

REPORT 2



THE DONKEY
SANCTUARY

THE GLOBAL TRADE IN DONKEY SKINS: A TICKING TIME BOMB



THE DONKEY SKIN TRADE: BIOSECURITY RISKS AND IMPLICATIONS FOR HUMAN AND ANIMAL HEALTH ON A GLOBAL SCALE

WARNING

THIS REPORT CONTAINS GRAPHIC IMAGES THAT SOME READERS MAY FIND DISTRESSING



Donkey slaughter in fields, Northern Ghana.

ACKNOWLEDGEMENTS

The Donkey Sanctuary offers sincere thanks to its network of friends, partners and colleagues around the world who contributed information to this report.

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With special thanks to **Dr Linda Evans MRCVS** and **Dr Emma Preston MRCVS, The Donkey Sanctuary.**

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FOREWORD: DR IBRAHIM ADO SHEHU

As the United Nations Environment Program (UNEP) has identified, 75% of all emerging and re-emerging infectious diseases are ones that pass from animals to humans and they do not exclusively emanate from wildlife, domesticated animals and livestock can be carriers too. The entire global process of animal production, movement, slaughter and use of products is a ticking time bomb.

Some of the world's most dangerous diseases in humans are linked to animal origins, such as anthrax, MERS, SARS, Ebola, rabies and now Covid-19. Evidence of the impact of this risk is seen in previous epidemics such as Middle East respiratory syndrome (MERS) in 2012, the avian influenza virus H7N9 epidemic in 2013, the Ebola virus disease outbreak in West Africa in 2014, and the 2003 outbreak of bovine spongiform encephalopathy (BSE, also known as mad cow disease) in Europe, which affected both humans and animals and cost the global economy in excess of USD \$20 billion.

Evidence suggests that the unregulated transnational or global movement of animals, especially if sick, without any care for their health, poses an unacceptable range of risks to populations of animals that may be susceptible to the diseases. But in reality, a far longer, more insidious part of the chain still snakes back to the point of origin for thousands of animal species that are both produced and traded for human consumption and vanity. Risks extend far beyond wet markets and begin thousands of miles away – not at the dockside in a shipping container. If we want to avoid future pandemics, then the way we interact with and utilise animals is key to human safety, meaning we need to reassess the range of risks – not least the donkey skin trade.

The need for efficient and robust tracking and monitoring of animal trade is well understood and its regulation is a central tenet of national government policies across the world. Yet despite this, the trade in animals circumvents official rules and regulations, and legislation hardly ever keeps pace with the realities.

We know that donkeys are being stolen and illegally trafficked across borders for their skins, with no regard for their health and welfare or the risks that unregulated movement and slaughter bring to the global spread of disease or the associated risks to human health.

At the very least, we need to address what we know to be broken and the donkey skin trade certainly is.



DR IBRAHIM ADO SHEHU
Ag. Regional Representative for
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Working donkeys in Nigeria.

EXECUTIVE SUMMARY

Until now, the global donkey skin trade has largely been unrecognised as a biosecurity hazard. At a local and regional level, where the trade involves moving groups of sourced donkeys on foot or by lorry, the risk is evidenced and known, but appears accepted as an unwelcome consequence of a haphazard supply chain.

Evidence of risk, particularly at and beyond the point of slaughter, has been largely speculative. This report evidences the hazards at every point – from source to slaughter, shipping and beyond. What is revealed is an unregulated free-for-all, devoid of proper veterinary and biosecurity oversight, and where obligations for exporting, and requirements for importing, appear to be either ignored or unenforced.

National authorities, global veterinary bodies, shipping companies, importing customs authorities and the *ejiao* industry itself must all now recognise that the chaotic global trade in donkey skins is a hazard of unacceptable proportions. Recent lessons from the trade in unregulated animal products should serve as a wake-up call to anyone sceptical of its potentially devastating impacts on people and animals.



Mass slaughter at donkey market, Nigeria.



Pile of fresh skins on slaughterhouse floor, Kenya.

INTRODUCTION

The vast reach and devastating impacts of the global trade in donkey skins have been repeatedly exposed by The Donkey Sanctuary, other donkey protection organisations, and enforcement agencies working to end the inhumane and unsustainable trade. Most recently, the extensive yet clandestine links between the trade in donkey skins and the illegal trade in wildlife and wildlife parts was exposed in the first in our series of reports titled *The global trade in donkey skins: A ticking time bomb*.¹ That report not only uncovered concrete links between the donkey skin trade and wildlife trafficking, evidence that is now being used by law enforcement agencies, but it also exposed some of the risks to biosecurity associated with the movement of animals and animal parts.

This report, the second in the *Ticking time bomb* series, delves further into these issues and demonstrates how the global trade in donkey skins is putting people and animals at unnecessary and unacceptable risk of infectious diseases. The trade itself presents an inherent risk to human and animal health, and to global One Health, One Welfare efforts, and this risk is increased by the opportunistic, largely unregulated, and often illegal nature of many aspects of the trade.

A relentless demand for donkey skins, used in the production of *ejiao*, a traditional Chinese remedy believed by some to have medicinal properties, drives a global trade that is opportunistic, extractive and shockingly cruel. Donkeys are bought, captured or stolen, often from donkey-dependent communities; in many cases they are walked for days on end, often without access to adequate food or water and, at times, across national borders; they are transported and held with scant regard for their suffering; and they are slaughtered, often in the most brutal and horrific way.

“ This report delves further into these issues and demonstrates how the global trade in donkeys is putting people and animals at unnecessary and unacceptable risk of pathogen transmission and infectious diseases.

The loss of a working donkey can have a devastating effect on a donkey-dependent family. Without the use of a donkey to carry water or to carry goods to sell at market, it is usually women who are forced to carry the load. In some cases, young girls must leave school to do the work that was once done by the donkey. Recognising the harmful impacts to communities, some national governments have banned the trade. Many traders operating in the industry, however, show little regard for the law and continue to trade in open defiance of national bans.

The trade is chaotic, hazardous and often covert. A largely unregulated international trade in a product that is frequently derived from the unhygienic slaughter of donkeys of unknown health status and origin, creates a high risk for the transmission of infectious diseases across the globe, and this risk demands urgent action.

Meanwhile, the time bomb continues to tick.



Donkeys provide crucial support for their owners, Southern Ethiopia.



Wet salted donkey skins, Kenya.

BIOSECURITY IMPLICATIONS OF THE DONKEY SKIN TRADE: A TICKING TIME BOMB

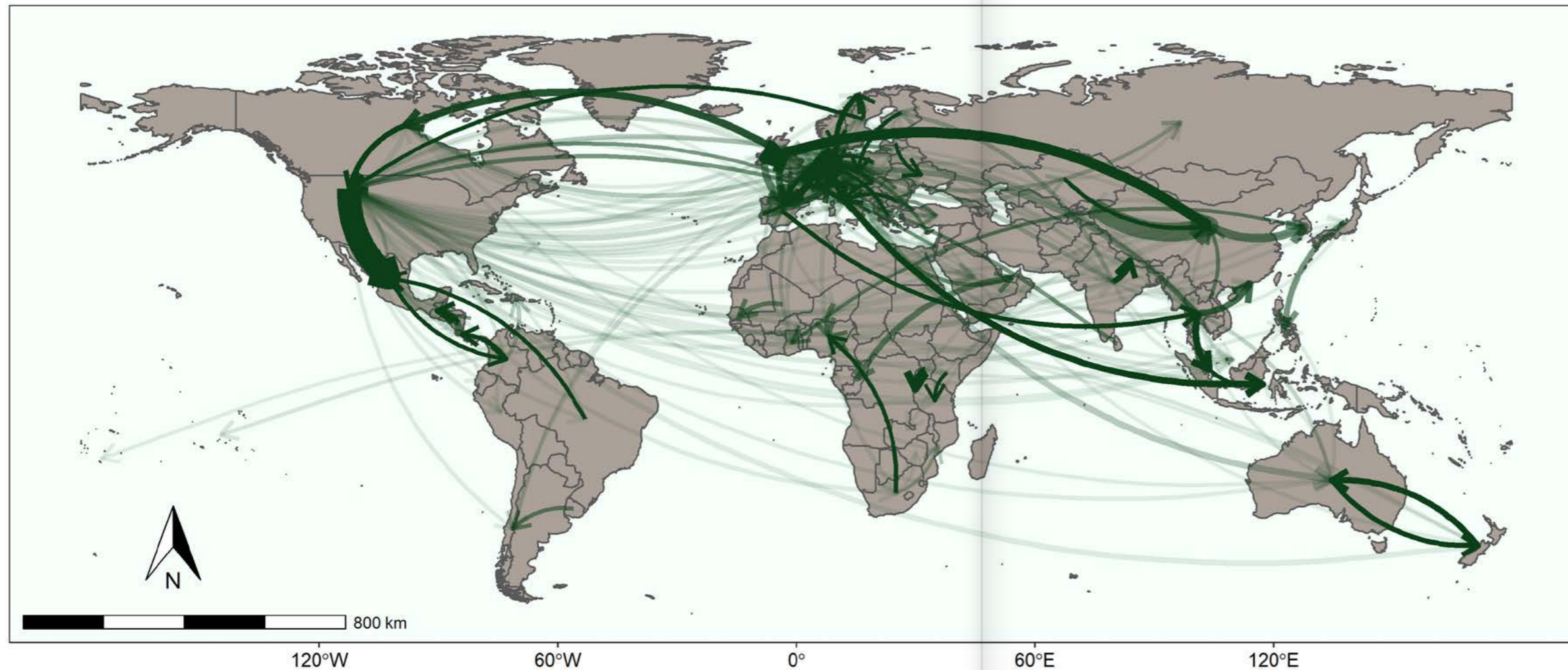


Figure 1 – Movement of live donkeys (asses) between 2012 – 2019 according to UN Comtrade data. This image only depicts official movement. The unofficial movement of donkeys is not represented. Data source – UN Comtrade 2008-2019 for live asses. Extracted 18/10/2021 using the UN Comtrade api.

