assess due to a lack of transparency (*see Box*)<sup>123</sup>.

Several debates about the effective responses to environmental crime became more polarized in this period – including debates about the value of security responses, the role of communities, continued disagreement about the proper use of trade bans as well as the feasibility of legal regulation of already criminalized markets.

Some of this debate focused on CITES, as many actors premised their interaction with the CITES system on the assumption that a strong listing – i.e. one that restricts trade – will be good for any given species. But many leading scholars who have studied the conservation impact of CITES listings began to disagree, arguing that while this was a reasonable assumption in the 1970s, it had become inadequate, as ‘the nature and scale of wildlife trade, the global conservation landscape, the scope of CITES regulation and global trade dynamics ... have since changed beyond all recognition’.<sup>124</sup> These debates were often undermined by a lack of data about flora and fauna populations, levels of trade and patterns of consumption.

But in dedicated crime fora in the multilateral system, it became clear that at a high level and within a certain policy community, the idea that flora and fauna crime could be serious, organized crime was accepted, even if this did not

always translate into change on the ground, or if the solutions seemed increasingly complicated.

By the end of this period, even debates about ‘enabling factors’ which had been seen as esoteric – such as the role of IFFs in environmental crime – had become serious discussion points. For IFFs, this was best represented by the release of a Financial Action Task Force (FATF) report dedicated to environmental crime financial flows in 2021.<sup>125</sup>

The debate about demand-side activities also became more sophisticated, with increasing focus on accurately measuring consumer motivation, consumer demographics and the channels that are most likely to influence them (not to mention how to measure impact).<sup>126</sup> At the same time, hard support for programming at this level was low, with the World Bank estimating in 2016 that only 6% of all IWT-related funds went to demand management.<sup>127</sup> And many of the funds that did were still spent on simplistic campaigns, or education and awareness-raising activities, which do not directly address consumer motivation, and whose effectiveness had already been put into doubt.

As the focus on the criminal and trafficking elements of environmental crime increased, programmes focused on narcotics were pushed to incorporate environmental crime, with mixed results. One success was the EU-funded Airport Communication Project (AIRCOP) which integrated awareness of environmental crime threat into its operations.<sup>128</sup> This period also saw an increased number of regionally focused projects dealing with environmental crime – such as the EU-funded ENACT project in Africa and EL PACCTO project in Latin America – also reflected increased understanding of the cross-border nature of the threat, and the necessity of cross-border law-enforcement cooperation.<sup>129</sup> Nevertheless, and more generally, poor results were often linked to environmental crime being seen as a low-priority crime by law enforcement.

At same time, landmark scientific synthesis reports – in 2017 for climate, and 2019 for biodiversity – showed the vast extent of damage done to the environment since the 1970s, as well as grim forecasts for ‘business as usual’ responses to these problems. The sobering conclusions of these scientific reports showed that as much as the global response to environmental damage was developing, it was still failing.

## 4 2020 to present: COVID-19 and the acceleration of internet trafficking

The response to the COVID-19 pandemic radically disrupted the momentum of the evolution of the response to environmental crime – and it affected the illegal trade itself. Lockdowns halted many global development discussions. Many protected species were given a temporary reprieve by global movement restrictions on human travel but declines in tourism revenue also compromised the financing of security at protected areas, while decreasing the resilience of local communities.

Ironically, the COVID-19 pandemic may itself have its origins in the wildlife trade, and this is shifting international debate about the threat posed by wildlife trafficking. It is clear from this debate that our knowledge of the complexity of regulating the wildlife trade has grown enormously since the beliefs prevalent in conservation circles in the 1970s that trade bans were neat solutions. Research now shows that bans can be counterproductive, driving up prices and incentivizing trade or failing to dislodge established black markets. At the same time, we have seen how complex it is to coordinate effective legal regulation of international trade across different jurisdictions – with very different levels of corruption and effective trade monitoring – so that illegal products cannot be laundered into legal markets.<sup>130</sup> The answers no longer seem simple, and the stakes are high, as seen in the disagreements about the value of banning wet markets in the wake of the pandemic.<sup>131</sup>

While the political debate has evolved opinion polls still consistently place ecological crisis as a major concern of voting publics in Europe. Within the multiple crises of the past few years there have been opportunities to spur action – on curbing IFFs (e.g., following the sanctions on Russian oligarchs in the wake of the Ukrainian invasion) and to prevent another pandemic arising through zoonosis from the wildlife trade. Commitments to curb emissions and find ‘nature-based solutions’ have also raised the risk profile attached to illegal deforestation.

Frustration at the gap between the urgency of the threat and the inadequacy of global institutions to arrest environmental damage is also expressing itself in bold proposals to change the fundamental laws that govern multilateral response – not just the campaign to add a fourth Protocol to the UNTOC, but also the campaign to add the crime of ‘ecocide’ to the Rome Statute, and the increasing use of radical Rights of Nature laws to sue on behalf of the natural world.<sup>132</sup>

In response, there are two main schools of thought emerging. The first calls for the system that responds to environmental crime to support new legal frameworks that offer alternative ways to frame and respond to the threat, or which create specialized forums for wildlife crimes. The second says that

new frameworks are a distraction – the primary problems with the existing treaties and laws are a lack of enforcement, inappropriate application or lack of resources for implementation. New treaties would simply increase the burden of reporting and attendance at meetings, diluting multilateral engagement overall, without necessarily increasing its effectiveness.

These two approaches both have value. There are good reasons to explore what value high-level shifts can bring: proponents of ‘ecocide’, for example, argue that it would increase the global priority put on environmental crimes (e.g., by placing ‘ecocide’ on par with genocide), and fundamentally redefine the targets of sanctions (e.g., by including corporate decision-making responsible for pollution as literal environmental criminals). In courtrooms, Rights of Nature laws are already enlarging the tools for protection, by giving rights to ecosystems (and not just protecting single species).

