Anti-trade campaigning - summary of issues

- According to both the World Health Organisation (WHO) and the World Organisation for Animal Health (OIE) the source of the SARS-CoV-2 virus is unknown. All available evidence suggests that the virus has a natural animal origin with an ecological reservoir in bats. A closely related coronavirus has been found circulating in Horseshoe bats. There is not enough scientific evidence at present to explain the original transmission route of SARS-CoV-2 to humans or the potential role of animal reservoir hosts.
- Explanation of 'wet markets' - https://www.theguardian.com/global-development/2020/apr/16/what-is-a-wet-market-coronavirus?CMP=Share_iOSApp_Other
- Outbreak and early incidents of COVID-19 linked to a wet market in Wuhan, Hubei Province, China. Such markets are common in Asia, Africa and elsewhere, selling fresh fruit, vegetables, poultry, fresh meat and live animals (Challender *et al*., 2020).
- The wildlife trade is very complex and covers a very broad spectrum, it spans many different habitat types e.g. freshwater, marine, land and production systems from wild capture to captive breeding. It is a trade which enables people in many parts of the world to meet their basic needs and provides livelihood benefits from harvesting or farming (Challender *et al*., 2020).
- Sustainable use is one of three key objectives of the Convention on Biological Diversity alongside conservation and equitable benefit sharing. Many local and national economies are underpinned by sustainable use of wildlife, with it supporting the livelihoods and cultures of millions, potentially billions of people (Roe, 2020).
- The key factor to any form of sustainable use is that it generates benefits (financial, cultural, nutritional etc) for those people/communities who live with and are the custodians of wild species and their associated ecosystems. This ensures that such people/communities are empowered and incentivised to continue conserving wild species long-term and their associated ecosystems via the provision of such livelihoods (Roe, 2020).
- Calls for blanket bans on wildlife trade in the wake of the COVID-19 pandemic on public health grounds range from bans on the commercial trade in wildlife for human consumption to those at the extreme end of the spectrum i.e. end all trade in wildlife (keeping, breeding and domestication (Challender *et al*., 2020).
- Such blanket bans are unlikely to be feasible as they do not account for the complexity of the trade and are likely to do more harm than good. Bans will not deter all traders, those motivated by profit will continue to pursue illegal activity and bans will risk a rise in such activity. Any animal products deemed as being socially desirable will mean that consumer demand will remain and such trade will become unregulated and clandestine. Indiscriminate bans on wildlife trade will not eradicate the risk of future zoonotic transmissions and may have severe impacts on livelihoods and biodiversity (Challender *et al*., 2020).
- There is already a likely shift underway in the illegal wildlife trade to selling online with a ban on physical wet markets making this more likely to occur (although it will make such trade more vulnerable to electronic surveillance. Illegal wildlife traders in SE Asia and China are likely to capitalise on the COVID-19 pandemic to expand their market share and operations, particularly to those that may be linked to the legal wildlife trade (Wittig, 2020).
- If legal options are removed e.g. captive breeding, this may raise the perception of scarcity and therefore increase values on the black market, potentially accelerating the exploitation of wild species and increasing the risk of extinctions together with uncertain outcomes for wildlife economies (Challender *et al*., 2020).
- Wildlife bans will likely create or expand in areas such as China, Vietnam etc illegal business opportunities. It could also result in unintended consequences whereby established legal wildlife

traders turn to illegal profit-making opportunities. Wittig (2020) states that such opportunities will focus on: selling/renting of wildlife permits/licences which had been legally obtained; applying leverage on legal wildlife supply chains and distribution chains to sell and traffic illegal wildlife products, laundering them as legal trade. In addition, wildlife trafficking networks may place greater emphasis on those less iconic species such as those covered by the legal trade e.g. snakes, turtles, frogs, birds etc (Wittig, 2020).

