



Preventing future pandemics of zoonotic origin by combating wildlife crime: protecting global health, security and economy

Key messages

- Trafficking in wild fauna and flora can significantly impact human health, national security and economic development.
- Encroachment into natural frontiers, wildlife trafficking and deforestation mean that human-wildlife interactions are now occurring at a scale and a proximity that didn't exist before, enabling the pathogens formerly exclusive to wildlife species to jump to humans.
- COVID-19 is likely linked to a zoonotic pathogen¹ in wild bats that was passed to humans, possibly via an intermediary, which may have been the pangolin, the world's most trafficked mammal.
- Wild animals would not pass on these pathogens to humans if we didn't bring them to our cities, markets and shops. Illegally sourced wildlife traded in a clandestine way escapes any sanitary control and exposes human beings to the transmission of new viruses and other pathogens.
- The existence of parallel wildlife trade markets -illegal alongside legal- makes the enforcement and security measures against wildlife trafficking ever more relevant to prevent a similar crisis in the future.
- Despite localized disruptions due to travel restrictions and other social-distancing measures enacted by governments to manage the COVID-19 pandemic, there is likely to be little pause in wildlife trafficking; in many cases, poaching is likely to increase and illegal trade will adapt to changing market circumstances.
- Solutions are being deployed by the UNODC Global Programme for Combating Wildlife and Forest Crime to tackle wildlife trafficking, which is key to preventing future pandemics stemming from zoonotic pathogens like COVID-19.

¹ A zoonosis is any disease or infection that is naturally transmissible from vertebrate animals to humans.
<https://www.who.int/topics/zoonoses/en/>



Wildlife trafficking and zoonotic diseases

The outbreak of the Coronavirus disease (COVID-19)² is a major health emergency that has been characterized as a pandemic by the World Health Organization.³ The first cases were detected in Wuhan, China, and it has rapidly spread across the globe in the first quarter of 2020, affecting populations in over 200 countries and territories and impacting entire communities, societies and economies.

The COVID-19 pandemic is a wake-up call to rethink global approaches to protecting natural resources and ultimately the health of billions of people. According to ongoing research, COVID-19 is likely linked to a zoonotic pathogen in wild bats that may have passed to humans, possibly via an intermediary. While there is no conclusive evidence to date, initial findings suggested that the pangolin, a scaly anteater, which is a reservoir of coronaviruses that genetically resemble that which caused COVID-19,⁴ may have been a such an intermediary and could be a source of similar viruses in the future.⁵

Despite the international ban on trade of all pangolin species since January 2017,⁶ pangolins remain the world's most trafficked mammal for consumption of their meat and the use of their scales in Traditional Chinese Medicine (TCM). UNODC's latest research indicates that more than 70% of seizures of African pangolin in the period from 2007 through 2018 were destined to China, while about 19% were destined to Viet Nam.⁷ In 2019, Singaporean authorities confiscated 25 tonnes of African pangolin scales (equal to approximately 50,000 animals at a black-market value of US\$7 million), shipped from Nigeria and destined for consumption in China and Viet Nam. This clearly demonstrates the transnational nature of wildlife trafficking, threatening not only biodiversity, but also biosafety with long-term health, security and economic consequences.

[UNODC is pre-releasing the World Wildlife Crime Report chapter on pangolins on 22 April 2020 to highlight the threat posed by wildlife trafficking to global health.]

² The official terminology as defined by WHO is "COVID-19" for the disease and "SARS-CoV-2" for the virus.

https://www.who.int/health-topics/coronavirus#tab=tab_1

³ <https://www.who.int/dg/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19---11-march-2020>

⁴ Nature, [Mystery deepens over animal source of coronavirus](#), 26 February 2020

⁵ Nature, 26 March 2020 [Identifying SARS-CoV-2 related coronaviruses in Malayan pangolins](#), 26 March 2020

⁶ In 2016 (at the 17th Conference of the Parties to the Convention on the International Trade of Endangered Species (CITES)), all eight species (Asian and African) of pangolin were transferred to CITES Appendix I, which includes species threatened with extinction for which trade is permitted only in exceptional circumstances; this essentially banned trade.