Looking ahead, it is also important to take note of the huge demographic shifts that are already underway, in tandem with the progressively sharper bite of climate change effects. It is perhaps easiest to comprehend some of these trends regionally.

The data from the Global Index (given earlier) provides a list of countries with the most serious flora, fauna and non-renewable resource criminal markets. The flora and fauna markets are, unsurprisingly, concentrated in Africa and Asia, and one Latin American country. This reflects, to a large degree, the fact that natural resources are still concentrated in developing countries, in part because patterns of economic growth have not totally eradicated them. (These scores also reflect that rising levels of economic growth are also driving flora and fauna consumption in Asia). Within this data, conflict-affected countries in Africa emerge as having especially significant environmental crime markets (three – DRC, CAR and Mozambique – are on the top five list of combined environmental crime markets scores).

In the coming years in Africa, across conflict-affected countries and ones at peace, population growth is going to be a central element of how various trends linked to the environment develop. By 2050, the global population is expected to grow by 1.5 billion, which will equate to around 9.5 billion humans on the planet. However, this growth is not evenly shared, with around 86% (an increase of 1.3 billion people) happening in Africa.<sup>133</sup>

Further urbanization and infrastructure development are among the direct consequences of this population growth, both of which, if done well, can entail huge benefits for populations’ access to health and education services, as well as

markets for goods, services and employment. But if these regions follow the same development path as other parts of the world have, the demand for new infrastructure will see increases in development and extraction of non-renewable resources at the expense of local communities and natural habitats. Increased demand for current popular building materials includes sand for concrete – already a highly criminalized non-renewable resource industry that destroys habitats, pollutes rivers and makes river banks unstable, placing local communities at risk of flooding.<sup>134</sup> The scale of these development needs is seen in IPBES's research, which projects that 25 million kilometres of new roads will need to be built by 2050, with 90% of this happening in least developed and developing countries.<sup>135</sup> Development may also lead to increased human-wildlife conflict, resource pressure and wildlife crime.<sup>136</sup>

What these projections call for is an urgent search for not only better and more effective responses to environmental crime itself, but to place responses within broader developmental strategies, that meet needs for land, food and other resources in more sustainable ways. In Africa, because so many people do not have basic needs met, finding pathways to development that do not cause massive environmental damage – as it has in other parts of the globe – is a much more important and much more challenging endeavour.

Although the Index data appears to show only isolated problems in Latin America – namely, Brazil, a country with serious environmental crime markets, and Peru, a country with non-renewable resource crime – this should be approached with some reservation. Many observers feel that the extent of fauna trafficking and other environmental crimes in Latin America has been not adequately studied, and has traditionally been eclipsed by the focus on drug trafficking. But recent reports suggests that there has been substantial movement of traditional organized crime groups into a range of environmental crimes.

Additionally, countries in the Greater Mekong Region (GMS) also stand out in the Index data, across different environmental crime markets. This is one of the most biodiverse and agrobiodiverse regions in the world.<sup>137</sup> This makes it a major source region for the illegal wildlife trade and other environmental commodities, including sand, timber and precious metals. The proximity of wildlife habitats to human populations in the GMS poses significant increased risk of zoonotic diseases affecting humans, with several biological incidents originating from the GMS, including the COVID-19 pandemic, the 2003 SARS outbreak, the 2003–2005 H5N1 avian influenza and the current swine fever.<sup>138</sup> These and other criminal risks are borne out by studies of the highly dynamic, transborder trades between these states, which

include conflict affected Myanmar and other regions of highly fragile governance, especially in border areas.

Currently, South East Asia and East Asia appear to be the hotspot regions for online illicit trade in endangered species. Globally, growth in access to the internet and availability of smartphones will continue to rise, albeit not as steeply. The number of mobile internet users globally is expected to increase from 45% in 2018 to 62% in 2025.<sup>139</sup>

Numerous studies in recent years have pointed to particular concern about online trade in Asia. Researchers looking at the global reptile trade found that over 35% of reptile species are traded online,<sup>140</sup> with approximately 90% of these species having been captured from the wild.<sup>141</sup> The trades species included 'numerous endangered or range-restricted species, especially hotspots within Asia', even if many did not have international legal protection against trade, and found evidence that trade was beginning to occur immediately after scientific description. In 2020, a WWF programming manager claimed their monitoring showed online IWT was 'increasing in every country' in South East Asia, and that the volume of wildlife products sold online had approximately doubled since 2015.<sup>142</sup> In 2019, TRAFFIC research on the illicit ivory trade in Indonesia, Thailand and Vietnam found that the weekly average number of items for sale had risen by 46.3% since 2016.<sup>143</sup>

As mentioned above, the trans-judicial nature of the internet adds to the already complicated law enforcement situation associated with the illicit flows of the illegal wildlife trade. The limited capacity of law enforcement agencies within developing countries to deal with cyber-enabled crime compounds the problem, adding to the belief that wildlife crime is a low-risk endeavour. This is likely to continue to be major issue in the coming years.