The devastating and unparalleled public health and economic impacts of Covid-19 and the impacts of other zoonotic disease outbreaks give us reason to urgently and seriously consider the risks associated with the phenomenal scale at which animals and their products are transported around the globe for human consumption and use.

Once largely unseen, there is now greater public awareness of the magnitude of their global movement – billions of animals, thousands of species, and an immeasurable human health risk. Whenever animals are transported within and across national borders, there is a risk that those animals will carry, and ultimately spread, diseases that are harmful to humans and animals. This is certainly true for the global movement of equids. The global community has taken great strides in its understanding of the links between human,

“The scope, scale, and world-wide impact of zoonoses we are facing today have no historical precedent.”

– World Organisation for Animal Health (WOAH), 2004²

animal and environmental health, a concept known as ‘One Health.’³ The risk that diseases such as Middle East Respiratory Syndrome (MERS) and Sudden Acute Respiratory Syndrome (SARS) pose to people, and the role animals play in transmitting those diseases, is now better understood. Most of the recent emerging infectious diseases have originated in non-human animals and almost all of them have zoonotic potential,⁴ defined as those that ‘may transmit from animals to humans, or humans to animals.’⁵ Zoonotic diseases are one of the biggest threats to public health worldwide⁶ yet emerging infectious diseases are difficult to predict. They may result from previously unknown infectious agents or from new challenges that arise from previously known infectious agents that have undergone a genetic shift⁷ resulting in novel variants. The potential for this genetic shift to occur is great when

animals are kept in large numbers and in close proximity to each other and different species including people.

“One Health is a collaborative, multidisciplinary, and multisectoral approach that can address urgent, ongoing or potential health threats at the human-animal-environment interface at subnational, national, global and regional levels.”

– FAO, WOAH, WHO 2019⁸

Wet markets, as were implicated in the Covid-19 pandemic, are a highly visible manifestation of animal-based trades that are both cruel and a major public health threat, but infectious diseases do not exclusively emanate from wildlife. Domesticated animals may also be reservoirs of disease too, as seen in previous epidemics such as H1N1 Swine Flu in 2009, MERS in 2012 and Avian Influenza Virus H7N9 in 2013.

The international trade in equids is considered the 'single most important factor in the global spread of equine infectious diseases.'⁹ This risk is further compounded in the global donkey skin trade where the largely unregulated and often illegal nature of the trade presents an even greater risk for disease transmission than the regulated international movement of racing and sports horses. Factors such as poor animal health, unhygienic slaughter, lack of traceability and lack of biosecurity measures contribute to this elevated risk. The trade presents many potential opportunities for the spread of infectious diseases from donkeys, and diseases from other species, not only within a country, but also to new countries. Countries importing live donkeys and by-products are at a great risk of introducing serious infectious diseases to their equine populations, domestic livestock, and humans. The nature of donkey farms in some countries could mean that any disease of equids is amplified¹⁰ and spread at a rapid rate and has the potential to result in enormous economic impact.

Donkeys are generally susceptible to the same infectious diseases as horses,¹¹ many of which have zoonotic potential.¹² The main routes of transmission for infectious agents to humans are ingestion, inhalation and via cutaneous routes.¹³ Close contact with sick equids puts people at risk, as does eating, inhaling or touching infectious by-products.

Diseases vary in severity and impacts to human health can range from mild conditions such as ringworm, to potentially deadly diseases like rabies and glanders.¹⁴ Anyone who has close contact with infected live donkeys or contaminated by-products is at risk of zoonotic diseases. For farm workers, abattoir staff and any person involved in the transport and handling of donkeys, or the processing, packing, haulage and shipping of donkey skins, this is likely to be an occupational hazard. This risk increases where there is close contact with sick equids without appropriate mitigation or when people are immunosuppressed. In countries where serious diseases like rabies are endemic, people handling infectious live donkeys are at risk of fatal infections.

Donkeys are a stoic species who often display subtle or non-specific signs of disease. Where infectious diseases are introduced to a population of donkeys, they have the potential to remain undetected for a long period of time, due to the acknowledged challenges in identifying sick donkeys. Infectious donkeys may go unnoticed or undiagnosed and, as a result, continue to mix with other donkeys, rather than be isolated, and this allows for infectious agents to spread to otherwise healthy animals. Diagnosis can be challenging as non-specific signs such as dullness, depression and anorexia may be the only indication that a donkey is unwell. As a result, ante-mortem inspections at slaughterhouses, even when they occur, can be largely ineffective. It is more likely staff will miss clinical signs if they are unfamiliar with the species or are not trained specifically to work with donkeys and this poses a particular risk to staff such as slaughterhouse workers who handle infected animals.

“ Reducing the risk of zoonotic diseases also reduces indirect societal losses such as impacts on livelihoods of small producers, poorer nutrition and restriction of trade and tourism that, when included, bring the global costs of some recent zoonotic disease events to tens of billions of dollars.¹⁵ ”

Evidence shows that the trans-national or global movement of animals, especially if sick, without adequate care for their health, poses an extraordinary and unacceptable risk to both animals and people.

Covid-19 will certainly not be the last pandemic¹⁶ and it serves as a reminder of the focus that must be given to addressing the biosecurity risks associated with animal-related industries.

Meanwhile, away from the spotlight, orchestrated by a complex network, often operating outside of the law, the global trade in donkey skins poses a threat that is too big to ignore. And, while we still reel at the effects of our current pandemic, little attention is given to the ticking time bomb that is the global trade in donkey skins.



Skins from freshly slaughtered donkeys, Kenya.

A SUPPLY CHAIN WITHOUT TRACEABILITY IS A SUPPLY CHAIN FOR RISK

Donkeys display similar clinical signs to horses for certain equine infectious diseases, such as equine herpes virus (EHV) and strangles but are recognised to be less severely affected by others, including equine infectious anaemia.¹⁷ Donkeys are often asymptomatic when infected with some of the serious equine diseases including equine infectious anaemia (EIA) and African horse sickness (AHS) meaning donkeys that are infectious and shedding disease may appear healthy.¹⁸ The pathogenesis of diseases like EHV features the development of subclinical 'carriers' who appear healthy but intermittently shed pathogen to the rest of the herd should they become immunosuppressed.

Donkeys are highly susceptible to stress, and this can lead to a serious metabolic condition called hyperlipaemia, which is often fatal. Donkeys suffering from stress-induced hyperlipaemia appear dull, and this dullness can mask primary health conditions that may also be contagious.

Donkeys are no different to other domestic species when it comes to the susceptibility to catching infectious diseases. It is not that they are more prone to illness than animals like horses or cattle but the skin trade results in poor welfare for donkeys as their physical and emotional needs are compromised. Health and welfare are directly correlated and donkeys already suffering from poor health will have compromised immune systems and these animals will be less able to cope with the challenge of infections.

UNREGULATED SOURCING

The donkey skin supply chain begins in source countries where local agents are tasked with obtaining donkeys to be slaughtered for their skin. These donkeys are sourced in multiple ways, each with welfare, community and biosecurity impacts.

- Some donkeys are purchased legally, but they are often purchased from people who rely on those donkeys for their livelihoods and who will struggle to replace the donkey because the skin trade has driven up donkey prices. Furthermore, it is unlikely that traders purchasing these donkeys will be aware of any existing health conditions.
- In other cases, organised gangs work through the night to capture, slaughter and skin donkeys, leaving the carcass to rot, often being found by the donkey owner the following day. Stolen donkeys will be unidentifiable, there will be no knowledge of any existing illness and no record of any ongoing treatment, including use of drugs.
- Free-roaming donkeys (so-called 'feral' populations) of undocumented origin and disease status are routinely 'rounded up' and mixed with donkeys from multiple locations before being trucked to slaughterhouses. Reports from Brazil describe feral or abandoned populations of donkeys being captured and transported to holding bases where they are held with donkeys from other locations until there are enough to send for slaughter.¹⁹ Feral populations are not being examined for any signs of disease or ill-health and, as such, may be carrying endemic or sub-clinical diseases that could pose a disease risk to humans and other equids, especially as injured or unhealthy animals may be easier to catch in a free-roaming environment.