⁷ UNODC West and Central Africa threat assessment, 2019



The transmission of coronaviruses and other zoonotic pathogens to humans is made possible due to the close contact between animals and humans. Wild animals, especially those living in large colonies such as bats, are reservoirs of viruses that can mutate, beyond the knowledge of or prediction by science, which can have lethal effects on humans. In virtually every country in Southeast and East Asia it is possible to find wet markets, pet markets (exotic pets), restaurants specialized in wild meat, TCM shops, as well as captive breeding facilities, that supply an ever-growing demand for rare wildlife products. While most wet markets in Asia comply with sanitary standards and do not pose any significant risk to human health, some of these markets operate outside of these standards and openly trade in wild and exotic meat. Conditions in such establishments carry immense risk for similar outbreaks in the future. For instance, some wet and pet markets host wild animals transported from highly diverse ecosystems found in different latitudes of the planet.⁸ By clustering these animals in the same limited space, viruses are more likely to jump from one host to another, and these facilities can become ground zero for the next zoonotic disease.

The transmission of zoonotic diseases has wide-reaching negative consequences. In addition to the major global health impact – more than two million cases of COVID-19 as of mid-April 2020 – the economic impact of COVID-19 may result in up to \$2.7 trillion US dollars in lost output and as high as 30% of the global economic decline.⁹ The OECD interim economic assessment estimates that the global economic growth could be halved with a negative GDP across regions.¹⁰ This will have a dramatic negative impact on the global economy in both the short and longer term, with the most vulnerable populations being hit the hardest. The impact is also being felt by wildlife authorities, particularly in countries where operational budgets, including for salaries, are highly dependent on the revenue generated by tourism.

Need for action

In the wake of the crisis, solutions are being deployed to manage the pandemic and its far-reaching impact and to prevent similar outbreaks in the future. Tackling illicit wildlife trafficking is key to preventing future pandemics stemming from zoonotic pathogens.

While there is large scale legal and sustainable trade, a parallel illegal trade has been targeting wild species trafficked largely to Asia from all over the world or bred in captivity – as demonstrated by the recent seizures of over 45,000 live birds, and animal parts that can be attributed to an equivalent of 2,200 tigers and 3,800 bears, and many other species across

⁸ <https://www.nationalgeographic.com/animals/2020/04/coronavirus-linked-to-chinese-wet-markets/>

⁹ <https://www.bloomberg.com/graphics/2020-coronavirus-pandemic-global-economic-risk/>

¹⁰ <https://www.oecd.org/economic-outlook/>



several countries in Asia.¹¹ Consumption is driven by wealth – i.e. status symbols, as many wildlife products are now considered luxury items - or cultural belief – e.g. alleged healing or reinvigorating properties of such products.

The existence of parallel wildlife trade markets -illegal alongside legal- makes the enforcement and security measures against wildlife trafficking ever more relevant to prevent a similar crisis in the future. Illegally sourced wildlife traded in a clandestine way escapes any sanitary control and exposes human beings to the transmission of new viruses and other pathogens.

Without human interference through capturing, slaughtering, selling, trafficking, trading and consuming of wildlife, the evolution and transmission of the COVID-19 coronavirus would have been highly unlikely.

Programmatic response

UNODC is well positioned to support governments to tackle wildlife trafficking and prevent the transmission of zoonotic diseases through its Global Programme for Combating Wildlife and Forest Crime. Continued engagement with key stakeholders will include:

- **Coordinated enforcement and operational activities** at key conservation areas, border locations and major ports, based on **intelligence-led interventions** and sharing across jurisdictions.
- **Advisory/mentorship programmes on advanced investigative techniques** to address the specificities of wildlife trafficking.
- Improving **forensic capacity** to be applied during inspections in wildlife facilities as well as post-seizures of wildlife at ports, airports and land borders.
- **Capacity building on the investigation of online wildlife trade** will be critical, as online activity may be vulnerable to interception and investigation by skilled practitioners.
- **Threat and risk assessment**, to better understand species at risk for trafficking and relevant patterns and trends for prevention and enforcement actions. This is also relevant to identifying key nodes that pose unacceptable risks to human health and working with governments and partners to mitigate those risks.

¹¹ TRAFFIC, [Southeast Asia: At the heart of wildlife trade](#), February 2020



- Developing **national legislation and policies** to address vulnerabilities. In some countries on the demand side, this may involve improving regulations and/or closing down facilities involved in or susceptible to illegal wildlife trade.
- **Livelihoods** initiative development, for example, providing alternative livelihoods for those people impacted by the closing of wildlife markets and facilities that are deemed to pose a risk to human health, as well as those dependent on sourcing illegal wildlife products for income.
- **Anti-corruption and risk mitigation**, including support for both prevention and enforcement angles to reduce vulnerabilities to corruption. Mentorship and financial investigation techniques, including improvements in knowledge and actions surrounding know-your-customer and red flags, to help identify key nodes in organized criminal groups engaged in illicit wildlife trafficking.
- **Awareness raising about the risks posed by wildlife trafficking**, including developing communication products, such as public service announcements and social media campaigns, to educate the general public on the direct link between both legal and illegal activities pertaining to wildlife and the outbreak of global health emergencies and associated consequences, including on security and socioeconomic development. Messages will be localized as much as possible to consider the differences in customs and habits at national and provincial level.
- Fostering **regional and international cooperation** for wildlife law enforcement and beyond. The United Nations convening power can be leveraged to bring together biosafety scientists, regulators, criminal justice officials, and key decision makers to put global health high on the national and global agendas.

