

Wildlife Trade, Pandemics and the Law:

FIGHTING THIS YEAR'S VIRUS WITH LAST YEAR'S LAW



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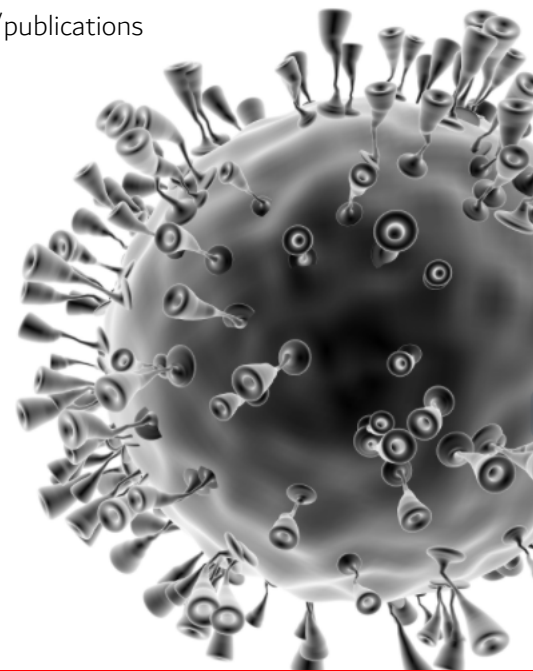
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PREFACE

As of January 22, 2021, over 97M human cases and 2.1M deaths have been reported globally due to COVID-19 caused by SARS-CoV-2. Both figures are almost double what they were just two months prior.¹ It is speculated that the pandemic originated in a wet market in Wuhan and it has been linked to horseshoe bats as potential reservoirs, perhaps with other species involved in the transmission. Whatever its source, this is not the first pandemic affecting humanity. The Spanish flu (1918 H1N1 influenza), the deadliest pandemic of the 20th century, infected an estimated 500M people and killed 50M. Several epidemics and pandemics have followed in recent times including HIV/AIDS (35M killed since 1981), H1N1 swine flu (1.4B infected; 151-575k killed), West Africa Ebola virus of 2014-16 (28.6k cases and 11.3k deaths), Zika virus, SARS and MERS emerging in between.

COVID-19 vaccine candidates originating in shark liver. For primates, the problem may be even more severe although the numbers are not the same. Primates are both targets for disease study and, as recent publications suggest, may be highly susceptible to the disease itself.² In other words, COVID-19 can hit primates twice – once as a target for research, and again as exposure represents a significant risk to their survival.³

Beyond counting infection rates and fatalities, however, there has never been a full and accurate accounting of the social, environmental, and economic toll of these outbreaks. What is known, is that their primary root causes are anthropogenic. These include overexploitation of species, habitat destruction, and exotic species introductions (referred to as the “evil trio”), which in turn lead to ecosystem disruptions causing alteration of disease transmission patterns. Adding international travel, globalization, and climate change, and we have the “savage sextet” of disease emergence and spread⁴ – all driven by human activity.

We also know that the risk of disease spillover is linked to human culture, habits and behavior that involve close contact with animals and wildlife in a variety of settings, i.e., wet markets, bushmeat hunting and trade, illegal international trade, and exotic species introduction. In other words, the activities that drive exposure and transmission are multiple, long-standing, and woven into the fabric of human culture globally.

Beyond counting infection rates and fatalities, however, there has never been a full and accurate accounting of the social, environmental, and economic toll of these outbreaks.

But COVID-19 is not just a problem for humans. It also impacts many animal species, including wild animals – some because they play a role in biomedical research; others (primates in particular), because they too are susceptible to infection from the virus. To provide some dimension to the impact, consider that over half a million sharks will be killed to harvest squalene, an ingredient used in some

¹ 51M and 1.34M, respectively

² Melin, A.D., M. Janiak, F. Marrone, P. Arora, and J. Higham. (pre-print 2020). Comparative ACE2 variation and primate COVID-19 risk. National Institutes of Health.

³ Ibid.

⁴ Aguirre A.A. (2017). Changing patterns of emerging zoonotic diseases in wildlife, domestic animals, and humans linked to biodiversity loss and globalization. *ILAR Journal* 58(3): <https://doi.org/10.1093/ilar/ix035>.

Combined with the 'savage sextet', the question is whether any narrow approach offers much utility. If, for example, people are still hunting and consuming animals for traditional medicine, or capturing them for the exotic pet trade, does it really help if China or other countries put a ban only on the consumption of wildlife, or on trade in some high-risk species and not others? Does any ban of limited scope take us very far in terms of risk reduction?

The answer is, 'probably not very far.' Banning wet markets alone, for example, will never solve the problem not just because disease emergence occurs in more settings than this but because the ban would certainly run up against resistance. These markets provide nutritional options to certain populations and serve as expressions of social and cultural mobility to others. It would be unreasonable to expect them to be dismantled uniformly across such a varied and geographically diverse landscape, without acceptable alternatives, and with socially and economically vested interests at all points.

But problems of this extent have been and indeed must be faced if there is hope of accomplishing anything. Numerous efforts across the globe are

looking at everything from vaccines to consolidating international mandates, to adjusting business practices, and much more.

The national legal context must become one of the areas we examine with equal care. At a minimum, it is the vehicle through which international mandates will be translated into action.

The national legal context must become one of the areas we examine with equal care. No one will ever rightfully claim that legislation is a panacea, but it does provide a foundation for all of the activities mentioned. At a minimum, it is the vehicle through which international mandates will be translated into action. It is necessary to ensure consistency and completeness among countries in how wildlife trade is screened, controlled, and otherwise managed. And, as this paper elaborates, it needs to be reconsidered if we expect to reduce the potential for epidemic and pandemic threats, ideally at the source around high-risk practices in the human-wildlife interface. This research takes one step in that direction.



INTRODUCTION

This paper is the follow-up to a brief survey of legislation conducted by Legal Atlas in June of 2020 on existing legal approaches to controlling zoonotic disease risk in the context of wildlife trade.

The original research was a rapid review conducted to provide some background in response to the numerous articles in international media calling for legal reforms during the first months of the 2020 COVID pandemic. These ranged from advocating for the complete prohibition of trade in wildlife to amending international treaties to incorporate controls directed at zoonoses (e.g., the Convention on International Trade in Endangered Species of Wild Fauna and Flora -CITES) or to impose stricter criminal measures (e.g., The United Nations Convention against Transnational Organized Crime -UNTOC). In all of the discussion, however, even those calling for more nuanced approaches to regulation and management, there was no information on existing legal approaches, (i.e., which agencies, responsibilities, species and types of trade) or an analysis of their adequacy other than to conclude that they missed the mark.⁵

In conversations with the International Conservation Caucus Foundation (ICCF),⁶ Legal Atlas decided to begin filling this knowledge gap by conducting a preliminary survey of four (4) types of law that were known or considered most likely to have relevant content.⁷ These included the laws directed at Wildlife Conservation and Trade, Animal Health and Welfare, Food Safety, and Meat Industry. The survey was conducted by a team of six (6) researchers over a period of two weeks and covered 37 jurisdictions.

For each type of law, research looked for three types of regulatory content, in particular:

1. whether the law regulated the sale of wildlife;
2. whether it regulated the markets where wildlife is sold; and
3. whether it included regulations specific to the management of zoonotic disease.⁸

The results showed that a majority of the countries reviewed (*n.* 28 of 38) has at least one or more laws with relevant content; whereas only nine (*n.* 9 of 38) have a complete gap - at least for the laws assessed.⁹ The report recognized, however, that this was only a partial review and that further research would be needed. Nonetheless, it also noted that there is already a strong starting point in most countries for immediate action and further regulatory development.

Focus of this Research

The initial survey was never intended to cover all possible laws, nor conclude an exhaustive analysis of the approaches observed. For this reason, the team resolved to advance the discussion in a second publication amplifying the types of laws reviewed, including some that were considered unlikely to directly provide for the prevention or control of zoonotic diseases, but which might nonetheless be important, even if only indirectly.

One area of law in particular, indigenous rights, was selected as it was repeatedly mentioned in international discussions with various organizations calling for the closure of wildlife markets but also

⁵ Broad, S. (2020) Wildlife Trade, Covid-19, And Zoonotic Disease Risks. TRAFFIC

⁶ ICCF acted as the host to the UK APPG inquiry and the Legal Atlas legislative survey was conceived as a submission to inform that discussion.

⁷ Wingard, J., S. Belajcic, M. Heise, M. Samal, S. Fiennes, and K. Rock. (2020). Regulatory Frameworks Governing Wet

Markets, Wildlife, and Zoonotic Disease: Rapid Survey of 37 Jurisdictions. Legal Atlas Research Paper.

⁸ Id.

⁹ These include Belize, Cameroon, The Gambia, Malawi, Pakistan, Samoa, Tuvalu, Tanzania, and China.

recognizing the need to make an exception for indigenous uses. Other law types were added to highlight forms of trade that are increasingly important (e.g., pet trade) or that cover critical points along the trade chain (e.g., customs) but which were not captured in the previous review. The full list of law types reviewed can be found in the section on NATIONAL LAW Assessment Methods.

For each type of law covered by this report, more research has been done to catalogue legal approaches and assess their application to zoonotic disease and wildlife trade. While this moves in the direction of identifying what may be best practices, it is still primarily an empirical exercise focused on identifying and recording how laws operate, e.g., which species are covered, and which regulatory tools may be relevant. It is nonetheless expected that the results will contribute substantially to the definition of best practices that might be used for more advanced analyses and to define legislative agendas.

To set the stage for understanding why the laws respond the way they do, the team also decided to provide some background on the history of legal responses (see the section entitled A BRIEF BIT OF HISTORY). Pandemics are not new to law any more than they are to medicine. What laws do today reflects that history.

And finally, since pandemics involve more than one country, the international instruments at play have also been discussed, explaining their approaches and providing some thoughts (and cautionary notes) on the interplay between national and international law.

This report does not cover the many areas of law and legal tools that are intended to protect species and their habitats or prevent illegal trade in the first place; all worthy topics and ones that support a larger One Health approach, but which also necessarily require a separate, and indeed longer-term focus. Among these are areas of law such as forestry, protected areas, environmental impact assessments, mining, agriculture, and land tenure, to mention only some. In addition, the review of several of the laws included in this report would have to be expanded to consider other types of

content, e.g., wildlife laws would need to be examined for key conservation tools (i.e., habitat protection, listing procedures, take and trade requirements).

While these areas of law still need review, it should be noted that they have also been in the center of discussion for decades, whereas an accounting of national legal tools specific to controlling the emergence of zoonotic diseases in the context of wildlife trade has not.

Summary of Findings

The overall finding in this research is that the legal responses to managing zoonotic disease both at the international and national level, are widespread but have not yet evolved sufficiently to address the risks posed by wildlife trade. But what this research also demonstrates is that national laws already have more tools directed at zoonoses (directly and indirectly) than may be imagined, especially as they sometimes include wildlife or are specifically directed at wildlife trade.

There are, in other words, many tested approaches, lessons learned, and opportunities for immediate action. In all of the discussions to create new mandates, these can and should act as a starting point.

What this research demonstrates is that national laws already have more tools directed at zoonoses than may be imagined, especially as they sometimes include wildlife or are specifically directed at wildlife trade.

That said, at the international level, the current status can only be described as weak. The only international instrument that currently addresses pandemics, the WHO's International Health Regulations (IHR), is directed at public health measures and is primarily reactive. While no one is arguing that this is not necessary, it does not have requirements for the management or control of the movement of wildlife.

There is growing recognition of this gap but proposals to amend the IHR or other international instruments (principally, CITES and UNTOC)

remain in discussion. Even if amended to address zoonotic diseases, these fragmented international responses will only be able to present partial solutions, as they will necessarily be limited at least by their overarching purpose. CITES will be limited to the species it lists and its focus on international trade. UNTOC will be limited to identifying and criminalizing a broader suite of international wildlife crimes, but likely only where there is a link to organized crime.

Much will fall to the individual countries, whether it be the implementation of a new international mandate, or simply to improve existing laws. On balance, there may be a continuing emphasis on domestic animals and varying gaps when it comes to managing zoonoses risks, trade and markets, but it is not a blank slate. Capitalizing on the political will that has coalesced around the issue presents a unique opportunity to move forward, to do so more quickly and in context-specific ways by country that can run in parallel with efforts to negotiate and implement changes to the international legal framework.

- Medicinal trade laws
- Public health laws
- Veterinary medicine laws

Reasons for these exclusions can be found in the Methods section (Annex I).

This report is also jurisdictionally narrow. Although it covers 38 countries (roughly 18% of the world's national jurisdictions), pandemic risk presents an 'all-hands-on-deck' type of problem. If the impacts of COVID-19, SARS and other pandemics have shown us anything, it is that viral zoonoses can begin in a single location, and yet spread to the world in the span of a few months. Pathogens do not respect international borders and, collectively, the threats they pose are geographically widespread. In this context, global health security is only as strong as its weakest link. It is not enough for one, or even most jurisdictions to do a good job, while others do not. All jurisdictions should be assessed, and efforts made to improve the legal foundations and their implementation.

Finally, the report does not yet take the much-needed step of determining which legal tools and methods of implementation and enforcement may be considered best practices. As this report details, there are a variety of approaches employed, including or excluding species depending on the country and the focus of the law (e.g., food safety laws tend not to include wildlife, although a few do), implicating multiple government agencies, practices, and budgets. There are also a number of practices that may not be the subject of any law, but which are important, even critical, to managing the emergence and spread of disease, e.g., surveillance programs, laboratory diagnostics, prevention and vaccination programs, incident management and intervention protocols, risk communication. As with other professions, these types of unregulated professional practices may also benefit from legal support, e.g., harmonizing standards, clarifying procedures and reporting requirements, and securing budgets and qualified staff. If we want to improve legal foundations, both the existing legislative tools and related implementation practices need careful consideration, assessing what is needed, what works, and why.

Much will fall to the individual countries, whether it is the implementation of a new international mandate, or simply improving existing laws.

Looking Ahead

Even though this paper is much longer than the rapid survey conducted in June (2020), it is still an initial survey focused on understanding existing approaches. An initial survey like this should never be considered the end of the inquiry. The review itself, including the identification of key regulatory tools, can still be improved through broader vetting and testing against practices on the ground.

The report also deliberately excludes a few key laws that would provide additional understanding; in particular:

- Civil codes
- Constitutions
- Criminal codes
- Fisheries laws

“After all, it really is all of humanity that is under threat during a pandemic.

– Margaret Chan, Physician and former WHO Director-General

A BRIEF BIT OF HISTORY

Before reviewing the international and national legislative responses to zoonotic disease risk and how this connects to the regulation of wildlife trade, it helps to consider briefly where we are in the evolution of our legal responses to pandemics. After all, a major premise of this paper is that we are fighting modern epidemics with outdated legal approaches; fighting this year's virus with last year's law. Today's legislation does not come from nowhere. It reflects to a large extent how the world has conceived of and managed pandemic risks since societies first recognized the problem centuries ago. The approaches used, the similarity of legal responses, and how widespread they are across jurisdictions continue to bear witness to that history.

Taking the last point first (how widespread they are), the results from this research indicate that virtually all countries have some legal response to controlling zoonotic disease. Although this review only covered 38 countries, it is probably a fair representation of global trends. All of them without exception, have at least one law (usually more) that addresses the problem. In all other trans-jurisdictional research conducted by Legal Atlas (covering 12 other topics and thousands of laws), few observed trends are this strong.¹⁰ It is probably safe to say that all countries have considered the issue at least somewhere in their legal system and likely in more than one law, although there will certainly be differences and some gaps.

Most notable from the research, however, is how these laws still primarily reflect our historical understanding and have not yet evolved to match the growing body of scientific knowledge that identifies wildlife as a major source of disease and an increasing risk. Critically, >70% of recently-emerging zoonotic diseases have wildlife origins, a trend likely to continue as human populations shift interactions between species in ways that facilitate pathogen transmission.¹¹ As the legal assessments in this paper show, those laws most closely linked to animal health and disease tend to focus more on domestic animals than on wildlife (although not exclusively); they usually cover food and meat processing sectors, while other parts of the wildlife trade chain and markets may be missing entirely (e.g., indigenous consumption and trade, medicinal trade); and finally they provide little guidance for implementation specifically in those laws that overlap the most with wildlife trade chains (e.g., in wildlife conservation and trade laws, CITES implementing laws).

Today's legislation does not come from nowhere. It reflects to a large extent how the world has conceived of and managed pandemic risks since societies first recognized the problem centuries ago.

That laws in the past were written this way makes sense of course because for most of our legal history, saying that little was understood about the origins of disease would be gracious. Everything from vengeful gods, to noxious vapors, to staring

¹⁰ The Legal Atlas® platform has engaged in the study of 13 major areas of law (referred to in the platform as 'Topics') covering thousands of individual inquiries across numerous jurisdictions in each case, and in some instances 100+ jurisdictions.

¹¹ See Taylor et al. 2001 and Jones et al. 2008 for further information.

too long into someone's eyes were blamed until a surprisingly short time ago, with some belief systems persisting even today. Increased surveillance efforts of the past decades, including the involvement of animal health experts and ecologists, have helped to elucidate the mechanisms of disease risk.

However, while our scientific knowledge has dramatically improved, our use of legal instruments has evolved more slowly. For those curious about this history, most accounts begin with the responses taken in the late 1300s to fight the effects seen during the black death, yellow fever and cholera. As nothing was known about viruses or other etiological agents in that period, they focused on two types of response:

- 1) **maritime quarantine** - where ships would be barred entry to port cities and required to remain offshore for 40 days;¹² an approach that gave rise to the term 'quarantine', from the Italian "quaranta giorni" or 40 days; and
- 2) **individual quarantine** - where infected persons would be isolated from the rest of the population.¹³

Over time, the measures taken by a few individual cities found their way into national laws. During the yellow fever epidemics in the 17th century, for example, quarantine laws were implemented across the port cities in North America.¹⁴ Eventually, countries began standardizing their response and enacting laws that applied to the country as a whole. An early example of this would be the passing of the Public Health Act 1848 in London.¹⁵ Today, many

countries require proof of yellow fever vaccination as a condition of entry (the Yellow Card known to many international travelers).

The early 20th Century has seen more rigorous measures adopted to curb the spread of diseases (not just zoonoses), in particular influenza, including containment strategies such as the closure of schools, churches and public gatherings. By the time SARS emerged in 2003, the traditional measures of case detection, isolation, and quarantine were further supported by collective quarantine, whereby particular hot spots of transmission including hospitals, construction sites, and even entire villages, would be locked down for a period of time.¹⁶



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The current COVID-19 pandemic in many ways mirrors the SARS response but a major point of difference is the suite of regulations introduced not only to contain the spread of disease, but also to curb the social and economic fallout of

¹² During the 14th century plague, Venice established a system of maritime cordon where ships and their crew were isolated if suspected of infection.

¹³ In 1663, Marseille imposed quarantine laws on all people suspected of having the plague.

¹⁴ Eugenia Tognotti, Lessons from the History of Quarantine, from Plague to Influenza A, *Emerging Infectious Disease*, Vol. 19, No 2, 2013, 254-259

¹⁵ [A Brief History of Public Health](#)

¹⁶ Amena Ahmad, Ralf Krumpkamp and Ralph Reintjes, Controlling SARS: A review on China's response compared with other SARS-affected countries, *Tropical Medicine and International Health*, Vol. 14, 2009, 36-45

containment measures.¹⁷ These include an array of tools from mandatory lockdowns, to perimetral confinement of regions, temporary suspension of civil rights, cash handouts for unemployed workers, and financial support for struggling businesses.¹⁸

consumption and affecting human populations; not one directly linked to wildlife and compounded by increasing contact between wildlife and humans, in particular through wildlife trade. Although adapted to modern understandings, the concept of a quarantine, in one form or another, continues to be an important part of every country's legal response.¹⁹ The main focus remains closely associated with human activities, including livestock trade and the other domestic animal movements. A legal foundation directed at preventing disease emergence and spread in the context of wildlife trade is largely missing. With more disease threats originating in animals,²⁰ much remains to be done to prevent the spread of a virus at its source, with special attention focused on the risks posed by wildlife trade.

Although adapted to modern understandings, the concept of a quarantine, in one form or another, continues to be an important part of every country's legal response.

Most public health and socio-economic measures have not wandered too far from their historical origins, putting the emphasis on containment rather than on the prevention of outbreaks. They still look at the problem as one mostly defined by trade in farm animals destined for human

¹⁷ See, IMF. [Policy Responses to COVID19](#), Policy Tracker; Giliberto Cappano, et al, Mobilizing Policy (In)Capacity to Fight COVID-19: Understanding Variations in State Responses, *Policy and Society*, Vol. 39, No. 3, 285-308

¹⁸ Ibid.

¹⁹ Eugenia Tognotti, Lessons from the History of Quarantine, from Plague to Influenza A, *Emerging Infectious Disease*, Vol. 19, No 2, 2013, 254-259

²⁰ For a discussion of the drivers behind increasing zoonotic disease risk; see Stephens et al. 2016 (<https://onlinelibrary.wiley.com/doi/full/10.1111/ele.12644>); Wood et al. 2012 (<https://doi.org/10.1098/rstb.2012.0228>).

“If we can provide even a few months of early warning for just one pandemic, the benefits will outweigh all the time and energy we are devoting. Imagine preventing health crises, not just responding to them.

– Nathan Wolfe, American Virologist

INTERNATIONAL INSTRUMENTS & RESPONSES

International instruments play a fundamental role in developing and harmonizing responses to issues that are 1) common among nations, 2) that cross borders, and 3) that are regional or global in scale. A series of intercontinental disease crises in recent years (including SARS (2003), highly pathogenic avian influenza H5N1 (2005) and Ebola (2014), and now COVID-19 (2019)) have all shown that the disease risks shared among humans, animals and the environment require a concerted international, One Health response.

IHR, however, is directed at public health generally, and in particular public health events of international concern, not zoonotic diseases from wildlife at their origin. The responses to the COVID-19 pandemic have therefore centered on human health, rather than animal health or animal pathogens. Other treaties address international wildlife trade (e.g., CITES and UNTOC²²) but do not address animal diseases or the public health issues associated with that trade. In sum, our international legal system is mostly, if not entirely, unprepared to deal with the many thousands of viruses found in wild animal populations and that have the potential to transfer to humans.

For the moment, however, the international response to this more specific need remains primarily aspirational; the subject of numerous discussions to address issues that until now have remained in the margins or entirely beyond the scope of international laws. Headlining these discussions are proposed changes to the WHO's International Health Regulations, CITES, and UNTOC. Each is capable of playing a significant role in addressing the issue, but each will also necessarily be a partial response defined by its overarching purpose. It is not the intention of this paper, however, to dive into

In sum, our international legal system is mostly, if not entirely, unprepared to deal with the many thousands of viruses found in wild animal populations and that have the potential to transfer to humans.

The international community long ago recognized this need and, unsurprisingly, one international treaty specifically deals with pandemics, namely the World Health Organization's International Health Regulations (IHR). What is surprising, however, is the lack of an international framework specifically addressing viruses of animal origin.

Trade in animals, whether legal or illegal and whether domestic or wild, has always been a primary driver in the risk of zoonotic disease.²¹ The

²¹ National Research Council (US), "Drivers of Zoonotic Diseases", Sustaining Global Surveillance and Response to Emerging Zoonotic Diseases, (2009).

²² Resolution E/2013/30 to treat Wildlife Crime as a 'Serious Crime; While there are no specific protocols for wildlife crime, Resolution E/2013/30 in the Economic and Social Council of the UN:

'Encourages Member States to make illicit trafficking in protected species of wild fauna and flora involving organized criminal groups a serious crime, as defined in article 2, paragraph (b), of the United Nations Convention against Transnational Organized Crime, in order to ensure that adequate and effective means of international cooperation can be afforded under the Convention in the investigation and prosecution of those engaged in illicit trafficking in protected species of wild fauna and flora;'

detailed recommendations of what these or other international responses should do. As of this writing, those discussions are in full swing and will likely play out for some time to come. What this report does instead is describe them for context and reference, as well as offer a few thoughts concerning their application overall.

World Health Organization

At the international level, attention has turned in particular to the role of the World Health Organization (WHO) in preventing the spread of disease. This section briefly discusses the WHO's International Health Regulations (IHR) and accompanying mechanisms that, which form the core of its response to pandemics and disease threats. Of particular interest are the notification, assessment and enforcement mechanisms embodied in the IHR, which is the only international legal framework covering pandemics.

International Health Regulations

In short, the IHR provides a public health response to the spread of disease while at the same time ensuring that the response has a minimal impact on international traffic and trade.²³ It imposes an obligation on states to detect and notify the WHO of "events" defined as diseases²⁴ that may constitute a public health emergency, as well as build the capacity to respond to any international public health risk.²⁵ The WHO's primary responsibility after being notified by a state of an

event is to assess whether it meets the criteria of a "public health emergency of international concern"²⁶ (PHEIC) and if it does to provide assistance and recommendations.²⁷

However, as mentioned, there is no international framework specifically and comprehensively addressing pathogens of wild animal origin. The World Organisation for Animal Health (OIE) regulations cover select diseases only (see following section). The IHR does not expressly mention zoonotic disease, or any disease for that matter, but keeps its scope broad so as to cover any "event."²⁸ This broadening of the IHR's scope came in response to the SARS outbreak in 2003, which prompted a review (in 2005) and revision of the IHR. As a practical matter though, the IHR is still human health oriented and its measures are aimed at controlling the spread of disease through human populations by limiting their movement, when an additional area of focus needs to be limiting the risk factors linked to contact with animals that spread disease.

Currently, there is no international framework specifically and comprehensively addressing pathogens of wild animal origin.

As a result, there has been no coordinated response to the risk posed by wildlife trade, which remains a suspected origin of the pandemic. In the months following the COVID-19 outbreak, only China stopped online and offline wildlife sales.²⁹ A few other jurisdictions pledged to stop all forms of wildlife trade.³⁰ None of these are absolute in their application, and, considering recent seizures, wildlife trade appears to continue largely unaffected. In fact, one of the largest seizures of pangolin scales occurred in September 2020, coming from Indonesia and bound for China.³¹

²³ International Health Regulations, Art. 2, 2005

²⁴ Public health risk means a likelihood of an event that may adversely affect the health of human populations, with an emphasis on one which may spread internationally or may present a serious and direct danger: IHR, Art. 1(1).

²⁵ International Health Regulations, Art. 5, Art. 6, Art. 6, Art. 13, 2005

²⁶ Public health emergency of international concern means an extraordinary event which is determined, as provided in these Regulations: (i) to constitute a public health risk to other States through the international spread of disease and (ii) to potentially require a coordinated international response: IHR, Art. 1(1).

²⁷ International Health Regulations, Art 11, Art. 12, 2005

²⁸ Event means a manifestation of disease or an occurrence that creates a potential for disease: IHR Art. 1(1)

²⁹ South China Morning Post (2020). Coronavirus: Wuhan confirms China's ban on trade, eating of wild animals. Published May 21, 2020.

³⁰ Among them are Vietnam, Botswana, and Malawi.

³¹ South China Morning Post (2020) Hong Kong customs seizes a tonne of pangolin scales in biggest haul of year so far. Published Sept. 24, 2020.

Scales themselves present a very low to negligible disease risk, but they are an indication of the scale of trade and the possible risk associated with the harvest and processing.

World Organisation for Animal Health

The World Organisation for Animal Health (OIE) is the global standard setting body for animal health in the context of international trade of animals and animal products. Its Terrestrial and Aquatic Animal Health Codes provide sanitary standards recognized by the WTO under its Sanitary and Phytosanitary Measures Agreement. The Codes cover various dimensions of animal health, including for veterinary services in general (e.g., surveillance) as well as OIE's Listed Diseases which member states are required to report for sharing with other states and OIE partners. In addition to its adopted standards for its specific Listed Diseases, the OIE provides further technical guidance to member countries on an ongoing basis.

The Terrestrial Code's chapter on Veterinary Legislation is oriented to countries at least meeting their basic obligations, in which the veterinary domain "means all the activities that are directly or indirectly related to animals, their products and by-products, which help to protect, maintain and improve the health and welfare of humans, including by means of the protection of animal health and animal welfare, and food safety."

rabies). Notable diseases for which OIE regulations of relevance to wildlife are in place include avian influenza, as well as chytridiomycosis and ranavirus infection³² in amphibians, although the latter two are not zoonotic. In addition to Listed Diseases, reporting to the OIE Worldwide Monitoring System for Wild Animal Diseases (WAHIS-Wild) is voluntary for non-OIE Listed Diseases in wild animals. As a result, disease risks related to wildlife are incompletely tracked, without relevant global standards on international movement of wild animals for all but a subset of diseases.

Global Collaboration Mechanisms

Opportunities for improvement include enhanced scope for coordination between intergovernmental organizations such as the WHO, OIE, the Food and Agricultural Organisation (FAO), CITES, and the World Trade Organisation (WTO) – all organizations relevant to the regulation of trade in animals, including wildlife. Existing coordination mechanisms which in theory aim to prevent the spread of zoonotic and other diseases include:

- the FAO through setting food safety standards with WHO (Codex Alimentarius); and
- the WTO through its Agreement on the Application of Sanitary and Phytosanitary Measures which promotes the harmonization of trade measures according to animal health standards set by the OIE and food safety standards set by the WHO/FAO.³³
- The FAO-OIE-WHO Tripartite Agreement to address health threats at the human-animal-ecosystem interface, with accompanying guidance and tools.

Together, FAO-OIE-WHO launched the Global Early Warning and Response Systems (GLEWS) in 2006, which supports their

Disease risks related to wildlife are incompletely tracked, without relevant global standards on international movement of wild animals for all but a subset of diseases.

In practice, the scope of risk management, surveillance, and disease control measures of most Listed Diseases is limited to livestock and in some cases other domestic animals (e.g., canine

³² Ranavirus is a genus of viruses, in the family Iridoviridae.

³³ Tyson Wanjura, International Standards for Managing Emerging and Re-emerging Zoonoses of Public Health Significance: A Call for Horizontal Collaboration Between

Intergovernmental Organizations, 2007, The International Lawyer, Vol. 14, No. 3, 975-999

tripartite collaboration and has sought to inform prevention and control strategies.

Despite these initiatives and the individual strength of these organizations, however, the COVID-19 pandemic shows that stronger interactions are needed between them to prevent the spread of zoonotic disease. Specifically, closer attention to information sharing is needed to ensure the early detection of disease and appropriate notification of member states and organizations. While Art. 9 and Art. 14 of the IHR already require this, collaboration has so far proven ineffective in detecting the possible zoonotic origin of COVID-19 and then notifying other organizations and member states. Underlying mandates are at least partially to blame, with wildlife authorities not typically delegates to these organizations, as well as a bias to apparent disease in domestic animals associated with direct economic losses.

CITES

The most prominent international instrument dealing with wildlife trade is the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). CITES is a conservation-oriented treaty that uses trade mechanisms to achieve conservation goals; in particular, by restricting trade in species that are threatened with extinction (Appendix 1); that may in the future be threatened with extinction (Appendix 2); or that, in the state's own jurisdiction, is regulated to prevent exploitation (Appendix 3).

While CITES has led Governments to regulate international wildlife trade, it is not a one stop solution for all forms and issues associated with such trade. With respect to managing zoonotic disease, it neither addresses the markets where wildlife is sold, provides for the prevention of zoonoses, nor helps manage the associated public health issues. The CITES Secretariat has

confirmed this stating that “[m]atters regarding zoonotic diseases are outside of CITES’s mandate.”³⁴

This limitation takes shape through its listing mechanism, which is based on a species', or in some cases, a population's vulnerability to extinction without consideration for disease. Right now, whether a species that CITES works to protect presents a risk of disease is purely coincidence. The species and taxonomic groups most likely to play an epidemiologically significant role in disease risk may or may not be threatened by trade. Pangolins [*Manis*, *Phataginus* and *Smutsia* spp.], for example, are a recently listed species and also a suspected carrier of some coronaviruses. Horseshoe bats [*Rhinolophus* spp.], however, are not listed but are known to host a number of viruses, including the coronavirus linked to SARS.³⁵

A less visible limitation comes from the treaty's focus on international trade, which, as a practical matter, means that it operates primarily at the borders, airports, and shipping docks where cargo is checked, permits required for legal trade, and enforcement against illegal international trade occurs. Although not unheard of, there are few instances of CITES implementation within a country's borders; on the roads and in the markets, where wildlife spends most of its time in the universe of trade.

There are both legal and practical reasons for this. On the legal side, CITES is not intended to and cannot regulate some of the areas it necessarily relies upon. These are purely domestic issues. CITES implementing laws may, for example, require 'legal take' but they do not provide a basis for the actual crime of poaching.³⁶ This can be a complex issue and rightfully remains the subject of a country's wildlife laws. CITES laws may also make it illegal to engage in online trade, but they cannot provide enforcement authorities with the investigatory powers they need.³⁷ This belongs to

³⁴ CITES, “CITES Secretariat’s Statement in Relation to COVID-19”, CITES, (2020); Vyawahare, M. (2020) As COVID-19 pandemic deepens, global wildlife treaty faces an identity crisis. Mongabay News.

³⁵ Latinne A., B. Hu B., K.J. Olival, G. Zhu, L. Zhang, H. Li, *et al* (2020) Origin and cross-species transmission of bat coronaviruses in China. *Nat Commun* 11: 4235 10.1038/s41467-020-17687-3

³⁶ See; China, Regulation of the People's Republic of China on the Administration of the Import and Export of Endangered Wild Fauna and Flora, Art. 9, 2006.

³⁷ Wingard J. and M. Pascual. (2018) Catch Me If You Can: Legal challenges to illicit wildlife trafficking over the internet. Global Initiative Against Transnational Organized Crime.

the laws governing cybercrime, police, or other enforcement authorities. On the practical side, CITES mandates are not always mainstreamed into the awareness and practices of everyday enforcement officials. These laws may prohibit possession and transportation of a listed species,³⁸ which is a directly enforceable mandate, but it is also something that experience tells us local police are less likely to know about or have the skills and expertise to look into.

The limitation to CITES overall mandate, (more particularly its focus on trade in endangered species) have opened up discussions of its potential amendment to address health risks. One of the main suggestions is the creation of a new appendix (Appendix IV) that would be used to list -

'all fauna species the trade in which is considered to pose a risk to public or animal health that may be subject to strict regulation in order not to endanger public or animal health and may include species already included in Appendix I, II or III.'

This would be implemented through separate export and import procedures whereby the exporting management authority would have to be satisfied that any 'living specimen will be so prepared and shipped as to minimize the risk of injury, cruel treatment, and risk to human or animal health.' The importing management authority would, 'following consultation with relevant scientific, veterinary and human health authorities, [have to be] satisfied that such import will not result in significant risk to human or animal health, and that appropriate sanitary and biosecurity measures and checks are in place to prevent such risks from emerging or increasing.'

These are indeed important steps, and nothing here should be taken as a criticism of that effort. However, it should be recognized that, no matter how well these amendments are worded, CITES will still have inherent limitations and challenges that other international instruments and, more importantly, national laws will have to address, to wit:

- **CITES will still only apply to listed species** and while this may expand with the introduction of a new Appendix, it will still be a function of negotiation. Experience tells us that is likely to face limitations. Even though the current listing system is based on science, as will be the proposed Appendix IV, the inclusion of any species has to be agreed to by the parties.
- **It will still operate primarily at the border**, leaving large portions of the actual trade chain unaffected. This is pertinent as there are no assurances domestic trade will be regulated on this basis and doing so would require mandating a larger group of authorities and involving other actors.
- **Achieving basic implementation will still be a concern**, something that CITES has struggled with for a long time. Several jurisdictions have failed to implement even the minimum requirements in the 45 years since the treaty first entered into force. More than half (*n.* 19 of 35) of the jurisdictions reviewed in this paper are listed as Category 2 or 3, partially or entirely failing to implement the treaty.³⁹ Many of these countries are major sources of illicit international trade.
- **Meeting recommended best practices will be an even bigger concern.** Basic implementation will not be sufficient. CITES relies on its permitting system, which is a paper-based system, as opposed to a fact-based one. Determining legality rests on the sufficiency of the permit, not whether an item has in fact been legally sourced. A permit is a useful tool, but it is not a guarantee that health and welfare standards will be or have been met. Something more comprehensive will be needed to ensure that these standards are observed and, more importantly perhaps, that pathogens are *in fact* not present.
- **This will all take time when time is of the essence.** To be fair, all campaigns of this nature take time, and this should not be used

³⁸ See; Malaysia, International Trade in Endangered Species Act, Arts. 12 and 13, 2008.

³⁹ Category 2 - Antigua and Barbuda, Bangladesh, Botswana, Gambia, India, Kenya, Mozambique, Pakistan, Tanzania

Zambia; Category 3 - Belize, Dominica, Ghana, Grenada, Samoa, Seychelles, Sierra Leone, Sri Lanka and Uganda.

to invalidate the object of the effort itself. International agreements have are irreplaceable when it comes to the managing problems that ignore national borders. But we should be aware of the time element and act accordingly. Amending CITES can be a long process⁴⁰ and past amendments have taken many years for final approval.⁴¹ Sometimes forgotten in the discussion, however, is the additional time needed *after* amendments have been approved, when member states begin their own process of incorporating the amendments into their national legal system.