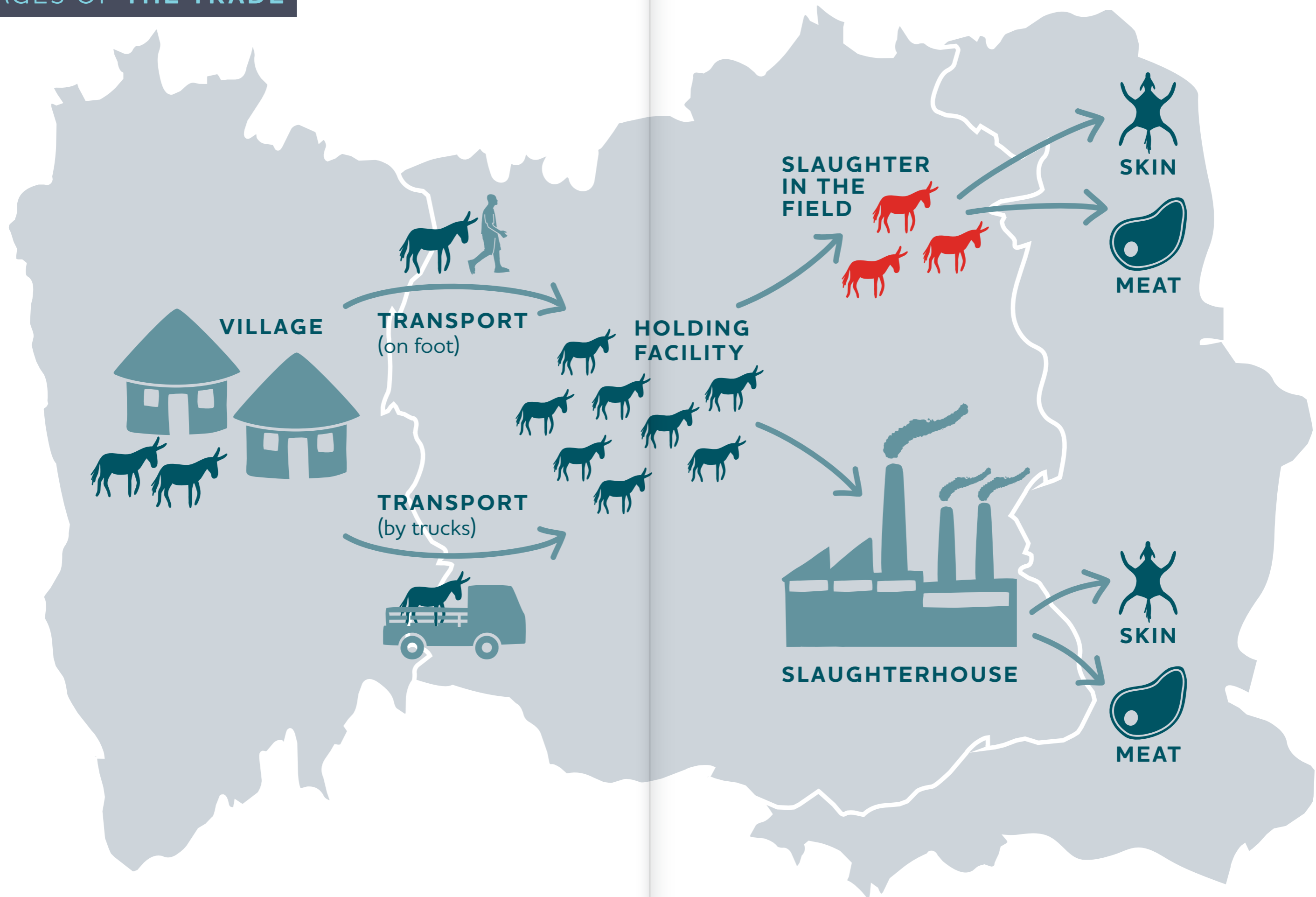


Large group of donkeys at market, Nigeria.

As donkeys become harder to source in some countries, local agents must travel further and resort to increasingly desperate measures to source donkeys. They will be gathered in small groups until there are enough donkeys to begin a trek on foot or by lorry to a slaughterhouse. Furthermore, as not all countries are licenced to slaughter donkeys, they are sometimes moved many miles, to countries where legal slaughterhouses are in operation. For example, there have been confirmed reports of donkeys from Ethiopia, Tanzania, Somalia and South Sudan making the journey to Kenyan slaughterhouses when they were open. Donkeys are still reportedly being transported into Kenya, despite the national ban on donkey slaughter.

These widespread practices result in the mixing of donkeys from a wide range of backgrounds including countries with zero traceability over the origin and health status of donkeys. This issue is further compounded as the health status of a donkey has no bearing on the price a local agent can obtain for their skin, hence there is no incentive to consider the animal's health and welfare.

STAGES OF THE TRADE



FARMING

In response to high consumer demand, some countries are looking to farming in an attempt to scale up the production of donkeys to supply the trade and where donkeys are already farmed, businesses are expanding to accommodate larger numbers of production animals. Intensified farming is recognised for amplifying the impact of infectious diseases.²⁰ On large-scale donkey farms where thousands of donkeys are kept in close proximity, disease can spread rapidly through herds before it is even detected, with devastating consequences for mortality and morbidity.

There is a need for constant remixing of groups to accommodate the different requirements at each stage of production and this presents a risk that unrecognised disease can spread when groups of donkeys mix. The movement of donkeys between premises in commercial farming environments is recognised as a risk factor by some in the donkey farming industry. This practice has been identified as a risk factor for a large-scale outbreak of strangles in China.²¹ Large herds of farmed donkeys are particularly susceptible to contagious diseases and transmission of disease is further exacerbated when animals of unknown disease status are introduced into large herds and kept in close contact without any quarantine protocols. Transmission may then occur to neighbouring farms or even to horses including sports horses and those destined for production such as the horse meat industry.²²

Many donkey farms lack knowledge of disease control, biosecurity procedures and protocols so that should there be an outbreak of infection it is unlikely to be contained early. There are implications for the health and welfare of large herds of donkeys, as seen in the outbreak of strangles in China, in which 13% of donkey foals affected died.²³



Donkeys in holding pens at farm in Brazil.



Donkey farm signage, Goldox slaughterhouse, Kenya.

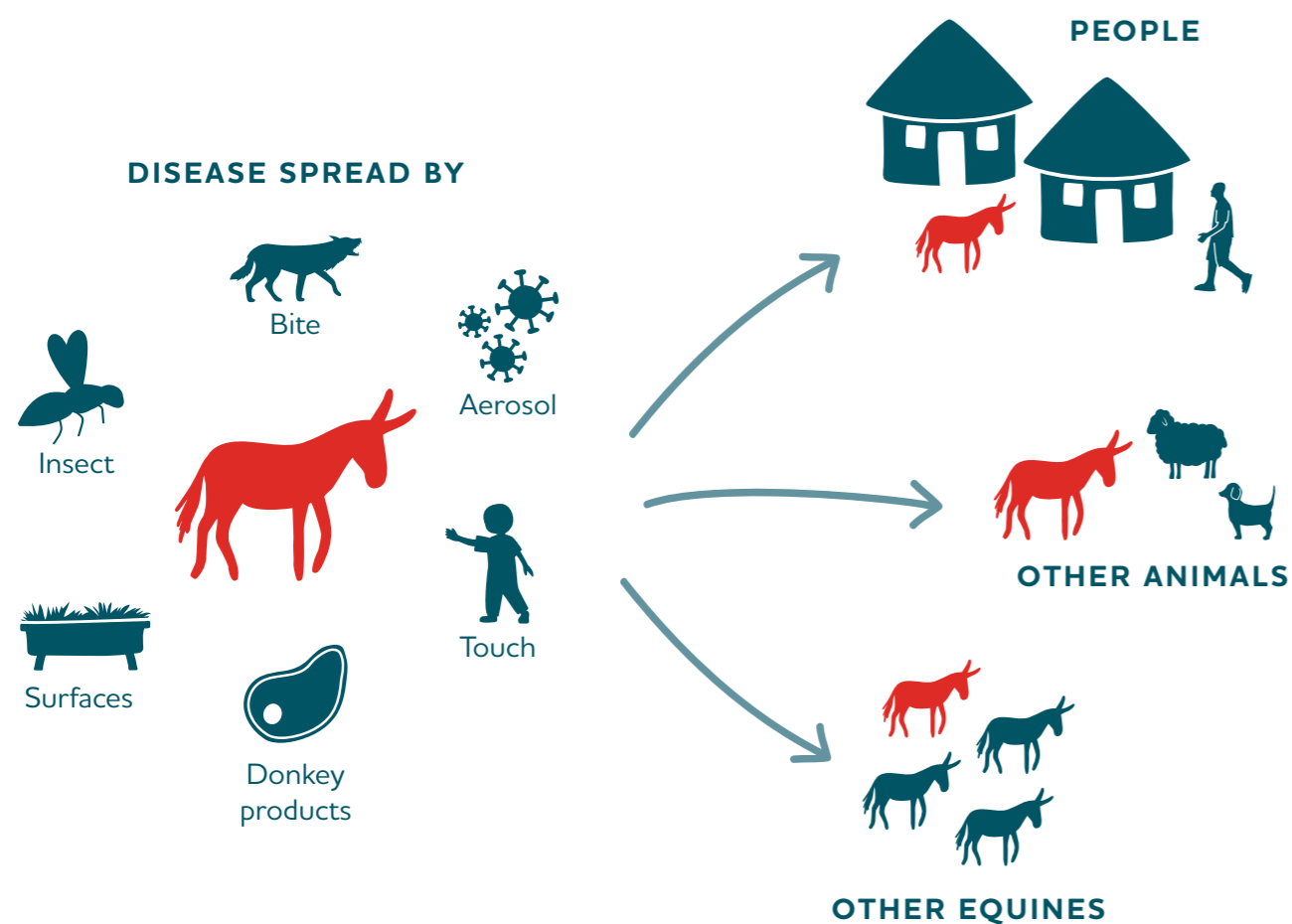
MOVEMENT OF DONKEYS

The movement of donkeys, whether to expand or to repopulate a farm, or for the journey to a slaughterhouse, poses a high risk of spreading disease and could result in diseases being introduced to a country or region that was previously free of those diseases.