Finally, the impact of climate change on environmental crime, and organized crime more broadly, deserves mention, albeit we cannot do the topic justice in a paragraph. Three major trends can be expected: the changing climate will put more pressure on vulnerable populations, reducing their ability to cope and driving both their vulnerability to be recruited into crime or to overexploit resources (such as wildlife for food); climactic shifts will affect all branches of life, reducing the population of many (as habitats change or food or water sources decline) – it is likely that in some cases, scarcity will perversely drive higher prices for flora and fauna commodities, incentivizing criminality; and the technologies needed for 'green transitions' rely on natural materials just as fossil fuel energy does, and this will compound criminal pressure on places with existing black markets in required minerals.<sup>144</sup>



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Lessons emerging  
from the history

**Drawing on this periodization, we have sifted out lessons which fall into seven broad themes. Here we explore them, highlighting where they are also supported by broader scholarship, and suggesting some of their implications for responders. They are divided as follows:**

## 1 The response to environmental crime has consistently lagged behind the escalation of the problem

The response – although speeding up – has so far been slow and, compared with the threat, inadequate. The biodiversity crisis is underrated as a global priority; its central link to development goals is underestimated, as are its links to corruption and weak governance.

In recognition that a key aspect of this response will come from the criminal justice system, laws and prohibitions have expanded. Yet environmental crime is still seen as low risk by many criminal actors and many significant traffickers named in the media over a decade ago are still operating with impunity. A major focus of international development assistance to address environmental crime in the past two decades has been on strengthening criminal justice systems but building on the status quo has led to an overreliance on already faulty metrics such as seizures. Arrests and prosecutions

have also been too easily accepted as measures of success in combatting environmental crime, without disaggregating who has been arrested or prosecuted, and whether they represent real disruption to criminal networks.

At the same time, there is still underinvestment in investigation. Despite a clear shift in rhetoric – and legislation – at multiple governance levels to identify flora and fauna trafficking as criminal phenomena, environmental crimes are consistently rated as a low priority by law enforcement. This affects everything – including the staff assigned to cases, the equipment and resources they are given, and the time that is spent understanding environmental crime trends. In many places, this issue is no longer a matter of technical competencies – the laws exist, and many investigative skills are transferable – but rather one of political will.

## 2 Markets have moved very fast – particularly in the past five to ten years

In the past two decades, the level of the response has been completely overwhelmed by the effects of greater global connectivity and increased trade. The role of the ‘enabling environment’ – including the internet, financial flows, and transport and trade infrastructure and its governance – was ignored.

This extended to the actors who animate this environment: the accountants, logisticians, lawyers, and executive of technology platforms that facilitate fauna and flora crime (*see box: ‘The enablers’*).

A particular gap has been in responding to the massive growth in virtual trafficking and trade of endangered species. While there have been some experimental attempts at addressing this, there is as of yet no cohesive and effective monitoring of the online trade and no accountability for platforms for hosting the markets. The internet creates connective tissue between consumers and areas of origin

that has been vital in sustaining demand for endangered species, even as laws have tightened and wet markets have closed down. It connects places with weak rule of law, where corruption undermines protection of wildlife, with places where consumers can afford to spend money on wild pets, rare jewellery and exotic cures.

This is also bound up with a consistent lack of attention to the full scope of supply chains – especially retail markets and the role of changing consumer behaviour in addressing the drivers of illicit wildlife trade, or the responsibilities of countries hosting consumer markets to address the role of consumption and retail in their jurisdiction.

This implication of global supply chains is also that international cooperation is vital. The necessity of countries sharing information, sharing resources or acting in concert, is seen in every successful arrest of a major figure in a trafficking network or closure of a loophole in the regulation of legal trade.

## The enablers: lubricating the wheels of the trade in illicit commodities

A range of types of people play crucial roles in illicit trade chains. These actors are vital to organized crime, yet many of them ostensibly stand entirely apart from it and can covertly or overtly incorporate their role within the bounds of their legitimate professional careers. In general, they do not specialize in one commodity, nor do they have allegiance to a particular criminal network, but rather form a pool of illicit operators in their own right.

**Money movers** are professional money launderers, who tailor their services depending on the sophistication of the criminal enterprise. The least sophisticated systems manipulate the paper trail directly (to create fraudulent documents), while the more advanced make use of loopholes in the formal financial system (such as tax havens).

**Logisticians** are involved in planning, transport and storage. This includes people who can ship and clear things through customs, or complete bills of entry and lading, shipping manifests, etc.

**Bank managers, accountants and auditors** have a different role from money launderers. They are important to formally registered businesses that also have black-market components. These businesses need the services of legitimate professionals who do not ask too many questions.

**Lawyers** usually become involved only when trouble arises. Figures in the illicit economy tend to use the same law firms in each jurisdiction, and the same advocates.

**Networkers** know people within criminal and illicit trade circles. They build careers on gaining access to influential people, who could be traffickers, gang lawyers, or even legitimate customs officers or police detectives. They use this access to connect people (deriving payment and further influence as a reward), as well as to create the perception that they are able to influence the outcome of events.

### ENABLERS:

#### The crucial roles that lubricate illegal trade



Money movers



Logisticians



Bank managers,  
accountants  
and auditors



Lawyers



Networkers

## 3 Corruption presents a pervasive and complex threat

Global interconnectedness has – while bringing positive benefits to humanity – also heightened the risks posed by organized crime, in part by creating options for criminal actors to seek out the most easily corruptible institutions to target for sourcing or moving illicit commodities. At the same time, professional enablers that facilitate these corrupt relationships have grown to lubricate the illicit economy. This has been particularly pernicious for illegal environmental flows, which overlap to a strong degree with legal flows, further increasing the scope for corruption and laundering.

Corruption acts as a systematic enabler for organized environmental crime and is an element of doing business across the supply chain. Where corruption becomes entrenched, responders have significant difficulty in tackling the core drivers of environmental crime and in the enforcement of regulations.<sup>145</sup> There can also be a particularly serious

relationship between environmental crime and corruption in countries with ongoing conflict or instability: in DRC and CAR (for flora, fauna and minerals) and South Sudan (for gold). The importance of addressing corruption is borne out in academic literature. Major syntheses of the challenges facing the response to IWT have highlighted rooting out corruption linked organized crime networks as one of the most important interventions needed<sup>146</sup> – a point that can be extrapolated to other environmental crime issues.