It is also perhaps worth noting that at present there are barriers under CITES which can inadvertently delay international movement of diagnostic specimens from wildlife for disease investigations, including in emergency situations when timely and accurate diagnosis is critical for design of appropriate disease control measures. This has possible implications for the health of wild animals, as well as for people in the event of zoonotic disease risk and requires adoption of international procedures for wildlife to match those routinely used in human and domestic animal sectors to ensure rapid diagnosis, e.g., via emergency permits and access to international reference laboratories.⁴²

In sum, CITES can play a key role in the effort to manage zoonotic diseases associated with international wildlife trade. It would be a mistake, however, to think that it will be amended and implemented at the national level any time soon. And, like other international instruments, it will still have inherent limitations.

UNTOC

Another part of the international conversation argues that regulating markets and controlling the

movement of wildlife also lies in the criminalization of the entire suite of acts that form the wildlife trade chain; not just those associated with international trade in endangered species. In recognition of this, some of the discussion has turned to the need to create a new Protocol under the United Nations Convention Against Transnational Organised Crime (UNTOC) that would be focused on wildlife trade as a whole.

UNTOC is the primary legal instrument aimed at transnational organized crime. Currently, it is supplemented by three protocols targeting human trafficking, the smuggling of migrants, and illicit manufacturing of and trafficking in firearms and ammunition.⁴³ While there are no specific protocols for wildlife crime, Resolution E/2013/30 in the Economic and Social Council of the UN:

'Encourages Member States to make illicit trafficking in protected species of wild fauna and flora involving organized criminal groups a serious crime, as defined in article 2, paragraph (b), of the United Nations Convention against Transnational Organized Crime...;'

Moving from this resolution to a full protocol has been in discussion preceding the COVID-19 pandemic, but never gained much traction.⁴⁴ This may finally be changing as there is certainly a greater sense of urgency that has fueled the resubmission of the idea.⁴⁵ There is merit to it as well.

As discussed in the previous section, CITES cannot do the job alone and the existing UN resolution does not have enough traction. In some ways, it is even more limited than CITES. In particular, it asks member states to increase penalties for a narrow slice of activity:

1. for international trafficking
2. in protected species; and

⁴⁰ For reference to the process see the outline as described by the Global Initiative to End Wildlife Crime

⁴¹ The Gaborone Amendment, which allowed Regional Integration Economic Organizations to accede to the Convention, was adopted in 1983, but did not enter into force until 2013.

⁴² For coverage on this issue and related challenges: <http://www.iucn-whsq.org/UrgentNeedsforGlobalWildlifeHealth> (2020).

⁴³ [United Nations Convention against Transnational Organized Crime](#)

⁴⁴ John M. Sellar, "Wildlife Trafficking: Time for a Radical Rethink", Global Initiative Against Transnational Organized Crime", (27 May 2020).

⁴⁵ John E. Scanlon, "Do we need a global agreement on wildlife crime", Global Initiative Against Transnational Organized Crime", (28 February 2019).

3. by organized crime groups.

CITES at least does not limit criminalization to organized crime. But UNTOC is inherently narrow as a convention that specifically targets organized crime.

Another limiting factor of the current resolution is its request that member countries treat wildlife crime as a 'serious crime.' There are several issues with the approach beginning with the question of what constitutes a wildlife crime, but also including what is, or should be, a 'serious crime' and how compatible this is with existing approaches to crime in each jurisdiction.

Recent research by Legal Atlas to create a comprehensive taxonomy for wildlife crime identified over 500 possible crime types; many of which are minor crimes.⁴⁶ The large number of crime types is not a function of how many crime types there should be in any given law, rather it reflects the wide variety of approaches used across many jurisdictions and hints at a fundamental lack of consistency between them. Applying this taxonomy to four jurisdictions in the Horn of Africa, analysts found only four crime types that were the same between all four.⁴⁷

Focusing on the concept of a 'serious crime' also runs into the problem that this is already occupied territory in many criminal law systems, meaning the term is used and has a specific definition in the criminal code. And as with crimes overall, there is little consistency between jurisdictions in what it actually means. Admittedly, the resolution does not ask member states to change the taxonomy of their laws, but it does ask them to treat a criminal act in a way that may not be compatible with the approaches available in their existing criminal code.

A full proposal for a fourth protocol has been prepared by an independent group, the Global Initiative to End Wildlife Crime (GIEWC) and is available for public review.⁴⁸ The proposed new Protocol does not change the primary focus of the Resolution (serious wildlife crimes), but it does add

numerous components that would be critical to addressing the question of wildlife crime overall. In particular, the proposed Protocol would more broadly criminalize 'the intentional illicit trafficking of specimens of wild fauna and flora.' As summarized by the GIEWC, 'States Parties to the Protocol would be agreeing to adopt legislation establishing as a criminal offence the illicit trafficking of any whole or part of a wild animal or plant, whether alive or dead, in violation of an applicable international agreement or any domestic or foreign law, together with a wide range of other matters.'

Other commitments would include:

1. increasing the exchange of information, including on known organized groups suspected of taking part in illicit trafficking, means of concealment of illicit goods and through sharing of forensic samples;
2. verifying the validity of documents;
3. enhancing border controls, including on the means of transporting specimens;
4. training and technical assistance;
5. cooperation between States; and
6. taking measures to discourage demand.

As with the proposed changes to CITES, this new Protocol represents a significant addition to the international response. This and similar efforts should be encouraged while at the same time opportunities for immediate change should continue to be explored.

Other Instruments

All of the international instruments just described have limitations that are inherent in their mandates. These may be improved but they cannot escape those limitations entirely. If the world community expects to address the wide-ranging needs presented by wildlife related pandemics threats, coordination at the international level will be critical. This has already been recognized and there are some instruments in place.

⁴⁶ Pascual, M., J. Phelps, J. Wingard, N. Bhatri, A. Rydannykh (2020). A global taxonomy for wildlife crime. (in progress).

⁴⁷ Wingard, J. and M. Pascual. (2020). Wildlife Trade Legal Gap Analyses. Ethiopia, Somalia, Somaliland, and Yemen. Legal Intelligence for Cheetah International Trade Project. Funded by

UK Department for Environment, Food, and Rural Affairs. (in progress).

⁴⁸ <https://endwildlifecrime.org/wp-content/uploads/2020/10/Possible-UNTOC-Protocol.pdf>

The Cooperation Agreement Between the Secretariat of CITES and OIE⁴⁹ is one of these instruments. Signed in 2015 in the wake of Ebola, the agreement seeks to establish animal health and welfare standards for safe international trade in wild animals, a critical piece missing from CITES generally. Article 2 sets an information exchange standard. Its impact on disease risk management, as evidenced by in the current crisis, however, has been insufficient to date.

There are other international instruments of note that may not be binding or may only apply to some regions, but which nonetheless form part of the overall international responses. They are listed here for reference:

- Guidance documents such as the Tripartite Guide to Addressing Zoonotic Diseases in Countries⁵⁰ and the Biosecurity Guide for Live Poultry Markets⁵¹ provide technical guidance and model standing procedures for countries.
- The European Convention for the Protection of Animals during International Transport, which is a framework convention that establishes principles for the handling of animals during transport, including wildlife.⁵² It provides for technical protocols which can be amended following a simplified procedure, facilitating thereby their updating in the light of scientific evidence and experience acquired.
- UN Resolution 69/314. Tackling illicit trafficking in wildlife, which provides a long list of recommended actions member states should undertake to address wildlife crime as a whole. The Resolution does not address the prevention or control of zoonotic diseases associated with such wildlife trade.

⁴⁹ CITES and OIE, "Cooperation Agreement Between the Secretariat of the Convention on International Trade in Endangered Species of Wild Fauna and Flora and the World Organization for Animal Health", CITES and OIE, (01 December 2015).

⁵⁰ FAO, OIE and WHO, "Tripartite Guide to Addressing Zoonotic Diseases in Countries", Food and Agriculture Organization,

World Organisation for Animal Health and World Health Organization, (2019)

⁵¹ FAO, "Biosecurity Guide for Live Poultry Markets", Food and Agriculture Organization, (2015).

⁵² European Convention for the Protection of Animals during International Transport (Revised), Art. 11.

NATIONAL LAW ASSESSMENTS

This report covers 38 jurisdictions,⁵³ mostly depicted in the following map:



Not all jurisdictions were reviewed equally for each area covered in part because the types of laws targeted are not always present, but also in part reflecting specific inquiries for Brazil taking advantage of local legal expertise. The number of jurisdictions reviewed is stated in each of the assessments.

The jurisdictions selected represent a wide variety of legal traditions, as well as economic, trade and wildlife trade circumstances. Despite the variety, national responses to zoonotic disease can be found in each of the countries reviewed although there are numerous differences between them – in the types of laws used, the degree to which wildlife are included, and the regulatory tools available for the

management of zoonotic disease risk associated with wildlife trade. Embedded in these differing approaches are important gaps but also many opportunities.

Even in the laws most closely tied to the issue (e.g., animal health, animal welfare, animal quarantine, food safety, and meat industry) approaches vary and are almost always partial. Most often they miss a clear application to wildlife; or are limited to domestic animals; only include some wildlife; explicitly exclude wildlife; or only cover some types of activity or setting

and not others. The result is a patchwork of approaches with little consistency in how wildlife is factored into disease management systems.

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A summary of the legal assessment for each area of law follows. More detailed assessments may be found in ANNEX II. National Law Assessment. Assessments have been organized alphabetically and not in order of any perceived importance.

⁵³ List of countries in study. Those in bold are not visible in the map due to size and resolution. **Antigua and Barbuda**, Australia, Bangladesh, Belize, Botswana, Brazil, Brunei, Cameroon, Canada, China, **Dominica**, **Fiji**, Gambia, Ghana, **Grenada**, Guyana, India, Jamaica, Kenya, Malawi, Malaysia, **Mauritius**,

Mozambique, **Nauru**, New Zealand, Pakistan, Papua New Guinea, **Samoa**, **Seychelles**, Sierra Leone, Singapore, South Africa, Sri Lanka, **Tonga**, **Tuvalu**, Uganda, Tanzania, and Zambia.

At the beginning of each section is a graphic (see Figure 1. Sample graphic) which records the degree to which domestic species and wildlife are covered by the particular area of law (labeled Scope), as well as which of three major areas of activity it regulates - trade, markets, and zoonosis (labeled Regulatory Object).

Figure 1. Sample graphic



For purposes of this review, 'Wildlife' is understood as any species that occurs naturally in the wild and includes captive and domesticated forms. 'Domestic Animals' are those that have been tamed and are kept by humans as a work animal, food source, or pet. 'Trade' refers to any regulatory tool directed at sale or purchase, or other closely related activity, e.g., CITES trade, online trade, possession, storage. 'Markets' comprises any direct regulation of the physical location where 'Trade' occurs but does not include online trade for this review. 'Zoonosis' covers any regulation directed specifically at the monitoring, inspection, testing, isolation and disposal of infected animals.

The scoring system at this point is deliberately simplistic using only three colors to generally indicate the frequency (number of countries from the set reviewed) with which a given area of law (e.g., wildlife law) has content relevant to the Scope and Regulatory Objects. This is not an assessment of quality; only an indicator of the overarching pattern observed.

Dark Green is used when either the species category (under Scope) or the regulatory object is commonly included within the law type for the jurisdictions reviewed, although there may be exceptions.

Light Green indicates a majority include the category or tool, but there are other, significant patterns and exceptions noted.

Yellow is used when only a minority of countries use the approach.

Red is used when none of the countries in this study have relevant content for the approach.

Each assessment describes the major pattern and results specific to each area of law. This includes restatements of the relationship between the area of law and zoonotic disease; the degree to which wildlife fall within its scope; the approaches found for both the scope and the regulatory object; and the number of jurisdictions that follow a given approach. To the extent possible, these summaries also include a brief discussion of the strengths and weaknesses of the approaches observed. The detailed assessments can be found in Annex II.

For the 38 jurisdictions reviewed, the overall results show that zoonosis is a clear concern in almost half of the types of laws (n. 4) considered, is largely or at least partially present in another 4, and only missing entirely in two – animal welfare and indigenous rights. However, only some jurisdictions include wildlife in the four areas of laws that are directly concerned with disease emergence (Animal Health, Animal Quarantine, Food Safety, Meat Industry).

At the same time, wildlife is actually never fully covered by any law, although for three of the types reviewed it is common among the jurisdictions assessed. What the table does not show as easily is that, common or not, there are almost always limitations to the species covered by these laws and exclusions can be critical when it comes to monitoring for and controlling disease emergence.

The disconnect between laws directed at controlling disease emergence and the inclusion of wildlife is effectively the big gap, that was already a suspicion before this research was conducted. What is also true and worth noting is how little the marketplace itself is regulated. It is either entirely absent (in three areas of law) or only a minority approach (in 6 areas) with the exception of one law type – Wildlife Conservation.

Figure 2. Composite of Results

Area of Law	Scope		Regulatory Object		
	DOMESTIC	WILDLIFE	TRADE	MARKETS	ZOONOSIS
Animal Health	Dark Green	Light Green	Light Green	Light Green	Light Green
Animal Welfare	Dark Green	Light Green	Light Green	Light Green	Red
Animal Quarantine	Dark Green	Light Green	Light Green	Red	Dark Green
CITES Implementing	Red	Light Green	Light Green	Red	Light Green
Customs	Light Green	Light Green	Light Green	Red	Light Green
Food Safety	Light Green	Light Green	Light Green	Light Green	Dark Green
Indigenous Rights	Red	Light Green	Light Green	Light Green	Red
Meat Industry	Light Green	Light Green	Light Green	Light Green	Dark Green
Pet Trade	Light Green	Light Green	Light Green	Light Green	Light Green
Wildlife Conservation	Red	Light Green	Light Green	Light Green	Light Green

Animal Health

Animal health laws are among the few fully dedicated to controlling disease in animals. To this end, they often include requirements for notification of disease, control measures such as separation, quarantine and treatment, as well as disposal or destruction of infected animals and carcasses. Most countries (*n.* 31 of the 37 reviewed) have one or more laws dedicated to the issue.

Figure 3. Animal Health Law Summary

Scope		Regulatory Object		
Domestic	Wildlife	Trade	Markets	Zoonosis

Wildlife, however, is only occasionally within their mandate. Reflecting their primary (and historical) focus, just five (*n.* 5) of those surveyed expressly mention wild animals in their definition of animal. The remaining jurisdictions either exclude wildlife or leave its inclusion up to interpretation.

Although there are differences and a closer review is certainly warranted to assess best practices, most countries follow fairly similar procedures for the notification of a disease at the national level. However, only a few (*n.* 4) have also legally mandated the international requirement to notify the OIE, even though the majority are members.

Whether a disease triggers notification at the national level depends on its definition. The most comprehensive approach, followed by nine (9) countries, is a flexible and comprehensive one that relies on a detailed definition without limitation. The next approach, followed by ten (*n.* 10) countries, involves an inclusive list that may be expanded by order of the appropriate authority (e.g., a minister). Finally, the most common approach (*n.* 14) provides an exhaustive list. The consequences of this last approach are that new infectious diseases may not be covered without amending the law; something that can take years to accomplish unless the issue becomes a legislative priority. With estimates of more than a million viruses

in mammals and birds, a substantial portion of which could be infectious to humans, exhaustive lists run a high risk of missing emerging diseases.

Few animal health laws (*n.* 4) cover the sale of animals carrying a disease. Only one of the jurisdictions reviewed, Kenya, has specific prohibitions relating to the disinfection of public markets or sale yards if any animals are diseased.⁵⁴ As a practical matter, this means that risk management for zoonotic threats at the point of sale and within markets is largely missing from one of the few areas of law that is directly intended to prevent and control zoonotic diseases.

It also ends up shifting a greater inspection and control burden to the meat industry and food safety laws (see below). And in this shift is a hidden impact on the ability to manage zoonoses risks that originate with wildlife, particularly as some wildlife trade activities are informal and therefore outside of standard food supply chains. Those types of laws are even more restrictive in their coverage than the animal health laws, largely excluding wildlife from their application.

Risk management for zoonotic threats at the point of sale and within markets is largely missing from one of the few areas of law that is directly intended to control zoonotic diseases.

Animal Welfare

Laws dedicated to animal welfare, intended to guarantee that an animal is healthy, comfortable, well-nourished, safe, able to express innate behavior, and not suffering pain, fear, and distress,⁵⁵ are not as common as wildlife laws but a majority of the jurisdictions reviewed (*n.* 25) nonetheless have them. COVID-19 has brought them into focus because of the known relationship between inadequate care and the potential spread of pathogens.⁵⁶ All of the laws reviewed have relevant content. None, however, directly regulate

⁵⁴ Animal Diseases Act, Cap. 364, s 9(h)(ii)

⁵⁵ OIE Terrestrial Animal Health Code. International Committee at the 76th General Session, May 2008.

⁵⁶ Andrew Cunningham, *COVID-19: the wildlife facts*, Zoological Society London, April 19 2020, <https://www.zsl.org/blogs/science/covid-19-the-wildlife-facts>

or connect with laws that regulate the management of zoonotic disease risks.

Figure 4. Animal Welfare Law Summary

Scope		Regulatory Object		
Domestic	Wildlife	Trade	Markets	Zoonosis

For the most part, their coverage of wildlife is either uncertain (*n.* 8) or specifically excluded (*n.* 4). Less than half apply animal welfare standards to wild animals (*n.* 9).

There is also really only one major tool these laws employ that has a direct link to the prevention and control of zoonoses. This is the definition and prohibition of ‘cruelty.’ In particular, cruelty may relate to sub-par housing and care, i.e., food and water access, density, temperature, sanitation, ventilation, and can affect animal condition and disease risk. Weakened immune system, pathogen shedding, mixing of animals from different populations and species, and poor biosecurity practices facilitate susceptibility to infection and spread of disease.

but including by analogy all others of a similar nature. This approach is broader but also still focuses on the negative (i.e., the injurious act) rather than the positive (i.e., standards of care to prevent injury).

These laws sometimes have other tools worth noting, although they are not common in the jurisdictions reviewed. These include regulating conditions of captivity (*n.* 2), cruelty in the context of transportation (*n.* 3), in the context of slaughtering and extracting products (*n.* 1), and at point of sale (*n.* 3).

There are a few countries (*n.* 5) that take a positive approach. None, however, define or require ‘humane treatment,’ instead they impose a ‘duty of care’ toward animals. Arguably, requiring humane treatment might be a higher standard, as it is commonly associated with kindness, sympathy and care, inflicting as little pain as possible. A ‘duty of care’ might be similarly understood but it is not generally associated with care of animals and would therefore need to be defined using a stipulative definition; one created by a particular law for this particular purpose. Requiring a duty of care without defining it would introduce a degree of uncertainty.

Nonetheless, the advantage of imposing a positive duty of care is that it helps shift the focus away from the injury sustained to the acts that would prevent harm. In this sense, it is more proactive than reactive, and in line with recommendations that promote both a prohibition against cruelty and a positive duty to promote welfare.⁵⁷

Animal Quarantine

Animal quarantine refers to the isolation or restriction of the free movement or sale of an animal or animal product.⁵⁸ It is a long-standing approach used to prevent diseases from spreading and causing a

Despite being a singular concept, the prohibition against cruelty covers a variety of ailments; and it is the approach to this variety that has the potential to introduce gaps.

Despite being a singular concept, the prohibition against cruelty covers a variety of ailments; and it is the approach to this variety that has the potential to introduce gaps. Most jurisdictions (*n.* 21) define the term by creating an exhaustive list of acts that constitute cruelty. ‘Exhaustive,’ as used in the context of law, does not mean ‘everything.’ These are detailed lists of what falls under that particular term, but which then exclude anything not on the list. The advantage of the approach is that it has the potential to remove uncertainty, but its focus on a set list of injurious behaviors can also be limiting.

Other jurisdictions (*n.* 17) use an ‘inclusive’ definition, listing some acts as examples of cruelty,

⁵⁷ White, S. (2007). Regulation of Animal Welfare in Australia and the Emergent Commonwealth: Entrenching the Traditional Approach of the States and Territories or Laying the Ground for Reform? 35(3) *Federal Law Review* 347

⁵⁸ A.S. AHL, J.A. Acree, P.S. Gipson, R.M. McDowell, L. Miller and M.D. McElvaine. Standardization of Nomenclature for Animal Health Risk Analysis. *Rev. sci. tech. Off. int. Epiz.*, 1993, 12 (4), 1045-1053.

threat to public health and security, including the resulting social and economic impacts.⁵⁹

Figure 5. Animal Quarantine Law Summary

Scope		Regulatory Object		
Domestic	Wildlife	Trade	Markets	Zoonosis

Most of the jurisdictions reviewed do not have a law entirely dedicated to the issue of animal quarantine. Instead, this particular regulatory tool tends to be spread among other laws, e.g., animal health, customs, and even food safety law, as is the case in China.

Because of this variety, not all laws covering animal quarantine have been assessed. Instead, only a sampling of 14 jurisdictions is reflected here. Although this type of law will apply to a country as a whole, for the most part it operates at international trade points where species are entering or exiting the country.

As with other areas of law, the inclusion of wildlife is only partial, if at all. The quarantine provisions reviewed are embedded in laws that are either uncertain in their application but likely restricted to domestic species (*n.* 5); only reference domestic species (*n.* 2); principally cover domestic species, but also some wildlife (*n.* 5); or, in one unusual case, apply only to wildlife (*n.* 1).

As this area of law is found in other laws, the specific inquiry was limited to the quarantine tool itself; in particular, the quarantine powers and authorities; whether it was expressly tied to import and export processes; the basis for requiring quarantine, and associated notification requirements. One additional tool was noted because of its potential value as a best practice - the imposition of liability - even though it was only mentioned in one jurisdiction.

The most common approach is the assignment of the power to order quarantines to some government body. Some countries have special officials designated to enforce quarantine measures, such as the Biosecurity Officers in the Seychelles. Others, however, are less specific, designating the role to a relevant minister, but

without providing further guidance. Lower-level regulations were not reviewed in this initial survey and it is not known whether they have been promulgated or what operational approaches have been taken. It is, however, a common problem in legal systems where the primary mandates are established but implementing legislation is missing.

Most jurisdictions attach the requirements and authorities to the import and export process. In some instances, the only law governing the issue is directed at one of these processes, but not both. This particular issue warrants some further investigation as covering only one side of the international trade transaction leaves a gap that can impact the overall ability to control disease risk.

Beyond this, however, this small sampling showed a few other regulatory tools specific to quarantine. One (1) jurisdiction, Australia, allows authorities to require quarantine based on 'reasonable suspicion.' Another two (2) include notification requirements. And one (1), China, makes food producers and traders guarantors that the items sold are free from disease and therefore liable for breach of the warranty. This last approach is interesting for its uniqueness in the legal frameworks reviewed. It should be noted, however, that other jurisdictions may achieve the same result through the application of consumer protection laws, or in tort. These have not been reviewed in this research.

CITES Implementing Laws

CITES requires that Member States promulgate national laws to implement the terms of the treaty and regulate international trade in CITES listed species that either originate from, pass through, or enter into the country. All of the countries in this review, with the exception of two (2), are member states and have the requisite legislation.

Although not all have achieved full compliance with the minimum standards (*n.* 20 of 35 are listed as Category 2, 3 or P countries), there are a surprising number of countries (*n.* 28) that have some

⁵⁹ World Health Organization. "Zoonoses, Managing and public health risks at the human-animal-environment interface. <https://www.who.int/zoonoses/en/>

requirement to comply with animal health and welfare standards.

Figure 6. CITES Implementing Law Summary

Scope		Regulatory Object		
Domestic	Wildlife	Trade	Markets	Zoonosis

However, CITES implementing laws do not cover all wildlife, only those that have been listed in the CITES appendices. This has two implications. The first is that these laws exclude many species that are known to harbor diseases capable of transferring to humans e.g., some species of bats.⁶⁰ The second is that listings are not automatically incorporated into the national laws of all jurisdictions, i.e., they are not self-executing. Where the recognition of CITES listing is dependent on some level of national legislative action, there can be inconsistencies and therefore gaps in the coverage.

Beyond the health and welfare requirements, the jurisdictions reviewed present three additional regulatory tools relevant to managing zoonoses risks. These include 1) screening, 2) quarantine, and 3) disposal requirements. Unlike the more general requirement to comply with animal health and welfare standards, these other tools are far less common. **Screening**, for example, is explicitly provided for in only two (2) and implied in three (3) others. In the remaining twenty-eight (28), the CITES implementing law is silent on the matter. **Quarantine** is a part of these laws in only nine (9) jurisdictions. The remaining twenty-six (26) jurisdictions make no mention of quarantine requirements for CITES trade. **Disposal** is slightly more common with twelve (12) jurisdictions regulating this in the CITES law. In all of these, however, only some of the jurisdictions fully establish the requirement, while the rest references it without further detail.

Consistent with the requirement to comply with health and welfare requirements, these same jurisdictions also impose liability for their violation. This is one of the few areas where further research was done to better understand how related acts might be penalized (see **Annex III**). This is an initial

⁶⁰ Many species of reptiles and amphibians capable of transmitting zoonotic diseases are not covered under CITES appendices.

view that does not take into account differing forms of liability that might apply to persons, legal entities, or government officials; nor does it account for aggravating or mitigating circumstances; levels of involvement, among others, all of which can impact the existence and severity of a penalty.

With the exception of the two jurisdictions that have no such standards in this law, all others (*n.* 33) prescribe penalties for violation of health and welfare standards in their respective CITES implementation laws. Among these thirty-three (33), there are large differences in the prison terms and fines imposed. The shortest prison term is 6 months (Belize, Ghana and Tonga) and the highest is life imprisonment (Kenya and Uganda). Similarly, the lowest monetary fine imposed is USD 1 (Sierra Leone) and the highest is USD 5,418,710 (Uganda).⁶¹

Customs

Customs laws include those laws and provisions relating to the import, export, movement or storage of goods, as well as the administration or enforcement of which are specifically charged to the customs administration. The legal response to pandemics is in part about controlling the movement of people, but also the movement of disease-causing agents (pathogens). To this extent, Customs authorities can play a critical role.

Figure 7. Customs Law Summary

Scope		Regulatory Object		
Domestic	Wildlife	Trade	Markets	Zoonosis

Whether a given species is covered by the Customs law is most often a function of how the term 'goods' is defined. This definition takes on unusual importance as it determines to the extent to which customs authorities exercise control over wildlife trade beyond CITES related trade. CITES, as noted in the preceding section, presents a gap for any species not listed by CITES, which regulates trade in just a small percentage of species known to be traded.

⁶¹ Fines levels are after conversion from the respective currencies.

In most jurisdictions reviewed (*n.* 24), the term ‘goods’ includes some reference to animals. There are, however, a number of approaches, many of which restrict or raise questions about the species that fall within the mandate of the law. Most telling in the results is that only one (1) jurisdiction (New Zealand) expressly includes wildlife. Of the rest, some use a generic reference to ‘animals’ (*n.* 9) with no further definition, shedding some doubt on the inclusion of wildlife; while others (*n.* 13) create a limitation through the use of some category, e.g., living creatures, or livestock and fish. Surprisingly, thirteen (13) jurisdictions make no reference to animals or wildlife or do so only by treating animals as transport for goods.

Beyond the limitations to the inclusion of wildlife, customs laws are also not a usual home for regulatory tools directed at managing zoonotic disease. For each of the tools identified, only a minority of jurisdictions have it, e.g., prohibiting the entry of diseased animals (*n.* 3 of 38); express authority to monitor for disease (*n.* 1); seizure and disposal requirements (*n.* 7); and prohibitions to protect native animals (*n.* 6).

Food Safety

Food safety laws regulate the production of food, its content, storage, labeling and packaging as well as standards for human consumption. They are found in almost all jurisdictions (*n.* 27 of 38) and often directly provide for the management of zoonotic disease risk.

Figure 8. Food Safety Law Summary

Scope		Regulatory Object		
Domestic	Wildlife	Trade	Markets	Zoonosis

The inclusion of wildlife is a function of one or more separate, and sometimes successively embedded definitions, starting with ‘food,’ then ‘animals’ and then ‘wildlife.’ Having all three provides some clarity but does not necessarily lead to a broader or narrower approach. There are instances where countries that only define ‘food’ more broadly than a law that actually references either ‘animals’ or ‘wildlife.’ Given this interplay, it is harder to

⁶² Public Health Act 2012, s 173(j)

summarize the overall results as it applies to the inclusion or exclusion of wildlife. In general, however, food laws appear to be more selective in the species they cover. Intended to regulate food, they are more likely to exclude certain domestic animals and most forms of wildlife. Only three (3) jurisdictions expressly reference wildlife and only one (1) of these (New Zealand) provides a specific definition.

None of those surveyed expressly mention the term “zoonotic disease” with the exception of two (2) countries (Ghana and Tanzania). Ghana gives its Minister the power to make regulations regarding zoonotic disease.⁶² Tanzania also has a provision relating to zoonotic disease. However, it only covers the sale of milk from diseased dairy cattle.⁶³

That said, most countries have in place measures to prevent and control disease arising from food more generally, i.e., the requirements apply to ‘food borne diseases’ as a whole rather than just zoonoses. The more prominent tools are duties to notify, inspection requirements to ensure manufacturing complied with the relevant standards, and prohibitions against the sale of meat unfit for human consumption.

Indigenous Rights

Indigenous rights are often a gray area in the law, with no singular definition under international law and a wide range of approaches at the national level. Countries vary substantially in whether they cover these rights at all, the degree of specificity, and the types of rights identified ranging from highly generalized rights of self-determination, to territorial autonomy, land rights, rights of access and use, and more.

This type of law has been included in this research because advocates for closing wildlife markets want to make an exception for indigenous rights. These rights often include the right to hunt wildlife, including limitations on trade and commercial uses, the combination of which limits wildlife use principally to personal or community consumption.

⁶³ Food, Drugs and Cosmetics Act, s 40(b)

Figure 9. Indigenous Rights Law Summary

Scope		Regulatory Object		
Domestic	Wildlife	Trade	Markets	Zoonosis

With the exception of five (5) countries, however, these laws do not define which species are expressly included or excluded.⁶⁴ That said, and for purposes of this inquiry, the question of which species are included is usually less of an issue. For indigenous rights, none of the laws reviewed were concerned with domestic species. Instead, wildlife use rights, to the extent expressed, either applied to a defined set of species e.g., Bangladesh, Cameroon, India, Peninsula Malaysia, and New Zealand; or wildlife generally without limitation, other than prohibitions specific to protected species.

There are a variety of formats for granting wildlife use rights but the most important result for this research is that none of the countries reviewed have any regulatory tools specific to the management of zoonotic disease risk in the context of indigenous rights to hunt, consume or trade wildlife. Despite the well-intentioned reasoning, it may prove to be more problematic to create an exception to a set of rules that have, in effect, never been fully defined. Proposals to close all wildlife trade and markets will need to consider the variety of laws that provide at least a starting point for further regulation, and act with caution when attempting to make an exception for indigenous uses, where these rights are often unclear and where there is a complete absence of law governing the management of zoonotic disease risks.

Meat Industry

Meat industry laws manage the facilities, personnel and processes associated with the production of meat for human consumption. Most countries have legislation detailing requirements, including the prescription of practices designed to detect and prevent the spread of zoonoses.

⁶⁴ Bangladesh, Cameroon, India, Peninsula Malaysia, New Zealand

Figure 10. Meat Industry Law Summary

Scope		Regulatory Object		
Domestic	Wildlife	Trade	Markets	Zoonosis

As a function of legal frameworks, meat industry related laws tend to be found within Food Safety laws, rather than as separate legislation. Because of the overlap, this analysis should be read in conjunction with the other. There are few regulatory points specific to the meat industry worth highlighting.

First, research determined that wildlife is rarely expressly included in these laws, but it is not entirely absent. For the most part, whether wildlife is included is a function of two terms, 'animal' and 'meat', the latter being dependent on the definition of the first. Those that do this, however, tend to limit the application to some wildlife, rather than all. South Africa and Botswana provide examples of this. South Africa defines animal as 'any animal referred to in Schedule I; (iv).'⁶⁵ In this schedule there is a list of domestic and wild animals covered, which include, for example, zebra, buffalo, crocodile and hippopotamus. Botswana similarly restricts the concept to only domestic animals and 'farmed game' presenting the species included, without however defining a list of animals.

Beyond this, the review found four (4) regulatory tools applicable to managing disease in the meat industry – 1) inspection requirements, 2) handling of sick and injured animals, and 3) market regulations.

Countries that include inspection requirements are South Africa, Uganda, Botswana, Brazil, and Singapore. Details are not provided in the primary law that establishes the requirement but are to be detailed in ministerial regulations. These were not available for this review.

The handling of sick and injured animals is a common element, with most countries prohibiting their processing or sale. However, no criteria or methods for making this determination were identified. Similarly, some countries require the destruction of infected animals and carcasses but also do not provide guidance concerning how this should be done.

⁶⁵ South Africa, Meat Safety Act, Sect 1, 2000

In only two countries, Singapore and Jamaica, are there provisions directly regulating markets in the context of the laws governing the meat industry. Singapore requires market vendors to obtain a license to operate their food establishment stall in any premise or public place.⁶⁶ Jamaica requires the destruction of animal carcasses to prevent them from being exposed for sale in those places.⁶⁷

Pet Trade

Pet trade law refers to those laws and provisions directed at the commercial trade in animals, whether domestic or wild, and whether native or exotic. It is of particular concern for three reasons: 1) trade in wild animals as pets is a significant part of wildlife trade; 2) it is a separate form of trade with specialized requirements; and 3) live animal trade and exposures, in particular some wild species, can represent a significant health risk.

Figure 11. Pet Trade Law Summary

Scope		Regulatory Object		
Domestic	Wildlife	Trade	Markets	Zoonosis

None of the countries reviewed have laws fully dedicated to the question of pet trade, or trade in wildlife as pets. To the extent such trade is regulated, it is because the species being traded belongs to some other regulatory object, e.g., it is a CITES listed species. The laws and provisions that might apply are therefore scattered across at least five other areas of law, including 1) wildlife conservation and trade, 2) animal welfare, 3) animal health, 4) animal quarantine, and 5) CITES Implementing laws. The differing scope and regulatory requirements of those laws make a composite summary more challenging. The results shown in the graphic reflect both the content of the laws that apply, but also the degree to which pets are expressly included, whether as an entire category (e.g., all pets), or species and categories that are normally understood as pets (e.g., dogs and cats).

Looking at all law types that might touch on pets tells us that they are often referenced in the lists of

domestic species (dogs, cats, etc.) but that there is no exhaustive list of what would be considered a domestic pet species, and few instances where wildlife (or exotic) pet species are directly addressed. In general, these laws do not include wildlife. Animal health and animal welfare laws rarely cover wildlife; and both CITES implementing laws and wildlife laws can be restrictive in the species they cover, missing some exotic pets entirely. No study has so far been conducted to assess the actual overlap between these laws and exotic pet trade.

Findings around other aspects of laws that relate to, but do not directly govern, pet trade are briefly summarized here:

- 1) **Animal welfare** laws may be among the more relevant to managing zoonotic disease risks in the pet trade, in particular as they prohibit cruelty to animals. Inadequate care increases stress in animals as well as the risk of disease transmission. However, they tend not to apply to wildlife, and they do not set species specific standards. Keeping captive wildlife is a complex and long-term endeavor that requires specialized knowledge and guidance for custodial care.
- 2) **Animal health** laws specifically address the management of zoonotic disease risk in theory but neither the scope nor the regulatory requirements are directed at wildlife or their needs in the context of pet trade. Most cover only domestic species, and within these there is a notable emphasis on livestock (although is not exclusively the case). Few jurisdictions apply the tools for control within markets or at the point of sale.
- 3) **CITES implementing laws** tend not to go beyond the remit of CITES governing international trade in endangered species. In some jurisdictions, it is illegal to trade in any CITES I species even at the local level, although this is not a majority approach. Although CITES is designed to regulate trade, it does not include provisions on public health risks from trade. For the most part, the CITES implementing law implements the license and

⁶⁶ Singapore, Wholesome Meat and Fish Act, Sect 23, 2000

⁶⁷ Jamaica, The Public Health (Meat Inspection) Regulations, Regulation 11, 1989

permitting system required by the convention, which are entirely separate from permit systems in customs and quarantine laws that might otherwise apply to pets. Some jurisdictions go further and require the owner to also hold a permit to own pets, or more particularly, exotic pets.

- 4) **Wildlife laws** really have only one tool directed specifically at zoonoses and that is the culling of wildlife to prevent disease transmission. Of the jurisdictions reviewed, a few expressly provide for the power to cull wildlife populations to control disease. However, this is not intended to manage the risks posed by exotic pet trade and can actually be detrimental to the management of disease, not to mention the negative impacts on conservation generally. This issue is discussed more in the following section on Wildlife Conservation and Trade laws.

Wildlife Conservation and Trade

Almost all jurisdictions have a wildlife conservation law and, as one of the few types of law solely dedicated to wildlife, it can play a fundamental role in managing zoonotic disease risk. As a whole, however, it is often limited by the species covered and a lack of regulatory tools directed at zoonoses in the specific context of trade.

Figure 12. Wildlife Law Summary

Scope		Regulatory Object		
Domestic	Wildlife	Trade	Markets	Zoonosis

First, wildlife laws are not all encompassing when it comes to the species and products they cover. The majority may seem to include all species (*n.* 25 of 37) but there is a degree of uncertainty in this interpretation. An important percentage (*n.* 11 of 37, 32%) limit their wildlife law to nationally protected species only, sometimes internationally protected as well; and one (Belize) limits its application to certain classes of vertebrate species. Some of

those that limit their coverage are important wildlife trading states (Mozambique) and some of the species not protected include those that are known to harbor zoonotic pathogens (some species of bats). The gap at this definitional stage of a law is all important to its later ability to have an impact on managing zoonoses risks.