The physical stress of the journeys that donkeys are forced to undertake will serve to significantly weaken their immune systems and increase susceptibility to infections. Transport has been shown to have adverse effects on animals' immune systems,^{24,25} increasing an individual's susceptibility to disease.

Infection can spread via direct contact when moving large numbers of donkeys in groups or in cramped vehicles, by contamination of water sources used by donkeys, by aerosol to surrounding communities along the route or by infecting insect vectors and wildlife populations.

Donkeys moved from areas of endemic diseases, or across borders from a country with endemic disease, could cause large outbreaks in new and vulnerable populations who have not previously been exposed to infectious agents.

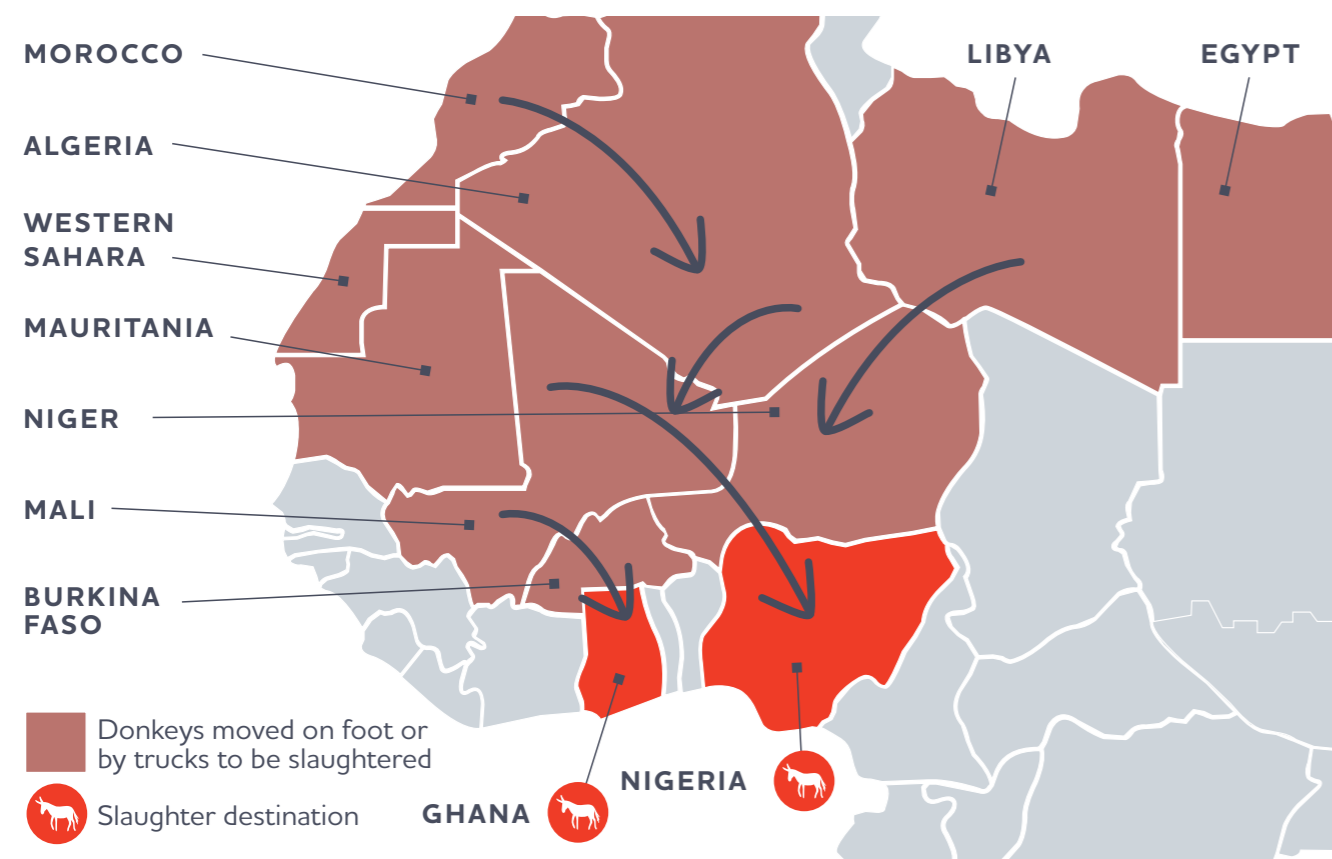


Donkeys are transported long distances in trucks to slaughter.

Transport on foot

Donkeys supplying the skin trade are moved long distances on foot, often without suitable access to nutrition and water. The physical stress of these journeys will serve to significantly weaken immune systems and increase susceptibility to infections, either new or a reoccurrence of a previous infection. The Donkey Sanctuary has years of evidence showing donkeys being sourced and stolen from remote rural communities in Africa before being trekked hundreds, or even thousands, of miles across international borders to reach slaughter hubs. Donkeys of mixed and undocumented origin are frequently moved on foot from Mali through Niger or Burkina Faso and into Nigeria or Ghana for slaughter. The Donkey Sanctuary has evidence of sick and diseased animals entering the supply chain by traders with no regard for the welfare of the animal or the biosecurity risks caused by their actions.

In 2019, there were equid fatalities reaching numbers in the tens of thousands along recognised skin trade routes in West Africa, with 62,000 in Niger alone. It is thought that the deaths were caused by an outbreak of equine influenza,²⁶ which in the case of donkeys caught up in the trade would have been exacerbated by the stress induced by the journey, demonstrating the impact of the trade on populations and, by association, One Health in the region. The outbreak was reported as far west as Senegal and was confirmed by testing in Nigeria and Senegal.²⁷ Deaths were also reported in Mali, Burkina Faso and Ghana, which are all source or corridor countries for movement of animals for the trade.



The loss of working equids would have had devastating consequences for the people relying on these equids for their livelihoods, and caused significant economic impacts for the countries involved, both due to the loss of the animals themselves but also the cost of disease control activities needed. Furthermore, the depopulation of large areas may also have an impact on the environment as the loss of equids often leads to greater mechanisation, increased fuel use and ecosystem disruption. In April 2019, the United Nations Environment Programme (UNEP) issued an important statement regarding the excessive extraction of resources and its negative effect on the environment, referring to donkeys as a carbon-neutral means of transport: “The unsustainable extraction of a resource, whether it’s donkeys, plants, trees or minerals, can have adverse effects on the environment and communities in distant lands. In the case of donkeys, a valuable mode of all-weather, carbon

neutral transport is removed from those most in need of transport in remote rural settings.” The utility of an inexpensive, reliable transport asset in a time of volatile fuel prices, may yet see a growth in the recognition of the real value of working equines.

Due to its virulence and high morbidity rate, equine influenza is a threat to the wider equine industry, as demonstrated by the 2007 outbreak in Australia which, within months of being detected, had affected around 69,000 horses on 9,600 premises,²⁸ cost billions of dollars, and resulted in mass disruption to the equine industry including the lucrative horse racing industry.²⁹ Approximately seven percent of Australia’s horse population was infected, which presents not only the risk of massive financial losses to Australia’s lucrative racing and sport horse industries but also the negative emotional impact on horse owners.

IMPLICATIONS FOR THE SUSTAINABLE DEVELOPMENT GOALS

The Donkey Sanctuary was one of ten animal welfare groups that crafted the United Nations Environment Assembly Resolution, tasking the UN with producing a report on the linkages between animal welfare, the environment and sustainable development. This is the first intergovernmental report of this kind and will be the result of a collaboration between the WHO, UNEP, FAO, WOA and One Health. This initiative was, in part, born out of concerns regarding the biosecurity implications of the donkey skin trade and the impact on donkey-dependent communities when donkeys are removed. This report will look at the connections between animal and environmental exploitation and the dangers to the sustainability of some communities as a result.

Transport by road

Donkeys are routinely trucked thousands of kilometers for slaughter in countries that export skins to China. Within China itself, there has been an increase in the long-distance transport of donkeys from areas with high donkey populations to facilities where they are farmed and fattened.³⁰ The cramped conditions inside lorries and poor ventilation are a perfect environment for the transmission of infectious diseases. Respiratory infections, including equine herpes virus (EHV), strangles and equine influenza, are transmitted in secretions from infected individuals. Some respiratory diseases, like influenza, become airborne when an animal coughs or sneezes and infectious particles become suspended in the air. These can be inhaled by animals sharing the same airspace, which makes airborne respiratory diseases highly transmissible in poorly ventilated spaces, such as cramped housing or transport lorries. Additional risks exist when trucks travel on poor quality roads as this can cause donkeys to fall resulting in injuries.



Cramped conditions inside transport vehicles are detrimental to donkey welfare. These donkeys were bound and trussed in a lorry and destined for slaughter, northern Nigerian border.