It is frequently the true obstacle behind why existing laws do not get used against traffickers, or what undermines the cases that law enforcement tries to build. It is the force that makes government stockpiles a resource for criminal networks, and which corrodes the permit systems that are supposed to make trade sustainable. In fragile and conflict-affected states, corruption looms large as a major

development spoiler, and often ties together problems of weak governance, fauna trafficking and the exploitation of natural resources.

The multilateral system has been catching up to this fact – the recent inclusion of indicators linked to environmental crime in FATF’s review system indicate a mainstreaming

of the illicit flows focus in this area. Addressing corruption requires a suite of intervention at various levels – from rebuilding organizational cultures, to introducing mechanisms of accountability at local or national level, and addressing the global drivers and enablers like tax havens and lack of disclosure of beneficial ownership.

## 4 Policy failures are driving a focus on new legal approaches

Legal frameworks are the basis for both the mandate and exercise of police power, and set the limits of policies, and there is increasing frustration with the international legal instruments that guide global responses. CITES – the most prominent in respect of defining criminal transgression – has played an important role in restricting the illegal wildlife trade, but its powers are limited. Environmental crime is a complex and dynamic criminal problem that needs legislation adapted to identifying and curbing these specific activities. This does not fit the description of CITES<sup>147</sup> – a trade treaty that does not have an effective compliance mechanism, let alone powers of criminal prosecution. CITES itself, like all international agreements, is not always properly implemented by its signatory countries, whose compliance and enforcement efforts have been inconsistent.<sup>148</sup> Its listings have become a vital tool for some species but are often an ineffectual one for others – Appendix 1 listings, which are the focus of most advocacy in CITES CoPs, often fail to improve conservation outcomes.<sup>149</sup> There are also complaints that the UNTOC is failing to deliver greater international

cooperation on flora and fauna trafficking. This is provoking more serious debate about the value of new legal frameworks, and raising questions about further inadequacies.

Opening up the question of what legal frameworks would be better is provoking deep questions about what an ideal legal regime should look like. There is increasing coherence in policy debates about environmental crime that seek to delineate levels of criminality requiring different modes of response (often from different levels of government).<sup>150</sup> These approaches militate for legislation that can be applied to the perpetrators committing the most damage, with most decision-making power and reaping the most profit. There is also increasing recognition that impunity often stems from cases being blocked at a national level, due to corruption. This lends support to proposals that provide mechanisms (or resources) to identify serious-organized-crime actors, such as the proposal for a 4<sup>th</sup> protocol to UNTOC, or an appeal to supra-national courts, to break deadlocks around corruption, like the addition of ‘Ecocide’ to the Rome Statute.

## 5 Importance of civil society

Civil-society organizations – rather than governments or law enforcement – have played a crucial role as actors who detect crises, raise the alarm, advocate for response, drive new uses of multilateral forums and keep governments accountable.

Civil-society organizations were the first to push for the recognition of the criminal dynamics at play in environmental damage, to expose criminal actors and argue that criminally linked environmental damage was a global priority.

They have also been crucial in keeping government actors accountable. In contexts where corruption levels are high in government and corruption has been a key enabler of, for example, poaching, there have been significant law enforcement successes, which have helped dismantle

criminal networks. Exposés and monitoring have also contributed to pressure on government to address corruption and improve regulatory systems, and may have simply discouraged corruption by providing the sense that processes were being observed.

On the internet, NGOs play a key role identifying instances of illicit trade and having them removed. NGOs are also advocating for policies that regulate cyberspace in way that takes consideration of the internet’s role in wildlife trafficking.

Some of the fiercest opponents of criminal damage to the environment are community activists. Yet civil-society actors outside of big NGOs – particularly in remote rural and/or indigenous communities – get far less support and are at greater risk of repercussions for their work.

## 6 Communities are central to crime-prevention strategies but poorly integrated into responses

Local communities have a major role to play in the response to environmental crime. In or near biodiverse areas, local communities may use, protect, or otherwise manage biodiverse areas, or simply co-habit with wildlife in ways that may give rise to conflicts with the aim to prevent unsustainable killing or harvesting, including poaching. Local communities can play a key role in crime prevention (through providing intelligence or monitoring biodiverse areas); where communities have a positive relationship with enforcement actors, we often find the most successful outcomes for biodiversity, even in places at high risk of poaching or overharvesting.<sup>151</sup> On the other hand, when communities are not involved, their exclusion can undermine conservation work in various ways, and can be lethal to anti-poaching efforts.

Securitization is also generating a new crisis of legitimacy in conservation. Such approaches can criminalize low-level participants who could rather be diverted into other livelihoods. Furthermore, they drive a pattern of human-rights abuses in protected areas. This compounds existing problems with the contested legality of laws protecting flora or fauna, and so undermines the legitimacy of the institutions that uphold these laws in a broader sense. In fragile and conflict-affected states, in particular, this aggravates already difficult challenges regarding state legitimacy.