When it comes to the products they cover, there are even more approaches, more uncertainty and more limitations. Only four (4) countries expressly refer to wildlife and their products without limiting what products; while another two (2) have a broad, uncertain approach. All others (*n.* 11) have major limitations with a few instances of similarity (e.g., trophies), and mostly reflecting highly local concerns. The lack of consistency in product is still a concern for zoonoses. Viruses grow and reproduce only inside living cells, making hunting/harvest and live trade (in any form) a primary concern. But exposure to live animals and infectious products also occurs at the point of processing, where the inclusion or exclusion of a product may mean the difference between enforcement or no enforcement.

Wildlife laws also only have one (1) regulatory tool directed expressly at disease management. This is the long-standing practice of deliberate killing or “culling” wildlife to prevent the transmission of disease between wildlife and livestock.

Culling of diseased individuals is a method frequently used to control infectious diseases primarily in domestic animals. The objective is to remove these infected individuals and stop the spread of the disease across healthy animals in the population. The practice is actually an extension of quarantine. For wildlife, selective culling is best implemented for those diseases in which infected individuals are easily recognized and a disease that spreads slowly across a population.⁶⁸ However, it is not likely to be appropriate approach for managing pathogens harbored in wildlife reservoirs that do not display apparent signs of disease.

They are also field practices that are not directed at markets or other places of trade. While they may ultimately prevent the transmission of disease to human populations, it is a far step removed from

⁶⁸ Wobeser G.A. (1994) Investigation and Management of Disease in Wild Animals. Plenum Press, New York, 265 pp.

regulating zoonotic diseases in the marketplace and in practice is not appropriate for many situations from an epidemiological, ecological and economic standpoint.

CONCLUSION

There is no such thing as a one size-fits all solution when it comes to managing resources, and societies. In the context of pandemics and wildlife trade, the overwhelming reality is that countries face significantly different risks, have varying levels of capacity in their human and animal health systems, and differ in the organization of administrative duties and budgets.

As one would expect, their legal frameworks necessarily reflect their lived experience, and all of the differences this entails. They focus on different sources of risks (e.g., disease emergence versus disease introduction) because these have marked their development in the past. They will rely on different sectors (e.g., public health officials, veterinarians, wildlife officials) because these have been their frontline in the fight against disease emergence in the past. They will identify some species and not others because these are the recognized sources of disease so far.

And yet, for all the variety, there are also similarities. One of these, albeit a negative one, is the consistent gap across the majority in the form of an overall absence of wildlife in the regulations designed to reduce zoonotic disease risk. However, this too reflects a commonality at least in perception if not reality. Wildlife tend not to be a primary source of protein and disease has been more readily recognized in the domestic animals we all rely upon and where we invest in monitoring and management systems.

Another similarity, this time on the positive side, is that, at least for the countries surveyed, there are legislative approaches in place everywhere that are designed to prevent and control disease. They may not provide complete coverage for disease risks related to wildlife trade and its broader value chain, (e.g., harvest, production, possession) but there are existing standards, practices, institutions, and budgets. In other words, this is not a problem without precedent that must start from zero. There is a wealth of experience and a full arsenal of tools that

can be studied, adapted and applied in ways that respond to today's understanding of disease risk.

The following is a summary of the results of this research and an attempt to capture both the areas of concern as well as the opportunities presented.

Areas of Concern

As a whole, the approaches taken and entities called upon to act raise significant questions about the ability to implement and enforce, in particular for certain uses or at certain points in the trade chain. In no particular order of importance, these are:

- 1) **Defining and including wildlife.** Animals, and in particular wildlife, are poorly defined in legislation, reflecting an overall bias toward domestic animals in animal health practice at the country level as well as in global standards and systems.
- 2) **Population-level risk.** The specific management strategies to be employed (if mentioned at all), typically pertain to treatment of individual animals displaying signs of disease versus appropriate population-level risk management strategies, which presents a gap in scope particularly in regard to wildlife reservoirs for zoonotic pathogens.
- 3) **Understanding and managing for risk variance.** Laws are not harmonized to ensure consistent and complete coverage of epidemiologically relevant interfaces for risk. Risk is highly dependent on the taxonomic group, the condition of an animal or animal product, and specific practices. This is an area of law that needs a strong scientific basis to prevent gaps across sectors, settings, and jurisdictions.
- 4) **Animal welfare laws not connected to disease risk.** One area of law that is particularly important (animal welfare) has several regulatory tools identified that are known to

have a relationship to risk of disease emergence and spread, e.g., those that prevent cruelty or inhumane treatment. These tools, however, have not been created because of their relationship to zoonotic disease and there is no associated mandate in those same laws to manage zoonotic disease threats specifically. Welfare provisions are critical standards and requirements but for now they operate mostly in parallel and experience varying degrees of integration with wildlife trade regulations.

- 5) **Animal health laws are still limited.** The only area of law wholly dedicated to controlling disease in animals (animal health), which is sometimes cross-referenced by laws that regulate wildlife trade, has limited coverage of wildlife, does not always apply to all diseases, and is often short on implementing details. A useful tool in this context, for example, is the use of trace-back techniques in disease and outbreak investigations. None of the animal health laws reviewed make any mention of investigatory techniques.
- 6) **Lack of specificity for some forms of trade.** Some forms of trade are subsumed within other laws that regulate the management of zoonotic disease risks (e.g., pet trade is principally regulated through animal quarantine, health and welfare laws), but there are no specialized instruments to manage the needs this type of trade presents. Endangered species or injurious species (e.g., invasive risk) listings may indirectly regulate the taxonomic scope of the pet trade and therefore disease risk. However, these listings operate independent from any consideration for disease risk and are not structured to respond to this issue.
- 7) **No animal disease regulatory tools for indigenous rights.** Some forms of use that are especially important to wildlife trade as a whole (e.g., pet trade) or that the global community hopes to rely upon (e.g., indigenous rights) were found to have no regulation directed at the management of zoonotic disease risk. For the latter, campaigns to shut down wildlife trade

frequently mention the need to ensure there is an exception to market closures for indigenous uses. What this ignores is the lack of specificity in any jurisdiction concerning these rights as a whole. Unless carefully reviewed and crafted, creating an exception would just be one problem stacked on top of another, as instituting a ban itself will not be easy. Indeed, recent bans announced by some jurisdictions⁶⁹ still leave a door open to certain forms of trade. For example, China's ban still allows trade in 'patented' ingredients in medicines, which includes wildlife.⁷⁰

- 8) **Authority to monitor and test does not include wildlife or forms of trade that include wildlife.** Of those that have a mandate to prevent or control for zoonotic diseases, e.g., pursuant to animal health, food safety, and meat industry; the responsible authorities have little or no authority to monitor and test wildlife to promote proactive threat detection; and, as a practical matter, likely little overlap with actual wildlife trade routes and markets.
- 9) **Lack of direct authority to monitor and test.** In other instances, those that have a mandate to monitor wildlife trade, e.g., Wildlife and CITES implementing laws; have no mandate or an insufficiently developed mandate to monitor for disease. Both of these provide a basis for regulating wildlife trade. However, only some countries reference a requirement to comply with health and welfare standards. None provide any detail concerning monitoring practices or investigatory techniques.

Opportunities

It is not all negatives, however. All of the laws reviewed have a role to play and sometimes simple changes can make a world of difference, e.g., the express inclusion of wildlife within a law's mandate. This, and several other opportunities, have been outlined here; sometimes addressing the problems cited in the preceding section, but also offering new ideas.

⁶⁹ E.g., Vietnam, China, Botswana, and Malawi.

⁷⁰ [China legislators take on wildlife trade, but traditional medicine likely to be exempt](#)

Although these take a step in the direction of recommendations, it would be a mistake to consider them as best practices this early in the analysis. A change may appear simple in the text of the law (e.g., expanding the scope of animals covered by the law) but its practical impacts can be far reaching, resulting in mandates that may not be implementable because they imply significant changes, for example to budgets, staff, training, field operations.

This list is therefore offered as a set of ideas to consider in developing legislation or areas to explore in the development of best practices.

- 1) **Maximize the use of legal approaches.** As simple as it sounds, national laws have proven effective in the past for the control and prevention of some important zoonotic diseases. There are numerous examples that should be compiled, examined and used where applicable. Among them are: the enduring policy of prohibiting the importation of hares into Denmark because of tularemia;; the release of orangutans exposed to human tuberculosis in Indonesia; the prohibition on the movement of racoons, foxes and coyotes in the US due to rabies; the Centers for Disease Control's ban on the importation of African rodents into the US due to the monkeypox outbreak of 2003, which further triggered legislation of prairie dog movements between states; China's prohibition on trade wildlife species⁷¹ after SARS and COVID-19.
- 2) **Include wildlife.** In several of the frameworks and law types reviewed, wildlife is either expressly included or its inclusion is uncertain. And yet, in every area of law, there are jurisdictions that specifically include wildlife, providing definitional examples and likely further content tailored to their inclusion.
- 3) **Focus on tools to monitor and manage disease.** The authority and obligation to monitor for disease and manage threats is a starting point that is expressly stated in at least a few jurisdictions. The lessons learned both from the legal content as well as implementation and

enforcement can serve as examples for other jurisdictions.

- 4) **Coordinate approaches between laws.** For every country, the opportunity to better coordinate approaches exists in the relatively simple exercise of appropriate cross-referencing between mutually supporting laws. This is already a practice in some of the wildlife and CITES implementing laws that require compliance with animal health and welfare standards. More can be done to cement responsibilities, practices, and coordination, but the act of cross-referencing is a starting point for harmonizing standards between otherwise separately operating systems.
- 5) At the international level, high-level **coordination systems** are already in place; with the tripartite agreement with WHO-OIE-FAO on One Health (though there is limited wildlife sector inclusion).⁷² The existing framework is also available with WHO International Health Regulations legally binding 196 countries to respond to epidemics. However, if an effective global wildlife health capacity is to be developed further, then more needs to be done at the ground-level, e.g., scaling-up from the individual (researchers, diagnosticians) to the organizational (laboratory, agency, government and intergovernmental) to the national (regulatory mandates that support the acquisition and dissemination of knowledge). National One Health coordination bodies can help operationalize surveillance and legal enhancements to monitor and reduce zoonotic disease risks.
- 6) **Disease investigation.** There is no substitute for examining how wildlife disease investigation and management are undertaken and how this is integrated with the realities of illegal wildlife trade in different countries, to identify gaps and inadequacies. In some countries, considerable effort has already been made to establish specific activities including active and passive surveillance, representation on various committees and integration within diagnostic and

⁷¹ Aguirre A.A., R. Catherina, H. Frye, L.I. Shelley (2020) Illicit wildlife trade, wet markets, and COVID-19: preventing future pandemics. World Med Health Policy. doi: 10.1002/wmh3.348.

⁷² [FAO, OIE, and WHO launch a guide for countries on taking a One Health approach to addressing zoonotic diseases](#)

research laboratories.⁷³ These systems can be studied for best practices and provide a sound basis for adoption by other jurisdictions.

- 7) **Intervention protocols.** There is also a strong foundation for the application of sanitary and phytosanitary measures (SPS agreement); already a part of the treaty that established the World Trade Organization (WTO). "It provides guidelines and provisions to member countries to facilitate trade while taking measures to protect human, animal or plant life or health."⁷⁴ Basically, it dictates that all sanitary measures should be based on science and recommends the use of international standards, in animals, established by OIE. A lack of funding and governance have limited corresponding in-country veterinary services, but this becomes a budget issue, not one that first requires the development of new mandates.
- 8) **Remove Perverse Incentives.** More needs to be done to support risk analysis and transparency of member countries to succeed in these activities. The trade implications of disease notification creates a perverse incentive to not report. For example, migratory birds are reservoirs of many influenza viruses; and recent outbreaks across countries have increased unnecessary trade

bans to the poultry industry. As a result, countries are reluctant to report the presence of endemic influenza viruses in their wild bird populations.⁷⁵

Next Steps

In light of these findings, a thorough review and updating of legislation, based on an assessment of key interfaces and practices that shape risk in a given country, is recommended.

However, research to adequately support these efforts is still needed. In addition to expanding the scope of the laws reviewed, further research is needed to match the legal tools identified with field practices (e.g., monitoring and enforcement) and market dynamics; to test the value of these tools and to identify others.

Research should target the development of best practices for the prevention and control of zoonotic disease risks associated with wildlife trade that can be used now and on an ongoing basis to monitor and assess legal foundations.

⁷³ Hyatt A., A.A. Aguirre, M. Jeggo and R. Woods (2015). Effective coordination and management of emerging infectious diseases in wildlife. *EcoHealth* 12: 408-411.

⁷⁴ Zepeda C., M. Salman, A. Thiermann, J. Kellar, H. Rojas, P. Willeberg (2005) The role of veterinary epidemiology and

veterinary services in complying with the World Trade Organization SPS agreement. *Prev. Vet. Med.* 67:125–140

⁷⁵ Hall C. (2004) Impact of avian influenza on U.S. poultry Trade relations–2002. *Ann. N.Y. Acad. Sci.* 1026: 47–53; also see Hyatt et al. 2015 above.

ANNEX I

National Law Assessment Methods

Research into the national legal frameworks was divided into three discrete exercises. The first was directed at the selection of jurisdictions. The second examined additional areas of laws or issues of concern to review. Finally, for each type of law or issue a 'specific inquiry' was developed for researchers to consider and comment on. Each part of the method is outlined in the following sections.

Selection of Jurisdictions

Jurisdictions were selected to ensure a mix of legal systems but also to target jurisdictions with varying

levels of wildlife trade and known or suspected wildlife markets. Most of the jurisdictions (n. 22 of the 38) are regularly highlighted in the news and enforcement data as wildlife trade sources and hubs. Many are also known to have actively operating pet, game meat, wet, and other forms of wildlife and animal markets. To provide as much of an overview as possible, nine (n. 9) of the jurisdictions were selected because they have lower reported levels of wildlife trade and eight (n. 8) have no known wildlife trade markets operating.

The list of jurisdictions is as follows:

1. Antigua and Barbuda
2. Australia
3. Bangladesh
4. Belize
5. Botswana
6. Brazil
7. Brunei
8. Cameroon
9. Canada
10. China
11. Dominica
12. Fiji
13. Gambia
14. Ghana
15. Grenada
16. Guyana
17. India
18. Jamaica
19. Kenya
20. Malawi
21. Malaysia
22. Mauritius
23. Mozambique
24. Nauru
25. New Zealand
26. Pakistan
27. Papua New Guinea
28. Samoa
29. Seychelles
30. Sierra Leone
31. Singapore
32. South Africa
33. Sri Lanka
34. Tonga
35. Tuvalu
36. Uganda
37. Tanzania
38. Zambia

Selection of Laws

Each section in **National Law Assessments** considers a different area of law or investigates content specific to an issue of concern. For purposes of this paper, an 'area of law' refers to subjects that are typically addressed in a law fully dedicated to that subject, e.g., Customs law or Wildlife Law. An 'issue of concern' refers to topics selected because of their relevance to wildlife trade and zoonotic diseases, but which are not often the subject of a single law. Instead, these tend to be addressed in multiple laws (e.g., medicinal trade, indigenous rights and pet trade).

All of the types of law and issues of concern have been identified based either on prior research at Legal Atlas⁷⁶ or other publications. In all cases, preliminary research was conducted to confirm the existence of laws and provisions applicable to some component of the problem: e.g., either wildlife trade (including pets) at domestic and international scales, the health and welfare of animals, or the sale of foods, whether domestic or game meat.

While the previous research looked at only four (4) types of law, for this publication further research was done to define a more comprehensive framework. From this, the full list includes the following 17 types of laws: animal health; animal welfare; animal quarantine; CITES trade; civil codes; constitutions; criminal law, customs, fisheries management, food safety, indigenous rights, meat industry, medicinal trade, pet trade, public health, wildlife conservation and trade, and veterinary medicine laws. While still concerned about the complexity and scope, this publication covers 10 of these and only national level mandates.

Laws Included in Review

The following is a description for each type of law covered. These summaries are based on the

compilation and general content of the laws reviewed in the context of this research. It is not expected that all jurisdictions and laws conform to these definitions, although a high degree of overlap is expected. In any event, they are provided as a reference and not intended to suggest that there is a prescribed standard or best practice associated with their form and content, even though some commentary may lean in that direction. It is also not expected they will be found in all jurisdictions equally. Note that each type of law can and often does regulate other issues.

1. **Animal Health Law** - are those laws intended to guarantee the physical health of animals, and often include requirements for notification of disease, control measures such as separation, quarantine and treatment, and disposal or destruction of infected animals and carcasses. Most countries have one or more laws dedicated to the issue.
2. **Animal Welfare Law** - includes those laws intended to guarantee the physical and mental health of animals, including requirements or standards for care, breeding, and humane treatment during transportation. These laws vary in their approach, sometimes explicitly including or excluding wildlife, while others are generally applicable to all animals, whether wild or domestic.
3. **Animal Quarantine Law** - animal quarantine refers to the isolation or restriction of the free movement or sale of an animal or animal product. It is a long-standing approach used to prevent zoonoses or animal disease from spreading and causing a threat to agriculture, public health and security, including the resulting social and economic impacts. For the most part, the reviewed countries have laws dedicated to animal health as a whole, within which some provisions on animal quarantine can be found. Most of the reviewed jurisdictions do not have laws entirely dedicated to the issue of animal quarantine.

⁷⁶ The [Legal Atlas](#) platform has compiled legal frameworks governing wildlife trade for 80+ jurisdictions across Africa, Asia, South and Latin America. Past research has been funded by the UK Foreign and Commonwealth Office, UK Department for Environment, Food and Rural Affairs (IWT Challenge and Darwin Initiative), Zoological Society of London, Arcus Foundation,

Global Initiative Against Transnational Organised Crime, and Asian Development Bank. Partnerships and collaborations have included University of Kent, Lancaster University, Cheetah Conservation Fund, as well as legal analysts from around the world.

4. **CITES Implementing Law** - these laws are required by CITES to implement the terms of the treaty. Often promulgated separate from wildlife conservation laws, they regulate international trade in CITES listed species that either originates from, passes through, or enters into the country. All of the countries in this review are member states and have legislation, whether combined with general wildlife laws or issued separately, that implement CITES treaty requirements.
5. **Customs** - includes those laws and provisions relating to the import, export, movement or storage of goods, as well as the administration or enforcement of which are specifically charged to the customs administration. As defined in these laws, the term 'goods' can include domestic animals and wildlife.
6. **Food Safety Law** - a type of law found in almost all jurisdictions, intended to regulate food processing, content, storage, labeling and more. This type of law also typically regulates for the control of zoonotic disease but does not always include wildlife.
7. **Indigenous Rights Law** - There is no singular definition of indigenous rights under international law. It is, however, generally understood to include all laws and provisions intended to secure the rights of self-determination, including full participation in decisions concerning such groups, making decisions about their own affairs, having some form of territorial autonomy, as well as rights of access and use of land and resources specific to the group. This category of law has been included because these 'access and use' rights often include the right to consume wildlife.
8. **Meat Industry Law** - includes those laws dedicated to managing the facilities, personnel and processes associated with the production of meat for human consumption. Long recognized as a public health concern, most countries have legislation detailing requirements, including the prescription of practices designed to detect and prevent the spread of zoonoses.
9. **Pet Law** - this is a specialized area of law not found in every jurisdiction and rarely as a separate law. If pet trade is covered, it is most often included in either the main wildlife or animal health and welfare laws. It has been included in this research given the separate nature of pet markets, and therefore the different legal responses likely required to manage zoonotic disease risks in this context.
10. **Wildlife Conservation and Trade Law** - includes those national laws directed at the management of wildlife, often including the regulation of habitat protection, hunting and trapping, population control, transportation, possession, trade, and more. Fundamental to wildlife conservation as a whole, these laws often have content related to trade but only occasionally provide a basis for regulating zoonotic disease.

Laws Excluded from Review

Ultimately, a number of other laws and areas of concern play some role in how zoonotic disease risks are or can be managed. The following are brief descriptions of the ones excluded entirely or partially from this research:

- **Civil Codes** - although not common, some Civil Codes confer a new status on animals recognizing them as sentient beings.
- **Constitutions** - provisions recognizing jurisdiction to legislate on animal cruelty or animal welfare; provisions that recognize rights of access and use by indigenous populations, and provisions that recognize the duty of the State toward animals. Constitutions were sometimes referenced in this research in the context of indigenous rights.
- **Criminal Codes** - establishing crime types and forms of liability for crimes related to animal health and welfare, wildlife trade, and, depending on the jurisdiction, potentially including the violation of any of the other laws included in this review.
- **Fisheries management** - a major area of law regulating all aspects of fisheries management, including trade and zoonotic

disease risks. Zoonotic diseases associated with fish are mainly bacterial and present a different kind of risk. Fisheries laws were, however, included if they represented the main wildlife for the country. This was the case for a few of the island nations in this review.

- **Medicinal Trade** - includes any law or provision intended to manage the harvest, processing, use, and labeling of medicines considered 'traditional' and which may include wildlife products.
- **Public health laws** - a core law in any country's response directed at managing all aspects of public health measures, from isolation to treatment and more. They have been partially reviewed in this research for their application to diseases associated with the meat industry.
- **Veterinary medicine laws** - in some jurisdictions (e.g., Germany), the veterinary medicine law adds to or substitutes for the animal health and welfare legislation. It is also sometimes the law used to regulate monitoring and inspection requirements with respect to animal diseases and international trade. None of the jurisdictions in this review had this type of law or used it for these purposes.

Lower level and sub-national laws were also excluded. In most jurisdictions and for a number of topics, lower level regulations (both at the national and provincial level) follow national mandates and are therefore less likely to govern the issue on their own. This exclusion may have impacted the degree to which pet trade laws could be considered as there is some indication that this topic falls to lower jurisdictions. In all cases, the existence of applicable lower-level regulations of course cannot be excluded and further research into both national mandates and regulations, as well as sub-national legislation will certainly provide further insights into how this critical issue is governed.

Specific Inquiries

The results from the initial survey helped to refine the research inquiry for this publication. In particular, it became clear that each type of law tends to use different regulatory tools susceptible of discrete

identification that are directly or indirectly relevant to certain aspects of wildlife trade and the management of zoonotic disease risks.

Determining Scope

A threshold question is which animals and animal products fall within the scope of the law, and in particular whether this includes wildlife. Throughout the initial research, a notable pattern was the degree to which laws either expressly include or exclude wildlife, or whether their inclusion remains subject to interpretation.

The goal was to further refine the patterns observed between jurisdictions and their implications for controlling diseases related to wildlife trade. Each section therefore includes a section (labeled **Scope**) that discusses this particular aspect of each law type. For some laws, the inclusion of wildlife is less of an issue (e.g., wildlife conservation and trade laws) but it is an issue nonetheless in all of them.

Defining the Inquiry

For the regulatory tools, the initial survey indicated that the inquiry into each law could be tailored to better match the likely content, and further highlight the regulatory tools used as well as patterns of use. Each national law assessment contains a section labeled **Specific Inquiry**, which identifies the key questions used to guide the research. Two examples follow to illustrate.

For animal welfare legislation, this included:

- a. whether there is a definition of animal cruelty or ill treatment;
- b. whether they identify specific acts that constitute cruelty;
- c. whether there is a duty of care to prevent cruelty to animals;

For animal health legislation, this included:

- a. whether they require inspections
- b. whether they require notification

- c. whether they provide for the disposal of diseased carcasses, seizure of diseased animals; and
- d. whether they prohibit the sale of diseased animals.

Without the benefit of being able to reference pre-existing legal best practices, this process was necessarily empirical and iterative; empirical because the regulatory tools identified were the ones found in at least one of the jurisdictions reviewed; and iterative because as new tools were

found, all jurisdictions would be reviewed for the same.

Obviously, this means that some useful tools found in other jurisdictions not covered here will be missed, skewing to some extent our understanding of what can and should be done. This paper recognizes this and is cautious in the assessments it makes, focusing more on the identification of patterns, as opposed to a full assessment of legal adequacy. It nonetheless provides a strong foundation for the development of best practices and, in fact, is a precursor to any such exercise.

Annex II

Detailed Assessments

Each of the following sections takes a deeper look at a particular category of law or issue of concern and considers its general objectives and relation to the management of zoonotic disease risks; its expression across legal systems; which species in particular it is intended to cover; and the regulatory tools employed to prevent and control zoonotic disease risk.

Animal Health Law

(primary research and drafting by **Sofija Belajcic**)

Animal health laws are those laws intended to guarantee the physical health of animals. They often include requirements for notification of disease and control measures, such as separation, quarantine, treatment, disposal and destruction of infected animals and carcasses. Most countries have one or more laws dedicated to this specific issue.

This particular type of law is of central importance as the only type fully dedicated to the question of disease in animals. The gaps in coverage of wild animals take on even greater importance considering there 4,000 known viruses found in mammals and birds, with estimates indicating there could be as many as 1.7 million viruses.⁷⁷

Additionally, the distinction between disease and pathogen may present varied interpretation and efficacy of laws. Detection of disease may theoretically be based on visual observation or laboratory-based diagnostics. Zoonotic pathogens may or may not produce disease in a given animal or species, with the latter relying on pathogen screening for detection.

⁷⁷ Brandon Specktor, Why Scientists are rushing to hunt down 1.7 million unknown viruses, February 23 2018, <https://www.livescience.com/61848-scientists-hunt-unknown-viruses.html>

Specific Inquiry

Common to all of the assessments in this paper, the first inquiry is to determine which animals and products fall within the scope of this type of law. Beyond this, research more specifically considered the following:

- whether animal health laws require inspections
- whether they require notification
- whether they provide for the seizure of diseased animals and regulate the disposal of diseased carcasses; and

Similar to animal welfare law, results from this initial analysis show that wildlife is rarely included in laws governing animal health. This is, however, one of the few areas of law that directly regulates zoonotic disease risk. That wildlife are covered by only six (*n.* 6) of the countries⁷⁸ in their animal health laws speaks to a major gap.

Framework Reviewed

The majority of the countries reviewed (*n.* 31 of the 37) have some form of animal health law in place, while six do not. For the most part, animal health laws are promulgated separate from other types of law, although they do touch on aspects of quarantine and pets, both of which have been looked at in separate

⁷⁸ Antigua and Barbuda, Botswana, Kenya, Mozambique, New Zealand, and Sri Lanka.

assessments because they tend to be regulated in multiple places.

Scope

The scope of animal health legislation is most often a function of how the term 'animal' is defined, with each country taking a slightly different approach both to which domestic species are covered and whether wildlife are also included.

As mentioned, most of the countries surveyed have laws in place. However, only six (*n.* 6 of 31) expressly mention wild animals in their definition of animal. The remaining jurisdictions follow a different approach, for the most part either by leaving their inclusion up to interpretation or by providing a list of species that is focused only on domestic species.

The exclusion of wildlife, or the lack of specific inclusion, reflects both the history and primary purpose of animal health laws, which is to protect domestic animals and not the health of wild animals.

It is important to note that risk of disease is not uniform across taxonomic groups. For example, studies show that bats, rodents, non-human primates, birds and some other carnivores are the groups most susceptible to emerging diseases and those likely to result in epidemics and pandemics. Amphibians and reptiles on the other hand represent a risk for diseases such as salmonella in the context of occupational health or pet ownership but are a limited risk for human-to-human disease transmission. Therefore, while the laws may contain an express reference to wildlife, the regulatory requirements such as notification, inspection, etc.

may not address the varying levels of disease risk in different animals.

Broad, Uncertain Scope

Similar to the animal welfare laws, some countries define animals so broadly that its scope, and therefore application to wildlife, actually becomes uncertain. It may be that the law includes wildlife, but it may also be limited in ways that only become apparent at later stages; e.g., during implementation, enforcement or prosecution.

In at least one approach, the reference to wildlife is not explicit but might be reasonably implied. Fiji, for example, defines animal as any living stage of any member of the animal kingdom except human beings. Of the 31 reviewed, this is the majority approach, evident in eighteen (*n.* 18) of the jurisdictions: Brunei,⁷⁹ Bangladesh,⁸⁰ Canada,⁸¹ Dominica,⁸² Fiji,⁸³ Grenada,⁸⁴ Guyana,⁸⁵ Jamaica,⁸⁶ Malaysia,⁸⁷ Malawi,⁸⁸ Mauritius,⁸⁹ Pakistan,⁹⁰ Papua New Guinea,⁹¹ Seychelles,⁹² Singapore,⁹³ South Africa,⁹⁴ Tanzania⁹⁵ and Zambia.⁹⁶

Brunei presents a unique approach the application of which is not clear. The law does not exclude any animal; it only states that 'animal' includes a bird.⁹⁷

Express Reference to Wildlife

A few jurisdictions expressly include wildlife in their definition of animal but generally limit the application of their animal health law to captive animals. The approach is also only found in six (6) of the countries reviewed; Antigua and Barbuda,⁹⁸ Botswana⁹⁹ Kenya,¹⁰⁰ Mozambique,¹⁰¹ New Zealand¹⁰² and Sri Lanka.¹⁰³

⁷⁹ Brunei, Quarantine and Prevention of Disease (Animals) Regulations (Cap. 47), s 2, 1962

⁸⁰ Bangladesh, Animal Disease Act, s 2, 2005

⁸¹ Canada, Health of Animals Act, s 2, 1990

⁸² Dominica, Animal Diseases Act Cap. 61:02, s 2, 1990

⁸³ Fiji, Animals (Contagious Diseases) Act (Cap. 160), s 2, 1975

⁸⁴ Grenada, Animals (Diseases and Importation) Ordinance, s 2, 1991

⁸⁵ Guyana, Animal Health Act, s 2, 2011

⁸⁶ Jamaica, Animals (Diseases and Importation) Act, s 2, 1948

⁸⁷ Malaysia, Animal Welfare Act, s 2, 2015

⁸⁸ Malawi, Control and Diseases of Animals Cap. 66:02, s 2, 1967

⁸⁹ Mauritius, Animal Welfare Act, s 2, 2013

⁹⁰ Pakistan, Punjab Animal Health Act, s 2(b), 2019

⁹¹ Papua New Guinea, Animal Disease and Control Act, s 1, 1952

⁹² Seychelles, Animals (Diseases and Imports) Act (Cap. 9), s 2, 1981

⁹³ Singapore, Animal and Birds Act (Cap. 7), s 2, 1965

⁹⁴ South Africa, Animal Health Act, s 1(1)(a) and (b), 2002

⁹⁵ Tanzania, Animal Diseases Act, s 2, 2003

⁹⁶ Zambia, Animal Health Act, s 2, 2010

⁹⁷ Brunei, Quarantine and Prevention of Disease (Animals) Regulations (Cap. 47), s 2, 1962

⁹⁸ Antigua and Barbuda, Animal Health Act, s 2(f), 2017

⁹⁹ Botswana, Diseases of Animals Act (Chapter 37:01), s 2, 1977

¹⁰⁰ Kenya, Animal Diseases Act (Cap. 364), s 2, 1965

¹⁰¹ Mozambique, Decreto No. 26/ 2009, Art. 2(5), 2009

¹⁰² New Zealand, Animal Welfare Act, s 2(1), 1999

¹⁰³ Sri Lanka, Animal Diseases Act, s 38, 1992

Mozambique probably has the most comprehensive definition, with 'wild animal' defined as a mammal, bird and reptile belonging to the non-domesticated species, living in freedom, captivity or domesticated and intended for scientific, economic or recreational purposes.¹⁰⁴ Despite the detail and breadth of the definition, however, it does not include amphibians or fish and the 'intent' element raises possible issues but seems to be a way of identifying forms of captivity. Botswana includes wild animals but more clearly limits the application by stating that an animal can be "any wild animal tamed and kept as a pet."¹⁰⁵ Kenya's definition expressly refers to any "animal removed from the wild and released to the environment, for human consumption and ornamental purposes."¹⁰⁶

Domestic Species

Another common approach (*n.* 7 of 31) has some uncertainty in the scope but seems to apply the law only to domestic species. In these countries, the law uses an inclusive list that first references only domestic species such as cattle, buffalo, oxen etc., but then uses a catch-all phrase that is expansive; e.g., "and any other creature as may be declared by the Minister" or a variation of this statement.

Sierra Leone, for example, defines animal as "all stock and ruminating animals, cats and dogs, but does not include any other animal, except as such as may be declared by the governor."¹⁰⁷ Malaysia's definition of animal includes horses, cattle, sheep, etc. and any four footed beast kept in captivity or under control.¹⁰⁸ Similarly, Uganda defines animals as all stock, camels and other ruminating animals, cats and dogs, but does not include any other animal except as the Minister may declare.¹⁰⁹ Other countries that do something similar are Malawi, Mauritius, Pakistan and Singapore.

In all of these, the uncertainty concerning the inclusion of wildlife stems from the focus on

domestic animals. It makes more sense in these instances that any additions to the list would be of a similar nature, and therefore not include wildlife. This interpretation, however, cannot be tested without reference to actual interpretations that were not within the scope of this research.

Regulatory Requirements

Although principally directed at domestic animals, animal health laws have a number of regulatory tools that are specifically designed to prevent and control zoonotic diseases. Their application to wildlife in captive settings is already provided for by six (6) jurisdictions and is at least theoretically possible in another eighteen (18), depending on how broadly the definition of animal is interpreted. To the extent they already apply or could apply to wildlife, they are of immediate interest.

International Notification (OIE Standard)

Members of the World Organisation for Animal Health (OIE) have an obligation to meet international standards on animal health, one of which is the requirement to notify the OIE of disease events and disease status. OIE maintains a list of notifiable terrestrial and aquatic animal diseases and the World Animal Health Information System (WAHIS), including 117 diseases listed for 2020.

However, only four (*n.* 4 of 31) - Antigua and Barbuda,¹¹⁰ Fiji,¹¹¹ Guyana,¹¹² and Mozambique¹¹³ - implement this requirement in their national law; despite the fact that 31 of the 38 countries are members of the OIE.¹¹⁴

National Notification

The majority of countries (*n.* 29)¹¹⁵ have some form of national-level notification system in place whether

¹⁰⁴ Mozambique, Decreto No. 26/ 2009, Art. 2(5), 2009

¹⁰⁵ Botswana, Diseases of Animals Act (Chapter 37:01), s 2, 1977

¹⁰⁶ Kenya, Animal Diseases Act (Cap. 364), s 2, 1965

¹⁰⁷ Sierra Leone, Animals' Diseases Ordinance (Cap. 191), s 2, 1944

¹⁰⁸ Malaysia, Animals Act, s 2, 1953

¹⁰⁹ Uganda, Animal Diseases Act (Cap. 38), s 1(a), 1918

¹¹⁰ Antigua and Barbuda, Animal Health Act, s 5(2)(q),(w),(x), 2017

¹¹¹ Fiji, Biosecurity Act, s 89(a),(b) and s 106(2)(g) and (5)(i), 2008

¹¹² Guyana, Animal Health Act, s 4(e), 2011

¹¹³ Mozambique, Decree n. 26/2009 - Animal Health Regulation, Art. 79, 2009

¹¹⁴ Australia, Bangladesh, Belize, Botswana, Brunei, Cameroon, Canada, China, Dominica, Fiji, Gambia, Ghana, Guyana, India, Jamaica, Kenya, Malawi, Malaysia, Mauritius, Mozambique, New Zealand, Pakistan, Papua New Guinea, Seychelles, Sierra Leone, Singapore, South Africa, Sri Lanka, Tanzania, Uganda and Zambia

¹¹⁵ Antigua and Barbuda, Bangladesh, Botswana, Brunei, Cameroon, Canada, Dominica, Fiji, Ghana, Grenada, Guyana,

as a specific duty imposed on the owner of an animal to notify the local health officer of disease, or on an inspector who after examining the sick animal must give notice of a disease. These approaches mirror the WHO's and OIE's approach to addressing diseases. Some countries, such as Botswana, Dominica and Grenada, have included in this duty the requirement to separate the diseased animal from others.

Notifiable Disease Defined

The broadest approach is where the term 'disease' is defined and not combined with a prescriptive list. It is considered broader because of its ability to address new (i.e., emerging) diseases in animals. Zambia, for example, defines "disease" as "the pathological condition of a part, organ or system of an animal resulting from various causes such as infection, genetic defect or environment."¹¹⁶ Bangladesh does not define disease, per se, instead it defines it as whatever the authorities notify as disease. Theoretically, these notifications would reflect what authorities treat as a disease but there is no actual list.¹¹⁷ Altogether, ten (10) of the countries reviewed here take this approach.¹¹⁸ From an implementation standpoint, it is unclear what, if any, requirements are in place to investigate disease events to ensure event determination. While this reporting requirement is encouraging, too often we see that authorities simply do not investigate, which means there is nothing to report.

Inclusive List of Notifiable Disease

The next broadest approach involves the use of an inclusive list, i.e., a list of commonly recognized diseases and some indication that this list automatically includes or may be expanded to include other diseases (e.g. potentially novel

diseases or known diseases associated with unusual events or increasing morbidity or mortality). Kenya's law is an example. Specifically, it gives power to the Minister to make regulations concerning any other epizootic diseases not listed.¹¹⁹ This approach is as common as the ones that rely on a definition, with ten (10) countries including a catch-all phrase such as "and any other diseases which the Minister may declare."¹²⁰

It is considered less comprehensive, however, because there remains the regulatory hurdle of having a Minister first declare a disease before the law may be applied.