- Broad-scale bans on the trade in live animals are likely to fall far short of any such goals to protect public interests or animals. Before a policy approach of this nature is considered there needs to be careful evaluation of a number of issues (Reaser *et al*., 2008). Such issues include: the substantial increase in the trade of a species as a direct result of anticipation of a ban, the creation of economic incentives for illegal activity as the value of that species increases due to its perceived 'rarity' value, the opening or flow of illegal trafficking through other existing pathways e.g. drug trafficking, possible legal challenges to the World Trade Organisation with regard to non-discrimination policies which prevent countries enacting artificial trade barriers, the negative impacts to cultural practices and sustainable development (as reviewed by Reaser *et al*., 2008).
- The COVID-19 pandemic should not be used as an opportunity to prescribe global wildlife trade policy (Challender *et al*., 2020). Nor should it be used as a false argument to broadly denounce wildlife use (Roe, 2020).
- Such calls for wildlife bans are a knee jerk reaction and are potentially a self-defeating measure. Effective bans need to align to social norms and be effectively enforced. The likelihood of such enforcement is unrealistic in many parts of the world due to a lack of resources to fund such enforcement and that the legitimacy of such bans are likely to be challenged by local people (Challender *et al*, 2020).
- Blanket bans on wildlife trade may potentially undermine sustainable use schemes which will assist in gaining knowledge on species biology and ecological function, and therefore could do more harm than good instead of targeting practices which are illegal, unregulated or unsafe (Roe, 2020).
- This pandemic has highlighted the limitations on other forms of sustainable use such as eco-tourism which has been curtailed almost instantly (Roe, 2020).
- Curtailing wildlife trade would risk overlooking factors such as habitat destruction which is a major threat, not only to wildlife but as a source of emerging infectious diseases. Banning the wildlife trade *per se* would result in local communities engaging in other (more destructive) forms of land use. If wild lands maximise the value that local communities get from such lands, this is the key to the protection and of the wider ecosystem (Roe, 2020).
- Rather than bans, an appropriate response is to improve the regulation of wildlife trade at such markets, with a focus on human public health and animal welfare and which will minimise the risk of zoonotic transmissions. Such regulation should focus on those identified high risk species, to improve conditions along the supply chain and at markets and draw upon existing international standards (such as those required for air transport of live animals (Challender *et al*., 2020).
- The key to preventing such outbreaks in the future is better regulation and smart regulation i.e. introducing measures which are culturally appropriate and which will incentivise communities, traders and law enforcement agencies to comply (Challender *et al*., 2020).
- Wildlife trafficking will increasingly become understood as the main cause of the COVID-19 pandemic and as a future threat to other emerging zoonotic disease pandemics (Wittig, 2020).

The severe impacts of illegal and unregulated wildlife trade and consumption has been highlighted by the COVID-19 pandemic (Roe, 2020).

- There is a need to increase efforts to reduce unsafe, illegal and unsustainable use (Roe, 2020). In the long-term such traffickers will become vulnerable to political narratives and any measures which will diminish social status and increase the social stigma of owning and trading in wildlife products and undermine the perception of IWT being a stable and profitable business if there is a shift in public perception in such demand countries that IWT is a threat to their national pride, security and public health (Wittig, 2020).
- The effectiveness of exploiting such vulnerabilities and these having an impact on the illegal wildlife trade will require a coordinated international policy response, strong enforcement, measures to increase the social stigma of such activities both generally and in terms of specific species and wildlife categories and know your customer controls.
- There is an unprecedented opportunity to develop and implement conservation programmes. Also to develop approaches which will enhance good practices and, based on the regulated and sustainable use of natural resources, promote resilient livelihoods (Roe, 2020).
- The majority of wild species occur in landscapes and seascapes also occupied by indigenous people and local communities. To ensure that they have clear and secure rights to sustainably manage and benefit from such species is a fundamental characteristic of effective governance and will prevent over-exploitation by others by ensuring that such governance structures and systems are in place at all levels (Roe, 2020).
- A potential solution may be the screening post-arrival and quarantine of animals (such as occurs with Caudata species being imported into the EU). However, this is not considered feasible nor practical by the CDC in the USA (Reaser *et al*., 2008).
- Other potential solutions could be the use of existing guidelines which may be fit for purpose but currently underused, the use of early detection and surveillance programmes, establishing screening and risk analysis programmes for live animal imports and to utilise on an international scale, those comprehensive biosecurity approaches incorporating scientifically informed, risk based, pre and post import measures as developed by high volume importing countries (Reaser *et al*., 2008).
- Pilanesberg Resolution (need to check with Marshall on this) but may have some relevance in relation to an example of where effective collaboration has resulted in successful outcomes in relation to wildlife and livestock zoonotic transmission (Reaser *et al.,* 2008).

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Additional info from ZZF (Dr Stephan Hetz)

It is a huge difference whether animals are traded for food or as pets. The demand in wild meat is relatively high in some Asian kitchens (Shairp et al. 2016). This may involve unusual animals which are bred or traded (Aust et al. 2017; Mambeya et al. 2018). Illegally traded and killed wild animals like species of pangolin are most probably not controlled for diseases. Pangolins, palm civets and other animal species are sold in huge numbers (Ingram et al. 2018; Ingram et al. 2019). Pangolin species are partly listed by CITES and restrictions to trade are in place since 1975. In 2016 eight species of the genus *Manis* were added to appendix I of CITES. Some species are also listed on the IUCN Red List ranging from vulnerable to critically endangered. There is a lot of trade from Africa to China.