Sensitive engagement at this level is no longer a 'nice-to-have'. The tide is turning against securitized approaches that run roughshod over local communities, as seen by draft legislation that would tie US conservation to human-rights

protections.<sup>152</sup> At the same time, in many places, particularly where indigenous rights are enshrined and respected, or where national governments are becoming more independent of donor aid, local and/or national voices are pursuing greater authority over natural patrimony, sovereignty and self-determination.<sup>153</sup>

For many years, the response to this situation has been a call to devolve rights and decision-making authority to local communities. This is something which has been included in major NGO and international organization statements for several decades, yet it remains more present in rhetoric, than practice.<sup>154</sup> This may be because strategies involving local communities are complex, and unfold (successfully) over long periods of time, putting them at odds with many of the incentives for rapid results and easily reportable activities.<sup>155</sup>

This has been a missed opportunity. There remain few clear answers – and certainly no 'one-size-fits-all' strategies – for most of the key questions about how to involve communities living in or near biodiverse forests and national parks. Nevertheless, there is a growing body of practice that at least provides starting points. Some of these approaches have borne fruit over several years, and others are the result of more recent innovation: in the wake of COVID-19, as many conservation areas and communities in biodiverse areas lost income from tourism, there were cases of such community-based innovations arising to meet specific conservation needs.<sup>156</sup>

## 7 Hard data on changing markets or impacts is missing

The nature of the different crises has shifted – changing both the origin and destination of flora and fauna products – which shows the importance of having a dynamic (and predictive) picture of threats to species. As a result of the substantially 'grey' nature of these flows – thanks both to weak legal frameworks and the twinning of licit and illicit trade flows that accelerated during globalization – it is important to have a nuanced picture of harms all along the trade chain. This calls for a large amount of data that we do not currently have – data about species population sizes, consumer markets and trafficking routes that goes beyond seizures and poaching incidents.<sup>157</sup> Understanding how a range of regulatory approaches – ranging from prohibition and harsher sentencing to certification and the creation of legal markets for farmed products – will affect these flows is also dependent on data.

The deficiencies in data that can be used to inform policy and law enforcement action are widely acknowledged in the field of counter-wildlife-trafficking programming. Surveys of the field reveal the view that not enough has been done to systematically analyze IWT trends or patterns.<sup>158</sup> States are also often delinquent at providing data themselves.<sup>159</sup> Sustainable wildlife trade is hard to achieve, in many cases precisely because of the systemic lack of scientific data on the status of wild populations and/or the effects of trade.<sup>160</sup> The diversity of drivers of the wildlife, combined with different levels of legality, social legitimacy and enforcement, means that it is necessary to understand consumer demands,<sup>161</sup> economic and social facts that influence dynamics along the trade chain,<sup>162</sup> as well as market dynamics. Without this data, it is hard or impossible to truly determine 'where and how to permit and support legal and sustainable

trade, versus where it should be more tightly regulated or even cease'.<sup>163</sup> The sector has been over-reliant on seizures as a proxy measure, which, while they do provide indications of trade routes and the scale of trade, also contain detection and reporting biases, and are biased towards a small number of species.<sup>164</sup>

Specific technologies that need to be developed or scaled, or required innovation in process or application were identified as being AI tools (e.g. web scraping) for digital surveillance; forensic DNA databases; image-reading technology to track

wildlife and detect poaching; online guides for ID; and platforms that facilitate cross-jurisdictional communication.<sup>165</sup>

Data that is accessible through decentralized entry points can be a powerful tool for local accountability. Communities themselves are making use of the powers of monitoring that satellite technologies have provided, helping them to hold private sector and government partners to account, for example by matching the promises and claims made by companies with visual evidence of deforestation provided by images from space in remote territories.<sup>166</sup>

## What data do we need to respond effectively to flora and fauna crime?

*This is the data required for us to know what is happening in illicit markets, which species or regions are most affected, and whether (and where) our interventions are having an impact.*

**The geography of trade flows** – to investigate, interdict or fix regulatory gaps we need to know not just where environmental commodities are coming from and going to, but which jurisdiction they pass through on the way.

**Retail markets** – the volume of trade in, and diversity of, products for sale in retail markets holds a wealth of information about consumption and supply-side dynamics.

**Price** – prices, costs and payments are important at all stages of the trade chain. They can help us calculate the profits of criminal network, as well as the opportunities to divert participants with alternative livelihoods, or consumers with alternative products. Price can also provide information about the pressure on the species – prices often rise when species become harder to harvest or hunt.

**Market demand** – demand is tricky to measure and needs to be triangulated between stated consumer preference, observed behaviour and other indicators. But it is nonetheless the starting point for shifting it.

**Sociological data** – as with all criminal markets, interventions will be more successful if they incorporate understanding of the sociocultural – including gendered – motivations of participants, from poachers to consumers

**Species population data** – information varies dramatically depending on the species, but without this data we cannot assess the trade's impact on a species, and so its level of harm, or the effectiveness of new interventions. Within this, we often need the other metrics to be able to disentangle the effect of different threats that could be causing a population decline (like loss of habitat, or the decline of prey)

**Criminal justice system data** – we require more information on the number of investigations open, arrests made and cases that make it to court. Data on the number of convictions and the sentences, as well as details that are often disclosed in court cases (such as the role of corruption in crimes), is also essential.