Exhaustive List of Notifiable Diseases

The most restrictive approach is the use of an exhaustive list, where only those diseases on the list constitute notifiable diseases. This is also the most common approach with fourteen (14) countries providing a static list of diseases.¹²¹ Antigua and Barbuda, for example, has in place a disease surveillance system¹²² which covers target animal populations, and a list of notifiable diseases.¹²³ Likewise, Guyana also has a list of diseases.¹²⁴

The consequences of this approach is that additional infectious diseases (e.g. emerging) may not be covered without amending the law; something that usually takes years to accomplish unless the issue becomes a legislative priority.

Antigua and Barbuda's law gives the Authority to establish a disease surveillance system characterized by representative coverage of target animal populations, effective disease investigation and reporting, and laboratories which diagnose and differentiate different diseases.¹²⁵ Under the disease surveillance system, the Authority must establish a training programme for veterinarians, veterinary para-professionals, live-stock owners and others who

Jamaica, Kenya, Malawi, Malaysia, Mauritius, Mozambique, Pakistan, Papua New Guinea, Seychelles, Sierra Leone, Singapore, South Africa, Sri Lanka, Tonga, Tuvalu, Uganda, Tanzania and Zambia

¹¹⁶ Zambia, Animal Health Act, s 2, 2010

¹¹⁷ Bangladesh, Animal Diseases Act, s 2(e), 2005

¹¹⁸ Bangladesh, Canada, Fiji, Guyana, Mozambique, Seychelles, Sierra Leone, Singapore, South Africa and Zambia

¹¹⁹ Kenya, Animal Diseases Act (Cap: 364), s 1, 1965

¹²⁰ Botswana, Dominica, Ghana, Grenada, Kenya, Malawi, Malaysia, Mauritius, Papua New Guinea and Uganda

¹²¹ Antigua and Barbuda, Botswana, Dominica, Ghana, Grenada, Kenya, Malawi, Malaysia, Mauritius, Pakistan, Papua New Guinea, Sri Lanka, Tonga and Uganda

¹²² Antigua and Barbuda, Animal Health Act, s 12, 2017

¹²³ Ibid, s 11

¹²⁴ Guyana, Animal Health Act, s 11 and s 12, 2011

¹²⁵ Antigua and Barbuda, Animal Health Act, s 12(1)(a),(b) and (c), 2017

handle animals, for detecting and reporting unusual animal health incidents.¹²⁶ If any person detects or suspects a notifiable disease, they must immediately report the disease and symptoms to the nearest Authority.¹²⁷ The Authority must then establish a chain of command for detection, reporting and response to animal diseases and animal health hazards.¹²⁸

Inspection of diseased animals

After notification of a diseased animal, inspection in most jurisdictions is conducted by a veterinary officer. For example, in Ghana, a veterinary officer may inspect the diseased animal and require it to be examined further, inoculated, sprayed, dipped or disinfected.¹²⁹ Other countries had specific provisions relating to inspection of imports in their animal welfare laws. Antigua and Barbuda for example requires any animal, animal product or animal-related items to be inspected by a veterinary inspector at the port of entry to the country.¹³⁰

Treatment of diseased animals

Treatment of diseased animals is a primary control measure to curb the spread of disease. Most countries follow a similar procedure where once the health officer or veterinary officer has been notified of disease and the animals separated, treatment commences. The types of treatment and its organization varies from country to country.

Some countries such as South Africa,¹³¹ Mozambique¹³² and Guyana¹³³ have particular animal health schemes, eradication schemes or official control and 'stamping out' programs, where animals receive treatment in a bid to eliminate the disease. These are practical for domestic animals with standard practices in place but more uncertain for treatment of wild animals where guidelines are typically lacking.

However in other countries such as the Gambia, there is no specific plan for animal disease control with only a reference to the power to make regulations concerning animal slaughter, keeping domestic animals and disposal of dead animals.¹³⁴

Interestingly, only Mozambique has a separate provision on sanitary measures for wild animals, including organized slaughter and the restriction of movement of wild animals in national parks for the purpose of disease control and protecting human and animal populations from diseases in which wild animals may be the carrier.¹³⁵

Sale of Diseased Animals

Of all the countries examined, only four (4) have prohibitions on the sale of diseased live animals or meat. These countries were Kenya, Grenada, Canada and Malaysia. Malaysia prohibits the sale of animals without prior disinfection.¹³⁶ Under Canadian law, it is illegal to sell or expose for sale any diseased animal at a public market, fair, etc.¹³⁷ and sales of diseased animals cannot take place without a licence.¹³⁸ Similarly, Grenada prohibits the exposure for sale of diseased animals.¹³⁹ In addition to its prohibition, Kenya also has specific prohibitions relating to the disinfection of public markets or sale yards if any animals are diseased.¹⁴⁰

¹²⁶ Ibid, s 12(1)(3)

¹²⁷ Ibid s 12(1)(4)

¹²⁸ Ibid, s 12(1)(5)

¹²⁹ Ghana, Diseases of Animals Act, s 8, 1961

¹³⁰ Antigua and Barbuda, Animal Health Act, s 31(1), 2017

¹³¹ South Africa, Animal Health Act, s 16, 2002

¹³² Mozambique, Decree n. 26/2009 - Animal Health Regulation, Art. 88, 2009

¹³³ Guyana, Animal Health Act, s 17(d), 2011

¹³⁴ Gambia, The Public Health Act, s 7(j)-(l), 1989

¹³⁵ Mozambique, Decree n. 26/2009 - Animal Health Regulation, Art. 99, 2009

¹³⁶ Malaysia, Animals Act, s 13, 1953

¹³⁷ Canada, Health of Animals Act, s 10, 1990

¹³⁸ Ibid, s 11

¹³⁹ Grenada, Animals (Diseases and Importation) Ordinance, s 12(2)(g), 1991

¹⁴⁰ Kenya, Animal Diseases Act Cap. 364, s 9(h)(ii), 1965

Animal Welfare Laws

(primary research and drafting by **Sofija Belajcic**)

"An animal is in a good state of welfare if (as indicated by scientific evidence) it is healthy, comfortable, well-nourished, safe, able to express innate behavior, and if it is not suffering from unpleasant states such as pain, fear, and distress."¹⁴¹ Animal welfare laws require that minimum standards of care and treatment be provided for animals used in research, transported commercially, bred for commercial purposes or exhibited to the public. Most countries have one or more laws dedicated to the issue, sometimes combined into a single law, and sometimes separated. The COVID-19 pandemic has brought these laws into focus, given the relationship between wildlife trade, inadequate care and treatment, and the prevalence of zoonotic disease.¹⁴²

Framework Reviewed

This research located animal welfare laws for twenty-five (25) of the countries reviewed,¹⁴³ while for eleven (11) countries no law of this type was located. For one of the country's reviewed, its animal welfare laws only exist at the sub-national level.¹⁴⁴ Given time constraints, this jurisdiction was excluded from analysis.

Specific Inquiry

Beyond determining which animals fall within the scope of these laws, research more specifically considered the following:

- whether there is a definition of animal cruelty or ill treatment;
- whether they identify specific acts that constitute cruelty;

- whether there is a duty of care to prevent cruelty to animals;

This fairly singular focus was driven by the fact that this is the main one of the main objects of animal welfare laws and by the relationship between wildlife trade, inadequate care and treatment, and the prevalence of zoonotic disease.¹⁴⁵

This analysis shows that wildlife is rarely included in laws governing animal welfare. There are, however, several key regulatory requirements in place in most jurisdictions that are directed at preventing conditions that are known to increase the risk of zoonotic disease. The fact that five jurisdictions cover wildlife in their animal welfare laws suggests that it is at least possible for laws to be framed with wildlife in mind.

Scope

For animal welfare legislation, which animals fit within its mandate is most often a function of how the term 'animal' is defined. In this, each country takes a slightly different approach. The jurisdictions reviewed present four broad patterns - uncertain scope, express reference to wildlife, and express limitations. For all jurisdictions, the limitations to captive wildlife and focus on domestic species fits with the regulatory tools directed at managing their treatment in controlled environments. Each of these is described below.

Broad, Uncertain Scope

Some countries (*n.* 8) either do not define the term 'animal' or define it so broadly that its scope is uncertain. This may mean that the law's application to wildlife is at least theoretically possible but this lack of certainty can hide gaps that will only become apparent at later stages; e.g., during implementation, enforcement or prosecution.

One (1) jurisdiction, Sri Lanka, uses the term animal without defining it.¹⁴⁶ Jamaica is similar, first listing

¹⁴¹ AVMA [Animal Welfare: What Is It?](#)

¹⁴² Cunningham, A. (2020) *COVID-19: the wildlife facts*, Zoological Society London, April 19 2020, <https://www.zsl.org/blogs/science/covid-19-the-wildlife-facts>

¹⁴³ For the purposes of this review Bangladesh has been included in the list of countries with animal welfare laws (Animal Welfare Act

2019). However no further analysis is provided as the law is not yet available for viewing.

¹⁴⁴ Australia has no national animal welfare law, only state-level law.

¹⁴⁵ Cunningham (2020).

¹⁴⁶ Sri Lanka, Cruelty to Animals Ordinance Cap. 573 (No. 22 of 1955)

common domestic animals in its definition and then including a catch-all phrase - 'or any other animal' - without providing further definition of the term itself.¹⁴⁷ In another five (5) countries, the laws use terms that may or may not include wildlife, such as 'living creature, 'vertebrate or invertebrate,' or 'bird and mammal' with no further definition. This is the case in Kenya,¹⁴⁸ Malawi,¹⁴⁹ Malaysia,¹⁵⁰ Mauritius,¹⁵¹ and Singapore.¹⁵² Whether any of these definitions in fact include wildlife is a function of how the legislation is interpreted in these jurisdictions.

Express Reference to Wildlife

Out of 25 countries reviewed, less than half of the jurisdictions (*n.* 9) expressly including 'wild animal' in their definition of 'animal' or 'captive animal' in their animal welfare laws. In all of these cases, the application of the law is limited to captive animals.

Four (4) jurisdictions – Botswana,¹⁵³ Dominica,¹⁵⁴ South Africa¹⁵⁵ and Zambia¹⁵⁶ - refer to 'wild animals' in a state of captivity or under the control of a person. Another four (4) – Grenada,¹⁵⁷ India,¹⁵⁸ Malawi¹⁵⁹ and Tanzania¹⁶⁰ – reference wildlife animals in the negative, defining 'captive animal' as 'not a domestic animal.' One jurisdiction, Pakistan, defines 'animal' as 'any domestic or captured animal,'¹⁶¹ strongly implying the inclusion of wildlife. And finally, New Zealand, provides a separate definition for 'wild animal,'¹⁶² using the same definition as the one in their Wildlife Act 1953.

Express Limitations

In a minority of jurisdictions (*n.* 4), the animal welfare law is limited to domestic species only. Papua New

Guinea¹⁶³ and Seychelles¹⁶⁴ expressly define animals as some type of domestic animal, such as horse, ox, bull, etc. Tonga only has a definition of cattle, not animal.¹⁶⁵ Finally, Malaysia is the only jurisdiction that expressly excludes wildlife.¹⁶⁶

Regulatory Requirements

In the context of animal welfare laws, a major area of regulatory focus is 1) the definition of cruelty; 2) the identification of acts that constitute cruelty; and 3) the regulation of cruelty in the context of transportation and 4) the positive duty of care to ensure animal welfare. Each of these, including relevant sub-approaches, is described in the following paragraphs.

Definition of Cruelty

Defining cruelty is important for two reasons.

First, preventing cruelty is critical to preventing the emergence of zoonotic diseases. Immunosuppressed and shedding viruses, wild animals that might otherwise never come into contact with human populations become dangerous reservoirs of disease. Indeed, wildlife poachers and food handlers were among the earliest cases during the SARS pandemic.¹⁶⁷

Second, the definition itself is important because of the overarching role it plays in the interpretation of a law. Ambiguity in law does not necessarily play in favor of one party or the other but it does open the door to doubt and invite controversy. For those wishing to avoid the law's application, ambiguity

¹⁴⁷ Jamaica, Cruelty to Animals Act (Cap. 86), s 2, 1904

¹⁴⁸ Kenya, Prevention of Cruelty to Animals Act (Cap. 360), s 2, 1962

¹⁴⁹ Malawi, Protection of Animals Act (Cap 66:01), s 2, 1944

¹⁵⁰ Malaysia, Animal Welfare Act, s 2, 2015

¹⁵¹ Mauritius, Animal Welfare Act, s 2, 2013

¹⁵² Singapore, Animal and Birds Act (Cap. 7), s 2, 1965

¹⁵³ Botswana, Cruelty to Animals Act (Cap: 37:02), s 2, 1936

¹⁵⁴ Dominica, Law No. 248-12 on Animal Protection and Responsible Ownership, Art. 3(1), 2012

¹⁵⁵ South Africa, Animal Protection Act, s 1, 1962

¹⁵⁶ Zambia, The Prevention of Cruelty to Animals Act (Cap. 245), s 2, 1921

¹⁵⁷ Grenada, Animal Welfare (Prevention of Cruelty) Act (Cap. 16), s 2, 1952

¹⁵⁸ India, Prevention of Cruelty to Animals Act, s 2, 1960

¹⁵⁹ Malawi, Protection of Animals Act (Cap. 66:01), s 2, 1944

¹⁶⁰ Tanzania, The Animal Welfare Act, s 3, 2008

¹⁶¹ Pakistan, Prevention of Cruelty to Animals Act, s 2, 1890

¹⁶² New Zealand, Animal Welfare Act, s 2, 1999

¹⁶³ Papua New Guinea, Animals Act, s 2, 1952

¹⁶⁴ Seychelles, Prevention of Cruelty to Animals Act (Cap. 179), s 2, 1902

¹⁶⁵ Tonga, Pounds and Animals Act, s 2, 1987

¹⁶⁶ Malaysia, Animal Welfare Act, s 2, 2015

¹⁶⁷ Michael Gregger, 2007, 'The Human/Animal Interface: Emergence and Resurgence of Zoonotic Infectious Diseases,' Critical Reviews in Microbiology, 33, 4, 243-299

makes it easier to argue that a particular action or object falls outside the scope of the term.

Use of Synonymous Terms

The most common approach (*n.* 17 of 25) relies on the use of one or more synonyms (e.g., “ill-treatment” is an ‘act of cruelty’) in the offences, without further definition. For example, Malawi’s law states that “if any person shall cruelly beat, kick, ill-treat, overload, torture, infuriate or terrify an animal...or by omitting to do an act...cause any unnecessary suffering...shall be guilty of an offence of cruelty within the meaning of this Act.”¹⁶⁸ Those jurisdictions that rely on this approach include Zambia,¹⁶⁹ Antigua and Barbuda,¹⁷⁰ India,¹⁷¹ Malaysia,¹⁷² Botswana,¹⁷³ Grenada¹⁷⁴ Jamaica,¹⁷⁵ Kenya,¹⁷⁶ Malawi,¹⁷⁷ Mauritius,¹⁷⁸ Pakistan,¹⁷⁹ Seychelles,¹⁸⁰ Singapore,¹⁸¹ South Africa,¹⁸² Sri Lanka,¹⁸³ Tonga,¹⁸⁴ and Uganda.¹⁸⁵

Using synonyms is, of course, a fairly common approach in definitions but not an entirely satisfactory one if the goal is to provide guidance or identify specific instances where a law includes or excludes a particular thing. Malawi’s approach, while seeming to provide an extensive list of scenarios which amount to cruelty, is still defining cruelty by the thing itself. Note that the definition does not say ‘it is cruel to kick an animal.’ It says it is cruel to ‘*cruelly* kick’ an animal.

Ultimately, the law leans heavily on our ability to perceive suffering in animals, which is not in fact that easy. Cruelty may be self-evident in any of the above instances, however, without a definition it is still open

to argument and interpretation that may be difficult for a court to assess. Some forms of treatment will be readily recognized as cruel. Others, however, including some that may be critical to preventing the emergence and spread of zoonotic disease will be less obvious.

Comprehensive Definitions

Other definitions go a step further, using more than just synonyms, and include objectively verifiable effects of cruel treatment. In these definitions, there is still a degree of reliance on synonyms and our ability to recognize suffering, but they do provide more guidance.

Four (4) of the 25 jurisdictions reviewed use this approach. These include Tanzania,¹⁸⁶ Fiji,¹⁸⁷ Papua New Guinea,¹⁸⁸ and New Zealand.¹⁸⁹ Tanzania defines “ill-treatment” as “causing the animal to suffer pain or distress by any act or omission, which in kind, degree, object, or circumstances in which it is inflicted, is excessive or unnecessary.”¹⁹⁰ Broader still is New Zealand’s law. The definition of “ill-treatment” encompasses any acts resulting in death, serious injury or impairment of the animal.¹⁹¹ It also includes two provisions -one for ill-treatment of wild animals and another for animals generally.¹⁹² This particular approach helps clarify both what constitutes ill treatment and to which species or category of animal it applies. Finally, Papua New Guinea defines cruelty as the intentional or deliberate infliction on an animal of pain that in its kind or degree; its object; or its circumstances; is unreasonable, wanton or malicious.¹⁹³ The Act then

¹⁶⁸ Malawi, Protection of Animals Cap. 66:01, s 3(1)(a) and (b), 1944

¹⁶⁹ Zambia, The Prevention of Cruelty to Animals Act Cap. 245, 1921

¹⁷⁰ Antigua and Barbuda, The Protection of Animals Act Cap. 349, s 2, 1935

¹⁷¹ India, The Prevention of Cruelty to Animals Act, s 11, 1960

¹⁷² Malaysia, Animal Welfare Act, s 29, 2015

¹⁷³ Botswana, Cruelty to Animals Act Cap 37:02, s 3, 1936

¹⁷⁴ Grenada, Animal (Prevention of Cruelty Act) (Cap. 16), s 3, 1952

¹⁷⁵ Jamaica, The Cruelty to Animals Act, s 3, 4, 5, 1994

¹⁷⁶ Kenya, Prevention of Cruelty to Animals Act, s 3(1)(b),(c),(d), and (f), 1962

¹⁷⁷ Malawi, Protection of Animals Cap. 66:01, s 3(1)(a) and (b), 1944

¹⁷⁸ Mauritius, The Animal Welfare Act, s 3, 2013

¹⁷⁹ Pakistan, The Prevention of Cruelty to Animals Act, s 3, 1890

¹⁸⁰ Seychelles, Prevention of Cruelty to Animals Act Cap. 179, s 3, s 4, s 5, s 7, s 8, 1902

¹⁸¹ Singapore, Animal and Birds Act Cap. 7, s 42, 1965

¹⁸² South Africa, Animal Protection Act, s 2, 1962

¹⁸³ Sri Lanka, Cruelty to Animals Act Cap. 573, s 2, 1955

¹⁸⁴ Tonga, Pounds and Animals Act, s 21, s 22, s 23, 1918

¹⁸⁵ Uganda, The Animal (Prevention of Cruelty) Act, s 2, 1957

¹⁸⁶ Tanzania, Animal Welfare Act, s 3, 2008

¹⁸⁷ Fiji, Protection of Animals Act, s 2, 1954

¹⁸⁸ Papua New Guinea, Animals Act, s 1, 1952

¹⁸⁹ New Zealand, Animal Welfare Act, s 2, 1999

¹⁹⁰ Tanzania, The Animal Welfare Act, s 3, 2008

¹⁹¹ New Zealand, Animal Welfare Act, s 2, 1999

¹⁹² *Ibid*, s 28 and s 28A

¹⁹³ Papua New Guinea, Animals Act, s 1, 1952

goes on to list acts amounting to cruelty¹⁹⁴ and a general prohibition on cruelty¹⁹⁵ in the subsequent section.

Listing Acts that Constitute Cruelty

Beyond definitions, most countries provide a list of what constitutes cruelty. More than half (*n.* 21) of the countries reviewed specifically listed acts amounting to cruelty including Zambia,¹⁹⁶ Antigua and Barbuda,¹⁹⁷ Bangladesh,¹⁹⁸ India,¹⁹⁹ Malaysia,²⁰⁰ Botswana,²⁰¹ Dominica,²⁰² Fiji,²⁰³ Grenada,²⁰⁴ Jamaica,²⁰⁵ Kenya,²⁰⁶ Malawi,²⁰⁷ Mauritius,²⁰⁸ Papua New Guinea,²⁰⁹ Pakistan,²¹⁰ Seychelles,²¹¹ Singapore,²¹² South Africa,²¹³ Sri Lanka,²¹⁴ Tonga,²¹⁵ and Uganda.²¹⁶

Those acts most relevant to trade in markets include the following, organized by their approach:

List contains a catch-all phrase, e.g.,

1. treating any animal so as to cause 'unnecessary' pain

List identifies certain acts only; e.g.,

2. Conveying or carrying an animal in a way which causes suffering
3. Confinement (generally)
4. Keeping an animal confined in a cage
5. Keeping an animal chained or tethered
6. Failing to provide the animal with sufficient food, drink or shelter

Point of Sale

7. Offering for sale or possessing any animal which is suffering due to overcrowding or other ill treatment

Suffering

8. Keeping an animal in a grossly dirty or verminous condition or without reasonable cause or excuse, fails to procure or administer veterinary treatment or attention for the animal in case of disease

Processing/Slaughtering/Extracting products

9. Mutilation, or killing any animal so as to cause suffering and pain
10. Extracting any part of a live animal which causes pain or suffering for the purpose of getting skin, oils or other animal products

The Catch-All Approach

Some jurisdictions choose to use a catch-all phrase in addition to a specific listing. This indicates that the list is inclusive of other possible forms of cruelty and is likely the broadest possible approach. Of the countries reviewed, six had the phrase "or otherwise treats any animal so as to cause unnecessary pain, etc" or some variation of it, such as "being, the owner, omits to do an act, causing suffering." This includes India,²¹⁷ Malaysia,²¹⁸ Kenya,²¹⁹ Mauritius,²²⁰ Singapore,²²¹ South Africa²²² and Sri Lanka.²²³

¹⁹⁴ Ibid, s 94

¹⁹⁵ Ibid, s 95

¹⁹⁶ Zambia, The Prevention of Cruelty to Animals Act Cap. 245, 1921

¹⁹⁷ Antigua and Barbuda, The Protection of Animals Act Cap. 349, 1935

¹⁹⁸ Bangladesh, Animal Welfare Act 2019

¹⁹⁹ India, The Prevention of Cruelty to Animals Act, s 11, 1960

²⁰⁰ Malaysia, Animal Welfare Act, s 29, 2015

²⁰¹ Botswana, Cruelty to Animals Act Cap 37:02, s 3, 1936

²⁰² Dominica, Animal Protection and Responsible Ownership Law, No. 248-12, , Art. 61, 2012

²⁰³ Fiji, Protection of Animals Act, s 3, 1954

²⁰⁴ Grenada, Animal (Prevention of Cruelty Act) (Cap. 16), s 3, 1952

²⁰⁵ Jamaica, The Cruelty to Animals Act, s 3, 4, 5, 1994

²⁰⁶ Kenya, Prevention of Cruelty to Animals Act, s 3(1)(b),(c),(d), and (f), 1962

²⁰⁷ Malawi, Protection of Animals Cap. 66:01, s 3(1)(a) and (b), 1944

²⁰⁸ Mauritius, The Animal Welfare Act, s 3, 2013

²⁰⁹ Papua New Guinea, Animals Act, s 94, s 95, s 97, s 98, s 99, 1952

²¹⁰ Pakistan, The Prevention of Cruelty to Animals Act, s 3, 1890

²¹¹ Seychelles, Prevention of Cruelty to Animals Act Cap. 179, s 3, s 4, s 5, s 7, s 8, 1902

²¹² Singapore, Animal and Birds Act Cap. 7, s 42, 1965

²¹³ South Africa, Animal Protection Act, s 2, 1962

²¹⁴ Sri Lanka, Cruelty to Animals Act Cap. 573, s 2, 1955

²¹⁵ Tonga, Pounds and Animals Act, s 21, s 22, s 23, 1918

²¹⁶ Uganda, The Animal (Prevention of Cruelty) Act, s 2, 1957

²¹⁷ India, Cruelty to Animals Act, s 11(1)(a), 1960

²¹⁸ Malaysia, Animal Welfare Act, s 29(1)(e), 2015

²¹⁹ Kenya, Prevention of Cruelty to Animals Act, s 3(1)(l), 1962

²²⁰ Mauritius, The Animal Welfare Act, s 3(1)(a), 2013

²²¹ Singapore, Animal and Birds Act (Cap. 7), s 42(1)(d), 1965

²²² South Africa, Animals Protection Act, s 2(1)(r), 1962

²²³ Sri Lanka, Prevention of Cruelty to Animals Ordinance, s 2(b), 1907

The advantage of such an approach is that any act which may not quite fit in the list may be covered by the additional “catch-all” provision. However, in some instances this would again depend on statutory interpretation of the term “ill-treat.” This is the case with Malaysia and Sri Lanka which have no definition yet use that term in their catch-all section.

Acts Relating to Transportation and Confinement

Some countries list certain acts such as conveying, carrying, confining in a cage, tethering, and failing to provide food and shelter as acts of cruelty. The advantages of listing specific acts is that it is clear what constitutes cruelty, however there are cases where the degree of specificity in language makes it difficult to assess whether the offence applies.

For example, seven countries listed keeping an animal chained or tethered as an act of cruelty.²²⁴ However, India lists keeping “for an unreasonable time any animal chained or tethered upon an unreasonably short or unreasonably heavy cord.”²²⁵ On the other hand, Mauritius lists keeping or confining “an animal chained or tethered with a short or heavy chain or cord, in close confinement or with hobbles on its legs.”²²⁶ While both these acts refer to chaining or tethering, India’s specific qualifying statements –unreasonable time/unreasonably short or heavy cord –presents an obstacle. What is unreasonable in the context of a market where it is normal practice to keep animals chained or tethered?

In contrast, a broader approach is seen in the act of “convey or carry, or cause or procure, or being the owner, permit to be conveyed or carried, any animal in such a manner or position as to cause that animal any unnecessary suffering.”²²⁷ This is the approach taken by eighteen countries²²⁸ and likely reflects the commonwealth legal heritage of these countries.

Another example of countries taking both a broad and narrow approach to describing the act is the act of confinement. Five (5) countries²²⁹ listed the act of confining “an animal in a cage or other similar structure which is too small to provide the animal with a reasonable opportunity for its natural movement.”²³⁰ However, next to listing this specific act, only Mauritius and South Africa also chose to list confinement generally.

In the list of certain acts, only seven (7) countries²³¹ listed a specific omission which is “failing to provide the animal with sufficient food, drink or shelter” as an act of cruelty. This implies a duty of care without specifically stating one in the legislation. While not an uncommon approach, expressly imposing a positive duty of care is something which animal welfare law generally lacks (discussed further below).

Conditions of Captivity

The acts of cruelty discussed so far relate to specific physical actions which lead an animal to suffer but do not mention anything about the context of these actions, specifically the conditions of their captivity.

Only two countries –Kenya²³² and South Africa²³³ – list “keeping an animal in a grossly dirty or verminous condition or without reasonable cause or excuse, fails to procure or administer veterinary treatment or attention for the animal in case of disease,” or something similar, as an act of cruelty. The significance of this is that it gives context to the acts taking place by providing a description of the substandard conditions animals are kept in.

Slaughtering, and Extracting Products

An important point along the trade chain is the actual slaughtering of wild animals or extraction of their products in order to later process and sell at markets. This is certainly relevant to animals such as elephants, rhinos and pangolins whose ivory, horns

²²⁴ India, Malaysia, Dominica, Fiji, Mauritius, Pakistan and South Africa

²²⁵ India, The Prevention of Cruelty to Animals Act, 1960, s 11(1)(f)

²²⁶ Mauritius, The Animal Welfare Act, s 3(1)(f), 2013

²²⁷ Malawi, Protection of Animals Act (Cap 66:01), s 3(1)(b), 1944

²²⁸ Zambia, Tanzania, Antigua and Barbuda, India, Malaysia, Botswana, Fiji, Grenada, Jamaica, Kenya, Malawi, Mauritius, Papua New Guinea, Pakistan, Seychelles, South Africa, Sri Lanka and Uganda

²²⁹ India, Malaysia, Dominica, Mauritius and South Africa

²³⁰ Mauritius, The Animal Welfare Act, s 3(1)(d), 2013

²³¹ India, Malaysia, Fiji, Kenya, Mauritius, Seychelles and South Africa

²³² Kenya, Prevention of Cruelty to Animals Act (Cap. 360), s s 3(1)(f), 1962

²³³ South Africa, Animal Protection Act, s 2(1)(e), 1962

and scales are obtained in the most brutal ways.²³⁴ The issue of course is not limited to the species most often highlighted in the news. There is a long list of other species that suffer in captivity include: bears, tigers, tortoises. However, when it comes to this particular activity, only Malaysia specifically states that “extracting any part of a live animal which causes pain or suffering for the purpose of getting skin, oils or other animal products”²³⁵ is an act of cruelty. Other than this, India,²³⁶ Dominica²³⁷ and Papua New Guinea,²³⁸ as well as Malaysia,²³⁹ list mutilation or killing any animal so as to cause suffering and pain an act of cruelty.

Cruelty in Transportation

Transportation is a particularly critical part of the wildlife trade chain. All animals at some point enter the transportation system and it is here that some of the worst conditions are observed. Animals are stuffed into containers or parcels where they endure long hours of confinement, suffering from distress, dehydration and starvation.²⁴⁰ Birds are stuffed into bottles,²⁴¹ reptiles are crushed and dehydrated in tight packaging,²⁴² and tortoises are wrapped in duct tape and packed on top of each other in suitcases.²⁴³ In one example smugglers sedated finches with rum or kept them awake with bright lights before stuffing them in a strait-jacket position into either hair curlers or toilet paper rolls.²⁴⁴

While the definitions covering cruelty to animals in most cases captures the transportation of animals,

only four (4) countries had specific provisions on transportation of animals in a way which does not cause suffering or pain. This includes Tanzania,²⁴⁵ Dominica,²⁴⁶ New Zealand,²⁴⁷ and Malaysia.²⁴⁸ Fiji has a provision relating to safe transport of animals but does not mention suffering.²⁴⁹

Point of Sale

Importantly, only three jurisdictions include the offer for sale or possession of any animal that is suffering due to overcrowding or other ill treatment as a specific act of cruelty. These are India,²⁵⁰ Malaysia²⁵¹ and Pakistan.²⁵²

This is significant as it indicates that a crucial point in the trade chain -the sale of animals -is not covered by animal welfare laws in the majority of countries. Although animal welfare laws are not directly linked to animal health laws, there is a causal link as the preceding activities of overcrowding, ill-treatment, etc, covered by animal health laws lead to the disease emergence addressed in animal health laws.

Duty of Care

Five countries of the countries reviewed imposed a specific duty of care on either an officer, the state, or the owner to ensure the welfare of animals. These countries include India,²⁵³ New Zealand,²⁵⁴ Singapore,²⁵⁵ Dominica,²⁵⁶ Tanzania,²⁵⁷ and

²³⁴ <https://www.savetherhino.org/rhino-info/threats/poaching-rhino-horn/>

²³⁵ Malaysia, Animal Welfare Act, s 29(1)(j), 2015

²³⁶ India, The Prevention of Cruelty to Animals Act, s 11(1)(l), 1960

²³⁷ Dominica, Animal Protection and Responsible Ownership Law, No. 248-12, , Art. 61(10), 2012

²³⁸ Papua New Guinea, Animals Act, s 94(1)(i), 1952

²³⁹ Malaysia, Animal Welfare Act, s 29(1)(e), 2015

²⁴⁰ Liddick, D. (2011). Crimes Against Nature: Illegal Industries and the Global Environment. Praeger, Santa Barbara USA.

²⁴¹ Smuggler caught in Indonesia with rare birds jammed inside water bottles, 6 May 2015, <https://www.theguardian.com/environment/2015/may/06/smuggler-caught-in-indonesia-with-rare-birds-jammed-inside-water-bottles>

²⁴² Erin Parke, 15 May 2018, Lucrative, easy and on the rise: Animal smuggler warns of growing black market in native animals, <https://www.abc.net.au/news/2018-05-15/black-market-demand-fuelling-native-animal-smuggling/9724140>

²⁴³ Philippines customs find more than 1,500 live turtles in suitcases, 6 March 2019,

<https://news.mongabay.com/2019/03/philippines-customs-find-more-than-1500-live-turtles-in-suitcases/>

²⁴⁴ Mary Utermohlen and Patrick Baine, May 2017, Flying Under the Radar Wildlife trafficking in the Air Transport Sector, https://www.traffic.org/site/assets/files/2100/flying_under_the_radar_final-web.pdf

²⁴⁵ Tanzania, Animal Welfare Act, s 22, 2008

²⁴⁶ Dominica, Animal Protection and Responsible Ownership Law, No. 248-12, , Art. 32, 2012

²⁴⁷ New Zealand, Animal Welfare Act, s 22, 1999

²⁴⁸ Malaysia, Animal Welfare Act, s 27, 2015

²⁴⁹ Fiji, Protection of Animals Act, s 16, 1954

²⁵⁰ India, The Prevention of Cruelty to Animals Act, s 11(1)(k), 1960

²⁵¹ Malaysia, Animal Welfare Act, s 29(1)(m), 2015

²⁵² Pakistan, The Prevention of Cruelty to Animals Act, s 3(d), 1890

²⁵³ India, Prevention of Cruelty to Animals Act, s 3, 1960

²⁵⁴ New Zealand, Animal Welfare Act, s 10 and s 11, 1999

²⁵⁵ Singapore, Animal and Birds Act, s 41C, 1965

²⁵⁶ Dominica, Animal Protection and Responsible Ownership Law, No. 248-12, Art. 4, 2012

²⁵⁷ Tanzania, Animal Welfare Act, s 5, 2008

Malaysia.²⁵⁸ New Zealand and Malaysia for example impose a duty on owners. Tanzania on the other hand imposes a duty on an animal welfare inspector to protect an animal from ill treatment.²⁵⁹ Breaches of these duties by the owner are an offence and penalties range from a fine to imprisonment.

Another feature present in some countries is a type of Animal Welfare Board. This includes India,²⁶⁰ Tanzania,²⁶¹ Malaysia,²⁶² Mauritius,²⁶³ and New Zealand.²⁶⁴ India²⁶⁵ and Malaysia²⁶⁶ have an Animal Welfare Board whilst Tanzania²⁶⁷ has an Animal Welfare Advisory Council. The establishment of such bodies suggests that a proactive approach to animal welfare is embedded in these countries' legal frameworks where there is an actual duty to ensure humane treatment of animals. This duty is overseen by a legal body with powers to oversee this humane treatment takes place.

However, these bodies have more of an advisory role and cannot legally enforce any duty. Tanzania's Animal Welfare Advisory Council for instance advises the Minister on animal welfare issues.²⁶⁸ India's Animal Welfare Board establishes steps for the construction of sheds, etc and providing veterinary assistance.²⁶⁹ It also has advisory powers and advises the government on the design and maintenance of slaughter-houses so that animals are killed in as humane a manner as possible.²⁷⁰ Beyond this, the animal welfare bodies cannot impose penalties for non-compliance. The closest example of a violation is in Grenada's law which makes it a specific act of cruelty and an offence to obstruct someone exercising their duty of care towards an animal.

²⁵⁸ Malaysia, Animal Welfare Act, s 24, 2015

²⁵⁹ Tanzania, Animal Welfare Act, s 5, 2008

²⁶⁰ India, The Prevention of Cruelty to Animals Act, s 4, 1960

²⁶¹ Tanzania, Animal Welfare Act, s 8, 2008

²⁶² Malaysia, Animal Welfare Act, s 3, 2015

²⁶³ Mauritius, The Animal Welfare Act, s 12, 2013

²⁶⁴ New Zealand, Animal Welfare Act, s 56, 1999

²⁶⁵ India, The Prevention of Cruelty to Animals, s 4, 1960

²⁶⁶ Malaysia, Animal Welfare Act, s 3, 2015

²⁶⁷ Tanzania, The Animal Welfare Act, s 5, 2008

²⁶⁸ *Ibid*, s 6

²⁶⁹ India, Prevention of Cruelty to Animals Act, s 9(d), 1960

²⁷⁰ *Ibid*, s 9(e)

Animal Quarantine Laws

(primary research and drafting by **Maria Namuma Heise**)

Animal quarantine refers to the isolation or restriction of the free movement or sale of an animal or animal product.²⁷¹ It is a long-standing approach used to prevent zoonoses from spreading and causing a threat to public health and security, including the resulting social and economic impacts.²⁷²

These laws tend to regulate which species and products are covered, the agencies responsible, methods of detecting, inspecting suspected premises, the separation and quarantine of diseased animals including disposal of diseased carcasses. Although they apply to the country as a whole, they mostly operate at international trade points where species are entering or exiting a given jurisdiction.

Framework Reviewed

Most of the reviewed jurisdictions do not have laws entirely dedicated to the issue of animal quarantine. For the most part, they have laws dedicated to animal health as a whole, within which some provisions on animal quarantine can be found. In some instances, quarantine requirements are also found in other pieces of legislation, most importantly import/export and customs regulations. In one instance, animal quarantine laws are covered by the Food Safety Law; e.g., China.

As these are usually not separate pieces of legislation and much of the content is covered by other sections in this report, researchers selected just 13 jurisdictions to examine the provisions related to animal quarantine. Of these, the animal health laws of 12 of them provided for animal quarantine within their animal health law. In one other, China, the Food Safety Law was reviewed for its animal quarantine requirements.

