

University Module Series
 Wildlife Crime



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Addition to Module 1

The Illegal Trade in Wildlife in the Context of Zoonotic Diseases

Zoonotic diseases (or zoonoses) are “diseases or infections that are naturally transmissible from vertebrate animals to humans”, with potentially lethal effects. As many as 75% of all emerging infectious diseases are of zoonotic origin.¹ Since 2000, several outbreaks of zoonotic diseases have caused epidemics, some of which spread globally to become pandemics, resulting in terrible consequences for affected societies and economies. In 2003, an outbreak of the Severe Acute Respiratory Syndrome (SARS) coronavirus (SARS-CoV) resulted in the first major pandemic of the century and the first known pandemic to be caused by a coronavirus. Within just a few months, the virus had infected over 8000 people across five continents, with almost 800 fatalities.² In late 2003, the avian influenza (HPAI bird flu) H5N1 emerged in several Asian countries and spread regionally and internationally, including to Europe, causing the death of over 400 people³ and millions of animals, including poultry, wild birds and mammals⁴. The outbreaks of the Ebola virus were traced back to the consumption of bushmeat from infected apes.⁵ While the 2014 Ebola epidemic was centred in West Africa (Guinea, Liberia, Sierra Leone), some cases spread globally despite heavy travel restrictions.⁶ The World Health

¹ <https://www.who.int/topics/zoonoses/en/>

² <https://cmr.asm.org/content/cmr/20/4/660.full.pdf>

³ https://www.who.int/influenza/human_animal_interface/2020_MAY_tableH5N1.pdf?ua=1

⁴ Van Uhm, D. 2018. *Illegal Wildlife Trade*, 15th ed. Utrecht, Springer. Pp 24-27. Available: <https://link.springer.com/book/10.1007/978-3-319-42129-2>

⁵ Ibid.

⁶ Ibid.

Organization (WHO) estimated that there were more than 28,000 cases and around 11,000 deaths during the 2014 outbreak.⁷

In late 2019, the virus SARS-CoV-2, which causes the COVID-19 disease, resulted in the second pandemic caused by a coronavirus, with devastating health and socio-economic effects around the world (see box on *The global COVID-19 pandemic*). There are many factors that have contributed to the spread of zoonoses, including social, environmental and economic developments such as urbanization, increasing population density, climate change and the increase in speed of trade and travel.⁸

Encroachment on natural frontiers, including through deforestation and poaching, results in human-wildlife interactions on an unprecedented scale and proximity, which also increases the chances of zoonotic pathogens jumping from animals to humans (or vice versa⁹). Illegally-sourced wildlife, traded in a clandestine way, escapes any sanitary or phytosanitary control and exposes humans 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 SARS-CoV-2 virus would have been significantly less likely.

This human-wildlife interface is especially problematic in certain wildlife facilities, including captive breeding facilities, wet¹⁰ and pet markets, restaurants serving game meat and shops selling traditional medicine. These facilities enable species that would never cross paths in the wild to find themselves in close proximity to each other, often clustered together in limited space.¹¹ This can facilitate the spread and mutation of zoonotic pathogens among wild animals before transmission to humans.

The illegal wildlife trade can be an enabler of the spread of zoonotic diseases, in that, by its nature, it relies on clandestine sourcing of wildlife and on avoiding law enforcement action and regulatory controls, including sanitary regulations. While the majority of wildlife facilities comply with sanitary regulations and do not pose undue risk to human health, some facilities operate outside these standards and trade in wild-sourced animals. To supply these facilities, the legal and illegal supply chains may intersect (see figure 1), with illegally-sourced wild animals being 'laundered' through legitimate facilities.¹² Once such laundered wild animals

⁷ <https://apps.who.int/gho/data/view. ebola-sitrep. ebola-summary-latest?lang=en>

⁸ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5226902/>

⁹ <https://www.nationalgeographic.com/animals/2020/04/tiger-coronavirus-covid19-positive-test-bronx-zoo/>

¹⁰ A wet market is a place that sells fruits, vegetables etc., and may also sell wild animals intended for consumption.

¹¹ <https://cmr.asm.org/content/cmr/20/4/660.full.pdf>

¹²

https://www.researchgate.net/publication/325606824_Wildlife_and_laundering_interaction_between_the_under_and_upper_world

reach a legal market, it is almost impossible to trace their origin, thereby illustrating the challenges facing law enforcement when regulating wildlife trade (more examples of wildlife laundering can be found in Module 1 of the Wildlife Crime Module Series).

Facilities that sell or breed wildlife often play an important socio-economic and cultural role in people’s everyday lives, serving as an important source of affordable food and livelihoods. As such, any measures to regulate such facilities must take this into account to try to prevent unintended consequences. For example, blanket bans on wildlife facilities and markets may push trade and consumption underground, resulting in lower adherence to sanitary standards.