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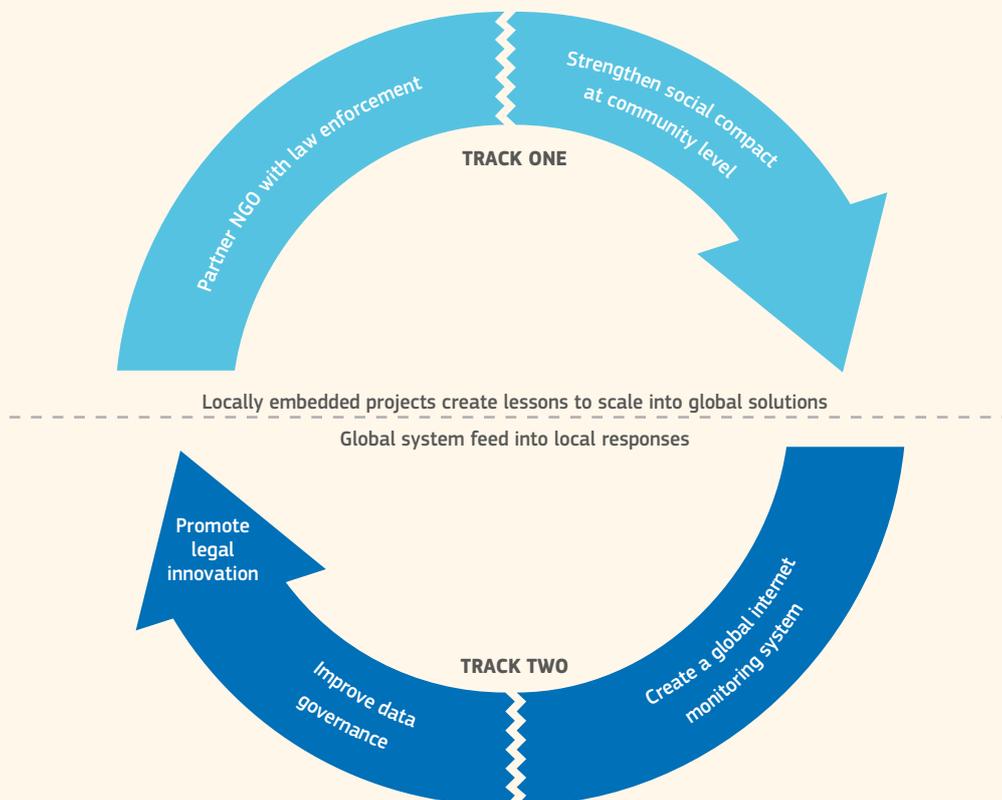
Conclusions: A way  
forward to tackle  
environmental crime

Having a view of the last few decades of escalating threat and evolving response, this section considers new directions for tackling environmental crime. These are not put forward as the only responses which are needed. Above we have identified several trends that are already starting to bear fruit, or which are promising, and already attract attention – such as the focus on illicit financial flows and money laundering, and rising interest in demand-reduction programmes. Here we instead identify two tracks of response that either reinforce the need to tackle the hard problems head on – like corruption, and the community dynamics around protected areas – or which suggest areas in need of innovation, leadership or basic resourcing, which will improve the environment in which responses unfold.

The first track is oriented around accountability and partnership. Here we argue a key avenue for ending impunity for wildlife traffickers is to make more criminal justice actors more corruption resilient through boosting internal and external mechanisms for accountability. We also contend that the other crucial intervention at local levels is to strengthen the social compact between communities and local governance authorities. While activities have to be embedded in local context and draw on nuanced understanding of corruption, governance and community dynamics, lessons also need to be drawn and disseminated in multilateral forums, so they can inform global shifts.

The second track is oriented around improving the global environmental for strategic responses by creating new data, tracking dynamic trends, strengthening norms around sharing this trend data, and improving the legal frameworks so that there is greater clarity and priority for environmental crime. While this track focuses on building global datasets, international governance structures and norms, and innovation in international law, we believe that the results of these activities can be fed into better responses at local levels in the short to medium term.

Track one translates local programming into global learning; Track two creates global trends and frameworks and plugs them into local activities.



Diagrammatic summary of the programming recommendations.

## TRACK ONE: Local accountability and law enforcement partnership to provide lessons which scale to global solutions

Corruption, communities and the necessity of ending impunity for high-level perpetrators of environmental crime loom as some of the thorniest problems and necessary areas of work – and also the hardest areas to work on. Situations of corruption are precisely the ones where regular technical assistance – which assumes good faith participation by states – is rarely effective. Likewise, the usual forms of programming around communities are particularly difficult in places where communities and states actors have strained relationships – but these are precisely the ones where dialogue cannot be ignored and must be approached with new tools in the kit. This track emphasizes the interrelationship between working with communities, civil-society and supporting specialized law enforcement capacity, using investments to break deadlocks around impunity and to reinforce the ethos of human-rights based, community-engagement focused work within development-oriented illicit economy work

### 1.1 End impunity by strengthening institutions and accountability through partnerships and local monitoring

Over the last decade there has been a major focus on funding specialised law enforcement units or taskforces to work on environmental crime – with mixed results.

A small but important body of practice has shown that successful law enforcement operations – such as specialised Wildlife Crime Units – have often been directly or indirectly supported by NGOs, often locally embedded and trusted civil society groups who worked with mandated government enforcement units over the long term. Likewise, innovative practitioners are working on ‘soft-skill’ approaches that tackle whole institutional cultures to increase corruption resilience without singling out individuals – which often results in blowback.

Civil society groups and local communities have also played a crucial role exposing wrongdoers or make organizations aware that complicity with criminal networks will not go unnoticed. Advances in data collection have also, in case, empowered communities to do this, or to share collect and share data with others who can safely bring it to light, notwithstanding the increasing risk facing environmental defenders who do so.

The dedicated funding of specialized capacity, the focus on organization culture, and the support of highly-skilled civil society partners provide incentives for integrity. Civil society groups and local community groups can also raise the costs of corruption through monitoring.