Specific Inquiry

After determining which animals and products fall within the scope of the law, research took note of the following:

1. Whether the law applies to the sale of wildlife, including imports and exports;
2. What tools (i.e. regulatory requirements) does the law use for the control of zoonotic diseases, including the following:
 - a) detection of diseases, notification, and inspection of premises;
 - b) the power and obligation to separate and dispose of diseased animals;
 - c) the power to seize diseased animals
 - d) whether the law was limited to certain diseases
 - e) offences attached to selling or buying infected animals.

Scope

The 'scope' of quarantine related legislation refers to which animals fit within its mandate. This is most often a function of how the term 'animal' is defined in that law, with countries taking slightly different approaches but where there are nonetheless observable patterns. The following approaches were identified in the 13 selected countries:

1. A broad approach that leaves the application of quarantine requirements to wildlife open to interpretation
2. Limited to some domestic animals and some wildlife; the domestic animals are often livestock but also can be a mix that is unique to the jurisdiction;
3. Domestic animals only
4. Wildlife only

Of these 14 countries, five (5) are more generally phrased, such that the laws may apply to wildlife but the application remains uncertain; five (5) apply their quarantine requirements to a mix of domestic animals and wildlife; two (3) apply only to domestic

²⁷¹ A.S. AHL, J.A. Acree, P.S. Gipson, R.M. McDowell, L. Miller and M.D. McElvaine. Standardization of Nomenclature for Animal Health Risk analysis, Rev. sci. tech. Off. int. Epiz., 1993, 12 (4), 1045-1053.

²⁷² World Health Organizations. (L). "Zoonoses, Managing and public health risks at the human-animal-environment interface.

animals, and finally, one (1) country applied the law only to wildlife.

Each of these is described below.

Broad, Uncertain Approach

In this approach, the law governing quarantine requirements applies to 'all animals' where 'animals' is defined broadly or not defined at all. In this approach, although broad enough to at least theoretically include wildlife, the actual scope of the law cannot be determined solely from a review of the wording and the inclusion of wildlife remains open to interpretation.

Antigua and Barbuda,²⁷³ and Grenada, for example, define 'animals' in such a way that all domestic and wildlife are likely included. Grenada's Animal (Diseases and Importation) Ordinance of 1991 states that the Act applies to all animals of whatever kind however it excludes poultry within the species of birds.²⁷⁴ The 2014 Animal and Plant Biosecurity Act of Seychelles appears to comprehensively cover all animals, pests, plants, and their products, focusing on preventing the entry of animal and plant pests and diseases into Seychelles.

Domestic Animals and Some Wildlife

Another observed approach involves a limitation on both the domestic species and wildlife covered by the law. In this approach, some of the jurisdictions (*n.* 5) reviewed reference 'all animals', but nonetheless limit the application of the law. For the most part, this limitation is used to exclude either some forms of wildlife, or some wildlife and some domestic species.

For instance, South Africa covers animals within the species of mammals, birds, fish, reptiles or amphibians of the phylum vertebrates and any invertebrate prescribed as an animal within the

Act,²⁷⁵ which would leave out some invertebrates not prescribed. Jamaica regulates animal health by including all wildlife, but excludes monkeys.²⁷⁶ Botswana defines "animal" means any bull, cow, ox, heifer, calf, sheep, goat, camel, horse, mule, donkey, pig, domestic fowl, and any other vertebrate animal or bird, any wild carnivore tamed and kept as a pet, guinea fowl, pigeon, pea-fowl, dog, cat, and any other creature prescribed as an animal for the purposes of this Act.²⁷⁷ Kenya does this by defining "animals" as mammals, reptiles, bees and life stages of fish, molluscs, crustaceans and amphibians whether originating from aquaculture establishments or removed from the wild and released to the environment, for human consumption or for ornamental purposes. Not included are birds and cattle, both of which are heavily traded within Kenya and from Kenya to other countries. These categories are now included in separate legislation.²⁷⁸ Whether this division into separate laws creates a gap has not been reviewed. Finally, Malawi covers only cattle and game animals.²⁷⁹ Other domestic species are not listed and game animals only include species defined as such.

Domestic Animals Only

In these instances, followed in two (2) of the jurisdictions reviewed, animal quarantine focuses on domestic animals only. The Animal Diseases Act, 1925 of Mauritius seems to give this restricted definition by interpreting that "animals" includes cattle (bulls, oxen, cows, heifers and calves), sheep, goats, horses, mules, donkeys, pigs, dogs, cats, poultry (fowls, ducks, geese, turkeys and guinea birds) and any other animal which may be prescribed. Although the last clause in the definition may appear to open it to the addition of 'any animal,' the principle of *ejusdem generis*²⁸⁰ presupposes that the animals within the intention of the lawmaker are restricted to domestic animals. The Animal Diseases

²⁷³ Antigua and Barbuda Animal Health Act, No 12 of 2017.

²⁷⁴ Sec 2 Grenada, Animal (Diseases and Importation) Ordinance of 1991. S.2.

²⁷⁵ South Africa, Animal Health Act 7, 2002 of Sec 1(a) and (b) Interpretation Clause.

²⁷⁶ Jamaica, The Animal (Diseases and Importation) Act, Sec 2, 1948.

²⁷⁷ Botswana, Diseases of Animals Act (CAP 37:7), Sec 2, Interpretation Clause. This definition broadly covers vertebrates but leaves out invertebrates.

²⁷⁸ The Animal Diseases Act was amended to leave out birds and cattle which are now covered by separate regulations.

²⁷⁹ Malawi, Control of Diseases Act, 1967.

²⁸⁰ Meaning 'of or as the same kind;' denoting a rule for interpreting statutes and other writings by assuming that a general term describing a list of specific terms denotes other things that are like the specific elements.

Act of 1952 of Dominica similarly limits its laws to a few birds, poultry, some livestock and domestic animals.²⁸¹ Quarantine laws in India seem to focus on the importation of livestock & livestock products²⁸².

Wildlife Only

Contrary to the approaches observed in all other jurisdictions, one country (Tonga) applies its animal quarantine requirements only to 'wildlife.' The Animals Diseases Act, 1988 of Tonga covers all wildlife and further includes their eggs, larva, semen and products derived from wildlife.²⁸³ The term wildlife is, however, not defined but understood in common terms to refer to undomesticated animals. If this is the case, the scope of the law's application leaves out all domesticated animals creating a gap not observed in any other jurisdiction.

Regulatory Requirements

All of the 14 countries examined had in place laws or provisions imposing quarantine requirements for diseased animals. There are a number of tools used to accomplish this. Those found include the following:

Quarantine Authorities and Powers

In ten (10) of the jurisdictions reviewed, the regulations not only provide for permitting procedures for import and export of animals, but also the powers of enforcement bodies.

In Antigua and Barbuda, for example, the Animal Health Act of 2017 makes provisions for powers of enforcement of authorities in respect of diseased animals and holders of such animals. The South African Animal Health Act of 2002 reinforces its provisions by including wide powers of entry, search, inspection and veterinary procedures. In Botswana, Sec 6 of the Diseases of Animals Act makes provisions for the consent of the Director as a requirement in order to export or import inter alia, any

²⁸¹ Dominica, Animals Diseases Act CAP 61:02, Sec 2.

²⁸² See the Livestock Importation Act (ActNo. IX.1898) as amended by the Livestock Importation (Amendment) Act, 2001 (5.7.2001) and the regulations orders and SPS standards of the country issued there.

animal and animal produce. The 2014 Animal and Plant Biosecurity Act of Seychelles provides for enforcement through the designation of biodiversity officers in charge of border control measures and enforcement of quarantine measures such as quarantine stations.

Based on Reasonable Suspicion

In one jurisdiction, the law gives the inspecting agency the authority to require quarantine without actual proof of disease but based instead on reasonable suspicion. Agencies are therefore not given the time to act when testing for a disease or where tests are unlikely to provide results in a timely manner.

The Australian Animal Diseases Act accomplishes this by permitting the exercise of such authority where there is 'a reasonable basis for suspecting' the thing is infected.^{284[9]} The Act goes further to give examples of what constitutes reasonable suspicion as follows:

1. The thing has recently been in contact with an animal infected with the disease.
2. The animal product is a product of an animal infected with the disease.

Express Application to Imports and Exports

The context of the quarantine provisions is most at the point of import and export. In some instances, the laws focus on one side of the transaction, the import transaction or the export, but not both.

Jamaica, for example, has quarantine requirements that apply exclusively to diseased wildlife in the context of imports.²⁸⁵ Similarly, Tonga prescribes quarantine rules and other restrictions for the import of animals and animal products.²⁸⁶

In some instances, the focus of the law is on export transactions. In Brunei, for example, the Quarantine and Prevention of Disease (Exportation of Animals) Regulation (CAP 47), applies to animals intended for

²⁸³ Tonga, Animal Diseases Act, Section 2.

²⁸⁴ Australia, Animal Diseases Act, Part 3, Sec. 9. Sub-section 3. 2005.

²⁸⁵ The Animal (Diseases and Importation) Act, 1948.

²⁸⁶ Tonga, Animals Diseases Act, 1988, Part II (Secs.4-13).

export and allows for infected animals to be inspected, placed in quarantine or destroyed.²⁸⁷

Other jurisdictions apply quarantine to both import and export in a single act. The Animal Health Act of 2017 of Antigua and Barbuda, for example applies its provisions concerning animal disease control during import, export and transit of diseased animals, as well as animal quarantine for diseased animals.²⁸⁸

Notification Requirements

In a few instances (*n.* 2), there are additional tools specific to managing the spread of disease. For Grenada, the Animal (Diseases and Importation) Ordinance makes provisions for the notification, separation and quarantine of diseased animals (Sec 4,16). The Animal Diseases Act of Kenya defines animal disease as any disease of an animal and includes a notifiable disease, thus giving mandate to the use of notification as a tool.

Imposition of Liability

In addition to imposing quarantine requirements, China's law makes food producers and traders responsible for ensuring food safety and production in accordance with the law.²⁸⁹

²⁸⁷ Brunei, Quarantine and Prevention of Disease (Exportation of Animals) Regulation (CAP 47) Sections 5, 7 and 8.

²⁸⁸ Antigua and Barbuda, Animal Health Act, 2017, Part IV, (Sec. 23-33).

²⁸⁹ China, Food Safety Law. Art. 4, 2015.

CITES Implementing Laws

(primary research and drafting by **Manohar Samal**)

CITES implementing laws are those laws required by CITES to implement the terms of the treaty. Sometimes promulgated separate from wildlife conservation laws, or at least as separate parts of the wildlife laws, they regulate international trade in CITES listed species that either originate from, pass through, or enter into the country. All of the countries in this review, with the exception of two, are member states and have CITES implementing legislation, whether combined with general wildlife laws or issued separately.

CITES implementing laws are important given the close relationship between wildlife trade and zoonotic diseases, in particular as they are associated with the international movement of wildlife. While the convention does not currently require consideration of disease, this is the focus of the proposed amendments. It is also true that most CITES implementing laws include some obligation to observe animal health and welfare standards during trade.

Framework Reviewed

Out of thirty-seven (37) jurisdictions covered under this report, thirty-five (35) have ratified or acceded to CITES and have national level CITES implementing laws. Only two (2) jurisdictions, Nauru and Tuvalu, have not signed, ratified or acceded CITES.²⁹⁰ CITES implementing laws are most often promulgated separately. In a few instances, a country will combine it with the main wildlife law, but often segregate the provisions within a sub-chapter. This review was therefore able to isolate the relevant provisions from other wildlife trade, animal health and welfare laws.

²⁹⁰ Convention on International Trade in Endangered Species of Wild Fauna and Flora, *List of Contracting Parties*, CITES, (2020). Although they do not show up on the CITES world map, the Oceania region still has a large proportion (47%) and number (8) of non-members to CITES: Cook Islands, Federated States of Micronesia, Kiribati, Marshall Islands, **Nauru**, Niue, Tokelau, and **Tuvalu**.

The CITES implementation laws for these thirty-five (35) jurisdictions are discussed under this section.

Specific Inquiry

In particular, researchers took note of whether the CITES implementing national laws:

- establish animal health and welfare standards;
- permit screening during imports/exports for disease;
- provide for the quarantine of animals;
- provide for the disposal of animals based on health considerations; and
- have a deterrent penal mechanism.

Scope

The scope of the CITES implementing laws (i.e., the species that it covers) is always tied to the species which have been listed under the CITES appendices. Being tied to the CITES appendices has two implications for the scope of species that are covered by the requirements of these laws.

The first implication is that CITES listings do not cover all species in trade, including many that are known to harbor diseases capable of transferring to humans (e.g., bats).²⁹¹ CITES is directed solely at species that are threatened by international trade; not by domestic trade or by the health risks that such trade may present. CITES currently has 5,950 species of wild fauna listed in its three appendices.²⁹² This is just 0.03% of the approximately 1.6 million species of wildlife that have been discovered in the world.²⁹³ The UNODC World Wildlife Crime Report 2020 states that there are possibly millions of species traded but which are not included in the CITES appendices.²⁹⁴ Regardless of the trade controls

²⁹¹ Many species of reptiles and amphibians capable of transmitting zoonotic diseases are not covered under CITES appendices.

²⁹² Convention on International Trade in Endangered Species of Wild Fauna and Flora, *The CITES Species*, CITES, (2020).

²⁹³ Rachael Bale, *How Many Species Haven't We Found Yet?*, NATIONAL GEOGRAPHIC, (Dec. 26 2019).

²⁹⁴ United Nations Office on Drugs and Crime, *World Wildlife Crime Report: Trafficking in Protected Species*, (2020).

CITES uses and by any estimate, implementing laws only apply to a vanishingly small percentage of the wildlife actually traded.

The second implication is less dramatic as it only applies to some jurisdictions and deals only with how national laws respond to changes in CITES appendices. In brief, some countries automatically recognize changes in CITES listing without the need for legislative action; while others require that the CITES list be 'incorporated' into their national laws before it may be enforced. For those countries that automatically incorporate the changes, the application of national law is always consistent with CITES. Examples of this approach are jurisdictions like Australia, Malaysia, Singapore and Papua New Guinea. There are, however, jurisdictions whose legislative procedures require that the CITES list first be incorporated within their national laws. Canada, India, China and South Africa are a few examples of this. In these instances, there is the possibility that the process of incorporation lags behind CITES listing, resulting in inconsistencies and therefore gaps in the coverage.

Regulatory Requirements

The CITES Secretariat assigns countries to one of four categories based on an assessment of the degree to which the national laws are in compliance with four minimum requirements. These are:

- 1) whether at least one Management Authority and Scientific Authority has been designated under the domestic law;
- 2) whether such law prohibits trade in specimens in violation of the Convention;
- 3) whether such trade in specimens that are in violation of the Convention are penalized; and
- 4) whether specimens illegally traded or possessed can be confiscated under such law²⁹⁵

²⁹⁵ Convention on International Trade in Endangered Species of Wild Fauna and Flora, *National Legislation Project*, CITES, (2019)

²⁹⁶ *Id.*

²⁹⁷ Australia, Brunei, Cameroon, Canada, China, Fiji, Guyana, Jamaica, Malawi, Malaysia, Mauritius, New Zealand, Papua New Guinea, Singapore and South Africa.

Category 1 includes countries whose implementing legislation meets all, or almost all of the requirements. Category 2 includes countries whose implementing legislation misses out on various requirements under CITES. Finally, Category 3 includes countries whose legislation is incapable of implementing CITES in an adequate fashion.²⁹⁶

Out of the thirty-five (35) jurisdictions, fifteen (15) have been listed as Category 1 countries;²⁹⁷ ten (10) as Category 2 countries;²⁹⁸ and nine (9) as Category 3 countries.²⁹⁹ One jurisdiction, Tonga has been listed under Category P - a special category for countries that have recently ratified or acceded to CITES and have yet to implement an effective CITES law at the domestic level.³⁰⁰

However, none of these minimum requirements address the regulatory needs raised by the risk or existence of zoonotic disease. This review has therefore identified other regulatory tools known to be used or that should be considered in CITES implementing laws as they have a direct or indirect relationship to controlling disease associated with such trade.

Animal Health and Welfare Standards

Although not required by the convention, most CITES implementing laws include some obligation to observe animal health and welfare standards during trade. Four approaches were identified, none of them containing specific and detailed standards, as follows:

- 1) General requirement to observe health and welfare standards;
- 2) Prohibitions against endangering health and welfare;
- 3) Special provision for involving rescue centers; and
- 4) Creation of a controlled environment for preserving welfare of wildlife.

All of these are discussed below.

²⁹⁸ Antigua and Barbuda, Bangladesh, Botswana, Gambia, India, Kenya, Mozambique, Pakistan, Tanzania and Zambia.

²⁹⁹ Belize, Dominica, Ghana, Grenada, Samoa, Seychelles, Sierra Leone, Sri Lanka and Uganda.

³⁰⁰ Convention on International Trade in Endangered Species of Wild Fauna and Flora, *Status of Legislative Progress for Implementing CITES*, CITES, (Nov. 2019).

General Requirement

Some jurisdictions mention the obligation and power to ensure health and welfare standards without providing further detail, at least in the main CITES Implementing law.

Of the thirty-five (35) reviewed, eight (8) take this approach. Belize, for example, contains general provisions on protection and welfare of wildlife covered under CITES during trade, but no specific provisions prescribing wildlife health standards themselves.³⁰¹ Similarly, Botswana appoints a Management Authority to ensure that the health of wildlife is safeguarded as per CITES standards and empowers it to take action against cruel treatment during trade.³⁰² Samoa similarly empowers the authorities to ensure maximum health and safety of wildlife during trade, without further detail.³⁰³ Other jurisdictions that take this approach include Seychelles,³⁰⁴ Uganda,³⁰⁵ Guyana,³⁰⁶ China³⁰⁷ and Zambia.³⁰⁸

Prohibitions Under Law

The counterpoint to permissions are the prohibitions. More important than the permissions just described, are the forms of prohibitions. Two (2) prohibition sub-patterns have been found across fourteen (14) jurisdictions. They are:

- 1) General Prohibitions; and
- 2) Express Relation to Import and Export Processes.

These sub-patterns have been mentioned below.

General Prohibitions

Few countries include a general statement which prohibits any activity which is capable of causing harm to wildlife covered under CITES. Out of thirty five (35) jurisdictions, four (4) countries adopt such general prohibitions which include Ghana,³⁰⁹ India,³¹⁰ Malawi³¹¹ and Singapore.

The scope of such prohibitions are unknown since the laws only make general statements such as “prohibition of dealing”.

Expressly Tied to Import/Export Process

Out of thirty-five (35) jurisdictions, ten (10) place prohibitions which are closely related to export and import processes. One (1) of these jurisdictions, viz., Grenada, places prohibitions on export of birds specified in its CITES law's Schedule to preserve the safety of such birds.³¹² The other nine (9) jurisdictions place prohibitions on import and export processes on all other wildlife covered under CITES. Brunei is one such example where import, export and re-export of wildlife is prohibited, if it is detrimental to the health and safety of wildlife.³¹³ Other jurisdictions adopting the same approach include Fiji³¹⁴, New

³⁰¹ Belize, Wildlife Protection Act, Sec. 9 and Sec. 15, 2000.

³⁰² Botswana, Wildlife Conservation and National Parks Act, Arts. 3,4,5,7 and 8, 1992.

³⁰³ Samoa, Endangered Species Act, Sec. 10(3)(c), 1973.

³⁰⁴ Seychelles, Wild Animals and Birds Protection Act, Sec. 2, 1961; empowers authorities to undertake all measures to preserve the health and safety of wildlife.

³⁰⁵ Uganda Wildlife Act, Sec. 6, 2019; empowers authorities appointed under the Act to maximise the health and safety standards of wildlife.

³⁰⁶ Guyana, Wildlife Conservation and Management Act, Sec. 27, Sec. 34, Sec. 36 and Sec. 41, 2016; provides for provisions to ensure safety, health, welfare and to prevent over exploitation of wildlife.

³⁰⁷ China, Wildlife Protection Law, Arts. 30, 35 and 36, 2018.

³⁰⁸ Zambia, Wildlife Act, Arts. 3,4 and 5, 1998; empowers the Management Directorate to take all necessary measures to prevent cruel, unsafe and unhealthy conditions for wildlife.

³⁰⁹ Ghana, Wildlife Laws and Regulations, Art. 11, 1961.

³¹⁰ India, Wild Life (Protection) Act, Sec. 49B, 1972.

³¹¹ Malawi, National Parks and Wildlife Act, Sec. 86 and Sec. 87, 1994.

³¹² Grenada, Birds and Other Wildlife (Protection) Ordinance, Art. 3, 1957

³¹³ Brunei, Wild Fauna and Flora Order, Regulations 10, 11, 12, 13, 14, 15, 16, 17 and 18, 2007.

³¹⁴ Fiji, Endangered and Protection Species Act, Sec. 3 and Sec. 19, 2002.

Zealand³¹⁵, Papua New Guinea³¹⁶, Canada³¹⁷, South Africa³¹⁸, Jamaica³¹⁹, Pakistan³²⁰ and Singapore.³²¹

Rescue Centers

Out of the assessed jurisdictions, Malaysia is one (1) jurisdiction which establishes Rescue Centers.³²² These centers are premises which are maintained to look after the welfare of wildlife species covered under CITES, which have either been rescued or confiscated by the Management Authority appointed in Malaysia for this purpose.

Controlled Environment

Out of thirty-five (35) assessed countries, only one (1) country aims to maintain a controlled environment in order to preserve the health, safety and welfare of wildlife.

Malaysia is one such example. Its CITES implementing law defines controlled environment as, "an environment that is manipulated for the purpose of producing specimen of a particular species of an animal that has boundaries designed to prevent the animal, eggs or gametes of the animal from entering or leaving that particular environment, and the general characteristics of which may include but are not limited to artificial housing, waste removal, health care, protection from predators, and artificially supplied food."³²³

The concept of a controlled environment has been envisaged to create a manipulated habitat to produce certain wildlife specimens. Since the CITES implementing law of Malaysia contains this provision, it follows that CITES listed wildlife species would be the only specimens for which captive breeding would take place. Contrary to popular belief, controlled breeding of wildlife can also form part of health and welfare standards since healthcare,

protection against natural predators and hunters is conferred by way of active measures and also by way of prohibiting the entry or exit of such wildlife species.

Screening imports/exports for disease

While animal health and welfare standards are common in CITES implementing legislation, provisions specifically directed at screening for disease are almost non-existent. Research identified four (4) approaches, none of which explicitly provided for screening associated with CITES trade. While the lack of solid regulatory tools is noted here, this may not present a complete gap as other laws may apply, e.g., animal quarantine laws, customs legislation, etc. The question not resolved by this research is the degree to which the separate mandates operate in a single system preventing gaps that stem from divisions in trade types and responsible agencies.

Only seven (7) jurisdictions have some form of disease screening provisions for wildlife during import or export, while the remaining twenty-eight (28) jurisdictions have none. Out of these seven (7) jurisdictions: two (2) have compulsory screening requirements during import or export of wildlife for tracing diseases; three (3) indicate that screening is possible but provide no explicit condition; one (1) requires wildlife to be accompanied by a health certificate issued by the national authority while import of such wildlife; and one (1) prohibits the import of diseased wildlife but does not provide for screening.

Compulsory Screening

Out of the thirty-five (35) jurisdictions reviewed, it was found that only two (2) jurisdictions had provisions for compulsory screening. This again, is directed

³¹⁵ New Zealand, Trade in Endangered Species Act, Sec. 13, 14, 15, 16, 17, 18, 19, 20 and 21, 1989; prohibits import, export and re-export of wildlife species in case the authorities find that the wildlife faces threat from cruel treatment, unsafe treatment or danger to its health.

³¹⁶ Papua New Guinea, International Trade (Fauna and Flora) Act, Sec. 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 13A and 13B, 1979.

³¹⁷ Canada, Wild Animal and Plant Protection and Regulation of International and Interprovincial Trade Act, Arts. 6, 7 and 8, 1992.

³¹⁸ South Africa, National Environmental Management: Biodiversity Act, Sec. 5, 2004.

³¹⁹ Jamaica, Endangered Species (Protection, Conservation and Regulation of Trade) Act, Sec. 34, 2016.

³²⁰ Pakistan Trade Control of Wild Fauna and Flora Act, Sec. 5, 6, 7 and 8, 2012.

³²¹ Singapore, Endangered Species (Import and Export) Act, Sec. 4, 5 and 7, 2008.

³²² Malaysia, International Trade in Endangered Species Act, 2008.

³²³ Malaysia, International Trade in Endangered Species Act, Sec. 3, 2008.

towards general international trade by way of imports and exports and thus extends over to CITES species as well. One such example is Papua New Guinea whose law provides for compulsory screening for diseases in wildlife during imports.³²⁴ Another jurisdiction following the same approach is Sri Lanka.³²⁵

Implied Power to Screen

Out of the thirty five, (35) countries reviewed, three (3) have provisions that imply the power to screen for disease associated with CITES trade. In none of these is the explicit requirement to screen mentioned.

China, for example, states that the wildlife protection departments, veterinary department and other Governmental authorities must work together to monitor and prevent the spread of zoonotic diseases.³²⁶ Kenya similarly provides for 'disease surveillance' with no further specification.³²⁷ Samoa also grants this disease surveillance power to the Secretary appointed under the Act.³²⁸

Disease surveillance programs do a number of things. These include timely, regular and complete reporting of high-quality information; early prediction of endemic diseases, epidemics or pandemics; objective assessment of interventions during epidemics or pandemics; and efficient execution and monitoring of intervention programmes.³²⁹ However, none of these laws go further than the primary mandate.

Health Certificate Required

Jamaica's CITES law does not have any direct provision which deals with screening of wildlife during imports or exports for disease, but it is mandatory for every imported animal to be accompanied with a health certificate of Jamaica's veterinary authority.³³⁰

³²⁴ Papua New Guinea, International trade (Fauna and Flora) Act, Sec. 13B, 1979.

³²⁵ Sri Lanka, Fauna and Flora Protection Ordinance, Art. 38, 1937.

³²⁶ China, Wildlife Protection Law, Art. 16, 2018.

³²⁷ Kenya, Wildlife Conservation and Management Act, Sec. 5, 2013.

³²⁸ Samoa, Endangered Species Act, Sec. 4, 1973.

It is well- established that Jamaica screens for only 50 diseases³³¹ and thus, other diseases are not screened during import or export. Due to this, there is a high chance that the health certificate is granted after merely screening for 50 diseases.

Prohibition of Import of Diseased Animals

Antigua and Barbuda does not have any direct provision to screen for diseases in wildlife during import or export but it prohibits the import of diseased animals.³³² The upside in this instance is that, complete prohibition of import of diseased animals removes the need for screening for diseases during import.

Animal quarantine requirements

Research identified three (3) approaches of animal quarantine requirements in CITES law provisions, out of which;

- 1) The first approach includes general quarantine requirements;
- 2) The second approach includes limited quarantine requirements; and
- 3) The third approach includes possibilities of quarantine measures.

Out of thirty-five (35) assessed jurisdictions, only nine (9) have some form of quarantine requirements for diseased wildlife. CITES laws of the remaining twenty six (26) jurisdictions do not place any quarantine requirements.

The approaches have been discussed below.

General Quarantine Requirements

Out of thirty-five (35) reviewed jurisdictions, only six (6) jurisdictions have general quarantine measures. All of these quarantine measures vary from country to country.

³²⁹ World Health Organisation, *Integrated Disease Surveillance Programme*, 2005.

³³⁰ Jamaica, Endangered Species (Protection, Conservation and Regulation of Trade) Regulations, First Schedule, 2000.

³³¹ Jamaica, Animal (Diseases and Importation) Act, Schedule, 1948

³³² Antigua and Barbuda, Environmental Protection and Management Act, Sec. 70, 2019.

China for example, requires the wildlife protection departments, veterinary department and other Governmental authorities to work together to monitor, prevent and take all forms of action to curb the spread of zoonotic diseases, including quarantine of diseased wildlife.³³³ Similarly, Guyana's Wildlife Conservation and Management Act 2016 provides for quarantine requirements for CITES listed wildlife which have been imported.³³⁴

Providing a contrary example, Kenya provides for disease surveillance which empowers authorities appointed under the Act to take all measures to control diseases for all, including CITES listed wildlife.³³⁵ Other jurisdictions following a similar approach to Kenya with few additions such as application of their respective domestic quarantine laws include Samoa³³⁶ and Sierra Leone.³³⁷

Limited Quarantine Requirements

India provides for disease surveillance of tigers and immunization of other unaffected livestock from diseased livestock.³³⁸ Notably, disease surveillance measures are only applicable to tigers and immunization provisions are only applicable to livestock. All other wildlife have been excluded, creating limited quarantine capabilities for authorities.

Possibility of Quarantine Measures

There are few countries where active quarantine measures are not taken but few provisions may passively encompass its possibility. Out of the thirty five (35), three (3) countries follow this approach. For example, Malawi empowers authorities under the Act to take measures to control endemic wildlife.³³⁹ This may, but not necessarily, be capable of including quarantine as well. Since the measures can be taken in respect of rare and endangered species of wildlife, it follows that some CITES listed species could be

covered since CITES appendices cover many, but not all species of wildlife.

Another passive adoption of quarantine can be witnessed in Malaysia. No specific provisions for animal quarantine exist in Malaysia but under the CITES implementing law, the definition of "enforcement officer" includes the quarantine officer appointed under the domestic disease quarantine law,³⁴⁰ therefore, implying that one of the powers includes quarantine of diseased wildlife. A similar approach can also be seen in Papua New Guinea.³⁴¹

Disposal of diseased wildlife

Research identified two (2) approaches out of which one contains jurisdictions that undertake active disposal measures and the other, that have uncertain requirements related to disposal of diseased wildlife.

Only twelve (12) out of thirty five (35) jurisdictions mention the disposal of diseased wildlife in their CITES implementation laws. The remaining twenty three (23) jurisdictions have no such provision. Out of the twelve (12) that mention it, eight (8) jurisdictions require disposal, and four (4) jurisdictions accommodate the possibilities of taking disposal measures against diseased wildlife, but there is no compulsion under the implementing laws.

The approaches have been discussed below.

Active Disposal Measures

Active disposal measures under CITES laws have been provided in eight (8) out of thirty five (35) jurisdictions reviewed. All of these jurisdictions empower their authorities to dispose of wildlife suffering from diseases by way of killing, trapping, hunting and few even simply use the words "dispose", "remove" or "destroy".

³³³ China, Wildlife Protection Law, Arts. 16, 35 and 37, 2018.

³³⁴ Guyana, Wildlife Conservation and Management Act, Sec. 47, 2016.

³³⁵ Kenya, Wildlife Conservation and Management Act, Sec. 5, 2013.

³³⁶ Samoa, Endangered Species Act, Sec. 11(h), 1973.

³³⁷ Sierra Leone, Wildlife Conservation Act, Sec. 37 and 74(2)(f), 1972.

³³⁸ India, Wild Life (Protection) Act, Sec. 33A and Sec. 38O, 1972.

³³⁹ Malawi, National Parks and Wildlife Act, Sec. 27, 1994.

³⁴⁰ Malaysia, International Trade in Endangered Species Act, Sec. 19 and Sch. II, 2008.

³⁴¹ Papua New Guinea, International Trade (Fauna and Flora) Act, Sec. 3C and 13B, 1979; includes Quarantine Officers as part of enforcement authorities and also recognises domestic quarantine law application for import processes. Therefore, quarantine of diseased wildlife may be undertaken.

One example is Bangladesh since the law empowers the Chief Warden, Additional Chief Warden or Warden to dispose of wild animals which are suffering from contagious diseases.³⁴² Since the term used is “any wild animal”, it is capable of extending over to CITES listed wild animals as well.

Similarly, India's Wild Life (Protection) Act 1972 permits disposal by hunting and killing³⁴³ and Sierra Leone's Wildlife Conservation Act 1972 permits disposal by trapping and killing.³⁴⁴ Other jurisdictions adopting the same approach include Botswana³⁴⁵, China³⁴⁶, Kenya³⁴⁷, Papua New Guinea³⁴⁸ and Uganda.³⁴⁹

Uncertain Requirement

Four (4) jurisdictions accommodate the possibilities of disposal in an uncertain manner. One example is Gambia. Although the law does not contain any direct provision for the disposal of diseased wildlife, it empowers the authorities to destroy such wildlife to prevent undue suffering and for other sufficient reasons.³⁵⁰ If the authorities include diseases under the ambit of undue suffering, then disposal may take place on this ground.

Other examples include Ghana, which empowers the Minister to take all reasonable steps to prevent the spread of disease from diseased wildlife to non-diseased wildlife.³⁵¹ Malawi contains provisions for control of endemic wildlife³⁵² that may also be capable of including disposal of diseased wildlife. Zambia prescribes provisions for disposing wildlife capable of causing harm to human health.³⁵³ Disposal can take place if “harm to human health” is interpreted to include disease spread from animals to humans.

It is noteworthy that all the jurisdictions covered under this approach, cover wildlife in a general manner and thus, can also include species involved in CITES trade.

Liability and Penalties

Closely related to the previous approaches is the express imposition of liability for violating animal health and welfare provisions. Australia is one example that imposes strict liability for actions which are detrimental to animal health and welfare standards.³⁵⁴

Penalties under CITES implementing laws are provided in the following table. With the exception of the two jurisdictions that have no such standards in this law, all others (33) prescribe penalties for violation of health and welfare standards in their respective CITES implementation laws. Among these thirty-three (33), there are large differences in the prison terms and fines imposed. The shortest prison term is 6 months (Belize, Ghana and Tonga) and the highest is life imprisonment (Kenya and Uganda). Similarly, the lowest fine imposed is USD 1 (Sierra Leone) and the highest fine is USD 5,418,710 (Uganda).³⁵⁵

³⁴² Bangladesh, Wildlife (Conservation and Security) Act, Sec. 8, 2012.

³⁴³ India, Wild Life (Protection) Act, Sec. 11, 1972.

³⁴⁴ Sierra Leone, Wildlife Conservation Act, Sec. 37 and 43, 1972.

³⁴⁵ Botswana, Wildlife Conservation and National Parks Act, Sec. 40, 1992.

³⁴⁶ China, Wildlife Protection Law, Art. 16, 2018; contains provisions which state that the wildlife protection departments, veterinary department and other Governmental authorities have to work together to monitor, prevent and take all forms of action to curb the spread of zoonotic diseases, including disposal of diseased wildlife.

³⁴⁷ Kenya, Wildlife Conservation and Management Act, Sec. 5, 2013; contains provisions for disease surveillance and also empowers authorities appointed under the Act to take all

measures to control such wildlife diseases that are capable of including disposal of diseased wildlife.

³⁴⁸ Papua New Guinea, International Trade (Fauna and Flora) Act, Sec. 13I, 1979.

³⁴⁹ Uganda Wildlife Act, Sec. 55, 2019; permits the hunting, capturing and disposal of diseased wildlife and uses the term “vermins” for them.

³⁵⁰ Gambia, Wildlife Conservation Act, Sec. 45, 1977.

³⁵¹ Ghana, Wildlife Laws and Regulations, Sec. 11, 1961.

³⁵² Malawi, National Parks and Wildlife Act, Sec. 27, 1994.

³⁵³ Zambia, Wildlife Act, Sec. 36, 1998.

³⁵⁴ Australia, Environment Protection and Biodiversity Conservation Act, Sec. 18A, 20A and 24A, 1999.

³⁵⁵ Fines levels are after conversion from the respective currencies.

Customs Law

(primary research and drafting by Manohar Samal)

Customs laws include those laws and provisions relating to the import, export, movement or storage of goods, as well as the administration or enforcement of which are specifically charged to the customs administration. In all jurisdictions reviewed, the term 'goods' includes animals, and in some instances other categories are referenced, *inter alia*, livestock, living creatures, birds, fish and wildlife.

This definition takes on unusual importance as it determines to the extent to which customs authorities exercise control over wildlife trade beyond CITES related trade. The legal response to pandemics is in part about controlling the movement of people, but also the movement of disease-causing agents (pathogens). To this extent, Customs authorities can play a critical role.

As shown in this analysis, however, the application of customs laws lacks a clear foundation and there are few regulatory tools included directly in these laws. Necessary powers may, however, exist in other laws (e.g., animal quarantine) and the gaps perceived here should not be construed as full gaps applicable to the framework as a whole.

Framework Reviewed

For this section, the customs laws of thirty-eight (38) jurisdictions have been reviewed. In all cases, these are long-standing pieces of legislation issued separate from other laws.

Specific Inquiry

Beyond determining whether wildlife is within the scope of the law, the primary regulatory tools identified and queried in Customs legislation are as follows:

1. whether there is the authority to prohibit entry to diseased animals
2. Whether there is any authority/power to monitor for disease;
3. whether customs authorities have the power to dispose of or quarantine animals;

4. whether the law requires the separation of diseased animals;
5. whether such animals may be seized; and
6. whether there are offences for importing/exporting diseased animals.

Scope

As mentioned already, Customs laws are not primarily focused on animals and wildlife. The extent to which they are included is almost always a function of whether they have been included in the definition of 'goods' or other applicable provision.

Although there are some strong patterns (e.g., animals are almost always mentioned), research nonetheless was able to identify five (5) distinct approaches.

The first, labeled "Uncertain Scope", is the use of the term 'animals' in the definition of "goods," but without further definition or an express reference wildlife. In such instances, its application to wildlife cannot be taken for granted.

The second approach is really a mix of approaches, but they all mention 'animals' and some combination of other categories. These too are uncertain their scope, but are worth segregating as the juxtaposition of other categories can refine possible interpretations.

The third approach is similar but the unifying thread is the focus on 'livestock' either alone or in combination with other categories. Following this, are two approaches found in only one jurisdiction each - approach 4, express mention of wildlife; and approach 5, reference to 'all living creatures'.