Transport exposes animals to many potential stress factors such as deprivation of food and water, crowding and noise, as well as the risk of injury during on- and off-loading.³¹ It can induce stress in healthy donkeys and has been shown to have adverse effects on the immune system³² increasing an individual's susceptibility to disease. It is also proposed that transport stress stimulates viral shedding and reactivates latent herpesvirus.³³ Furthermore, if tied to the vehicle during transit, donkeys would be required to keep their heads in an upright position and would be unable to clear their airways by lowering their heads. This is a risk factor for transport-associated respiratory disease, also known as 'shipping fever', with immunosuppression due to stress likely to also be a contributing factor'.³⁴



Donkeys being held in pre-slaughter pen, Goldox, Kenya.

HOLDING AND SLAUGHTER

Biosecurity risks continue when donkeys arrive at their destination. In Kenya, The Donkey Sanctuary has obtained evidence of hundreds of donkeys, originating from as many as five different countries, confined in small compounds awaiting slaughter. Many of these donkeys were injured, coughing and with nasal discharge, others were collapsed from exhaustion or disease. Yet within hours, these animals would be killed at the slaughterhouse. The team of slaughterhouse staff involved in slaughtering, skinning and butchering of donkeys are exposed to the risk of infection from any zoonotic disease the donkeys may have carried with them.

Countries and specific regions have different endemic disease statuses so when donkeys from different populations are bought together at holding facilities or corrals, there is a high risk that disease will spread to native animals. In some cases, due to the widespread thefts of donkeys from communities to prop up the trade, slaughterhouses have imposed a seventy-two-hour holding time to give time for stolen donkeys to be recovered.³⁵ Many diseases could incubate during this time, which could result in widespread infection of live animals within a slaughterhouse and subsequent slaughter of infected donkeys. Vectors, and particularly insects, may become infected as a result of contact with these animals and this may result in introduction of a disease to a country or region previously free of that disease.

Licensed slaughterhouses are normally required to adhere to standards and procedures designed to protect public health: these include ante-mortem inspections, separation of species and hygienic processing conditions. Prior to slaughter in regulated abattoirs, livestock are subjected to mandatory ante-mortem inspection to determine whether there is any sign of a condition that may impact human health, particularly when food products are destined for human consumption. It is standard practice for slaughterhouses to be inspected by official veterinarians to determine whether the animal to be slaughtered is fit for human consumption.³⁶ The extent to which this occurs in the donkey skin trade is impossible to determine but, even where countries are fully compliant, there is a significant risk of missing signs of clinical disease in donkeys due to the stoic nature of the species coupled with their asymptomatic presentation of certain infectious diseases. This represents a risk to slaughterhouse workers from undetected zoonotic diseases in addition to those risks from by-products entering the human food chain and the disposal of contaminated carcasses and waste. This risk will extend to other countries if products are destined for export.

Many infectious agents are exposed to the environment during slaughter as bodily fluids leach out of carcasses, for example, blood drains on to the slaughterhouse floor during exsanguination. Unsanitary environments pose a

Image courtesy of Dr Ibrahim Ado Shehu



Donkey skin being chewed by a pig at a slaughter point in Northern Ghana.

great risk to humans working in the slaughterhouse and for contamination of by-products. Some infectious agents carried by donkeys have the potential to infect other domestic species such as cattle or sheep, for example *Cryptosporidium spp* or *Salmonella enteritica*. Even with strict biosecurity measures, there is a risk to food safety. Insect vectors such as flies could feed on infectious bodily fluids and present as a source of infection for animals who may be grazing miles from the slaughterhouse facility.

Where multiple species are slaughtered at the same premises, there is the risk of cross contamination of donkey by-products, such as hides, with infectious agents of other domestic species. Many infectious agents can infect multiple species³⁷ and there is therefore a small but viable risk of the transmission of diseases to other livestock species.

The reality in the skin trade is that many donkeys are slaughtered outside of slaughterhouses, often on open 'slaughter slabs' or simply on the ground. This 'backyard slaughter' or 'bush slaughter' occurs in rural areas without basic facilities to ensure good hygiene. These slaughter practices are devoid of all the procedures employed by registered slaughterhouses to ensure public safety and could lead to contamination of carcasses with environmental infectious agents and, depending on processing and food preparation, could lead to serious food borne infections in people that consume these products. The slaughter methods are also brutal and often cause extreme and prolonged suffering.

Once removed from the donkey, carcasses are simply left to dry on the ground without any means of mitigating the biosecurity risk this represents. This is particularly risky in countries where African swine fever is endemic as skins can easily become contaminated for example by coming into contact with infected pigs.

African swine fever (ASF) is a highly contagious disease among pigs that decimated the pork industry in China following the recent outbreak in 2018. The virus that causes ASF is resistant to degradation in the environment and has the potential to resist processing.³⁸ Post-slaughter, donkey skin preparation usually involves spreading skins directly on the ground to dry in direct sunlight. At best, this is an unhygienic processing method, but it is of serious concern in countries with ASF and where wandering swine may come into contact with the skins and where pathogens could survive transport and be transmitted to new populations via the importation of skins.

African swine fever outbreak

In the one-year period from August 2018 to July 2019, ASF outbreaks in China resulted in the death of millions of pigs and an economic loss equivalent to 0.78% of China's gross domestic product, with impacts felt in almost all economic sectors.³⁹

PROCESSING

The illegal and unregulated 'bush slaughter' of donkeys carries a high risk of pathogen transmission due to a high likelihood that any existing disease is unrecognised, a complete lack of sanitation, insufficient processing and a high possibility of contamination of the carcass from being flayed on the ground. Infectious agents such as anthrax spores can survive for years in the soil, becoming a risk if the ground is subsequently disturbed. Anthrax can lead to deaths in humans following ingestion or inhalation and can also enter the human body through a skin abrasion causing illness. Carcasses can also be contaminated with enteric pathogens such as *Salmonella* and *E. coli* during slaughter.

A recent example of the unhygienic nature of donkey slaughter, processing and storage processes came from the testing of skins stacked outside a Kenyan slaughterhouse in 2020. The Donkey Sanctuary commissioned a respected independent laboratory to test 108 of these skins for signs of disease and the results showed alarming evidence of heavy contamination with infectious agents, (see the 'Stop Press' section on page 34). The presence of these infectious agents demonstrates the potential for contamination either during slaughter, processing or storage and the potential for spreading this onward.

The risk of by-products from donkeys including meat, milk and skins presenting as a source of infection is determined by the intensity and method of processing.

Drying and salting is used as the primary means of processing donkey skins for shipping to China. Drying is used in hot, dry climates as a means of preserving skins prior to export. In some countries skins will be treated with chemicals such as insecticides to deter insects. The aim of salting is to reduce and inactivate the bacteria that damage the skin by causing decomposition.⁴⁰ It is not primarily aimed at eliminating infectious agents although it may be effective in reducing pathogen load. Processing using air drying and salting will allow survival of some infectious agents of concern. Donkey skins have been noted in trade records as being pickled, limed and tanned, though it is unlikely that these are destined for *ejiao* production. Processing in this way can be generally considered safe.



Field slaughter, Northern Ghana.

Anthrax spores and serious diseases such as Venezuelan equine encephalitis, eastern equine encephalitis and glanders, all have the potential to survive some processing methods and there is a risk they could be present in consignments of skins that are shipped from these countries. Even if most infectious agents are killed during processing, their toxins or spores may remain and certain disease vectors could survive inside consignments of skins and have the potential to set up infection in a new population of equids or humans, where the conditions for vector survival and replication are favourable.

The mixing of populations, the presence of multiple infectious diseases, poor health and compromised immunity not only cause serious welfare problems but also pose a significant disease risk, not only when the donkeys are alive but also during and after slaughter as their skins are shipped around the world. The huge numbers of donkeys involved, the indiscriminate and often unhygienic slaughter of donkeys, including those that are sick, the disparate means by which skins are shipped and transported, and the global nature of the trade adds up to a high risk that skins intended for *ejiao* production may be contaminated with disease-causing agents.

Each link in this supply chain poses its own public health risk. The risks associated with the global donkey skin trade can no longer be ignored, and urgent action must be taken to protect human and animal populations from potentially catastrophic impacts.

INFECTIOUS DISEASES OF MOST CONCERN

The diseases listed here include those that may be transported via a live animal and those that are considered able to survive processing of by-products, contaminate by-products or survive in an infected vector in a consignment of by-products. Some of these diseases are already known to be zoonotic and therefore pose a public health risk, some may be spread by carriage of an infected insect vector in a consignment of by-products, and some will not infect equids but could be carried due to contamination of the by-products. The diseases included here are not an exhaustive list of those that present a risk but are diseases that it is important to be alert to.



Transport vehicles being prepared for loading donkeys, Northern Nigeria.

Image courtesy of Dr Ibrahim Ado Shehu

DISEASES COMMONLY SPREAD BY LIVE ANIMAL MOVEMENT

These diseases have the capacity to escalate rapidly both within countries and across borders as equids are transported or walked to other countries.

Equine influenza

Equine influenza (EI), commonly known as 'equine flu' is a common and highly contagious respiratory disease, caused by a strain of equine influenza that is spread via aerosolised droplets or fomites. EI is endemic in many countries. In a review of fifty four outbreaks of WOA (OIE) listed diseases in equids following importation of a live animal, EI was the most frequent cause of disease events.⁴¹ Clinical signs vary in severity from mild pyrexia and inappetence to fatalities. Although the virus particle is fragile and killed by many disinfectants, EI is highly contagious and can travel up to one hundred meters in the air. Donkeys have been seen to develop a more severe clinical response than horses and influenza can be fatal. EI is of concern wherever there are live movements of equids, and the cost of controlling large disease outbreaks are huge, causing massive disruption to the equine industry. Intensive farms could quickly become a bed of infection and onward spread is likely.