### 1.2 Strengthen the social compact between communities and local governance authorities

The evolution of the response to environmental is also littered with approaches to local communities which have been counter-productive, if not abusive. Top-down, enforcement-led responses to environmental crime in settings where humans are an intrinsic part of protected landscapes can diminish people’s willingness to support conservation activities.<sup>167</sup> By contrast, collaborative partnerships between communities, government and the private sector lie at the heart of many solutions to entrenched situations of environmental crime.<sup>168</sup> Empowering and engaging communities and providing local people a motivation to protect wildlife, forests or other ecosystems, can reduce corruption risk and enhance law-enforcement efforts.<sup>169</sup>

Programming in areas where communities co-exist with wildlife or live in protected ecosystems needs to ensure local communities’ needs, priorities and views are incorporated into joint discussions with a full range of local governance actors, including mandated authorities, and where applicable, enforcement actors like game rangers, forest wardens, etc. They also need to ensure local authorities are able to design better responses due to a more holistic understanding of their operating environment, which includes the needs and priorities of local communities. However, this focus on understanding needs and priorities needs to go beyond talk and also be accompanied by provision of tangible resources to realize locally owned responses to the threats or challenges they face.

Broadly, actions in this area should be coordinated with other interventions so that, in sum, the benefits of conservation activities increase, and the costs decrease, while the costs of criminal participation increase, and benefits decrease.<sup>170</sup> This speaks to accompanying community-oriented programming with programming that addresses the effectiveness of the criminal justice system. This could include looking for alternative sanctions to arrest or prison-time for low-level participants in poaching economies.

Successful approaches here need to be evaluated and shared in multilateral fora for global dissemination, which could occur through synthesizing lessons into submissions to regionals forums like the Escazú Agreement or meetings of the Lusaka Agreement Taskforce, or multilateral ones like the CCPCJ or CITES. This should include opportunities for community members to directly address these forums.

## TRACK TWO: Global monitoring systems and frameworks to feed into strategic responses at local level

Several of the lessons in the preceding section relate essentially to the 'environment' for response – the laws, norms, and information that shape policies and practices to stop environmental crime. Here we present two concrete proposals – to establish a global monitoring system to address the key problem of online markets, and use it as a hook for creating better 'common purpose' and smart institutional arrangements around sharing dynamic data. The final proposal is more generic, a suggestion the convening power be applied to generating legal innovation that could give the environmental crime response more coherence, priority and options for legal action. We believed that these interventions with global remit will have local impacts – beginning with a global monitoring system for online trade, which can directly feed trends to mandated authorities and civil society groups involved in accountability work.

### 2.1 Establish a networked Global Monitoring System for online trade in environmental commodities

Illegal wildlife content is rife on the open web, facilitating the retail sales that make the poaching and harvesting of endangered species worthwhile for criminal networks, normalizing consumption of protected species, and amplifying their marketing through algorithms.

In certain hotspots, this trade seems to be more prominent than ever. Lack of transparency and lack of real incentive to invest in effective enforcement of a complex problem – not to mention the poor track record of private sector action on other online harm issues – makes the prospect for industry self-regulation look slim. On top of this, civil society and authorities do not have independent and comprehensive measures of the scale of trade, with which to keep companies accountable and see the effect of policies. Law enforcement is, in many places, either overwhelmed or under-resourced to do their own monitoring, or do not consider it enough of a priority.

Yet online market monitoring of the wildlife trade has been proven to be useful for collecting baseline data for enforcing trade regulations,<sup>171</sup> highlighting likely illegal trade, identifying emerging online markets and shifting consumer demand,<sup>172</sup> and identifying the full range of private sector enablers (including not just hosting platforms, but also payment services and courier companies) that are facilitating the trade.<sup>173</sup>

We believe that a global monitoring system could extend these benefits and bring more. It could enable a triaging of the problem between small offences which can be dissuaded

by 'light' enforcement actions like warning, small confiscations, or public communications by authorities, and those which require deeper investigation and can lead to arrest. Baselines will also allow for better external oversight over the private-sector response to this issue. Such a system would also generate datasets which hold information about price, product diversity, market information, and possibly even geographic flows.

Such a system would be at the frontier of strategic planning and response: dynamic datasets driven by large-scale, ethical, and real-time data collection, which meet the needs of various actors. Careful thinking about the ethics and political of databases would enable this system to become a global public good (*see 2.2. below*).

### 2.2 Support governance frameworks for biodiversity crime data to be applied to the monitoring of virtual markets

Our understanding of environmental crime – and our ability to detect it, predict it and respond to it – is often fatally undermined by how much we do not know. This is partly understandable, as illegal trades are by nature covert and hidden, but it also reflects the slow evolution of the international response to environmental crime from one predicated on interdiction (seizures) and education. Today, we understand the trade in illegal environmental commodities as a complex economic, social, environmental and criminal phenomenon – but the data underpinning policy does not often reflect that.

There are numerous ongoing attempts to generate more data but they are largely uncoordinated, in a way that diminishes their impact and availability – this is a problem that we believe a focus on 'biodiversity crime data' governance could help alleviate.

In an age of unparalleled ability to generate and process data, we sit with a central conundrum: centralized gatekeepers, like international organization bureaucracies, have authority and legitimacy for holding data sets, but their internal procedures are cumbersome and unresponsive when it comes to generating it, and impede access once it exists. Completely decentralized solutions – such as those held up as the future data utopia in the 2000s – can create extremely responsive and dynamic data sets, but leave too many coordination problems unsolved and create security and access risks which arise when dealing with crime-related data. This often leaves major data sets being created or managed by NGOs or academic institutions, which may lack recourse and authority but whose great benefit is often

the ability to be dynamic and run decentralized processes. This, too, has downside: lack of alignment, duplication and competition, or simply the particularization of methodology because there is no incentive not to.