Uncertain Scope

A common approach in customs legislation is the reference to animals in the definition of 'goods,' but not to wildlife explicitly. While wildlife could certainly fall within any reasonable definition of the term 'animal,' its close association in numerous jurisdictions with domestic animals, livestock, and pets suggest that a broader interpretation should not be assumed.

Out of the thirty-eight (38) jurisdictions reviewed, seven (7) of them used the term animal on its own,

with no further reference to other categories. Jurisdictions that include the term in the definition of 'goods' are Botswana,³⁵⁶ Canada,³⁵⁷ Sierra Leone,³⁵⁸ Mauritius,³⁵⁹ Nauru,³⁶⁰ Samoa,³⁶¹ and Tuvalu.³⁶²

Two (2) others (Australia and Bangladesh) have a general reference to animals but take a different approach to how it is included in the concept of 'goods.' Australia includes 'animals and its parts' within the definition of "unmanufactured raw products."³⁶³ Bangladesh first defines 'goods' to cover all 'movable goods,' and then uses the term 'animal' in two other provisions - the definition of "conveyance" and in a provision pertaining to the sale of animals if the customs duty is not paid.³⁶⁴ The combination is not as direct as most approaches, but it appears reasonable to assume that animals are 'movable goods' and therefore fall within the jurisdiction of Customs law.

In all of these, however, the question remains whether the term 'animal' is interpreted broadly and includes wildlife.

Express Reference to Wildlife

Only one (1) of the jurisdictions reviewed, New Zealand, includes all wildlife under its definition of "goods."³⁶⁵ This is mainly because the wildlife and fisheries laws of New Zealand have parallel application along with the customs law.

Express Limitations

The most common approach is the inclusion of a definition that has limited applicability, primarily to domestic species, or no mention of animals at all. Out of the thirty-eight(38) reviewed, this is the case for thirteen (13) jurisdictions.

³⁵⁶ Botswana's Customs and Excise Duty Act, Sec. 2, 1970.

³⁵⁷ Canada, Customs Act, Sec. 2(1), 1985.

³⁵⁸ Sierra Leone, Customs, Sec. 1, Act 2011.

³⁵⁹ Mauritius, Customs Act, Sec. 2, 1988.

³⁶⁰ Nauru, Customs Act, Sec. 2, 2014.

³⁶¹ Samoa, Customs Act, Sec. 2, 2014.

³⁶² Tuvalu, Customs Revenue and Border Protection Act, Sec. 3, 2014.

³⁶³ Australia, Customs Act, Sec. 4, 1901.

³⁶⁴ Bangladesh, Customs Act, Sec. 2(g), 2(l) and 82, 1969.

Living Creatures

Relying solely on a common definition, this approach is theoretically broad enough to include wildlife. Although this would still require interpretation by some authority. It also raises the question of whether it might exclude specimens of wildlife (e.g., pangolin scales, rhino horn). The only jurisdiction found that takes this approach is Fiji, which includes all living creatures under its definition of "goods."³⁶⁶

Animals, Birds and Fish

Three (3) jurisdictions' customs laws define goods to include animals, birds and fish under its ambit. These include Brunei³⁶⁷, Malaysia³⁶⁸ and Singapore.³⁶⁹ Due to the specific and separate distinction made between animals, birds and fish, it would be safe to state that all other wildlife except animals, birds and fish are excluded from the purview of customs laws of these three jurisdictions.

Animals, Livestock and Fish

Antigua and Barbuda covers animals, livestock and fish. The definition of goods specifically covers livestock.³⁷⁰ On perusal of the rest of the law, it can be inferred that animals which are not livestock have been treated as "articles" and few specific provisions for fish exist.³⁷¹ It can also be inferred that all wildlife which does not fall under the category of animals, livestock and fish are not regulated by customs authorities of Antigua and Barbuda.

Limited to Livestock and Fish

Two (2) jurisdictions' customs law define goods to only include livestock and fish. These include Dominica³⁷² and Grenada.³⁷³

³⁶⁵ New Zealand, Customs and Excise Act, Sec. 5, Sch. IX, Part 3, 2018.

³⁶⁶ Fiji, Customs Act, Sec. 2(1), 1986.

³⁶⁷ Brunei, Customs Act, Sec. 2(1), 1954.

³⁶⁸ Malaysia, Customs Act, Sec. 2(1), 1967.

³⁶⁹ Singapore, Customs Act, Sec. 3(1), 1960.

³⁷⁰ Antigua and Barbuda, Customs (Control and Management) Act, Sec. 2(1), 2013.

³⁷¹ *Id.* Sec. 35 and 149.

³⁷² Dominica, Customs Act, Sec. 2(1) and Sec. 38, 2010.

³⁷³ Grenada, Customs Act, Sec. 2 and 40, 2015.

Limited to Livestock

Six (6) jurisdictions' customs laws define goods to include only livestock under its ambit. These include Guyana³⁷⁴, Ghana³⁷⁵, Jamaica³⁷⁶, Kenya³⁷⁷, Tonga³⁷⁸ and Tanzania.³⁷⁹ This is alarming, especially since the specific inclusion of livestock shows the complete exclusion of all other wildlife, leaving room for easy movement through borders of these countries since customs authorities play a vital role in controlling trade and movement at the customs frontier.

Regulatory Requirements

Regulatory tools directed at managing zoonotic disease are relatively infrequent in customs legislation. For each of the tools identified, only a minority of jurisdictions have it; e.g., prohibiting the entry of diseased animals (*n.* 3 of 38); express authority to monitor for disease (*n.* 1); seizure and disposal requirements (*n.* 7); and prohibitions to protect native animals (*n.* 6).

Prohibiting Entry of Diseased Animals

The first and perhaps most straightforward approach is the authority to restrict entry of "goods" capable of spreading an epidemic or infectious disease. Three (3) of the thirty-eight(38) jurisdictions reviewed take this approach - Antigua and Barbuda³⁸⁰, Dominica³⁸¹ and Grenada.³⁸² Considering that the definition of "goods" in these three (3) jurisdictions applies to livestock but not wildlife, it may be that the authority is similarly limited.

Monitoring Diseases

Another regulatory tool critical to detecting and controlling the movement of diseased animals is the specific power to monitor for disease. Out of the 38 jurisdictions in this review, only one (1) expressly mentions the power to monitor for diseases in their

customs law. Fiji's Customs Act 1986 empowers the Quarantine Officer or Medical Officer of Health to board an aircraft or ship to inspect goods along with an officer appointed under the Act.³⁸³ It may be that this authority is assumed under other more general powers to inspect (which all Customs laws have), or the authority to seize and dispose of diseased, hazardous, dangerous or unwholesome goods.

Seizure and Disposal

Only seven (7) jurisdictions have some or the other form of disposal provisions for diseased wildlife. However, in all of these, the law does not reference disease. Instead, four different approaches were identified:

- 1) Disposal in furtherance of customs control;
- 2) Disposal treating wildlife as "dangerous";
- 3) Disposal treating wildlife as "hazardous"; and
- 4) Disposal treating wildlife as unwholesome.

In Furtherance of Customs Control

Two (2) out of thirty-eight(38) reviewed jurisdictions, permit disposal of diseased wildlife in furtherance of customs control measures. One example of this is Antigua and Barbuda. Its customs law does not provide any specific provision for disposal of diseased wildlife, but at the same time, the Comptroller appointed under the Act can destroy or dispose of restricted goods. It is noteworthy that the definition of goods under this law includes livestock and that such goods can be restricted to curb the spread of an epidemic or infectious disease.³⁸⁴

Similarly, Sierra Leone's Customs Act 2011 empowers the Commissioner General to collaborate with other authorities to introduce customs control over live animals wherever necessary.³⁸⁵ It is not clear from the law however, what this includes.

³⁷⁴ Guyana, Customs Act, Sec. 2, 1952.

³⁷⁵ Ghana, Customs Act, Sec. 151, 2015.

³⁷⁶ Jamaica, Customs Act, Sec. 2(1), 1941.

³⁷⁷ Kenya, Customs and Excise Act, Sec. 2(1), 1978.

³⁷⁸ Tonga, Customs and Excise Management Act, Sec. 2, 2007.

³⁷⁹ Tanzania, East African Community Customs Management Act, Sec. 2(1), 2004.

³⁸⁰ Antigua and Barbuda, Customs (Control and Management) Act, Sec. 39, 2013.

³⁸¹ Dominica, Customs Act, Sec. 42, 2010.

³⁸² Grenada, Customs Act, Sec. 44, 2015.

³⁸³ Fiji, Customs Act, Sec. 16, 1986.

³⁸⁴ Antigua and Barbuda, Customs (Control and Management) Act, Sec. 39, 2013.

³⁸⁵ Sierra Leone, Customs Act, Sec. 7, 2011.

Hazardous Animals

Australia's Customs Act 1901 prescribes that if any live animal is of a hazardous nature, then the Collector appointed under the Act may take steps to dispose or destroy it without delay.³⁸⁶ This may include diseased animals as well, if "hazardous" is interpreted to include diseases by the authorities.

Dangerous Goods

Three (3) out of thirty-eight (38) reviewed jurisdictions' customs laws permit disposal of dangerous goods. Since all of these three (3) jurisdictions include animals, birds, fish or living creatures under their definition of goods, it follows that the authorities are permitted to dispose of diseased wildlife if they interpret "dangerous" to include diseases. These jurisdictions include Botswana³⁸⁷, Malaysia³⁸⁸ and Singapore.³⁸⁹

Unwholesome Goods

Ghana's Customs Act 2015 empowers the Commissioner General appointed under the Act to dispose of unwholesome goods.³⁹⁰ Since the definition of "goods" includes livestock, it may happen that "unwholesome" could include diseased livestock, if interpreted in such a manner by the authorities.

Prohibitions to Protect Native Wildlife

Six (6) of thirty-eight(38) jurisdictions have provisions in their customs law which either empowers authorities to take all necessary measures, or empowers them to prohibit all imports and exports that are detrimental to the health and safety of wildlife already existing within their respective countries.

For example, India's customs law empowers authorities to prohibit import and export of goods to curb exploitation of fishery products and to protect animal life and health.³⁹¹ Other jurisdictions following a similar approach include Papua New Guinea³⁹², Sierra Leone³⁹³, Seychelles³⁹⁴, Tanzania³⁹⁵ and Zambia.³⁹⁶

³⁸⁶ Australia, Customs Act, Sec. 72, 1901.

³⁸⁷ Botswana, Customs and Excise Duty Act, Sec. 45, 1970.

³⁸⁸ Malaysia, Customs Act, Sec. 115, 1967.

³⁸⁹ Singapore, Customs Act, Sec. 110, 1960.

³⁹⁰ Ghana, Customs Act, Sec. 124, 2015.

³⁹¹ India, Customs Act, Sec. 11, 1962.

³⁹² Papua New Guinea, Customs Act, Sec. 193, 1951; prescribes that anything which is exported from Papua New Guinea has to be free from diseases.

³⁹³ Sierra Leone, Customs Act, Sec. 63, 2011.

³⁹⁴ Seychelles, Customs Management Act, Sec. 69, 2011; empowers authorities to inspect imported goods to ensure the health and safety of animals and to prevent exploitation of fishery products.

³⁹⁵ Tanzania, East African Community Customs Management Act, Sec. 86, 2004; authorities appointed under the Act are empowered to prohibit the import of goods if such import would be detrimental to the health and safety of animals.

³⁹⁶ Zambia, Customs and Excise Act, Sec. 167, 1955; prohibits the import of goods and also empowers the authorities to dispose and destroy goods which are capable of spreading diseases to animals or causing harm to the health of animals.

Food Safety Laws

(primary research and drafting by Sofija Belajcic)

Food laws are found in almost all jurisdictions. They are intended to regulate the processes and standards that apply to the production of food, as well as its content, storage, labeling and packaging, as well as standards for human consumption. This type of law also typically has provisions for the control of zoonotic disease but far less often does it include wildlife.

Similar to Animal Health and Welfare laws in their level of applicability but tend to differ in their content, as well as their tools and implementing mechanisms.

Framework Reviewed

Of the 38 jurisdictions, analysts were able to find food laws for 28 of them.³⁹⁷ In most instances, the food law is a stand-alone legislative document, reflecting the long history of regulating food production and its overall importance in society. Only Ghana³⁹⁸ and Belize³⁹⁹ cover food safety in their public health law rather than a dedicated food law. The six (6) jurisdictions for which no Food Safety Law was found include Dominica, Grenada, Malawi, Samoa, Sierra Leone and South Africa. Three (3) countries were recorded as a gap including Australia, The Gambia and Kenya.

Specific Inquiry

In addition to determining whether these laws include wildlife (see Scope), the specific regulatory tools of interest here are:

- whether these laws cover the sale of wildlife
- whether they cover the control of zoonotic disease
- what systems are in place to prevent the sale of diseased food

³⁹⁷ Antigua and Barbuda, Bangladesh, Belize, Botswana, Brunei, Cameroon, Canada, Fiji, Ghana, India, Jamaica, Malaysia, Mauritius, Mozambique, New Zealand, Pakistan, Papua New Guinea, Seychelles, Singapore, Sri Lanka, Tonga, Tuvalu, Uganda, Tanzania, Zambia, China, Guyana and Nauru

³⁹⁸ Ghana, Public Health Act, 2012

Scope

The inclusion of wildlife in food safety laws is a function of successively embedded definitions starting with how the terms 'food' is defined; followed by how 'animal' is defined, and finally how 'wildlife' is defined. In general, food laws can be more selective in the species they cover, resulting in partial approaches. Intended to regulate food, they are more likely to exclude certain domestic animals and at least some forms of wildlife.

Defining Food

The most common approach relies on the definition of 'food' and some reference to animals, but without further definition. This is an approach found in many of the other areas of law, which leaves its application to wildlife up to interpretation. The approach is both broad and uncertain; theoretically applying to animals and wildlife but requiring clarification.

Of the 28 jurisdictions reviewed, 19 define this term demonstrating two patterns with respect to wildlife.⁴⁰⁰

Implied Reference to Animals

In this approach, 'animals' are not explicitly referenced in the definition of food, although it may be implied. Tonga, for example, includes "*any substance* whether processed, semi-processed or raw, which is intended for human consumption...and any substance which has been used in the production, manufacture, preparation or treatment of food."⁴⁰¹ A reasonable interpretation of this would extend its application to game meat, as '*any substance* ... intended for human consumption.'

Explicit Reference to Animals

Other jurisdictions are more explicit in their reference to animals. India, for example, is similar to Tonga defining food as 'any substance ...intended for

³⁹⁹ Belize, Public Health Act (Cap. 40), 1943

⁴⁰⁰ Antigua and Barbuda, Bangladesh, Botswana, Cameroon, Canada, Fiji, India, Malaysia, Mauritius, Nauru, Papua New Guinea, Pakistan, Seychelles, Singapore, Tonga, Tuvalu, Uganda, Tanzania and Zambia.

⁴⁰¹ Tonga, Food Act, s 2, 2014

human consumption;’ but then it also specifically references animals, and includes them if they are ‘prepared or processed for placing on the market for human consumption.’⁴⁰² Zambia’s legislation references animals in the negative by defining ‘unsuitable food’ as that which is “the product of a diseased animal or an animal that has died other than by slaughter.”⁴⁰³ Papua New Guinea,⁴⁰⁴ Seychelles⁴⁰⁵ and Singapore⁴⁰⁶ take a different approach, providing separate definitions for meat, as well as for food.

Defining ‘Animal’

In some of the jurisdictions (*n.* 8), one of which was mentioned in the previous section (Papua New Guinea), the law goes further and defines ‘animal.’ Including the repeated jurisdiction, these are Brunei,⁴⁰⁷ Fiji,⁴⁰⁸ Ghana,⁴⁰⁹ Malaysia,⁴¹⁰ Mauritius,⁴¹¹ New Zealand,⁴¹² Papua New Guinea⁴¹³ and Tanzania.⁴¹⁴ Definitions differed from country to country.

Implied Reference to Wildlife

In this, jurisdictions provide a clearly broad definition of animal but lack an explicit reference to wildlife. Some interpretation is required to conclude that wildlife are included.

Tanzania, for example, defines ‘animal’ as “all vertebrates, invertebrates or other fauna except man.”⁴¹⁵ Papua New Guinea on the other hand, uses an inclusive list defining animal to include certain animals such as cattle, pigs, rabbit, poultry, bird (other than game bird), fish reptile *or other animal which is used for food.*⁴¹⁶ In this latter case, there is a legitimate question as to whether wildlife are included, given the express exclusion of ‘game birds.’

⁴⁰² India, Food Safety and Standards Act, s 3(j), 2006

⁴⁰³ Zambia, Food Safety Act, s 2(a), 2019

⁴⁰⁴ Papua New Guinea, Food Sanitation Act, s 2, 1991

⁴⁰⁵ Seychelles, Food Act, s 2, 2014

⁴⁰⁶ Singapore, Sale of Food Act (Cap. 283), s 2, 1973

⁴⁰⁷ Brunei, Public Health (Food) Act (Cap. 182), s 2, 1998

⁴⁰⁸ Fiji, Food Safety Act, s 2, 2003

⁴⁰⁹ Ghana, Public Health Act, Pt 1, s 19, 2012

⁴¹⁰ Malaysia, Food Act, s 2, 1983

⁴¹¹ Mauritius, Food Act, s 2, 1998

Explicit Reference to Wildlife

Only a few (*n.* 3) specifically reference domestic and wild species. Fiji, for example, states that ‘animal’ includes “any quadruped [animal] or bird whether domesticated or wild...the whole or part of which are consumed or presented for human consumption.”⁴¹⁷ This approach is also followed in Brunei which uses the phrase “either domesticated or otherwise.”⁴¹⁸ Mauritius similarly includes the phrase “either domesticated or not.”⁴¹⁹

Defining ‘Wild Animal’

The final tier in this definitional sequence is the one defining ‘wildlife’ or ‘wild animal.’ Many of the food laws reviewed cover wildlife in the same way as Animal Health and Welfare Laws by including wildlife in their definition of ‘animals.’

Broad, Uncertain Scope

In these instances, the law references wildlife, but does not provide further guidance. It is not uncommon for the concept of wildlife to be limited, even in the major laws governing wildlife conservation and trade. The absence of clarification in this law may lead to differing interpretations and inconsistent implementation.

Fiji’s Food Safety Act, for example, defines ‘animal’ to include all wildlife and products derived from them, but does not further state whether any wild species or product would be included or excluded.⁴²⁰ Ghana defines ‘animals’ to include, amongst others, cattle, sheep, captured wild reptiles, mammals and other ruminating domestic animals, etc.⁴²¹

⁴¹² New Zealand, Food Act, s 9, 2014

⁴¹³ Papua New Guinea, Food Sanitation Act, s 2, 1991

⁴¹⁴ Tanzania, Food, Drugs and Cosmetics Act, s 3, 2003

⁴¹⁵ *Ibid.*

⁴¹⁶ Papua New Guinea, Food Sanitation Act, s 2, 1991

⁴¹⁷ Fiji, Food Safety Act, s 2(1), 2003

⁴¹⁸ Brunei, Public Health (Food) Act (Cap. 182), s 2(1), 1998

⁴¹⁹ Mauritius, Food Act, s 2, 1998

⁴²⁰ Fiji, Food Safety Act, s 2, 2003

⁴²¹ Ghana, Public Health Act, s 19, 2012

Express definition of Wildlife

New Zealand's Animal Products law is the only one to have a definition of wild animal. New Zealand's Animal Products Act defines wild animal as an animal that is of a kind that occurs in the wild or in the sea, and is not, immediately before its capture, owned by any person.⁴²² However their food law does not have a definition of wild animal.

Regulatory Requirements

Of the 27 jurisdictions reviewed, 21 have applicable provisions regulating either the sale of wildlife, including meat, or the control of zoonotic disease. Importantly, only 2 countries, Tonga and Cameroon, have provisions referencing the OIE standards. For instance, one of the functions of Tonga's National Food Authority is to distribute information received from the OIE, as well as from the Codex Alimentarius Commission.⁴²³ On this point, only 10 countries⁴²⁴ make reference to the Codex Alimentarius standards in relation to food. These standards, guidelines and codes of practice adopted by the Codex Alimentarius Commission establish best practices for food trade and ensure food is safe.⁴²⁵

Defining Zoonotic Disease

Only two countries have definitions covering disease - Ghana and Belize. Ghana has two definitions; one for communicable diseases;⁴²⁶ and the other, infectious diseases.⁴²⁷ Communicable disease means an illness caused by a specific infectious agent or its toxic products which arises through transmission of that agent from an infected person, animal...to a susceptible host, either directly or indirectly through an intermediate plant or animal host...⁴²⁸ Belize has a definition for 'infectious

disease'⁴²⁹ and another for 'dangerous infectious disease.'⁴³⁰

Both of these definitions give a list of diseases which fall into the meaning of the term. However, they both contain the similar phrase - "and any other disease which the Director of Health Services with the approval of the Minister may have notified or may notify in the Gazette."⁴³¹ Just like in the Animal Health laws, the fact that there is a list and a statement giving power to an official to give notice of any other diseases places an additional regulatory hurdle that has the potential to slow responses to an outbreak.

Control of Zoonotic Disease

Most countries surveyed do not expressly mention the term "zoonotic disease." In fact, only Ghana covers the control of zoonotic disease by giving power to the Minister to make regulations regarding zoonotic disease.⁴³² Tanzania also has a provision relating to zoonotic disease however it only covers the sale of milk from diseased dairy animals.⁴³³

That said, most countries did have in place measures to prevent and control disease arising from food more generally. This includes prohibitions against the sale of meat unfit for human consumption and food inspections to ensure manufacturing complied with the relevant standards.

Duty to Notify

Antigua and Barbuda,⁴³⁴ Belize,⁴³⁵ Ghana,⁴³⁶ Guyana,⁴³⁷ Papua New Guinea⁴³⁸ and Tanzania⁴³⁹ have in their legislation a provision relating to the duty to notify of a disease or food-borne disease. For example, Tanzania imposes a duty on people who work in food processing and handling operations to report certain diseases and conditions to their employer, and are not allowed to handle food.⁴⁴⁰ In

⁴²² New Zealand, Animal Products Act, s 4, 1999

⁴²³ Tonga, Food Act, s 8(1)(f), 2014

⁴²⁴ Antigua and Barbuda, Brunei, Cameroon, Fiji, Ghana, India, Tonga, Tuvalu, Zambia and Nauru

⁴²⁵ <http://www.fao.org/fao-who-codexalimentarius/en/>

⁴²⁶ Ghana, Public Health Act, s 19, 2012

⁴²⁷ *Ibid*, s 19

⁴²⁸ *Ibid*.

⁴²⁹ Belize, Public Health Act (Cap. 40), s 67(1), 1943

⁴³⁰ *Ibid*, s 68

⁴³¹ *Ibid*, s 67(1)

⁴³² Ghana, Public Health Act, s 173(j), 2012

⁴³³ Tanzania, Food, Drugs and Cosmetics Act, s 40(b), 2003

⁴³⁴ Antigua and Barbuda, Food Safety Act, s 39(1), 2017

⁴³⁵ Belize, Public Health Act (Cap. 40), s 69, s 70, s 71, s 72

⁴³⁶ Ghana, Public Health Act, s 134, 2012

⁴³⁷ Guyana, Food Safety Act, s 55, s 64, 2019

⁴³⁸ Papua New Guinea, Food Sanitation Act, s 32, 1991

⁴³⁹ Tanzania Food, Drugs and Cosmetics Act 2003, s 45 and s 46

⁴⁴⁰ *Ibid*, s 45(a) and (b)

other countries such as Antigua and Barbuda, there is a duty to notify the Food Safety Authority of any suspected food hazard or food borne disease.⁴⁴¹ The Food Safety Authority may then impose measures to prohibit the production, processing, handling or sale of the suspected food.⁴⁴²

Inspection, Disposal and Destruction

Inspection of food is covered by 26 countries.⁴⁴³ Some countries refer generally to food inspection whilst others have specific provisions relating to the inspection of meat.

For instance China's food law contains a prohibition against distributing meat or meat products which have not been inspected or quarantined or have failed to pass inspection and quarantine.⁴⁴⁴ Uganda similarly has provisions relating to the inspection of animals intended for slaughter and carcasses of animals for the purpose of determining whether meat intended for sale is fit for human consumption.⁴⁴⁵ Another example is Tanzania where the Minister may make regulations for the inspection of slaughter and butchery facilities to determine whether they are suitable for their purpose.⁴⁴⁶ Jamaica on the other hand only contains examination provisions for imported food articles.⁴⁴⁷

Generally, inspection provisions outline a process to be followed for examining the food premises to see if it is hygienic and/or inspecting the food to determine whether it is fit for human consumption. If it isn't fit for human consumption then what follows in most countries are measures for the destruction

and/or disposal of the food, meat or animal in question.

Disposal and destruction of diseased meat or animals is covered by 20 countries.⁴⁴⁸ For example Mauritius gives authorized officers the power to destroy food that is unfit for human consumption, if it is perishable or is a living creature.⁴⁴⁹ Singapore similarly gives power to authorized officers to destroy food which is decayed, putrefied or deleterious to health.⁴⁵⁰

However other countries' provisions on disposal and destruction of food only apply to certain situations. Canada's law, for instance, only makes reference to destruction of food in the case of imported food.⁴⁵¹ This is similar for Papua New Guinea.⁴⁵² Ghana's Public Health law contains a provision on the regulation of slaughterhouses where the Minister may make regulations for the disposal of an animal, carcass or viscera where there has been a breach of the Act and the offender convicted.⁴⁵³ In Malaysia, an authorized officer who has seized food may destroy or dispose of the food only if the owner consents.⁴⁵⁴

Prohibition on Sale of Diseased Meat

Several jurisdictions (*n.* 19 of 38) have prohibitions or offences relating to the sale of food unfit for human consumption which includes diseased meat. These include Antigua and Barbuda,⁴⁵⁵ Bangladesh,⁴⁵⁶ Cameroon,⁴⁵⁷ Canada,⁴⁵⁸ Ghana,⁴⁵⁹ India,⁴⁶⁰ Jamaica,⁴⁶¹ Malaysia,⁴⁶² Mauritius,⁴⁶³ New Zealand,⁴⁶⁴ Pakistan,⁴⁶⁵ Seychelles,⁴⁶⁶ Sri Lanka,⁴⁶⁷

⁴⁴¹ Antigua and Barbuda, Food Safety Act, s 39(1), 2017

⁴⁴² *Ibid*, s 39(2)(a)

⁴⁴³ Antigua and Barbuda, Bangladesh, Botswana, Canada, Cameroon, Fiji, Ghana, Guyana, India, Jamaica, Malaysia, Mauritius, Mozambique, Nauru, New Zealand, Pakistan, Papua New Guinea, Seychelles, Singapore, Sri Lanka, Tonga, Tuvalu, Uganda, Tanzania, Zambia and China

⁴⁴⁴ China, Food Safety Law, Art. 34(8), 2015

⁴⁴⁵ Uganda, Food and Drugs Act (Cap: 278) s 41(1)(h)(vi), 1959

⁴⁴⁶ Tanzania, Food, Drugs and Cosmetics Act, s 42(b), 2003

⁴⁴⁷ Jamaica, Food and Drugs Act, s 85(2), 1975

⁴⁴⁸ Antigua and Barbuda, Bangladesh, Belize, Cameroon, Botswana, Fiji, India, Mauritius, New Zealand, Nauru, Pakistan, Seychelles, Singapore, Sri Lanka, Tonga, Tuvalu, Uganda, Tanzania, Zambia and China

⁴⁴⁹ Mauritius, The Food Act, s 4(d)(ii), 1998

⁴⁵⁰ Singapore, Sale of Food Act, s 4(1)(g), 1973

⁴⁵¹ Canada, Food and Drugs Act, s 27.2(1), 1985

⁴⁵² Papua New Guinea, Food Sanitation Act, s 31(1), 1991

⁴⁵³ Ghana, Public Health Act, s 108(6)(e), 2012

⁴⁵⁴ Malaysia, Food Act, s 85, 1983

⁴⁵⁵ Antigua and Barbuda, Food Safety Act, s 47(1)(a), 2017

⁴⁵⁶ Bangladesh, Food Safety Act, s 34, 2013

⁴⁵⁷ Cameroon, Law No. 20/2018, s 20, 2018

⁴⁵⁸ Canada, Food and Drugs Act, s 4, 1985

⁴⁵⁹ Ghana, Public Health Act, s 51, s 52, s 53, s 105, 2012

⁴⁶⁰ India, Food Safety and Standards Act, s 26(2), 2006

⁴⁶¹ Jamaica, Food and Drugs Act, s 8, 1975

⁴⁶² Malaysia, Food Act, s 14, 1983

⁴⁶³ Mauritius, Food Act, s 9(1), 1998

⁴⁶⁴ New Zealand, Food Act, s 232, 2014

⁴⁶⁵ Pakistan, The Punjab Pure Food Ordinance, s 5 and s 6, 1960

⁴⁶⁶ Seychelles, Food Act, s 9(1) and s 11(1), 2014

⁴⁶⁷ Sri Lanka, Food and Drugs Act (Cap. 544), s 5, 1980

Tonga,⁴⁶⁸ Tuvalu,⁴⁶⁹ Uganda,⁴⁷⁰ Tanzania,⁴⁷¹ Zambia⁴⁷² and China.⁴⁷³

Some of these countries expressly state that sale of diseased meat is prohibited. For example, Bangladesh specifically prohibits the sale of diseased or decomposed meat of a diseased or decomposed animal. China's Food Safety Law 2015 makes it an offence to produce or distribute meat or meat products from animals that die from disease.⁴⁷⁴ However, China does not have a definition of "animal," "meat" or "disease."

On the other hand, Tuvalu's law makes it an offence for someone to import, export, produce, process, handle, store, display or sell food that is unfit for human consumption, adulterated, damaged, deteriorated or perished.⁴⁷⁵ 'Adulterated' in relation to food is defined as the product of an animal that died naturally of a disease, or in the case of a warm-blooded animal, in any way other than by legal slaughter.⁴⁷⁶

Singapore has a prohibition against selling food not of the quality demanded,⁴⁷⁷ and of selling food prepared under unsanitary conditions.⁴⁷⁸

New Zealand does not have a prohibition but the law requires a person who trades in food to ensure that it is safe and suitable.⁴⁷⁹

⁴⁶⁸ Tonga, Food Act, s 27 and s 28, 2014

⁴⁶⁹ Tuvalu, Food Safety Act, s 10, s 13, s 14, s 15, 2007.

⁴⁷⁰ Uganda, Food and Drugs Act (Cap. 278), s 2(3)(a), s 6(1), 1959

⁴⁷¹ Tanzania Food, Drugs and Cosmetics Act, s 17 and s 32(1), 2003

⁴⁷² Zambia, Food Safety Act, s 7, s 8 and s 9, 2019

⁴⁷³ China, Food Safety Law of the People's Republic of China, Art. 34(vii), (viii), 2015

⁴⁷⁴ *Ibid*, Art. 34(7)

⁴⁷⁵ Tuvalu, Food Safety Act, s 10, 2008

⁴⁷⁶ *Ibid*, s 2(f)

⁴⁷⁷ Singapore, Sale of Food Act (Cap. 283), s 18, 1973

⁴⁷⁸ *Ibid*, s 19

⁴⁷⁹ New Zealand, Food Act, s 14, 2014

Indigenous Rights Laws

(drafted by **Kathy Rock**)

There is no singular definition of indigenous rights under international law. It is, however, generally understood to include all laws and provisions intended to secure the rights of self-determination, including full participation in decisions concerning such groups, making decisions about their own affairs, having some form of territorial autonomy, as well as rights of access and use of land and resources specific to the group. This category of law has been included because these access and use rights often include the right to hunt wildlife, in addition to restricting rights to trade or otherwise engage in commercial wildlife uses.

Framework Reviewed

Indigenous rights are rarely incorporated into a single piece of legislation and there are not many laws that directly address indigenous peoples. Broadly speaking, laws containing provisions for indigenous rights span those laws dedicated to indigenous rights, as well as numerous other laws directed at human rights, intellectual property, land tenure, wildlife conservation and trade, constitutional, and more.

For purposes of this review, research was limited to the laws that in some way reference the conservation and trade of wildlife, as these were most closely applicable to the question of controlling trade and movement of animals. Broad but vague Constitutional recognition of indigenous peoples' right to enjoy and promote their culture, where the door is left open as to whether it includes indigenous wildlife rights by extension, was also included in this research effort. As a result, thirty-one (31) jurisdictions had somewhat applicable laws, while the remaining seven exhibited legislative silence

within all reviewed laws, in relation to indigenous peoples' rights⁴⁸⁰.

In most countries, laws covering indigenous peoples' rights (to wildlife) were divided into formal pieces of legislation - dedicated indigenous rights law; wildlife conservation and trade laws; environmental protection laws; forest laws; Constitutions; and sometimes recognized in the category of customary law.

Dedicated Indigenous Rights Law

Dedicated Indigenous Rights laws were present in eight (*n.* 8 of 38) of the jurisdictions reviewed - Australia⁴⁸¹, Botswana,⁴⁸² Brazil⁴⁸³, Fiji,⁴⁸⁴ Guyana,⁴⁸⁵ India,⁴⁸⁶ Malaysia,⁴⁸⁷ and New Zealand⁴⁸⁸ - typically implementing laws governed by international standards like the ILO law no. 169.⁴⁸⁹ This type of law is mostly dedicated to stipulating land rights. In this case, wildlife use tends not to be a focus, but rather an extension of these land rights.

Embedded in Other Laws

All of the above jurisdictions with dedicated indigenous rights law (8) also have embedded laws, while 23 jurisdictions only have embedded law covering the subject of indigenous peoples' rights. These other relevant laws were as follows:

- wildlife conservation and trade laws
- environmental protection laws
- forest laws
- Constitutions - often rooted in the right to 'property'

Customary law

Unlike some of the other areas of law discussed, it is worth noting in this context of indigenous peoples that in many countries the right to live on land and use the resources therein is often not governed by formal laws, but instead rooted in non-binding, but

⁴⁸⁰ Antigua and Barbuda, Belize, Dominica, Grenada, Jamaica, Mauritius, Tonga

⁴⁸¹ Australia, The Native Title Act, 1993

⁴⁸² Botswana, Tribal Land Act, 1968

⁴⁸³ Brazil, The Indian Statute (Law nº 6,001/1973)

⁴⁸⁴ Fiji, The i Taukei Lands Act, 1905

⁴⁸⁵ Guyana, The Amerindian Act, 2006

⁴⁸⁶ India, The Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006

⁴⁸⁷ Malaysia, The Aboriginal Peoples Act, 1954

⁴⁸⁸ New Zealand, The Treaty of Waitangi, 1840

⁴⁸⁹ Brazil and Fiji are ratified to C169 - The Indigenous and Tribal Peoples Convention, 1989 - Article 15 specifically safeguards the rights of indigenous people to the natural resources on their lands.

socially recognized customary agreements. These traditional legal systems are, in certain jurisdictions, enshrined in domestic legislation. This constitutional recognition is the case for Sierra Leone and Ghana's Constitutions, which both define common law to encompass customary law,⁴⁹⁰ and Uganda, where customary tenure is an expressly recognized form of land ownership.⁴⁹¹ For the most part, these custom-based rules of law are not formally recognized by governments (or hierarchically customary law is subordinate to Constitutional and national law)⁴⁹² and the distinction between statutory rights and customary land rights is therefore blurred.⁴⁹³

Specific Inquiry

Beyond determining to what extent these laws include wildlife use, research more specifically considered the following:

- which wildlife-related activities are included;
- what regulatory tools are used that might impact the ability to monitor for and otherwise control either wildlife trade, or zoonotic diseases more specifically.

This last question included the following specific inquiries:

- whether they include monitoring or reporting requirements for wildlife harvests;
- whether they prohibit the use of diseased animals;
- whether they provide for the seizure of diseased animals

⁴⁹⁰ Sierra Leone Constitution, 1991, Sec. 170; Ghana Constitution, 1992, art. 11(2)

⁴⁹¹ Uganda Constitution, 1995, Art. 237(3)

⁴⁹² See Papua New Guinea's Underlying Law Act 2000, S. 6 for example of this - 'the court shall apply the laws in the following order: (a) written law; and (b) the underlying law; and (c) the customary law; and (d) the common law'.

⁴⁹³ van Vliet N, Antunes AP, Constantino PAL, Gómez J, Santos-Fita D and Sartoretto E (2019) Frameworks Regulating Hunting for Meat in Tropical Countries Leave the Sector in the Limbo. *Front. Ecol. Evol.* 7:280. doi: 10.3389/fevo.2019.00280

Scope

Some members of the international community are calling for a sweeping ban on markets selling wildlife. Many simultaneously recognize that some communities depend on these resources and therefore agree that an exception for wildlife consumption limited to indigenous communities for subsistence purposes would be needed. This exception is further justified by the observation that it is the expanding commercialization of wildlife trade to urban, commercial markets that poses the greatest risk with respect to zoonotic disease.

With the exception of five (5) countries, however, the laws related to indigenous rights do not define which species are expressly included or excluded.⁴⁹⁴ That said, and for purposes of this inquiry, the question of which species are included is less of an issue. For indigenous rights, none of the laws reviewed were concerned with domestic species. Instead, wildlife use rights, to the extent expressed, applied to wildlife generally without limitation, other than prohibitions specific to protected species.

Although the scope is almost always broad, the laws reviewed did present three basic approaches, as well as one express limitation on indigenous rights in this regard as a whole.