Therefore, in our opinion, the sources of Coronaviruses may not include the trade with living animals as pets but the trade for wild animals (you may call it bush-meat) for human consumption (Cyranoski 2020). There are also discussions whether the virus jumped over to humans on rural areas (Li et al. 2019). Ebola, SARS and COV-2 are most probably emerging from that trade (Guan et al. 2003; Leroy et al. 2005; Peeri et al. 2020). A schematic of infection always included a bat (Invertebrate Medicine)as source of a virus – a carnivorous animal as vector – and another warm blooded vertebrate like a bird, a mammal, or a human (Kan et al. 2005; Woo et al. 2009).

The source of coronaviridae are most probably insectivorous bats and fruit bats (Hu et al. 2015; Lau et al. 2005; Menachery et al. 2015; Poon et al. 2005; Woo et al. 2006). Some species of bats and fruit bats are also listed by CITES and are thus no traded. There is growing evidence that similar coronaviridae are present in bats from West-Africa and even Europe (Annan et al. 2013; Drexler et al. 2010) and other countries (Valitutto et al. 2020). Maybe the virus was imported with pangolins from Africa. We do not trade living wild caught bats or fruit bats. The current scenario with Covid has been described/predicted some 15 years ago emphasizing on the illegal meat trade in Asia (Adebisi 1981; Enserink 2003; Li et al. 2005). See also the Ebola outbreaks which has most probably a bat species as source and the bush meat trade to spread it to humans (Leroy et al. 2005).

Most of the wildlife trade for human consumption is illegal. For example, pangolins which are discussed as vectors but not the original source of the virus (also palm civets, racoon dog and recently domestic dogs) are traded illegally and consumed in large quantities. In 2017 some pangolin species became protected but it seems that the illegal trade in huge quantities continues. It would be better to control the laws more efficiently rather than drive the whole trade more and more into illegality.

Viruses in animals and humans are much more common than previously thought (Åsjö und Kruseb 2007). Human common cold coronavirus HCoV-229E share most of their genome with African bats suggesting a common evolutionary basis (Corman et al. 2015). Humans even have some parts of Bornaviruses genome in our DNA as suggested by scientific papers (Belyi et al. 2010). Currently we have a free living Crocidura species in Germany which may have caused some fatalities in the past (Tappe et al. 2018; Tappe et al. 2019b). Bats are a source of rabies in Europe (Calisher et al. 2006) but the rabies cases go down continuously. Racoons may become a new reservoir of rabies in Eastern Europe (Chomel et al. 2007; Chomel 2008). In the US there are still racoons, skunks and bats which

may cause some rabies cases. Except for rabies nearly all of the scientifically described zoonoses have the human as dead end – humans may not infect other humans .

The majority of new viruses, bacteria and protozoa causing zoonoses are using vectors like mosquitoes for transmission of the diseases (Hubálek et al. 2014). The use of previously untouched areas (a matter of protection or our natural environment, see arguments of the last IPBES report) by humans but alos the climate change (Aberle et al. 2018) led to some new viroses like Dengue, Usutu, West Nile, Zika, … which are spread between humans by arthropod vectors. The human is the dead end host. Covid and SARS and Mers are different because there is a human to human transmission.

Outbreaks of plagues like Monkey pox (Reed 2007) or Bornavirus (Hoffmann et al. 2015) are extremely rare (Croft et al. 2007; Guarner et al. 2004). Other than in arguments spread by Peta and Pro wildlife, the Borna-cases transmitted from squirrels in Germany have been tracked down to one (or maximum two) sources during the last 30 years (Tappe et al. 2019a). There are several cases where Zoo workers have worked with Borna infected squirrels but never had infections or symptoms (Tappe et al. 2019a). A monkeypox case in Switzerland had many scientists involved in direct contact with mice in a huge mouse colony. Most of the workers had (unprotected) direct contact with mice, their urine or feces. I f I remembered right, only one out of 11 showed antibodies (Origgi et al. 2015).

To summarize: the wildlife trade with pets and with bush meat has been mixed in order to try to use the current situation for an attempt to ban everything. As I figured out most of the arguments are made up and highly alarmistic.

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