A 2007-2008 outbreak of equine influenza in China originated in Xinjiang Province and quickly spread to six other provinces within a year.⁴² More recently, a 2017 outbreak in China's Shandong province saw three hundred donkeys infected and resulted in a 25% mortality rate.⁴³ Several amino acid changes in the haemagglutinin antigenic sites were observed in the Chinese strains circulating in 2017, compared with the strains isolated during the 2007-8 epidemic.⁴⁴ Such genetic evolution may pose further threats to equids across China and beyond as new strains may escape vaccines and immunity from previous infection.

In January 2019, reports of disease in donkeys, resulting in large numbers of deaths, came from across West Africa. Nigeria reported 2,929 cases

of equine influenza in the period between 7 January and 5 February. Almost 270 of these donkeys died and in some areas the mortality rate of infected donkeys was almost 40%.⁴⁵ While the precise source of the outbreak is unknown, it was suspected to be due to the 'illegal movement of animals' largely sourced from a neighbouring country'.⁴⁶

Glanders

Glanders is a contagious zoonotic bacterial disease that is incurable in equids and can lead to serious, potentially fatal, disease in humans. It is endemic in certain regions of the world; its presence disrupts trade and there are huge challenges associated with its control and eradication. Donkeys are most severely affected, and disease may lead to death, while horses and mules can become chronic carriers. The disease spreads by contact or by contamination with bodily fluids from an infectious animal, which is exacerbated by crowded or unsanitary conditions. In donkeys, signs of glanders include nasal discharge, respiratory difficulty, cutaneous sores and death, while mules and horses may become chronic carriers who demonstrate weight loss.

Strangles

Strangles is a bacterial infection of the respiratory tract which is endemic in many countries and is highly contagious, especially among young equids that are yet to acquire immunity. Strangles is highly contagious via contact with an infectious individual and via contamination of objects and especially water troughs. In a farm situation where there are frequent movements and mixing of populations of animals, strangles can have a devastating impact on productivity as it can lead to massive losses through morbidity and mortality. Most disinfectants are effective, but it can be challenging to eradicate strangles completely due to the development of asymptomatic carriers who may intermittently shed infection. Strangles is a pathogen of concern for equids but is not a concern for human health.

VECTOR-BORNE DISEASES SPREAD BY MOVEMENT OF LIVE ANIMALS OR AN INFECTED VECTOR

As equids suffering from vector-borne diseases or infected vectors move across borders, there will always be a risk of onward transmission of disease as they can infect new populations of vectors. Vectors such as insects can travel hundreds of miles⁴⁷ and spread can be considerable in a short space of time. The impact will be significant as these diseases are challenging to control and even more difficult to eradicate, providing the vector can survive and multiply in the new environment. Of a low likelihood but an impact that cannot be ignored, is the risk of transport of an infected insect vector in a consignment of by-products.

African horse sickness

African horse sickness (AHS) is transmitted in the blood of infected individuals, either via infected blood products, during veterinary treatment or most commonly via infected insect vectors; the *Culicoides* midge. AHS is endemic in many parts of sub-Saharan Africa, but it is occasionally found elsewhere in the world and the geographical distribution of vector viability is expanding into new countries.⁴⁸ AHS presents in different forms with up to 90% mortality rate in horses. Donkeys may become sub-clinically infected and so act as a reservoir for the disease with infection being transmitted via blood feeding vectors, such as midges, even while in quarantine and away from other equids. AHS could be invisible in the intensive donkey farming industry until a point where it has amplified beyond control.⁴⁹ AHS-transmitting vectors have been known to travel 700km over water and 150km over land⁵⁰ and there is also a possibility that an infected vector could survive in a consignment of skins and set up infection in the importing country.

A 2020 outbreak of AHS in Thailand, likely due to the importation of live animals, saw infection across six provinces before an equine movement lockdown curtailed its progress.⁵¹ The outbreak placed a huge and avoidable risk on all equines in South East Asia, including not only high-value sports horses, but also the large populations of working equids who support hundreds of thousands of people's livelihoods.

Equine infectious anaemia

An infectious viral disease affecting equids, this disease is transmitted by infected blood in blood products, contaminated veterinary equipment or by an insect vector *Tabanidae* (horse fly). Once infected, animals will be infectious for life, horses have 30% mortality rate while donkeys will often be asymptomatic. This disease does not affect humans but is a threat to equine industries and could easily be introduced to donkey farms should an asymptomatic carrier be introduced to a herd as a replacement animal. The importation of infectious live donkeys is also a risk, with the potential for in-country disease spread via the insect vector. There are also recognised issues associated with insect control.

Equine alphaviral encephalitis

A family of mosquito-borne viral infections that can lead to severe neurological disease and fatalities in humans and equids. This group of infectious diseases presents as a serious threat to human and equine health and could feasibly transmit via infectious live animals in regions where a viable vector can thrive, or via infected vectors, which could be present inside consignments of skins.

Eastern equine encephalitis (EEEV), western equine encephalitis (WEEV) and venezuelan equine encephalitis virus (VEEV) tend to be limited by geographical location (South and Central Americas) due to cycling of the virus between mosquitos and wild birds, who act as a natural reservoir for the disease. Humans and equids appear to be dead-end hosts for EEEV and WEEV, meaning that, if infected, they will not spread the disease further. As such these diseases could severely impact individuals but are unlikely to cause a widespread outbreak. VEEV infections in humans and equids present a higher risk of onward spread, which makes them likely to be transmissible via mosquitos, presenting a threat to other regions where these vectors thrive should an infectious live animal be exported.

Rabies

Rabies is a zoonotic viral disease that can infect a variety of hosts, including humans, dogs and equids, leading invariably to death once there is onset of clinical signs. The virus replicates in the salivary glands and transmission occurs via a bite from a rabid animal or broken skin or mucus membrane contact with saliva from an infected host. The incubation period is highly variable and can last several months, which makes it a particular concern for people handling donkeys. Bites from infectious donkeys are potentially fatal and it is highly possible that clinical signs may not be seen. Clinical signs are associated with the central nervous system; in horses and

donkeys they can take on the furious form, which includes distress, agitation and rolling and could easily be confused with colic. Rabid donkeys may bite or strike and will be extremely dangerous to their handler. The paralytic form involves excessive salivation and people could become infected on contact with donkey saliva, especially important to consider when examining the mouth of a donkey. Although rabies is highly preventable with vaccination, donkeys are not routinely vaccinated. Donkeys may graze in regions with carnivorous wildlife or wild dogs who act as a reservoir for infection.



Donkeys can suffer from all of the equine infectious diseases of concern.

DISEASES SPREAD BY CONTAMINATION OF BY-PRODUCTS

The standard means by which most donkey skins are preserved are drying in the sun and salting. While these methods may be effective in mitigating against some infectious agents, others will survive these processing methods and continue to present a risk, potentially for many years. These approaches also have the potential for contamination of skins.

Anthrax

Anthrax is a bacterial disease, which affects a host of mammals including humans and donkeys. It forms resistant spores that can survive for decades in the soil and set up disease in a new host when spores are transmitted via inhalation, ingestion or direct contact with skin abrasions. Anthrax is endemic in most continents and outbreaks, or clusters, occur sporadically, often when there has been ground disturbance. Carcasses or hides are known to be a particular risk for transmission of anthrax and there is a risk of exposure to those who have access to bodies and body parts of equids such as shipping workers or abattoir workers.

Of all infections in humans, 95% of them occur by infection through skin abrasions and contact with infectious tissue. These can be treated, but infection via inhalation or ingestion can be fatal. Slaughterhouse workers may become infected if they cut themselves when handling infectious carcasses. Anthrax usually presents acutely in equids and clinical signs depend on route of transmission. If ingested, signs include colic, depression and fever, and death occurs quickly, often within 48 hours. Donkeys that die suddenly of anthrax may be misdiagnosed as having died of colic. Processing for *ejiao* traditionally involves the use of very high temperatures, but if processing methods are sub-standard, there may be some risk that anthrax spores survive the *ejiao* production process, presenting a risk to consumers. The Donkey Sanctuary has become aware of *ejiao* production now being undertaken in at least one African source country. It is not known what production standards are in place for this.

African swine fever

African swine fever (ASF) is a viral infection of pigs. The pathogen is resistant to degradation and remains viable for long periods of time in blood, faeces, secretions and tissues of sick and dead animals. Animals that have recovered from either acute or chronic infections may become persistently infected, acting as virus carriers, especially in African wild swine, and in domestic pigs and wild boar in endemic areas. Spread is by contact with blood, tissues, secretions and excretions of sick and dead animals, infected meat, contaminated objects or via the tick vector. A recent outbreak of the disease in livestock decimated China's pork industry and lead to shortages of protein for human consumption.⁵² ASF is a pathogen of concern as hides from donkeys slaughtered in unregulated situations, including bush slaughter, could be contaminated with infectious secretions when infected swine, or carriers of the disease, have contact with hides left drying on the ground. This has the potential to set up infection in another country's domestic pig population if imported skins carry this virus.



Donkey carcasses flayed in unsanitary conditions are at risk of contamination. Northern Ghana.



A wheelbarrow of donkey remains is left in the open while domestic animals roam the area, Northern Ghana.