Broad, undefined scope

The first approach is similar to many areas of law where the scope itself is broad and introduces a degree of uncertainty. Kenya, for example, references the term 'forest produce' to denote traditional forest user rights conferred on community forest associations⁴⁹⁵, and includes a catch all phrase.⁴⁹⁶

A lack of specificity in the language used, e.g. 'natural fruits',⁴⁹⁷ 'forest produce',⁴⁹⁸ and 'forest

⁴⁹⁴ Bangladesh, Cameroon, India, Peninsula Malaysia, New Zealand

⁴⁹⁵ Kenya, Forest Conservation and Management Act, Art. 49(2) (e), 2016

⁴⁹⁶ Kenya, Forest Conservation and Management Act, 2016, - catch all phrase included under its definition of forest produce to include "and such other things as may be declared by the Cabinet Secretary to be forest produce for the purpose of this Act"

⁴⁹⁷ The Gambia, Land Provinces Act, Preamble, 1946..

⁴⁹⁸ Malawi Forestry Act, S. 50(1), 1997.

resources⁴⁹⁹ to denote the scope of wildlife species legally available for indigenous people to harvest, with no further definition, reflects the primary purpose of Indigenous rights laws not being rooted solely in the use of wildlife.

Tied to Traditional Practices

In some instances, the right is contained in a general statement in the Constitution recognizing the right to protect and promote one's own culture, customs and tradition, as long as they are consistent with the Constitution itself.⁵⁰⁰ In others, they are generally framed as a duty placed on the State to safeguard a recognized indigenous groups' culture,⁵⁰¹ but nothing beyond this, constitutional or otherwise. Two jurisdictions' constitutions (2) go one step further than just recognizing all citizens right to their own distinct culture. Pakistan's constitution refers to Federally Administered Tribal Areas and Provincially Administered Tribal Areas and removes them from the application of any Act. China's constitution grants regional autonomy to areas where ethnic groups of minority nationalities live in compact communities, these areas subject to self-government. In these instances, it becomes a question of interpretation as to whether you can include the indigenous right to hunt and, by extension, which species that might include.

Express Limitation

Five (5) jurisdictions expressly define which species are included or excluded in indigenous peoples conferred traditional wildlife user rights. This is the case in Bangladesh,⁵⁰² Cameroon,⁵⁰³ India,⁵⁰⁴ Peninsula Malaysia,⁵⁰⁵ and New Zealand.⁵⁰⁶

In Bangladesh, the original rights of indigenous communities are articulated through 'Residual Titles', establishing them as the primary 'owners' over

biodiversity and genetic resources, these resources defined as all species and varieties of life forms.⁵⁰⁷ Cameroon's law allows traditional hunting only for rodents, small reptiles, birds and other animals listed in Class C with fixed quotas, classified under its Animal Classes Order. In Peninsular Malaysia, the Orang Asli indigenous people are granted an exception to hunt ten protected mammal and bird species, as specified in the Sixth Schedule, without a license. While in Sabah Malaysia, all members of an indigenous village issued with a kampung license are entitled to harvest those protected species listed in Schedule II and III that are specified in the license.⁵⁰⁸ India goes one step further, with traditional hunting rights excluded for all species.⁵⁰⁹

Regulatory Requirements

Several legal tools, requirements and conditions concerning the traditional ownership and use of wildlife were identified in this part of the review. In general, the laws relevant to indigenous rights laws were found to afford the right to hunt and gather wildlife for non-commercial purposes such as personal subsistence or non-consumptive cultural purposes. Trade of wildlife was less clearly defined, but there's a probable relation to the informal bushmeat sector and informal markets. Zoonoses were not covered by any of the laws reviewed.

Right to Hunt Wildlife

The right to hunt wildlife is the most ubiquitously acknowledged wildlife-related activity in this reviewed law-type and therefore presents a starting point for control. Of the 31 countries reviewed that to some degree govern indigenous rights, ten (10) make specific reference to indigenous peoples' right to hunt.⁵¹⁰ One such approach is seen in Tuvalu's law, where customary law may be applied to

⁴⁹⁹ Papua New Guinea, Forestry Act, S. 46, 1991; Zambia Forests Act, s. 2, 1999

⁵⁰⁰ Seychelles, Constitution, , Art. 39(1), 1993; Sri Lanka, Constitution, , art. 14(f), 1978.

⁵⁰¹ Singapore, Constitution, , s. 152, 1963.

⁵⁰² Bangladesh, The Biodiversity and Community Knowledge Protection Act, Art. 6 (4), 1998.

⁵⁰³ Cameroon, Wildlife Enforcement Decree, s 24(2), 1995.

⁵⁰⁴ India, Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act, s 3, 2006.

⁵⁰⁵ Peninsula Malaysia, Wildlife Conservation Act Art. 51, 2010.

⁵⁰⁶ New Zealand Conservation Act, s 4, Treaty of Waitangi 1840, Art. 2, 1987.

⁵⁰⁷ Bangladesh, The Biodiversity and Community Knowledge Protection Act, Art. 6 (4), 1998.

⁵⁰⁸ Sabah Malaysia, Wildlife Conservation Enactment, Art. 32(2), 1997.

⁵⁰⁹ India, The Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act, sec. 3, 2006.

⁵¹⁰ Australia, Brazil, Cameroon, Canada, Fiji, Guyana, Gambia, Malaysia, Tuvalu, Tanzania

questions relating to the produce of native land, including rights of hunting on native land.⁵¹¹ While other jurisdictions make reference to indigenous rights to have a wild animal in their 'possession',⁵¹² to exercise 'customary food gathering',⁵¹³ or to rights over ecosystems directly linked to indigenous livelihoods, including access to biological wealth in the case of Bangladesh,⁵¹⁴ all without going as far as to expressly detail hunting rights.

Notable exceptions are:

- India, where indigenous traditional hunting rights are excluded consistent with the overarching hunting prohibition in the country,⁵¹⁵
- Kenya which imposes an absolute prohibition on hunting for bushmeat and subsistence hunting of wildlife species⁵¹⁶ but provides for, *inter alia*, cultural and religious non-consumptive wildlife user rights,⁵¹⁷
- Botswana, following a hunting moratorium in force from 2014 – 2019, commercial safari hunting has since been reinstated, but, a suspension of non-commercial, communal hunting rights remains. The granting of Special Game Licenses (SGLs), that once legitimized subsistence hunting for the indigenous Remote Area Dwellers and other traditional communities, has not been reinstated alongside the restoration of trophy hunting practices.⁵¹⁸

Note that the Kenyan Wildlife Conservation and Management Act does provide for the rights to 'reasonable access to wildlife resources' by permitting a number of consumptive wildlife use

activities under license. However, the only listed consumptive wildlife user rights relevant to indigenous rights are 'live capture and sale' and 'game ranching'. While the tenth schedule in WCMA provides a list of wildlife species for which game farming may be allowed, this legislation is not explicit on game ranching and other user rights. Regulations for implementing these consumptive wildlife utilization provisions are yet to be gazette.⁵¹⁹

Subsistence Hunting Generally

In this review, subsistence, or traditional hunting is the most common approach to the regulation of indigenous rights to hunt. However, the term subsistence hunting occupies an uncertain legal status - exactly what does it encompass, is it strictly self-consumption, hunting to satisfy the food security of their family, or hunting to sell for subsistence purposes, including the sale of surplus meat? The diversity of terms used in the reviewed legal frameworks to denote some version of subsistence renders it difficult to ascertain under which of these categories it falls.⁵²⁰

Tied to Household Needs

One interpretation of subsistence hunting is the procurement of wild animals for purposes of meeting household needs.⁵²¹ However, only six (6) countries, out of the sixteen (16) who refer to a version of subsistence as demarcating the limits of indigenous peoples' use of wildlife, define this term⁵²². While four

⁵¹¹ Tuvalu, Laws of Tuvalu Act, Schedule 1: 4(a), 1987

⁵¹² Sarawak Malaysia, Wildlife Protection Ordinance, sec. 37(1) (a), 1998

⁵¹³ New Zealand, Fisheries Act S. 186, 1996.

⁵¹⁴ Bangladesh, The Biodiversity and Community Knowledge Protection Act, Art. 6(4)-(6), 1998

⁵¹⁵ India, Scheduled Tribes and other Traditional Forest Dwellers Act, Sec. 3, 2006; Wildlife protection Act, Sec. 65, 1972 - the only exception to this hunting ban is the subsistence hunting on the Scheduled Tribes of the Nicobar Island. India's Constitution, 1946 (2015 amended), art. 371A & 371G also contains special provisions concerning the customary laws of the Nagas and Mizos indigenous peoples, whereby no act of parliament shall apply to the States of Nagaland and Mizoram.

⁵¹⁶ Kenya, Wildlife Conservation and management Act, Sec. 97, 2013

⁵¹⁷ Kenya, Wildlife Conservation and management Act, Sec. 80, 2013

⁵¹⁸ Larocco, A.A., 2020. Botswana's Hunting Ban and the Transformation of Game-Meat Cultures, Economies and Ecologies. *Journal of southern African studies*, 46(4), 723–741

⁵¹⁹ Ministry of Tourism and Wildlife (2019). Report of the task force on consumptive wildlife utilization in Kenya. Nairobi, Kenya.

⁵²⁰ van Vliet N, Antunes AP, Constantino PAL, Gómez J, Santos-Fita D and Sartoretto E (2019) Frameworks Regulating Hunting for Meat in Tropical Countries Leave the Sector in the Limbo. *Front. Ecol. Evol.* 7:280. doi: 10.3389/fevo.2019.00280

⁵²¹ Hitchcock R.K. (2000) Traditional African Wildlife Utilization: Subsistence Hunting, Poaching, and Sustainable Use. In: Prins H.H.T., Grootenhuis J.G., Dolan T.T. (eds) *Wildlife Conservation by Sustainable Use*. Conservation Biology Series, vol 12. Springer, Dordrecht. https://doi.org/10.1007/978-94-011-4012-6_18

⁵²² Australia, Bangladesh, Brazil, Canda, Fiji, Península Malaysia

(4) define this term to some degree⁵²³ and a further four (4) jurisdictions provide no definition.⁵²⁴

Some examples of jurisdictions that partially define a version of subsistence include Guyana, where traditional rights are defined as any subsistence right or privilege exercised sustainably in accordance with the spiritual relationship which the Amerindian Community has with the land, and expressly excludes traditional mining privilege from such rights.⁵²⁵ Cameroon defines customary rights to include the local population's right to harvest all forest, wildlife and fisheries products freely for their 'personal use', and goes as far as referring to this right excluding protected species, but doesn't further define what constitutes 'personal use'.⁵²⁶ Malawi doesn't define the term 'domestic use' when allowing for village residents to collect forest produce from customary land.⁵²⁷ Tanzania's Wildlife Conservation Act empowers the relevant Minister to make regulations prescribing the management and ownership of animals used for undefined 'cultural purposes' by traditional populations.⁵²⁸

Alternatively, Kenya's Wildlife Conservation and Management Act makes subsistence hunting an offence, but does not further define the term, resulting in confusion and misinterpretation in establishing what subsistence includes⁵²⁹

Tied to Hunting Licence Conditions

Traditional hunting is subject to restrictions regarding harvest quotas, area, hunting season, method and weapons used. For instance, Cameroon's law allows for traditional hunting, but which is limited to hunting carried out using weapons made from materials of plant origin.⁵³⁰ In Sabah, Malaysia, an animal kampung (village) license may be granted, without an

attached fee, which entitles kampung members to hunt for species within a maximum distance from the community centre as stipulated in the license.⁵³¹ It is worth noting, unlike all other licensed hunters, the animal kampung members are not required to register all animals killed or captured⁵³² while exercising their rights under the licence, nor are they required to carry such licence.

Tied to Land Rights

The granting of titled land and the associated occupation, management, ownership, use or stewardship of resources therein can be, to varying degrees, a guarantee of wildlife user rights for indigenous peoples. Eleven (11) of the reviewed jurisdictions' recognize customary land tenure as a form of formal land use and ownership yet don't refer to use of such land for wildlife harvest as a function of customary law.⁵³³ For instance, Mozambique's Land Law provides for the acquisition of land use rights through occupancy in accordance with customary norms and practices. It also allows for local communities to use these customary norms and practices when exercising their rights in the management of natural resources. However, the term 'natural resources' is not defined, leaving the connection to wildlife use up for interpretation. Another example of an indigenous community's legal customary right to land that falls short of stipulating its ties to the right to use wildlife on customary land is contained in Uganda's Constitution and Land Act. Customary tenure is identified as a system of formal land tenure in Uganda and a certificate of customary ownership is conclusive evidence that affords the holder their rights to undertake any transaction in respect of that land. None of the listed transactions resemble a tie to the rights to undertake a

⁵²³ Cameroon, Guyana, Gambia, New Zealand

⁵²⁴ Brunei, Malawi, Tanzania, Uganda

⁵²⁵ Guyana The Amerindian Act Art. 2, 2006.

⁵²⁶ Cameroon Forestry, Wildlife and Fisheries Law Art. 8, 1994.

⁵²⁷ Malawi Forestry Act S. 50(1), 1997.

⁵²⁸ Tanzania Wildlife Conservation Act, S.4, 2009

⁵²⁹ Ministry of Tourism and Wildlife (2019). Report of the task force on consumptive wildlife utilization in Kenya. Nairobi, Kenya.

⁵³⁰ Cameroon, Wildlife Enforcement Decree, S. 2(20), 1995

⁵³¹ Sabah, Malaysia, Wildlife Conservation Enactment, Art. 23(c), Schedule 1, 1997.

⁵³² Sabah, Malaysia, Wildlife Conservation Enactment, Art. 28, 1997

⁵³³ Ghana, Land Title Registration Act S.19 1986, Chana Chieftancy Act, S. 3(c), 2008; Nauru, Custom and Adopted Laws Act 1971, S. 3; Zambia Land Act 1995, S. 7(2); Samoa Land and Titles Act 1981, 1971, S. 3; Tuvalu, Laws of Tuvalu Act 1987, Schedule 1; Botswana, Tribal Land Act 1968, S.3, 10, 13; Malawi, Forestry Act 1997, S 9(3), 50(1); Mozambique Land Law 1997, Art.12, 24; Papua New Guinea Constitution 1975, s. 53(5)(d), Papua New Guinea Forestry Act 1991, s. 2, 46, Papua New Guinea Land Groups Incorporation Act 1974, s. 5, 13; South Africa, The Interim Protection of Informal Land Rights Act 1996, s.1, South Africa, The National Forests Act 1998 Part 3; Uganda, Constitution 1995, art.237, Uganda Land Act 1998 S.9(1)& (2).

'transaction' of wildlife that occupies such land, but a 'not limited to' phrase included in the listed transaction doesn't entirely rule out the possibility of wildlife's inclusion upon interpretation.

Jurisdictions where the connection between land rights and wildlife rights are less blurred include: Brazil's gazetting of sustainable use conservation units in the national conservation system, namely Indigenous Lands, Sustainable Development Reserves (shelters traditional populations whose existence is based on sustainable systems of exploitation of natural resources) and Extractive Reserves (for traditional populations whose livelihood is based on extractivism). The designation of these sustainable use reserves enables indigenous peoples to reside and use natural resources within these occupied areas.⁵³⁴ In Guyana, indigenous Amerindian villages' right to hunt for consumption, as part of their traditional rights, is only allowed within Amerindian titled land granted by the State.⁵³⁵ In Canada, indigenous aboriginals are permitted to hunt in their traditionally-used First Nation territory in compliance with the terms set out in their treaty rights.⁵³⁶ Indigenous Fijians must register their i-Taukei (native) customarily held lands with the i-Taukei Land Commission, identify ownership of those lands, and classify customary roles - completion of which affords the right to hold the land according to native custom and tradition.⁵³⁷ The i-Taukei people that have been registered by the i-Taukei Fisheries Commission can access and use the resources in the traditional fishing ground connected to the registered persons tribe (qoliqoli) for subsistence use.⁵³⁸

Indigenous Right to Consume Wildlife

Indigenous rights to consume wildlife appear to be implied through two mechanisms – expressly

through the direct right to hunt and impliedly through the prohibition on trading wildlife.

Express Hunting Rights

Indigenous rights to consume wildlife are contained in the hunting rights. For example, Cameroon's law stipulates that the products of traditional hunting shall be used exclusively for food, and under no circumstances, be marketed.⁵³⁹ With one exception, none of the jurisdictions reviewed mention the right to consume wildlife as a right by itself. The one exception is Sarawak Malaysia's Wildlife Protection Ordinance, which stipulates that a native residing within a Native Area Land or Native Customary Land may have in their possession, for their own consumption or use, any wild mammal, bird, reptile or amphibian or other recognizable part or derivative thereof.⁵⁴⁰

Implied through Prohibition on Trade

Trade in wildlife products derived through indigenous rights of use is expressly prohibited in four (4) of the jurisdictions reviewed⁵⁴¹ when constituting any activity for commercial gain or exploitation. Alternatively, trade of wildlife is restricted internally within local indigenous communities, as is the case in three (3) countries.⁵⁴² This approach was the case for the Gambia, where any member of a tribe indigenous to the Gambia is permitted to sell meat of any wild animal that they've legally hunted, but only to another indigenous member and for their personal consumption.⁵⁴³ In Brazil, Amerindians have management rights over aboveground natural resources in titled indigenous lands where there are no legal restrictions on *internal* commercialization of meat.⁵⁴⁴ However the terms of indigenous rights to trade wildlife were often not so clear cut, either simply not specified (as was the case for 19 jurisdictions)⁵⁴⁵

⁵³⁴ Antunes, A et al. A conspiracy of silence: Subsistence hunting rights in the Brazilian Amazon. *Land Use Policy*, 84, 1 - 11 (2019), <https://doi.org/10.1016/j.landusepol.2019.02.045>

⁵³⁵ Guyana, Amerindian Act, Art. 57, 2006

⁵³⁶ Canada, Constitution Act, Sec. 25, 35, 1982

⁵³⁷ Fiji, i Taukei Lands Act. Sec. 3

⁵³⁸ Fiji, Fisheries Act, Sec. 13,14, 1942.

⁵³⁹ Cameroon, Wildlife Enforcement Decree, Sec. 24(3) , 1995.

⁵⁴⁰ Sarawak Malaysia, Wildlife Protection Ordinance, sec. 37(1) (a),1998

⁵⁴¹ Brunei, Cameroon, Kenya, Peninsula and Sarawak Malaysia

⁵⁴² The Gambia, Brazil, Australia (Northern Territory)

⁵⁴³ The Gambia, Wildlife Conservation Act, Schedule 1, 1977.

⁵⁴⁴ Brazil, the Indian Statute Arts. 24, 29, 44, 1973.

⁵⁴⁵ Seychelles, Singapore, Sri Lanka, China, Sierra Leone, Nauru, Pakistan, Tuvalu, Botswana, Ghana, Malawi, South Africa, Papua New Guinea, Mozambique, Zambia, Tanzania, Samoa, Uganda, India.

or conflicting (reflected in the legal frameworks of 2 jurisdictions, as seen below), resulting in an uncertain right to trade.

Indigenous Right to Trade Wildlife

In some instances, indigenous rights to trade appears neither here nor there, or conflicting with legislation to the contrary. One such example is Australia's Environment Protection and Biodiversity Conservation Act which provides for traditional use of wildlife, except for the purposes of sale. Yet when read with Sec. 200, the wildlife-related activity's significance to indigenous tradition is taken into account when issuing a permit to trade a protected species. What's more, the Territory Parks and Wildlife Conservation Act of the Northern Territory provides for unrestricted rights to hunt wildlife for food and only prohibits Aboriginals from selling a protected animal to a non-Aboriginal without a permit.⁵⁴⁶

In Bangladesh, the original rights of indigenous and local communities over ecosystems that are directly linked to their livelihood practices are recognized by the state. These rights are considered inviolable due to the role of these communities as custodians and stewards, thereby establishing their Residual Title over the resources, which recognizes them as primary 'owners' of the biodiversity and genetic resources. This is further defined as "covering the whole range of biological diversity of all genera and species [...]".⁵⁴⁷ Yet the Act's only reference to indigenous communities' rights in connection to trade is free exchange among communities, entitling any member belonging to any Community to grant free access to its biological and genetic resources, provided such resources are not acquired for commercial purposes and/or profit in cash or kind.⁵⁴⁸

New Zealand's Conservation Act (and many other pieces of legislation, e.g., the Resource Management Act, states it should be interpreted to give effect to the principles of the Treaty of Waitangi, in which Art. 2 includes the Māoris full authority and control of their 'taonga' (cultural treasures) lands,

estates, forests, fisheries and other properties. Many assert that the Treaty guarantees the Maori full possession of taonga species, therefore imparting a right to harvest and trade (in accordance with Maori customary values and practices. However, no exhaustive list of taonga species could be found to indicate the extent to which it covers wildlife. Furthermore, in New Zealand's Fisheries Act (fisheries being a listed taonga) regulations providing for customary food gathering by Maori are prohibited from constituting any commercial/pecuniary gain, nor for trade.⁵⁴⁹

These rights of use, including which species are covered, are in some instances dependent on the terms of the management plan to accommodate for traditional practices. Namely, Canada's First Nations' treaties which set out the terms of the treaty rights to harvest resources, where hunting of wildlife species for sale or barter is not legal except where there is a demonstrated treaty right to do so.⁵⁵⁰

In Guyana, indigenous peoples' right to trade wildlife is prohibited other than as an exemption from an offence. Under this exemption, no indigenous Amerindian is liable for an offence to wound, kill, expose or offer for sale, or export wild birds that are absolutely prohibited (Schedule I) or any wild birds recently captured or killed during the closed season.⁵⁵¹

Countries where trade is definitively permitted:

The only jurisdiction that contains specific regulations directed at markets where wildlife is sold was Sabah Malaysia. Here, the sale or purchase of live protected animals or their products is allowed in a kampung market by a kampung member or to a person holding an animal dealer's permit, provided the product was obtained pursuant to the animal kampung license.⁵⁵² The meat of an animal killed under a sporting license can also be offered to the kampung headman who is entitled to remove it from where it is situated, and

⁵⁴⁶ Australia (Northern Territory) Territory Parks and Wildlife Conservation Act (NT), Sec 26, 1976.

⁵⁴⁷ Bangladesh, The Biodiversity and Community Knowledge Protection Act, Art. 6(4), 1998

⁵⁴⁸ Bangladesh, The Biodiversity and Community Knowledge Protection Act, Art. 9(1), 1998

⁵⁴⁹ New Zealand, Fisheries Act, S 186(1), 1996

⁵⁵⁰ Canada, Wildlife Act, Sec. 11(9),

⁵⁵¹ Guyana, the Wild Bird Protection Act, Sec. 7, 1990

⁵⁵² Sabah Malaysia, Wildlife Conservation Enactment Art. 48 (1)e, 1997

who is then further authorized to sell this meat in the kampung market or to a dealer.⁵⁵³

In Fiji, a customary fishing license is needed to engage in taking fish for trade or business purposes,⁵⁵⁴ However this approach only relates to marine resources.

Management of Zoonotic Disease

None of the countries reviewed have any regulatory tools specific to the management of zoonotic disease risk in the context of indigenous rights to hunt, consume or trade wildlife.

The closest any of the reviewed laws that relate to indigenous rights to wildlife get to a regulatory tool that monitors for zoonotic disease is in Kenya, where the obligations of a traditional community forest association include informing the relevant authority of any development, change or occurrence within the forest which is critical for the conservation of biodiversity.⁵⁵⁵ Of course, this is far from specific, but may leave room for interpretation of these obligations to include informing of any zoonotic disease outbreak in the forest, if deemed to have a critical impact on biodiversity conservation.

Another example is Tanzania's Cultivation of Agricultural Land Bylaws. Every resident who holds land in accordance with local customary law relating to land tenure shall, *inter alia*, promptly report if they find infection of insects, plant pest or disease.⁵⁵⁶ As it stands, this legislation incorporates a reporting obligation for indigenous peoples' owning customary land for the purposes of cultivating cash and food crops. It is unclear solely from a reading of the law whether this could represent a model for wildlife disease reporting in indigenous peoples' possession.

Regulatory tools that stipulate any reporting requirements attached to indigenous peoples' wildlife user rights (and consequently may lay a foundation that impacts the ability to monitor for

zoonotic disease in wildlife in indigenous peoples' possession) were absent in the reviewed laws, the exceptions being:

- Bangladesh's National Biodiversity Authority is empowered to determine if any biological resource has been culturally abused or commercially exploited in conflict with the provisions of the Act, indigenous uses or practice.⁵⁵⁷
- Ghana establishes a National House of Chiefs, and empowers them to, *inter alia*, undertake an evaluation of traditional customs and usages with a view to eliminating those customs and usages that are outmoded and socially harmful.⁵⁵⁸
- Sierra Leone's Chiefdom Council or other entity such as a 'community forest association' (not defined) are responsible for managing the utilization and produce taken from a community forest and as part of this responsibility, are obligated to maintain a record of such utilization.⁵⁵⁹

⁵⁵³ Sabah Malaysia, Wildlife Conservation Enactment Art. 52 (2)(3), 1997

⁵⁵⁴ Fiji, The Fisheries Act 1942, Sec. 13, 14.

⁵⁵⁵ Kenya, Forest Conservation & Management Act, Art. 49 (1), 2016

⁵⁵⁶ Tanzania, Lindi Town Council (Cultivation of Agricultural Land) ByLaws 1991, S. 3,5; Kibondo District Council (Cultivation of

Agricultural Land) Bylaws 1994, S. 3,5; Nkansi District Council (Cultivation of Agricultural Land) Bylaws 1994, S.3,5.

⁵⁵⁷ Bangladesh, Biodiversity and Community Knowledge Protection Art. 14(b), 1998

⁵⁵⁸ Ghana, Constitution, Art. 272, 1992; Ghana, Chieftaincy Act, Sec. 3(c), 2008

⁵⁵⁹ Sierra Leone, Forestry Act 1988, S. 20(1)

Meat Industry Laws

(primary research and drafting by **Mayra Lima Custodio**)

Meat industry laws are those dedicated to managing the facilities, personnel and processes associated with the production of meat for human consumption.⁵⁶⁰ Long recognized as a public health concern, most countries have legislation detailing requirements, including the prescription of practices designed to detect and prevent the spread of zoonoses.

Framework Reviewed

Of the 38 countries in this review, we investigated laws regulating the meat industry in 34 of them. Unlike some areas of law (e.g., indigenous rights), practices related to the meat industry tend to be limited to a single law and its implementing regulations. That said, the majority of the jurisdictions reviewed in this research do not have a regulation that is also dedicated solely to this issue, treating it instead in the larger context of Food Safety legislation. To avoid repeating information already provided, the sections outlining the Scope and Regulatory Requirements for this issue of concern draw upon examples that are distinguishable from other food safety legal requirements. For this reason, the results are limited only to those countries that actually define meat (*n.* 12). All others have been covered in the Food Safety section and that information has not been repeated here.

Specific Inquiry

To assess approaches within the meat industry related legislation, researchers took note of the following regulatory requirements for the management of zoonotic disease risk specific to meat processing:

1. whether they require the separation of diseased animals;
2. whether they prescribe disposal procedures of diseased carcasses, seizure of diseased animals;
3. whether they prescribe penalties and fines for violations of the law;

Scope

The following approaches were identified in the meat industry provisions of the 11 jurisdictions that define and regulate this issue specifically:

1. Broad, undefined terms, making application to wildlife possible, but uncertain
2. Express limitations
 - a. Applies to all domestic animals
 - b. Applies to some domestic animals
 - c. Limited to domestic animals and a named set of wildlife.

Broad, Uncertain Scope

Some countries define meat so broadly that its scope is uncertain. This means that its application to wildlife is at least theoretically possible, but it leaves a gap with possible negative consequences.

In some cases, the laws use vague terms such as 'animal products,' "meat and fish," or "bird and mammal" with no further definition. This is the case in six (*n.* 6) of the jurisdictions reviewed: Bangladesh,⁵⁶¹ Uganda,⁵⁶² Brunei,⁵⁶³ Brazil,⁵⁶⁴ Sierra Leone⁵⁶⁵ and Singapore.⁵⁶⁶ Uganda's law, for example, uses the term 'meat' without defining it.

In others, the term 'meat' is defined in such a way that it might include wildlife but there is no express inclusion. Brunei, for example, defines meat as "a carcass or any part thereof which is derived from

⁵⁶⁰ This summary is based on the compilation and general of the laws reviewed in the context of this research. The summary is provided as a reference and not intended to suggest that there is a prescribed standard or best practice associated with the form and content of this type of legislation.

⁵⁶¹ Bangladesh, The Animal Slaughter (Restriction) and Meat Control Act, Sect 2(c), 1957

⁵⁶² Uganda, Public Health Act, Part. 1"q", 1964

⁵⁶³ Brunei, Wholesome Meat Order, Sect 2(1), 2011

⁵⁶⁴ 564 Brazil, Law n° 1283 (Provides for industrial and sanitary inspection of products of animal origin), Art.1, 1950

⁵⁶⁵ Sierra Leone, The Wildlife Conservation Act, Part I.2, 1972

⁵⁶⁶ Singapore, Wholesome Meat and Fish Act, Sect 2, 2000

animals.⁵⁶⁷ Sierra Leone defines it “to include the fat, blood and fresh, dried, tinned, or otherwise preserved.”⁵⁶⁸

Due to the generic terms defining “meat” in these cases, it is necessary to further reference the law’s definition of ‘animal,’ and if it has, if it is well delimited, in order to verify whether the regulation would include wildlife meat or not.

This lack of certainty and definition can leave the wildlife meat industry uncovered for regulation and control.

Express Limitations

The express limitations used vary between jurisdictions but generally fit within one of the following -

- 1) limited to all domestic animals,
- 2) limited to some domestic animals, and
- 3) limited to domestic animals and a named set of wildlife.

All Domestic Animals

The first two approaches can be found in those countries that restrict the concept of meat by either referencing ‘domestic’ animals or by establishing a list of specific regulated animals that include only domestic animals. Some examples are Bangladesh,⁵⁶⁹ Fiji,⁵⁷⁰ Jamaica,⁵⁷¹ Zambia,⁵⁷² Samoa,⁵⁷³ and Botswana.⁵⁷⁴

Bangladesh takes a somewhat different approach by more generally defining meat as “the flesh or other edible portion of any animal which has been slaughtered in a slaughterhouse.’ This limitation to a slaughterhouse by itself may be enough to exclude wildlife. However, the law goes further, setting out a specific list of animals regulated by the law,

which suggests that wildlife would not be included.

Some Domestic Animals

It was observed that when there is a list establishing those animals, some of them are always covered, such as sheep, cattle and goats. Samoa, for example, considers only domestic animals as meat, such as “ovine, caprine, porcine species, and any domestic poultry, the meat of which is intended to be used for human consumption.”

Domestic Animals and Some Wildlife

Two (2) jurisdictions, South Africa and Botswana provide examples of the third approach. South Africa defines animal as “any animal referred to in Schedule I; (iv).⁵⁷⁵ In this schedule there is a list of domestic and wild animals covered, which include, for example, zebra, buffalo, crocodile and hippopotamus. Botswana similarly restricts the concept to only domestic animals and “farmed game” presenting the species included, without however defining a list of animals.

Regulatory Requirements

This review found four (4) regulatory tools applicable to managing disease in the meat industry. These are the tools most often found in the primary legislation. In general, the laws relevant to the meat industry have inspection requirements and provide for the handling of sick and injured animals. They also have some, but fairly limited, regulatory requirements directed at the markets where meat is sold. All of this is supported to some extent by penalties. As noted earlier in the report, a full assessment of penalties has not been conducted, including the degree to which laws impose differential liability for persons vs legal entities, deterrence values, and more.

⁵⁶⁷ Brunei, Wholesome Meat Order, Sect 2(1), 2011

⁵⁶⁸ Sierra Leone, The Wildlife Conservation Act, Part I.2, 1972

⁵⁶⁹ Bangladesh, The Animal Slaughter (Restriction) and Meat Control Act., Sect 2(c), 1957

⁵⁷⁰ Fiji, Meat Industry Act, Sect 2, 1969

⁵⁷¹ Jamaica, The Public Health (Meat Inspection) Regulations, Regulation 2, 1989

⁵⁷² Zambia, The Public Health (Abattoir and Transport of Meat) Regulations, Regulation 3, 1932

⁵⁷³ Samoa, Slaughter and Meat Supply Act, Sect 2, 2015

⁵⁷⁴ Botswana, Livestock and Meat Industries Act, Chapter 36:03, 2007

⁵⁷⁵ South Africa, Meat Safety Act, Sect 1, 2000

Many of the tools specific to controlling disease have already been discussed in the section on Food Safety. Those that apply only to meat processing have been commented below.

Inspection Requirements

A few countries (*n.* 5) have provisions related to the inspection of meat trade that are separate from the food legislation. These entail rules on licensing, meat standards and health requirements.

Countries that include inspection requirements are South Africa, Uganda, Botswana, Brazil and Singapore. Details are not provided in the primary law that establishes the requirement. In these cases, the law established that it was a responsibility of the specific authority on these matters to detail the regulations.

Handling of Sick and Injured Animals

Most countries have established some form of prohibition against processing or selling sick animal or injured animals. For the most part, no criteria or methods for making this determination have been defined for this type of procedure. Some countries also require the destruction of infected animals and carcasses, without however showing how it should be done.

Prohibiting Sale

The broadest regulatory approach simply prohibits the sale of any animal meat slaughtered in contravention of the applicable law to the provisions of their laws. This is the case in Fiji,⁵⁷⁶ South Africa⁵⁷⁷ and Singapore.⁵⁷⁸ Sierra Leone takes a similar approach without actually establishing a clear prohibition. Instead, its law states that any animal or carcass not slaughtered as per the provisions of their

laws will be treated as unfit for human consumption.⁵⁷⁹

This type of catch-all prohibition is not uncommon in law intended to close gaps that may not be immediately evident. However, it is not always as broad as might first appear and, in some instances may not be the best approach. In the examples found, the catch-all element is directed at meat 'slaughtered' in contravention of the law. It is not clear whether this is intended to apply to the entire process or only a part of it.

Prohibiting Processing

The most common form of regulation in this is the basic prohibition against processing animals that are sick or unfit for human consumption. However, this prohibition does not apply to the same point in the process and this may leave unintended gaps.

Brunei, for example, prohibits their slaughter (Brunei⁵⁸⁰), while others prohibit the sale of meat from these animals (Bangladesh,⁵⁸¹ South Africa,⁵⁸² Singapore,⁵⁸³ and Samoa)⁵⁸⁴.

Quarantining and disposal of carcasses

Another fairly common tool is the express requirement to separate or isolate these animals or their carcasses. In three jurisdictions, this requirement does not carry with it any further specificity, e.g., a specific destination (e.g., Fiji,⁵⁸⁵ Uganda,⁵⁸⁶ Zambia,⁵⁸⁷ and Brazil).⁵⁸⁸ In others, the law specifies that such animals and their carcasses are to be destroyed when vectors of diseases are found (e.g., Jamaica⁵⁸⁹ and Sierra Leone).⁵⁹⁰

⁵⁷⁶ Fiji, Meat Industry Act, Sect 16, 1969

⁵⁷⁷ South Africa, Meat Safety Act, Sect 7, 2000

⁵⁷⁸ Singapore, Wholesome Meat and Fish Act, Sect 23, 2000

⁵⁷⁹ Sierra Leone, Public Health Ordinance, Sect 109, 1960

⁵⁸⁰ Brunei, Wholesome Meat Order, Sect 18, 2011

⁵⁸¹ Bangladesh, The Animal Slaughter (Restriction) and Meat Control Act, Sect 3(2), 1957

⁵⁸² South Africa, Meat Safety Act., Sect 1, Sect 7, 2000

⁵⁸³ Singapore, Wholesome Meat and Fish Act, Sect 23, 2000

⁵⁸⁴ Samoa, Slaughter and Meat Supply Act, Sect 26, 2015

⁵⁸⁵ Fiji, Meat Industry Act, Sect 16, 1969

⁵⁸⁶ Uganda, Public Health Act, Sect 104, 1964

⁵⁸⁷ Zambia, The Public Health (Abattoir and Transport of Meat) Regulations, Regulation 28, 1932

⁵⁸⁸ Brazil, Decree n° 9,013 (Provides for industrial and sanitary inspection of products from animal origin), 2017

⁵⁸⁹ Jamaica, The Public Health (Meat Inspection) Regulations, Regulation 11, 1989

⁵⁹⁰ Sierra Leone, Public Health Ordinance, Section 43, 1960

Regulating Markets

Only two countries, Singapore and Jamaica, have provisions directly regulating markets in the context of the laws governing the meat industry.

Singapore⁵⁹¹, requires market vendors to obtain a license to operate their food establishment stall in any premise or public place. Jamaica⁵⁹² only requires the destruction of animal carcasses to prevent them from being exposed for sale in those places.

Prosecution and Penalties

Surprisingly, penalties are not always provided (e.g., imprisonment and fines) for the violation of these laws or the specific provisions dealing with slaughter and meat surveillance.

Of the jurisdictions reviewed, ten of them (Bangladesh,⁵⁹³ Fiji,⁵⁹⁴ Jamaica,⁵⁹⁵ Sierra Leone,⁵⁹⁶ South Africa,⁵⁹⁷ Zambia,⁵⁹⁸ Samoa,⁵⁹⁹ Brazil⁶⁰⁰ and Singapore)⁶⁰¹ apply a fine as a penalty, with amounts varying according to the recurrence of the offenses.