Impact of COVID-19 on global wildlife trafficking¹²

Despite the travel restrictions and other social-distancing measures enacted by governments to manage the COVID-19 pandemic, it is likely there will be little pause in wildlife trafficking.

The wildlife products sold in facilities under current/future scrutiny – such as wet markets, exotic pet markets, captive breeding centres, etc. – are likely to undergo through a significant slow-down in sales in the short-run. Affected products are likely to include wildlife species such as exotic birds, snakes, turtles/tortoises, civets, leopard cats, iguanas, sharks, seahorses, pangolins and bats. In the medium/long term, it is likely that buyers and sellers will reorganize themselves through online trade channels or more underground establishments.

¹² Adapted from United for Wildlife, *How will COVID19 impact global wildlife trafficking?* 1 April 2020.



As a significant portion of the illegal wildlife trade already takes place through online channels, this will not be significantly impacted by current/future restrictive measures on physical markets. This includes the trade in elephant ivory, rhino horns, tiger products and pangolin scales. These products are not generally sold at retail level through physical markets as they cater to more exclusive consumers.

In some key areas, poaching may increase: for example, in areas where conservation is largely funded by tourism (i.e. conservancies, national parks), the dramatic decline in tourism revenue jeopardizes funding available and the possible regularity of anti-poaching patrols, thus potentially creating a security vacuum. There have already been recorded increases in poaching in Nepal, and in rhino poaching in Botswana¹³. Around these same key areas, subsistence poaching may increase, resulting in an increase in bushmeat consumption, or there may be additional incentives for locals to be recruited into trafficking organizations as a source of income.

In some countries, wildlife products may be touted as ‘cures’ for COVID-19, notably bear bile¹⁴ and various plant species¹⁵ in TCM. Any resulting increase in demand will put targeted species at risk.

Due to widely imposed travel restrictions, passenger air is likely to cease being a major mode of wildlife smuggling for the duration of the pandemic. There may be shifts to air cargo, maritime shipments or air express services. Traffickers are likely to focus on proven smuggling routes and methods.

Poly-crime networks involved in illicit wildlife trafficking may diversify their enterprises into cybercrime and fraud, with the potential for new networks to be formed or merged.

Further, it is likely that the line between the legal and illegal wildlife trades will blur even further, notably regarding TCM and wildlife farms in Asia, over both the medium and longer terms, as not only a hedge against instability but also recognizing new opportunities for profit. Without strong efforts to strengthen inspections and controls, legal enterprises such as farms, zoos, breeding facilities and TCM suppliers may continue to be used as cover for transporting illegal wildlife products. This in turn may change the focus of the illicit wildlife trafficking towards less ‘iconic’ species and more species covered under legal trade such as frogs, snakes, birds and turtles.

The economic downturn will also affect traffickers, who are also vulnerable to the temporary decrease in buying power of their consumers, as well as increased transaction costs, in addition to the continuation of the downward trend in prices for wildlife products.

¹³ New York Times, [Poachers Kill More Rhinos as Coronavirus Halts Tourism to Africa](#), 8 April 2020

¹⁴ National Geographic, [China promotes bear bile as coronavirus treatment, alarming wildlife advocates](#), 25 March 2020

¹⁵ TRAFFIC, [The role of wild plants in health treatment and why sustainability of their trade matters](#), 7 April 2020



There may, in the longer term, also be a shift in the structural market dynamics, with a decrease in status for owning or trading in illegal wildlife products. This may put additional downward pressure on prices for illegal wildlife products, which may disincentivize traffickers from engaging in this area of criminality. Consumers may also see illicit wildlife trafficking as a threat to public health and security, in addition to the potential risk for future pandemics.

These longer-term impacts can be affected by actions taken now, by bringing pressure against traffickers before they can adapt to the new conditions. The UNODC Global Programme for Combating Wildlife and Forest Crime will respond accordingly, as outlined in the previous section.