In this scenario, data sets held or managed by essentially 'global civil society' actors do (arguably) emerge as the best compromise between different costs and benefits. But for their role to be most effective, they also need to be both helped and held accountable by a data governance ethic or structure. This must generate enough authority to convene a network of data contributors and data users who see a benefit to participation and can themselves agree to abide by basic rules around access and alignment. This is governance that is appropriate to networked communities, which can match dynamism with coordination, and diversity with interoperability, and which can generate legitimacy for its role in the system. In this regard, donors play an essential role in both resourcing this governance, and themselves contributing leadership through both their convening power and their ability to set incentives for donor recipients.

We cannot guarantee that a solution to this problem can be found, but it is crucial to try. Solving this problem is not just about resourcing – it is more importantly about convening the right actors, facilitating a process that can create a sense of 'common purpose' between different contributors to the system, and, with their buy-in, creating incentives and structures that both harmonize current data creation efforts.

The Global Monitoring System for virtual markets could provide a test case. This would encompass convening leadership structures that provide guidance and incentives for data to be accessible, interoperable, and non-duplicative; data to be created to cover key gaps in the knowledge needed for responding to online environmental crime; and developing

countries' institutions and organizations need to have the capacity and resources to take part in producing and using key data, such as machine-learning capabilities and dynamic database management.

### 2.3 Support legal innovation to clarify and prioritize environmental crime

Finally, we believe the quest for better international legal frameworks to guide responses to environmental crime has value.

The idea of injecting new legal models into the existing response is challenging and hard to grasp, but innovative approaches in recent years have done exactly this for climate-related legislation and have been used to develop ideas for the application of Rights of Nature legislation, such as through holding mock tribunals.<sup>174</sup> Both climate and Rights of Nature cases are now appearing in a range of national courts worldwide.<sup>175</sup> Catalytic funding could bring together legal (and criminological and scientific) professionals from around the world, particularly in developing countries, to advance and cohere legal debates. These conversations should test linkages between conventional approaches for tackling environmental crime and new legal approaches, and evaluate the possible impact of these on new treaties. Evaluating these claims needs dedicated support – even if, and perhaps especially if – the result of greater debate and experimentation with these ideas is to reveal that they will not solve problems in the way intended.

Proponents of new frameworks argue that they could provide coherence to our definitions of what environmental crime is and who the most culpable environmental criminals area, as well as improve global prioritisation of this issue and support greater international cooperation. These are fundamental roles that we need the law to play.

## Notes

- 1 Eduardo Brondizio, et al., editors, Global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services, IPBES, 2019.
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- 4 The exploitation, kidnapping and physical abuse of workers is rife aboard boats involved in illegal, unreported and unregulated (IUU) fishing as well as in the exploitation of minerals in conflict zones and illegal logging, often accomplished through violent suppression of indigenous resistance and illegal expulsion of local communities. See Mongabay and Tansa and the Environmental Reporting Collective, Worked to death: How a Chinese tuna juggernaut crushed its Indonesian workers, 13 September 2021, <https://news.mongabay.com/2021/09/worked-to-death-how-a-chinese-tuna-juggernaut-crushed-its-indonesian-workers/>; see also Amnesty International on forced child labour on cobalt mines in the DRC, Time to recharge: Corporate action and inaction in the cobalt supply chain, 2017, [https://www.amnesty.org.uk/files/2017-11/Time%20to%20recharge%20report\\_1.pdf](https://www.amnesty.org.uk/files/2017-11/Time%20to%20recharge%20report_1.pdf).
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- 9 This has prompted unprecedented action, as part of sanctions against Russia, against oligarchs believed to be living off 'dirty money' which had also entered the political and financial systems of Western democracies.
- 10 This includes attention to conflict-affected countries; see the Multi-Annual Indicative Programme (2021–2027), priority area 6: Fighting the global and trans-regional aspects of organised crime
- 11 See the EU Action Plan against Wildlife Trafficking and EU Serious and Organised Crime Threat Assessment for 2021.
- 12 It is also significant that there is, in practice, a strong overlap between the fauna and flora trades, at least at the point of origin. This is because a large amount of the world's biodiversity is found in forested areas, or other habitats in countries with remaining natural forests, and because illegal wood harvesting often precedes new incursions into areas where wildlife is illegally sourced. Mandated authorities and local communities are involved in regulating the use of both trees and of wildlife in protected areas, and the regulation of both flows at an international level has important overlaps with the resolutions of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). This correlation is backed up by the Global Initiative Against Transnational Organized Crime's (GI-TOC's) Global Organized Crime Index, which finds a strong correlation between flora and fauna crime. See GI-TOC, Global Crime Index, 2021, <https://ocindex.net/assets/downloads/global-ocindex-report.pdf>, p 114.
- 13 This is not to say there wasn't anything of the sort before the 1970s – it is important to remember that a great many species were decimated by human exploitations in the hundreds of years preceding. In the past two hundred years, this was very often for international trade – trade that might not have been internationally illegal but probably contravened existing customary norms regarding sustainable use.
- 14 In addition to CITES, the Stockholm Conference also fed directly into the creation of the UN Environment Programme and the 1972 Convention on World Cultural and Natural Heritage. Edith Brown Weiss, *The Evolution of International Environmental Law*, *Japanese Yearbook of International Law*, 54, 2011, pp 1–27.
- 15 There are five species of rhino globally: three in Asia and two in Africa. In the 1970s, three were nearly driven to extinction (the black rhino in Africa, and the Javan and Sumatran rhinos in Asia).
- 16 Though the trade in birds has ancient historical roots, the major global surge in bird trade began in the decades after the Second World War. Through CITES and national initiatives, trade restrictions spread through many parrot-range states in South America in the 1970s and 1990s. Spix's macaw is the world's rarest bird and was officially declared extinct in the wild in 2000.
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