STOP PRESS – AFRICAN HORSE SICKNESS DETECTED IN DONKEY SKINS IN KENYA

To better understand the biosecurity and public health risks associated with the donkey skin trade, The Donkey Sanctuary commissioned a respected and independent laboratory to test donkey skins that originated from Kenya's Star Brilliant slaughterhouse during May 2020 and that were destined for consignment to mainland China or Hong Kong. 108 donkey skin samples were tested by the International Livestock Research Institute (ILRI) using standardised methods of DNA detection, to confirm whether the skins were once infected or contaminated with particular viruses or bacteria. These skins were analysed for the presence of infectious agents and the testing returned positive results for the African horse sickness (AHS) virus among other infectious agents.

The donkeys from which the skins were derived cannot be traced back to a definitive origin or location. However, positive results for the presence of the AHS virus are unsurprising in a scenario where the disease is endemic in many countries across the African continent and where donkeys are collected from multiple countries and are acknowledged as being hard to detect as infected with AHS. These positive test results confirm the risks of global spread of infection that have been highlighted by The Donkey Sanctuary in other publications.

All 108 donkey skin samples were tested using real-time PCR: 88 tested positive for *Staphylococcus aureus*, 44 of which were identified as the methicillin-resistance (MRSA) variant and, most troubling of all from a human-health perspective, three tested positive for the highly virulent PVL-encoding gene (Panton-Valentine leucocidin). This strain causes a necrotising cytotoxin or flesh-eating disease in humans. These findings demonstrate the potential for donkey skins to act as a vehicle for the spread to humans of both disease and antibiotic resistance during slaughter, processing, storage and onwards consignment.

Analysis of the TradeAtlas shipping database found that two consignments of donkey skins were exported from the Star Brilliant slaughterhouse to China in May 2020 – the

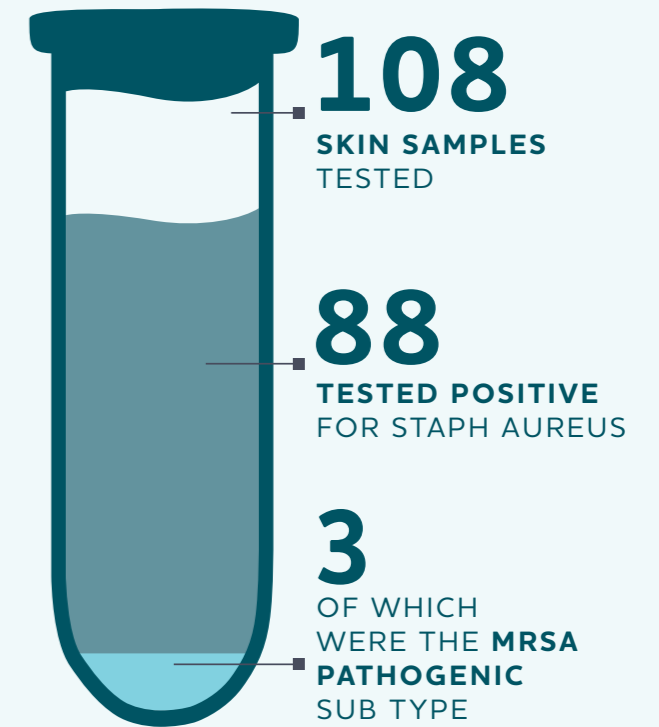
same month the positive samples were obtained. Two other consignments of donkey skins from Star Brilliant were shipped to Hong Kong in February 2020.

- The lack of traceability of donkeys makes it impossible to determine the risk of disease or the presence of endemic diseases at origin.
- Detecting AHS in donkeys, based on clinical signs, is known to be difficult and, as such, any ante-mortem inspection that does take place is unlikely to be effective in detecting the disease.
- The disease may be spread across local, regional and national boundaries, as diseased donkeys infect vectors along the transport route. These vectors may subsequently transmit disease to the local equine population.
- Infected vectors may be carried in a consignment of skins and spread disease to the destination country, or to countries along the route.

This latest evidence demonstrates the ease with which donkeys infected with AHS can enter the slaughterhouse and be processed for exports of meat and by-products. It is a risk that we have alerted importing countries to by way of sharing the evidence derived from the test results. Some countries specify that any imported equid products must be from countries that are free of AHS because they recognise the risk to their equine populations if AHS were to be introduced to their country. For example, Chinese customs prohibit the import of animal skins from countries where certain specified animal diseases, including AHS, are endemic. According to the WOAHS however, the 'African horse sickness virus is endemic in tropical and subtropical areas of Africa, south of the Sahara, from Senegal in the west to Ethiopia and Somalia in the east and extending as far south as South Africa.' Research conducted in 2020 by the University of Nairobi⁵³ concluded that AHS was also endemic in donkeys in the highland area of Kenya and called for 'increased adoption of preventive measures against the disease'. The WOAHS advises that 'horses are highly

susceptible to AHS and generally develop 'acute and subacute forms with elevated mortality rates, while mules and donkeys develop a curable form of the disease'.⁵⁴

China currently authorises the import of donkey skins from so-called 'registered facilities' in seven African countries,⁵⁵ all of which have endemic AHS.⁵⁶ In addition, skin exports take place (in the absence of registered facilities) from Botswana and Ethiopia, both of which have endemic AHS. The exportation of skins from countries with known serious endemic animal disease presents the risk that AHS could be spread through live vectors that could be carried in consignments of inadequately treated skins. This biosecurity threat demands urgent attention and China, Vietnam and Thailand should immediately enforce the same precautionary principle that China has already, albeit inconsistently, implemented. To protect their equine populations, and those of neighbouring countries, China, Hong Kong, Vietnam and Thailand should urgently halt the import of donkey skins from all sub-Saharan African countries.



DISEASE STATUS OF EXPORTING COUNTRIES

The table and map below show the current notifiable diseases affecting equines, recorded on the WOAAH World Animal Health Information System (WAHIS). Export records of donkeys skins exist for each of the countries on this list.

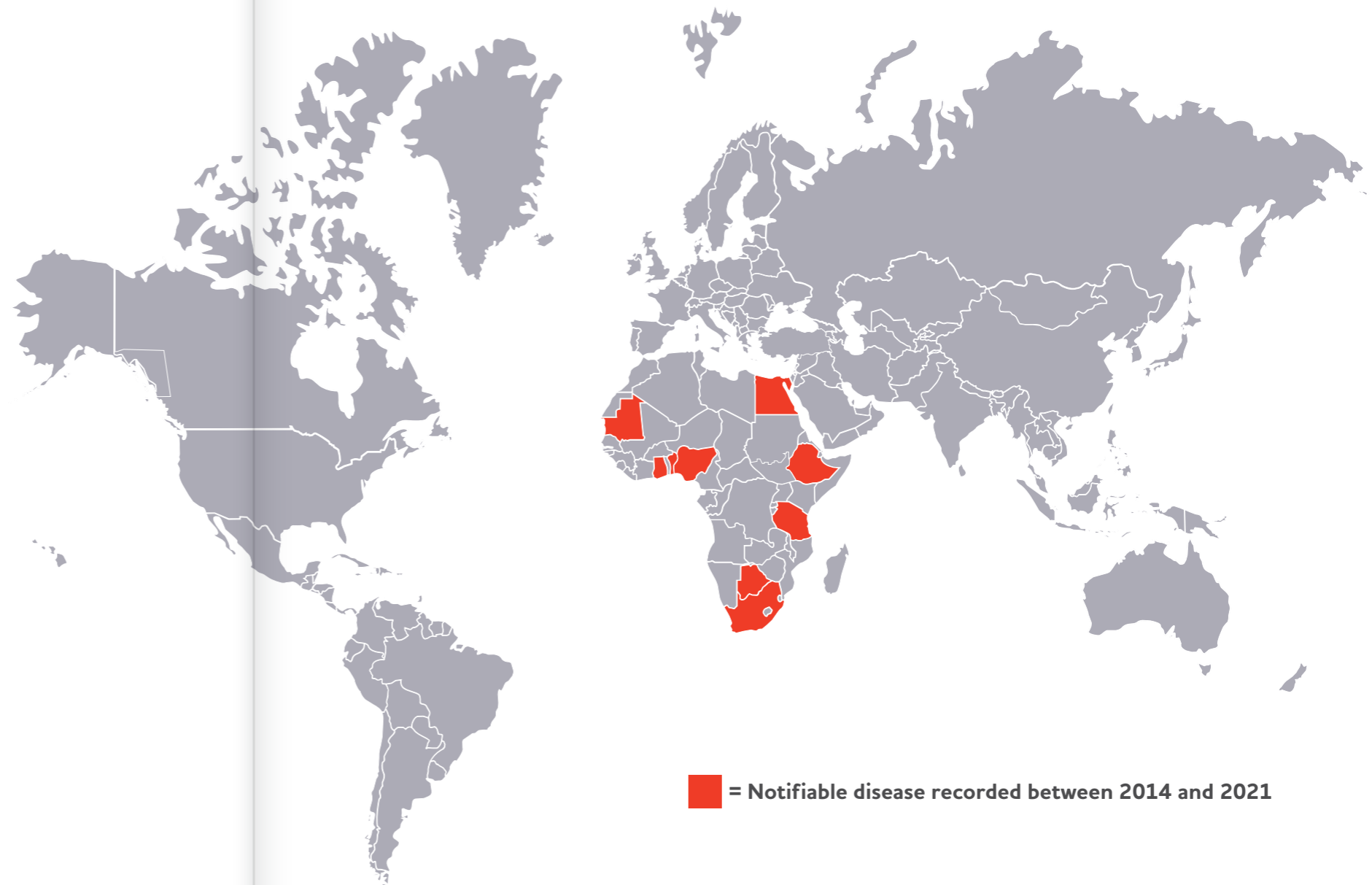
The need to maintain trade may function as a driver for underreporting, as well as lack of veterinary oversight and traceability in this often covert trade.