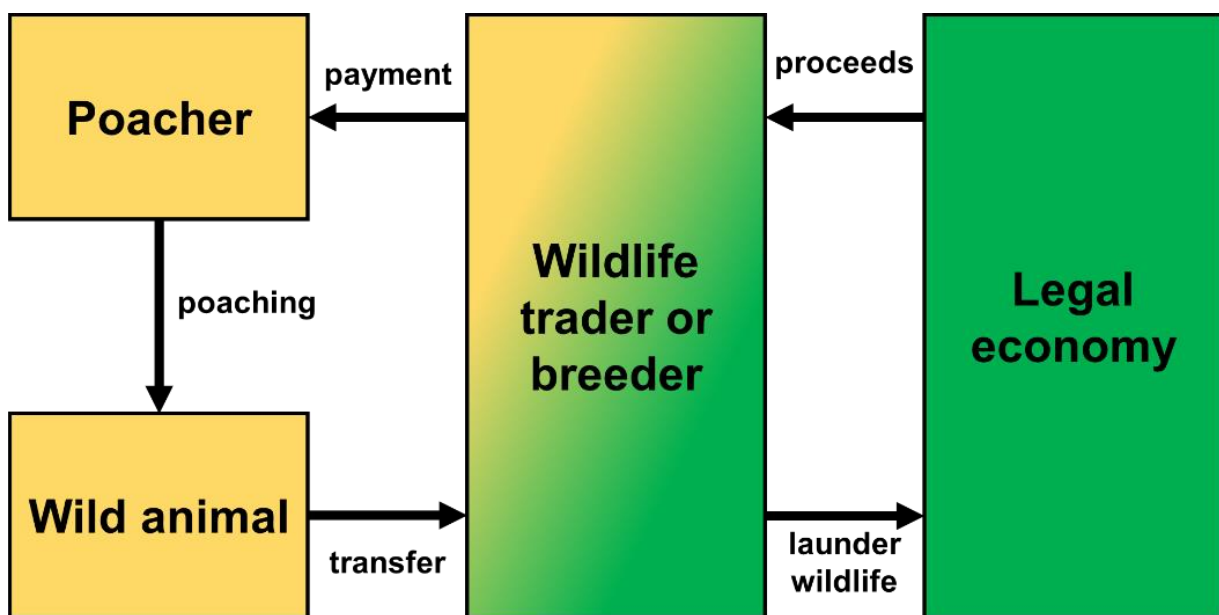


Figure 1- Wildlife Laundering - Adapted from Van Uhm, D. 2018. *Wildlife and Laundering: Interaction between the Under and Upper World*

Example: The global COVID-19 pandemic

At the end of 2019, the first cases of a previously unclassified coronavirus (SARS-CoV-2) were identified in Wuhan, China.¹³ The disease caused by the virus, COVID-19, spread quickly around the world, labelled formally as a pandemic by the WHO in March 2020¹⁴. As of mid-2020, it has infected almost seven million people globally and left over 300,000 dead.¹⁵ It became clear

¹³ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7153464/>

¹⁴ <https://www.who.int/news-room/detail/27-04-2020-who-timeline---covid-19>

¹⁵ https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200526-covid-19-sitrep-127.pdf?sfvrsn=7b6655ab_8

early on that COVID-19 was of zoonotic origin, most likely resulting from bats, which live in large colonies and are known reservoirs of viruses, as they are capable of carrying viruses without suffering from infections. While it is widely accepted that bats carried the original SARS-CoV-2 virus, it was deemed unlikely that the virus bridged directly from bats to humans. Previous infectious diseases such as SARS and MERS jumped from bats to an intermediary before infecting humans.¹⁶ As of late May 2020, there was still no conclusive evidence as to which animal -if indeed, any animal – was the intermediary, although some early evidence pointed towards the pangolin as a potential vector¹⁷. The pangolin, a scaly anteater considered the most-trafficked mammal in the world, is sought after for its scales for use in Traditional Chinese Medicine (TCM) and for its meat for food consumption (see Module 1 of the Wildlife Crime Module Series).

In-class exercise - Debate

As a measure to control the further spread of COVID-19, China issued a temporary ban of terrestrial wildlife consumption on 26 January 2020. Nevertheless, TCM was exempted from this ban, which is the primary market for pangolin scales in China.

The outbreak of COVID-19 prompted a public discussion as to whether countries should ban wet markets and markets that sell live animals due to the risks of zoonotic disease transmission. This debate has pitted public health advocates against those who advocate for the importance of wet markets and other wildlife facilities for local communities, especially as the majority of wet markets adhere to sanitary and regulatory standards and many do not sell wildlife for consumption.

Split the class in two groups (A and B). Group A acts in favour of a ban on wet markets, whereas Group B collects arguments against such a ban. Allocate some time for inter-group discussion before opening the floor up to the debate.

¹⁶ <https://www.nationalgeographic.com/science/2020/01/new-coronavirus-spreading-between-humans-how-it-started/>

¹⁷ <https://www.nature.com/articles/s41591-020-0820-9>