⁵⁹¹ Singapore, Wholesome Meat and Fish Act, Sect 23, 2000

⁵⁹² Jamaica, The Public Health (Meat Inspection) Regulations, Regulation 11, 1989

⁵⁹³ Bangladesh, The Animal Slaughter (Restriction) and Meat Control Act, Sect 3(2), 1957

⁵⁹⁴ Fiji, Meat Industry Act, Sect 102, 1969

⁵⁹⁵ Jamaica, The Public Health (Meat Inspection) Regulations, Regulation 11, 1989

⁵⁹⁶ Sierra Leone, Public Health Ordinance, Sect 72 (2), 1960

⁵⁹⁷ South Africa, Meat Safety Act, Sect 19 (2) (a), 2000

⁵⁹⁸ Zambia, The Public Health (Abattoir and Transport of Meat) Regulations, Regulation 30, 1932

⁵⁹⁹ Samoa, Slaughter and Meat Supply Act, Sect 28 (a), 2015

⁶⁰⁰ Brazil, Law nº 1283 (Provides for industrial and sanitary inspection of products of animal origin), Art.1, 1950

⁶⁰¹ Singapore, Wholesome Meat and Fish Act, Sect 2, 2000

Pet Trade Laws

(primary research and drafting by Sicily Fiennes)

For purposes of this research, pets are defined as animals destined for the pet trade, whether domesticated, captive or taken from the wild. This includes the category of what are sometimes referred to as exotic pets; those wild or captive bred animals that are non-native to a region and/or non-domesticated and that go beyond the traditional list of domesticated animals; e.g., dogs, cats, rodents (such as hamsters, gerbils, guinea pigs, rabbits) or livestock co-opted as pets.

Pet trade law refers to those laws and provisions directed at the commercial trade in animals, whether domestic or wild, whether native or exotic. This is a specialized and still emerging area of law not found in every jurisdiction and rarely as a separate law.

It is of particular concern because trade in wild animals as pets is a significant part of wildlife trade as a whole (e.g., cheetahs, songbirds and passerines, chimpanzees, etc.). While some of this trade operates alongside other forms of trade, it nonetheless is a separate form of trade with specialized requirements. Pets, in particular exotic species, also represent a significant health risk. Removing them from their ecosystems and bringing them into close proximity to species they have never encountered carries with it 'public health consequences [that] may be startling.'⁶⁰²

These other areas of law are already discussed in other sections of this report and that content is not repeated here unless deemed particularly relevant to pet trade.

Framework Reviewed

None of the countries reviewed have a law dedicated to the topic; although laws that contain provisions specific to pets exist in other jurisdictions (e.g., Costa Rica, many US States, etc.). Many countries rely more on provincial or local laws, rather than national laws (beyond the implementation of CITES), and these were not included in this effort. In this research, pets are regulated instead through animal quarantine laws (for international trade primarily);

animal health, and animal welfare laws (covering mostly domesticated species); and CITES Implementing laws (covering international trade in exotic pets) and some wildlife laws (which sometimes cover animals taken from the wild as pets, or those that are captive bred).

All of the countries in this review have at least one or more of these laws. However, for this section, the research canvassed the legislation solely to identify any content that would be expressly directed at pets or the markets where they are sold. It does not repeat any of the analysis covered by the other areas of law that apply to pets because they fall within the broader category addressed by that law (e.g., as wildlife covered by certain provisions of the wildlife conservation and trade law, or as a live animal whose trade is covered by animal health and welfare laws).

Specific Inquiry

Pet trade has often been left out of discussions regarding COVID-19 and is an often under-appreciated source of zoonotic disease.

The specific inquiry for this research included:

1. whether pets or exotic pets are specifically identified in one of four areas of law - wildlife conservation and trade, animal welfare, animal health, or CITES implementing law;
2. Whether pets were explicitly linked to disease or disease risk

Scope

In 16 of the 37 jurisdictions reviewed, there was no mention of pets in either the wildlife law, animal health, animal welfare, animal quarantine or CITES implementing law. It is indeed a challenge to find any law that mentions pets specifically. If they are mentioned, it tends to be vague, without detail or definition. In a few jurisdictions (*n.* 3) pets were mentioned in the principal wildlife conservation/animal protection law, though not in connection with disease. In three (3) jurisdictions, disease was mentioned in the principal wildlife conservation/animal protection law, though not in connection with pet trade. Four (4) of the jurisdictions

⁶⁰² EuroGroup for Animals. Exotic Pet Trade: Analysis of The Problems And Identification Of Solutions.

reviewed regulate pet trade under their biosecurity laws, whereby species which could be considered invasive were either banned from entering the country or had to be imported with a specific license and/or permit.

Four of the jurisdictions reviewed regulated disease control under their animal disease laws, whereby zoonotic and other diseases were ranked in schedules in terms of their risk of transmission. For two (2) of these, zoonotic diseases explicitly linked to pet trade (i.e. psittacosis, were mentioned). All mentioned other well known diseases such as rabies.

Uncertain Scope

Most of the laws reviewed do not reference 'pets' specifically. This does not mean, however, that they are not covered by the law, only that they do not receive treatment outside of a broader category (e.g., usually as a 'live animal') and in the context of law directed at broader issues (e.g., animal health).

The results from the Animal Health, Animal Welfare and Animal Quarantine reviews indicate that domestic pets will be covered by the regulatory requirements they offer.

Exotic pets are far less likely to be included, however; first, because the term is rarely used ;and second because these areas of law are principally concerned with domestic animals and livestock.

Reference to Exotic Pets

For exotic pet trade, few jurisdictions make the connection between disease and the entry and ownership of exotic pets. While information is available regarding regulations relating to the import/export of pets, these largely refer to domesticated animals, such as cats and dogs. There are nonetheless example and the approaches they suggest are the following:

- The positive list approach: the positive list approach is a list whereby the government or associated animal groups which lobby legislators, create a list of species allowed to be kept as pets, which provides more clarity to pet owners. This has been described as presenting a 'compromise solution in keeping with the

status quo'. Lists such as these can be designed according to welfare, environmental, public health and husbandry criteria.

- Existing health certificates used for dogs and cats- rather than simply requiring a CITES permit for exotic pets, if you require dogs to be vaccinated for example, these requirements can be co-opted, to expand coverage to wild animals as well as known, domesticated ones
- Pet shop regulations: there are few countries (UK, India and Singapore) which have explicit regulations for pet trade in shops. These include stipulations on procedures which pet shops need to do if a zoonotic disease is detected, which provides a strong example of location-specific disease control, which can limit the transmission of infectious disease
- Including pet-trade related zoonotic diseases in animal health acts: one key example is Tonga.

Express Reference

Among the few jurisdictions that expressly reference exotic pets are Australia and the UK. Both do this in the context of pet ownership.

Although Canada and Pakistan reference pet ownership, the national laws indicate a reliance of enforcing these through provincial or municipal laws. For these countries, pet trade management gets devolved to the subnational level. Although not the focus of this review, the differences between national and subnational legislation regarding pet trade are useful.

Almost no wildlife conservation laws have explicit references to animal disease. There were few jurisdictions (n.4) which mentioned diseases linked to the pet trade. One notable example was the Seychelles, which banned imports of live birds since the outbreak of avian flu in 2006.

Implicit but Unclear Reference

All jurisdictions did mention live animals in their wildlife conservation law, which could apply to pets, though over half of the jurisdictions lacked any legal definition for a pet animal in their legislation. Consequently, it is challenging to consider the scope of different law types, to pet trade.

Some of the reviewed jurisdictions are on a trajectory to improving exotic pet laws but lack specificity in the laws or inconsistencies in nomenclature make it difficult to ascertain if these laws regulate pet trade and its zoonotic potential effectively.

Regulatory Requirements

Given the prevalence of pet trade worldwide, as well as the specialized forms of trade (e.g., separate markets, separate trade chains, different consumer base, and different disease associations), it seems that specialized areas of law, or even separate regulations for pet trade would likely be required to control their trade, movement and risk of transmitting disease. At present, however, there are few tools directed specifically at pet trade, at least in the context of national laws and for the jurisdictions covered in this review.

Those regulatory requirements found in this review, separate from all other control measures generally applicable to live animals, are the following:

Biosecurity Risk

Many laws incorporate the biosecurity risk from exotic pets (pathway to becoming invasive) or implement provincial rules to dangerous pets.

Air travel

Many countries list designated entry points for pets travelling by air. [examples]. This at least funnels legal trade through controlled points where more rigorous animal health laws relating to the zoonotic potential of pet trade could be enforced.

Wildlife Conservation and Trade Laws

(primary research and drafting by Sofija Belajcic)

Wildlife Conservation and Trade Law includes those national laws directed at the management of wildlife, often including the regulation of habitat protection, hunting and trapping, population control, transportation, possession, trade, and more.

This law type is separate from the CITES implementing legislation (discussed in a separate section), as the latter is often a separate law or at least a separate section in the law, which focuses almost exclusively on the regulatory tools needed to manage international trade in CITES listed species. As a result, the species covered, the agencies involved, and the regulatory tools are distinct, warranting separate consideration and analysis.

Fundamental to wildlife conservation as a whole, a country's primary wildlife conservation and trade law often has content related to trade but only occasionally provides a direct basis for regulating zoonotic disease.

Framework Reviewed

Almost all of the countries in this review have some form of wildlife conservation law, although not all of them cover trade. These are typically dedicated pieces of legislation, meaning they deal almost exclusively with the management of wildlife. In some instances, questions of wildlife management will be combined with other primary natural resources (e.g., forests and protected areas) in a single law. For purposes of this inquiry, only the sections dealing with terrestrial wildlife were reviewed, unless the only wildlife related law for the jurisdiction was the fisheries management law, e.g., Antigua and Barbuda, Samoa, and Papua New Guinea.

Specific Inquiry

Beyond investigating which species are covered by the law, the research specifically focused on:

- Whether and how the law limits wildlife trade (e.g., all trade prohibited, commercial trade limited, etc.)
- Whether the law regulates the sale, consumption, or trade in game meat or other wildlife product;
- Whether the law regulates the markets that sell wildlife;
- Whether the law contains any provisions directed at the sale of zoonotic disease.

Scope

For most of the other types of law reviewed, a particular concern with the scope is the extent to which wildlife are included. This is obviously not an issue for the primary wildlife law. There is, however, the question of which types of wildlife. It is not uncommon for wildlife laws to have a particular focus that excludes some species from consideration. The inclusion or exclusion of species or a particular product has an impact on the application of any provisions that might be used to control the emergence and spread of zoonotic disease.

For this review, the concern was:

- whether laws cover all categories of wildlife and wildlife product (i.e. live animals, meat and wildlife-derived products); and
- whether laws apply to all wildlife or only protected or scheduled species.

The jurisdictions reviewed present two (2) broad patterns - all wildlife or an express limitation, often to protected species only. Within each of these overarching approaches, jurisdictions also presented a variety of sub-approaches for how they identify the types of wildlife products included.

The descriptions that follow have been organized first by the overarching approach (All Wildlife or Express Limitation) and then by sub-approach.

All Wildlife

Of the 37 jurisdictions reviewed, twenty-six (26) have what appears to be a comprehensive approach to

the coverage of wildlife in their main wildlife law.⁶⁰³ In other words, the term as defined (or undefined) suggests that it applies to all species. Singapore, for example, defines 'wild animal' as any animal that belongs to a wildlife species, and includes the young or egg of the animal.⁶⁰⁴ In a few instances, namely island jurisdictions with no terrestrial wildlife, the law limits its application to fish. This is the case with Antigua and Barbuda,⁶⁰⁵ Samoa,⁶⁰⁶ and Papua New Guinea.⁶⁰⁷ They are listed as having an 'all wildlife' approach, as they appear to cover the wildlife present in the jurisdiction.

As discussed in the section on Regulatory Requirements, even if this scope is comprehensive, including all wildlife found in the jurisdiction, this does not mean that these countries then regulate the sale of wildlife; only that their laws cover wildlife generally. Tuvalu for instance covers wildlife in its law but does not mention sale or trade in wildlife.

Caution is further warranted in this part of the assessment, as the application to 'all wildlife' is sometimes based on an interpretation that relies on the absence of any limitations in the law, or the assumption that the island nations do not have terrestrial wildlife. The latter assumption has not been verified in this review, but regardless of domestic coverage, it certainly omits the need to regulate trade entering or passing through the jurisdiction. At this point the limitation of the law to fish would almost certainly present a significant gap. It may also be that some or all of these laws exclude some wildlife based on the operation of other laws or court interpretations that have not been reviewed.

Limited to Protected Species Only

Of the 37 jurisdictions reviewed, 12 limit the species covered by the wildlife law to those that are listed as protected. Fiji, for example, only covers wildlife in CITES Appendix I, II and III and Schedules 1 and 2 in their law.⁶⁰⁸ Guyana covers wildlife specified in the

first, second and third schedule of the law.⁶⁰⁹ Jamaica likewise only covers protected animals, protected birds, turtles and game animals.⁶¹⁰

Limited to Certain Classes

In at least one case, the law limits its application to certain classes of vertebrates. Belize defines wildlife as all undomesticated mammals, birds and reptiles and all parts, eggs and nests of any of these wildlife forms.⁶¹¹ Missing from this are two classes, amphibians and fish.

Wildlife Products

Regardless of the approach taken with respect to wildlife, when it comes to wildlife products there is a fair amount of variation. Research found four (4) approaches. These are 1) uncertain coverage, 2) all products, 3) some products, and 4) game meat only.

Uncertain Coverage of Products

Only two (2) jurisdictions seemed to fit within category of uncertain coverage - Singapore⁶¹² and Malaysia.⁶¹³ Both use the term wildlife but make no further mention of wildlife products. This should not be interpreted to mean wildlife products are not included, only that this is either the subject of interpretation or settled by another law not reviewed here. These types of approaches should always be highlighted, even if they seem to address the issue, simply because uncertainty in law works against its fair and consistent application and opens the door to litigation. The separate reference to wildlife and wildlife products in some jurisdictions (e.g., Kenya and Sierra Leone) lends at least some weight to a narrower interpretation.

⁶⁰³ Australia, Bangladesh, Belize, Botswana, Brunei, China, Dominica, Fiji, The Gambia, Ghana, Grenada, Guyana, Jamaica, Kenya, Malawi, Malaysia, Mauritius, Mozambique, Sri Lanka, Sierra Leone, Seychelles, Singapore, Tanzania, Tuvalu, Uganda, and Zambia.

⁶⁰⁴ Singapore, Wildlife Act Cap. 351, s 8, 1965

⁶⁰⁵ Antigua and Barbuda, The Fisheries Act, 2006

⁶⁰⁶ Samoa, Fisheries Amendment Act, 2002

⁶⁰⁷ Papua New Guinea, Fisheries Management Act, 1998

⁶⁰⁸ Fiji, Endangered and Protected Species Act, s 23(7), 2012

⁶⁰⁹ Guyana, Wildlife Conservation and Management Act, s 2(1)(uu), 2016

⁶¹⁰ Jamaica, The Wildlife Protection Act, 1945

⁶¹¹ Belize, Wildlife Protection Act Cap. 220, s 2, 2000

⁶¹² Singapore, Wildlife Act Cap. 351, 1965

⁶¹³ Malaysia, Wildlife Conservation Act, 2010

All Products

The inclusion of all products is the approach taken by four (4) of the jurisdictions reviewed. In one instance, Mauritius, the inclusion is straightforward with the law referencing wildlife as 'any living creature other than a human being, dog, cat, domestic livestock, or fish and other marine organisms.'⁶¹⁴ In another two jurisdictions, the law uses the term 'specimen', which has been interpreted for this review as a general reference to an animal or wildlife in whatever form. Malawi covers 'any specimen of a protected species.'⁶¹⁵ Uganda covers protected specimens.⁶¹⁶

China is similar to Mauritius, covering all wildlife and the products thereof.⁶¹⁷ China's regulatory system is, however, complex and examples of direct gaps and differing approaches (possibly conflicting) within and between laws has been documented with respect to wildlife and wildlife trade. These gaps and conflicts have repercussions for how wildlife products are included, and mean that not all products are in fact included.

Of special note are two issues. First, the recent bans do not apply to trade for fur, medicine or research. As noted by WCS, '[t]he Decision prohibits the hunting, trade, transportation, and consumption of all terrestrial wild animals whether captive-bred or wild caught, where the end purpose is to eat.'⁶¹⁸ The interpretation of the Decisions from the Standing Committee clarified exemptions for fish and other aquatic wild animals not protected in the Wild Animal Conservation Law or other laws/regulations (such as aquatic wild animal regulation), as well as livestock and poultry. Second, other exceptions exist for medicinal products that are 'patented', which includes products containing wildlife.

⁶¹⁴ Mauritius, Native Terrestrial Biodiversity and National Parks Act, s 2(a), 2015

⁶¹⁵ Malawi, National Parks and Wildlife Act s 86(1), 2015

⁶¹⁶ Uganda, Wildlife Act, s 71(1)(b), 2019

⁶¹⁷ China, Wildlife Protection Law of the People's Republic of China, 2018

⁶¹⁸ WCS. (2020). WCS Statement and Analysis: On the Chinese Government's Decision Prohibiting Some Trade and Consumption of Wildlife.

⁶¹⁹ Botswana, Wildlife Conservation and National Parks Act Cap 38:01, s 60, 1992

⁶²⁰ Bangladesh, Wildlife (Conservation and Security) Act, s 12(1), 2012

⁶²¹ Gambia, The Wildlife Conservation Act, s 36(1), 1977

Some Products

More commonly, countries will set out a list of wildlife products that also fall within the purview of the law. In this there does not seem to be a strong pattern, other than the inclusion of 'trophies.'

Botswana, for example, references animals, horns, ivory, meat and trophies.⁶¹⁹ Bangladesh does something similar covering wildlife, meat, trophy or uncured trophy, and parts of wild animals.⁶²⁰ Gambia covers wild animals, meat or trophies of wild animals with the exception of meat or trophy of any bush pig hunted legally.⁶²¹ Brunei covers protected animals, trophies and flesh.⁶²² Tanzania covers trophies, which is defined as any animal alive or dead, trophies, horn, ivory, etc.⁶²³ Ghana only covers trophies.⁶²⁴

Other countries, on the other hand, have less in common with each other. Zambia, for example, covers live game, protected animals or meat, with protected animals defined as wild animals that are endemic, threatened or endangered.⁶²⁵ Seychelles only cover birds,⁶²⁶ the Giant Land Tortoise⁶²⁷ and the Seychelles Pond Turtle.⁶²⁸ Tuvalu covers birds or other animals other than fish.⁶²⁹ Jamaica covers the sale of hawks, game birds and turtle eggs.⁶³⁰ Taking a different approach, Belize covers wildlife but excludes meat from species legally hunted from the prohibition on the sale of wildlife.⁶³¹

Game Meat Only

The most restrictive approach to the inclusion of wildlife products is where the law references only game meat. Sierra Leone defines animals to cover

⁶²² Brunei, Wildlife Protection Act Cap. 102, s 8(1), 1981

⁶²³ Tanzania, Wildlife Management Authority Act, s 3(1), 2013

⁶²⁴ Ghana, Wild Animals Preservation Act, s 11(m), 1961

⁶²⁵ Zambia, Wildlife Act, s 98, 2015

⁶²⁶ Seychelles, Wild Animals and Birds Protection Act Cap. 247, s 4(2), 1961

⁶²⁷ Seychelles, The Wild Animals (Giant Land Tortoises) Protection Regulations, s 4, 1966

⁶²⁸ Seychelles, The Wild Animals (Seychelles Pond Turtle) Protection Regulations, s 4, 1966

⁶²⁹ Tuvalu, Wildlife Conservation Act, 2008

⁶³⁰ Jamaica, The Wildlife Protection Act, s 7(2)(b), 1945

⁶³¹ Belize, Wildlife Protection Act Cap. 220, s 8(1), 2000

all wildlife and also defines meat which includes meat of all wildlife.⁶³² Kenya covers all wildlife and meat.⁶³³ What is not clear from these laws is whether the reference to 'wildlife' can be interpreted to include other products, e.g., skins, horns, trophies, etc.

Regulatory Requirements

Of the 37 jurisdictions reviewed, none have specific provisions in their primary wildlife law that regulate all of the elements that were the subject of the inquiry - wildlife trade, including game meat, the regulation of markets, and the control of zoonotic disease. There is always a mix of some kind, and with the exception of one jurisdiction, a complete gap when it comes to regulating markets.

Of the 37 jurisdictions reviewed, 28 provide some basis for regulating trade by either:

- 1) prohibiting most or all forms of wildlife trade;
- 2) directly regulating the sale of wildlife and game meat; or
- 3) instituting some form of permitting requirement for commercial trade and the sale of meat in particular.

Examples follow:

Prohibiting Trade

The first approach obviates the need for more detailed regulation but appears to be in the minority, at least for the review conducted so far. Only 8 countries had express prohibitions in trade in wildlife and meat in their legislation. However, these laws do not necessarily apply to all species or provide for monitoring and enforcement actions that would still be required to effectively implement the ban.

The Gambia's Wildlife Conservation Act is an example, prohibiting the commercial sale of any wild animal, meat or trophy, with the exception of bush pig.⁶³⁴ Mauritius takes a similar approach by prohibiting trade in any prescribed wildlife or any

product or derivative of prescribed wildlife,⁶³⁵ and prohibiting the import and export of any protected wildlife or its derivative without a permit.⁶³⁶ Guyana, Singapore and Zambia have similar laws in place.

However some countries with fisheries management acts such as Papua New Guinea, Samoa and Seychelles only contain prohibitions on trade in fish and other marine life such as tortoises.

Belize has in place a moratorium on commercial dealings in wildlife but does not extend this to the sale of meat from species which may be hunted.⁶³⁷

Regulating Sale of Wildlife

A number of jurisdictions (*n.* 13) regulate the sale of wildlife. However, all of these are considered to have a gap in their ability to control the movement of wildlife and wildlife products either because the prohibition only extends to protected species or it is limited to unlicensed trade, which only begs the question - what trade can be licensed and under what conditions.

Prohibiting All Trade

The broadest approach, one that prohibits all trade in all protected species, is observed in Australia and Fiji. Australia makes it an offence to trade in threatened species or listed threatened ecological communities in the Commonwealth area.⁶³⁸ This same approach is taken by Fiji whereby anyone found selling the specimens in s 3 is guilty of an offence.⁶³⁹

Requiring a Permit to Trade

The most common approach, however, is the prohibition on the sale of wildlife or a product without permission of some kind. This is the format found in eight (8) jurisdictions, including Bangladesh, Malawi, Uganda, Tanzania, Kenya, Malaysia, Mozambique, and Sierra Leone.

⁶³² Sierra Leone, The Wildlife Conservation Act, s 2, 1972

⁶³³ Kenya, The Wildlife Conservation and Management Act, s 3(1), 2013

⁶³⁴ The Gambia, Wildlife Conservation Act, s 36(1), 1977

⁶³⁵ Mauritius, The Native Terrestrial Biodiversity and National Parks Act, s 25(b), 2015

⁶³⁶ *Ibid*, s 21(3)

⁶³⁷ Belize, Wildlife Protection Act (Cap. 220), s 8(1), 2000

⁶³⁸ Australia, Environment Protection Biodiversity Conservation Act, s 196(d), 1999

⁶³⁹ Fiji, Endangered and Protected Species Act, s 23(1)(a)(2) referencing s 3, 2002

Malawi makes it an offence to sell any specimen of a protected species, but excludes trade in specimens lawfully acquired under a licence.⁶⁴⁰ Uganda makes it an offence to sell wildlife without a permit.⁶⁴¹ Tanzania makes it an offence to trade in trophies without a licence.⁶⁴² Kenya makes it an offence to trade in wildlife species without a permit.⁶⁴³ Malaysia makes it an offence to carry out “a business of dealing” meaning any sale of wildlife, meat, etc. without a licence.⁶⁴⁴ Mozambique makes it an offence to trade in wildlife without a licence.⁶⁴⁵ Bangladesh makes it an offence to transfer any wild animal, meat, trophy, etc. by way of sale without a registration certificate.⁶⁴⁶ Sierra Leone makes it an offence to sell articles made from trophies.⁶⁴⁷

Prohibiting Trade in Certain Categories

Another common approach is to limit the prohibition to certain species or categories. Some countries, for example Ghana, only focus on regulating trade in trophies.⁶⁴⁸ Jamaica is also limited but prohibits sale only in hawks, game birds and turtle eggs.⁶⁴⁹ Sri Lanka makes it an offence to sell any mammal or reptile not in Sch. 1 and outside the National reserve or sanctuary.⁶⁵⁰ China only states that it prohibits trade in wildlife and products thereof with no specific references to meat.⁶⁵¹

Regulating Sale of Game Meat

Five countries have specific provisions relating to the sale of meat. Botswana prohibits the sale of meat of any game animal or non-designated animal except

with the grant of a permit.⁶⁵² Malawi also has regulations in place to regulate the trade in meat.⁶⁵³ Seychelles prohibits the sale of meat of the shell or calipee of a turtle.⁶⁵⁴ Tanzania has laws allowing officers to request permits for possessing meat if they believe an offence has been committed.⁶⁵⁵

Zambia requires anyone selling game meat to possess a certificate of ownership.⁶⁵⁶ The same law further empowers the Minister, on the advice of the Director, to regulate trade or movement of meat or game or protected wildlife.⁶⁵⁷ The law falls short, however, of addressing the control of zoonotic disease.

Permitting Requirements for Wildlife Trade

Botswana prohibits the sale of any game animal, non-designated animal or the meat, eggs, or trophy of such animals unless a permit has been granted.⁶⁵⁸ Malawi makes it an offence to sell any specimen of a protected species, while excluding trade in specimens lawfully acquired under a licence.⁶⁵⁹ Uganda makes it an offence to sell wildlife without a permit.⁶⁶⁰ Kenya makes it an offence to trade in wildlife species without a permit.⁶⁶¹ Malaysia makes it an offence to carry out “a business of dealing” meaning any sale of wildlife, meat, etc. without a licence.⁶⁶² Mozambique makes it an offence to trade in wildlife without a licence.⁶⁶³ Bangladesh makes it an offence to transfer any wild animal, meat, trophy, etc. by way of sale without a registration certificate.⁶⁶⁴ Sierra Leone requires a permit from the Minister in order to sell wild game meat.⁶⁶⁵

⁶⁴⁰ Malawi, National Parks and Wildlife Act, s 86(1) and (2), 1992

⁶⁴¹ Uganda Wildlife Act, s 71(b), 2019

⁶⁴² Tanzania, Wildlife Management Authority Act, s 92(1), 2013

⁶⁴³ Kenya, The Wildlife Conservation Management Act, s 85(1), 2013

⁶⁴⁴ Malaysia, Wildlife Conservation Act, s 63, 2010

⁶⁴⁵ Mozambique, Lei no. 10/99, Art. 41, 1999

⁶⁴⁶ Bangladesh, Wildlife (Conservation and Security) Act, s 12(1), 2012

⁶⁴⁷ Sierra Leone, Wildlife Conservation Act, s 54, 1972

⁶⁴⁸ Ghana, Wild Animals Preservation Act, s 11(m), 1961

⁶⁴⁹ Jamaica, Wildlife Protection Act, s 7(2)(b) and s 8(b), 1945

⁶⁵⁰ Sri Lanka, Fauna and Flora Protection Ordinance (Cap. 469), s 30(f), 1993

⁶⁵¹ China, Wildlife Protection Law of the People's Republic of China, Art. 27, 2016

⁶⁵² Botswana, Wildlife Conservation and National Parks Act, s 60, 2007

⁶⁵³ Malawi, National Parks and Wildlife Act, s 87, 1992

⁶⁵⁴ Seychelles, Wild Animals and Birds Protection Act, s 5(2) and (3), 2007

⁶⁵⁵ Tanzania, Wildlife Management Authority Act, s 102(3)(a), 2013

⁶⁵⁶ Zambia, Wildlife Act, s 99, 2015

⁶⁵⁷ *Ibid*, s 100

⁶⁵⁸ Botswana, Wildlife Conservation and National Parks Act, s 60; referencing s 39(1)(c), 2007

⁶⁵⁹ Malawi, National Parks and Wildlife Act, s 86(1) and (2), 1992

⁶⁶⁰ Uganda, Wildlife Act, s 71(1)(b), 2019

⁶⁶¹ Kenya, Wildlife Conservation and Management Act, s 85(1), 2013

⁶⁶² Malaysia, Wildlife Conservation Act, s 63, 2010

⁶⁶³ Mozambique, Lei No. 10/99, Art. 41, 1999

⁶⁶⁴ Bangladesh, Wildlife (Conservation and Security) Act, s 12(1), 2012

⁶⁶⁵ Sierra Leone, The Wildlife Conservation Act, s 37, 1972

Zoonotic Disease and Wildlife Trade

Regulatory tools specific to controlling diseases in wildlife populations is principally a function of more traditional practices and concerns; i.e., culling wildlife populations to prevent the transmission of disease from wild populations to domestic livestock.

In some instances, this justification is explicit in the law. In Ghana, for example, the president may make regulations for preventing the transmission of contagious diseases from domestic to wild animals.⁶⁶⁶

In all of the other jurisdictions reviewed here, this justification is implicit. Botswana, for example, authorizes killing, capturing and driving of animals in a national park, game reserve or sanctuary for the purpose of the control of disease.⁶⁶⁷ However, the

killing and capturing of animals may also be conducted in the interest of public safety or the protection of livestock, grazing, crops, water installations or fences.⁶⁶⁸ Zambia follows the same pattern, authorizing officers to 'control or prevent the spread of animal diseases'⁶⁶⁹ but with no specific mention of culling of the wildlife population. Other countries with a similar approach include Bangladesh,⁶⁷⁰ China,⁶⁷¹ Kenya,⁶⁷² Malaysia,⁶⁷³ and Sri Lanka.⁶⁷⁴

Whilst it is common for wildlife authorities to have the power to cull wildlife populations for disease, the connection between species and the disease which leads to their culling is not always clear in the law. Only Bangladesh specifically states that a wild animal may be killed if it suffers from a disease.

⁶⁶⁶ Ghana, Wild Animals Preservation Act, s 11(b), 1961

⁶⁶⁷ Botswana, Wildlife Conservation and National Parks Act (Cap 38:01), s 40(a), 2007

⁶⁶⁸ *Ibid*, s 40(b)

⁶⁶⁹ Zambia, Wildlife Act, s 112(1)(k), 2015

⁶⁷⁰ Bangladesh, Wildlife (Conservation and Security) Act, s 8(b), 2012; the Chief Warden may remove, kill or rehabilitate a wild animal if it suffers from a disease

⁶⁷¹ China, Departments for the protection of wildlife and veterinary medicine can monitor wildlife diseases and make emergency response plans for wildlife disease epidemics.

⁶⁷² Kenya, The Wildlife Conservation and Management Act, s 52(1)(c) and (m), 2013; Wildlife and Training Institute undertakes wildlife disease surveillance and control, and makes measures for wildlife disease surveillance and control.

⁶⁷³ Malaysia, Wildlife Conservation Act, s 34, 2010; Director General may prescribe methods for disease control or quarantine of any wildlife.

⁶⁷⁴ Sri Lanka, Fauna and Flora Protection Ordinance (Cap 469), s 38(a); regulations may be made requiring any animal to be free from disease or infection

ANNEX III

CITES Penalties

Table: Penalties Imposed for Violation of Health and Welfare Standards in CITES Implementing Legislation

Jurisdiction	CITES Implementing Law	Maximum Penalties
Antigua and Barbuda	Environment Protection and Management Act 2019	Imprisonment up to 5 years or fine up to XCD 50,000 (USD 18,501) or both
Australia	Environment Protection and Biodiversity Conservation Act 1999	Imprisonment up to 7 years or fine up to 420 penalty units (AUD 93,240 and USD 67,982) or both
Bangladesh	Wildlife (Conservation and Security) Act 2012	Imprisonment up to 7 years for first offence and 12 years for subsequent offence and a fine up to 1,000,000 Bangladeshi Takas (USD 11,797) for first offence and 1,500,000 Bangladeshi Takas (USD 17,695) for subsequent offence or both
Belize	Wildlife Protection Act 2000	Imprisonment up to 6 months or fine up to BZD 1,000 (USD 496) or both
Botswana	Wildlife Conservation and National Parks Act 1992	Imprisonment up to 7 years or fine up to P 10,000 (USD 885) or both for species covered under the Act and imprisonment up to 15 years or fine up to P 100,000 (USD 8,846) or both if an offence is committed against a rhinoceros
Brunei	Wild Fauna and Flora Order 2007	Imprisonment up to 5 years or fine up to 100,000 Brunei Dollars (USD 73,728) or both for individual offenders and fine up to 200,000 Brunei Dollars for body corporates (USD 147,457)
Cameroon	Decree N ° 2005/2869 / PM OF 29 JULY 2005 Fixing the Terms of Application of Certain Provisions of the Convention on International Trade in Endangered Species of Wild Fauna and Flora	--- (No health and welfare standards in law)
Canada	Wild Animal and Plant Protection and Regulation of International and Interprovincial Trade Act 1992	Imprisonment up to 5 years or fine up to CAD 1,000,000 (USD 757,269) or both. For subsequent offences a fine up to CAD 2,000,000 (USD 1,514,538) can be imposed along with 5 years imprisonment
China	Wildlife Protection Law (Revised in 2018)	Fine up to 200,000 Yuan (USD 29,546) or fines up to 10 times the value of seizure, whichever is higher
Dominica	Forestry and Wildlife Act 1976	Imprisonment up to 3 years or fine up to 5,000 Dominican Pesos (USD 86) or both

Jurisdiction	CITES Implementing Law	Maximum Penalties
Fiji	Endangered and Protected Species Act 2002	Imprisonment up to 5 years or fine up to FJD 100,000 (USD 47,294) or both
Gambia	Wildlife Conservation Act 1977	Imprisonment up to 1 year or fine up to 1,000 Gambian Dalasis (USD 19) or both
Ghana	Wildlife Laws & Regulations 1961	Imprisonment up to 6 months with hard labour or fine up to 100 Ghana Cedis (USD 17)
Grenada	Birds and Other Wild Life (Protection) Ordinance 1957	Fine up to ECD 100 (USD 37)
Guyana	Wildlife Conservation and Management Act 2016	Imprisonment up to 3 years or fine up to 2,000,000 Guyanese Dollars (USD 9,576) or both
India	Wild Life (Protection) Act 1972	Imprisonment up to 7 years or fine up to INR 50,000 (USD 679)
Jamaica	Endangered Species (Protection, Conservation and Regulation of Trade) Act	Imprisonment up to 10 years or fine up to JMD 2,000,000 (USD 14,105) or both
Kenya	Wildlife Conservation and Management Act 2013	Life imprisonment and fine up to 20,000,000 Kenyan Shillings (USD 184,636)
Malawi	National Parks and Wildlife Act 1994	Imprisonment up to 30 years or fine up to MKW 15,000,000 (USD 20,033) or both
Malaysia	International Trade in Endangered Species Act 2008	Imprisonment up to 10 years or fine up to 2,000,000 Ringgits (USD 486,086) or both
Mauritius	Wildlife and National Parks Act 1993	Imprisonment up to 5 years or fine up to 100,000 Mauritian Rupees (USD 2,517) or both
Mozambique	Law of Protection, Conservation and Sustainable Use of Biological Diversity 2014	Imprisonment up to 16 years or fine equivalent to 1,000 minimum wages of civil service employees or both
New Zealand	Trade in Endangered Species Act 1989	Imprisonment up to 5 years or fine up to NZD 200,000 (USD 135,230) or both
Pakistan	Pakistan Trade Control of Wild Fauna and Flora Act 2012	Imprisonment up to 2 years or fine up to 1,000,000 Pakistani Rupees (USD 6,031) or both
Papua New Guinea	International Trade (Fauna and Flora) Act 1979	Imprisonment up to 5 years or fine up to K 10,000 (USD 2,899) or both
Samoa	Endangered Species Act 1973	Imprisonment up to 1 year or fine up to 50,000 Samoan Talas (USD 18,975) or both
Seychelles	Wild Animals and Birds Protection Act 1961	Imprisonment up to 2 years or fine up to 500,000 Seychellois Rupees (USD 27,922) or both
Sierra Leone	Wildlife Conservation Act 1972	Imprisonment up to 1 year or fine up to 200 Leones (USD 1) or both

Jurisdiction	CITES Implementing Law	Maximum Penalties
Singapore	Endangered Species (Import and Export) Act 2008	Imprisonment up to 2 years or fine up to SGD 500,000 (USD 367,899) or both
South Africa	National Environmental Management: Biodiversity Act 2004	Imprisonment up to 5 years for first offences and 10 years for subsequent offences or fine up to ZAR 5,000,000 (USD 306,079) for first offences and up to ZAR 10,000,000 (USD 612,158) for subsequent offences or both imprisonment and fine
Sri Lanka	Fauna and Flora Protection Ordinance	--- (No health and welfare standards in law)
Tanzania	Wildlife Conservation Act 2009	Imprisonment up to 10 years or fine up to TZS 5,000,000 (USD 2,156) or both
Tonga	Birds and Fish Preservation Act (Revised in 1988)	Imprisonment up to 6 months or fine up to TOP 500 (USD 220) or both
Uganda	Uganda Wildlife Act 2019	Life imprisonment and fine up to 1,000,000 currency points (UGX 20,000,000,000) (USD 5,418,710)
Zambia	Zambia Wildlife Act 1998	Imprisonment up to 5 years or fine up to 50,000 penalty units (ZMW 900,000) (USD 49,559)