Whilst extremely worrying in itself, the reported incidences of disease may be a vast underestimation of the reality when diseases go untested and/or unreported.

Country	WOAH WAHIS (World Animal Health Information System) results
Benin	Trypanosomiasis present 2015
Botswana	Dourine 2015/2016/2017/2018 Rabies virus present 2015/2017/2018
Egypt	Equine herpes virus, present limited zones 2015-2017 Rabies virus present limited zones 2017-2018 Theileriosis present 2015/2016/2019
Ethiopia	African horse sickness present 2015-2021 Anthrax present 2015-2018 Equine herpes virus present 2017/ 2018 Rabies Virus 2015-2018
Ghana	African horse sickness 2019
Kenya	Rabies virus present 2015/2016/2018/2020
Mauritania	Rabies (2016)
Nigeria	African horse sickness present 2018 Equine influenza virus present 2018/2019
Tanzania	Rabies virus present 2014-2021
South Africa	African horse sickness present 2014-2021 Contagious equine metritis present 2016 Dourine present 2014/2015/2016/2017/2018 Equine herpes virus present 2014 Equine piroplasmiasis present 2014/2016/2017/2018 Rabies virus present 2014/2015/2016/2017/2018 West Nile fever present 2014



Unhygienic slaughter and butchering practices, Nigeria.



COMPOUNDED RISK – THE DONKEY SKIN TRADE AS A TROJAN HORSE FOR WILDLIFE TRAFFICKING

The risks associated with the global trade in donkey skins are themselves more than sufficient to warrant shutting down the trade. But these risks are further escalated by the links between the trade in donkey skins and international wildlife trafficking. Evidence of these links was exposed in the first report of our *Ticking Time Bomb* series and showed the connection between the two trades to be both extensive and enduring. This evidence has formed part of investigations into the criminal actors behind wildlife trafficking and the illegal movement and slaughter of donkeys.

The biosecurity threat presented by the international trade in wildlife is well recognised,⁵⁷ and can have devastating consequences not only in terms of human disease outbreaks but also threats to 'livestock, international trade, rural livelihoods, native wildlife populations, and the health of ecosystems'.⁵⁸ The majority of pandemics and major disease outbreaks over the past 30 years, including ebola, HIV and SARS, have been linked to wildlife origins.⁵⁹ The catastrophic potential of these outbreaks has been abundantly demonstrated by the global Covid-19 pandemic that is thought to have emerged as a result of the trade in wildlife and their products.⁶⁰

By acting as a 'Trojan horse' for wildlife trafficking, the donkey skin trade exacerbates the biosecurity risk associated with the movement of wildlife and wildlife parts around the globe.



Unhygienic slaughter and butchery conditions, Northern Ghana.

IMPLICATIONS FOR THE GLOBAL SHIPPING INDUSTRY

This trade in potentially hazardous materials, shipped between countries often via indirect routes with limited or, at times, no visibility of country of origin or disease status of animals, has serious implications for the global shipping industry.

BIOSECURITY

The very limited processing of skins taken from animals of unknown origin and health status prior to shipment means that anyone handling those skins is potentially exposed to an unacceptable and unrecognised risk. The lack of traceability of the skins often makes determining the country and region of origin, and therefore the disease status of that country or region, impossible. The application of salt, or drying skins in the sun, is insufficient to destroy all potentially harmful substances. Indeed, drying skins in the sun in countries where African swine fever is endemic, increases the risk of contamination. Much of the donkey skin trade occurs outside of the law and, as such, cannot possibly be compliant with the statutory biosecurity protocols and quarantine processes that apply to legal exports.

REPUTATIONAL

The global donkey skin trade, and the suffering it causes donkeys, the harm it causes to donkey-dependent communities, and the biosecurity risk it represents, has come under increasing scrutiny by governments and the international media. Companies may experience reputational damage if seen to be knowingly, or unwittingly, supporting this trade, much of which is illegal.

LEGAL

Shipping companies have previously been fined for failing to take adequate steps to prevent the shipment of contraband goods⁶¹ and those transporting donkey skins that are not compliant with statutory quarantine and biosecurity rules (from an import perspective) or are derived from countries with a ban on donkey skin exports (from export perspective) may find themselves in a legally contentious position.

ECONOMIC

Legal proceedings and reputational damage as a result of legal action could prove financially costly to shipping companies associated with the trade. Furthermore, the economic impact of an epidemic or pandemic could be enormous and have far-reaching implications. The costs associated with the control and eradication of a disease, replacement of farmed or working equids, the loss of revenue from horse racing and competitions, and the replacement of those sports horses far outweigh the financial benefits of the donkey skin trade.



Consignments of illegally trafficked donkey skins seized by Nigerian Customs, Lagos.



Consignments of illegally trafficked donkey skins seized by Nigerian Customs, Lagos.

CONCLUSION

The risks of the global trade in donkey skins to both people and animals is no longer speculative. These risks are widespread, they are alarming, and they are unquestionable. Every stage of the trade not only causes great suffering to donkeys, it also poses an unacceptable public health risk for all the countries that donkeys move through and are slaughtered in. But the risk doesn't stop there; the skins removed from these donkeys and shipped to countries such as China and Vietnam continue to present a very real threat to both people and animals, including lucrative racing and sports horse industries.

The global experience of Covid-19 has demonstrated, beyond any doubt, that infectious diseases do not recognise national borders. As such, this trade not only threatens public and animal health in the countries involved but, through the movement of people, animals, and products around the globe, it presents an unacceptable and unnecessary risk even to those countries not involved in the trade.

“ *The global experience of Covid-19 has demonstrated, beyond any doubt, that infectious diseases do not recognise national borders.* ”

This trade is devoid of the veterinary and biosecurity protocols and measures designed to protect human and animal health and the opportunistic and often clandestine nature of the trade means that attempts to regulate the trade will do little to reduce the biosecurity risk.

The only answer is for those companies and agencies that are involved in or facilitate the trade, knowingly or unknowingly, to take urgent steps to end their involvement and for the Chinese *ejiao* industry to actively and urgently turn to humane, sustainable and safe alternatives such as those offered by the rapidly growing field of cellular agriculture.



Blood spills out from slaughter house facilities, Goldox, Kenya.

RECOMMENDATIONS

Global shipping industry

The shipping industry should:

1. Refuse to carry consignments of donkey skins. It should urgently ban consignments from countries;
 - a. That have introduced bans on the slaughter of donkeys and/or the export of their skins (eg Kenya, Ghana, Benin and Nigeria)
 - b. Where the trade is not currently operating or is not legally licenced (eg Tanzania)
 - c. That do not have a trade agreement with China for the export of donkey skins (eg Botswana, Ethiopia and South Africa).
2. Introduce a specific HS code for consignments of donkey skins instead of using a generic code that is also used for consignments of bovine and other skins.
3. Mandate the use of risk assessments and suitable mitigation to account for potentially infectious clinical waste material.
4. Raise awareness among the industry about the potential health risks associated with hazardous animal-derived skins.

National governments

1. The Governments of China, Thailand and Vietnam should immediately suspend the import of donkey skins.
2. National governments of exporting countries should take immediate steps to stop the trade in donkey skins. Until such time as there is an enforced suspension in place, those governments should act with urgency to:
 - a. Instruct enforcement agencies to apply and enforce existing legislation, including animal welfare, where it is currently being ignored by some operators in the trade.
 - b. Protect donkeys and safeguard livelihoods, access to water, education, and rural economic development, in donkey-dependent communities.
 - c. Mitigate against the risk of global disease spread and the biosecurity threat posed to both livestock and people by the trade by working collaboratively with the global veterinary community.
 - d. Recognise the risk of zoonosis and take a One Health approach to tackling the spread of infectious diseases.
 - e. Address the ongoing environmental impact and degradation caused by the trade, including the pollution of water and land.
 - f. Where donkeys are imported alive ensure that adequate biosecurity measures are in place and fully enforced.
 - g. Proactively scrutinise consignments listed under the 4100-heading code and ensure in-country companies who facilitate such consignments are aware of national prohibitions on donkey skin exports.

Ejiao industry

The *ejiao* industry should recognise the significant biosecurity risk to people, equids and other animals and urgently;

1. Cut ties with the global skin trade and support national governments in their efforts to protect their national herds.
2. Accelerate moves towards safe sources of raw materials, specifically in the field of cellular agriculture.



Customs examine seized donkey skins, Lagos, Nigeria.

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The Donkey Sanctuary was founded by Dr Elisabeth Svendsen MBE in 1969. The Donkey Sanctuary (registered charity number 264818) and its sole corporate trustee, The Donkey Sanctuary Trustee Limited (Company number 07328588), both have their registered office at Slade House Farm, Sidmouth, EX10 0NU. Linked charities: The Elisabeth Svendsen Trust for Children and Donkeys (EST); The International Donkey Protection Trust (IDPT).