



# WILDLIFE AND LIVESTOCK TRADE AND ONE HEALTH

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# Presentation Outline

- **Wildlife trade**
- **Livestock trade**
- **Wildlife and Livestock markets: disease transmission and spread**
- **Life animal trade and animal welfare concerns**
- **One Health concept: Important key to sustainable Wildlife and Livestock trade**
- **Looking Into the future**
- **Conclusion**

# Wildlife Trade 1/2

- Wildlife trade involves selling wild animals for meat or as pet
- It is estimated that  $\approx 40,000$  live primates, 4 million live birds, 640,000 live reptiles, and 350 million live tropical fish are traded globally each year



source: The Hill

# Wildlife trade 2/2



source: Phys.org



# Livestock Trade 1/2

- Livestock trade involves selling livestock for meat or for breeding
- In livestock markets, farmers have the chance to sell directly to consumers



source:[www.xinhaunet.com](http://www.xinhaunet.com)

# Livestock Trade 2/2

- In many areas of Africa, movement of livestock is dictated by trade and transhumance of flocks in search of better pastures
- Movement of livestock poses a risk of transmission, spread and emergence of infectious pathogens





# Sheep and goats market



source: Ghana News Agency

# Benefits of Wildlife and Livestock trade

- **Benefits of wildlife and livestock trade:**
  - **Source income and livelihood for millions of people in Africa**
  - **A source of affordable, fresh and nutritious meat**
  - **Reduces hunger and malnutrition – makes animal protein available, an important component to achieving UN Sustainable Development Goal 2. on “Zero hunger”**
- **Nearly 2 billion livestock and poultry were transported around the world in 2017 (source: FAO)**



# Dangers Associated with Wildlife and Livestock trade

- Increased animal to animal contacts, animal to human contacts
- Increased risk of disease transmission and spread between different species of animals
- Disease transmission and spread between humans and animals
  - Increased contact with wildlife such as bats leads to higher risk of pathogen spill-overs from animals to humans
- Mixing of different pathogenic variants generate new variants and novel pathogens
- Increased risk of emergence of new pathogens that have potential as threat to humans, animals and the environment

# Recent examples of disease outbreaks linked to wildlife and livestock trade

- **COVID-19**

- It is believed that COVID-19 originated from bats or pangolins in live animal market in Wuhan, China

- **Ebola**

- Ebola virus disease outbreak in humans have been traced to index patient contact with infected great apes that are hunted for food; some believed it originated from bats

- **Marburg virus**

- First case reported in West Africa in August 2021; transmission traced to human contact with fruit bats.

- **Monkeypox virus**

- Documented to have been introduced to the U.S through importation of wild rodents from Ghana in 2003

- **African Swine Fever**

- Spread to many parts of the world through livestock trade

# Live Animal Trade and Animal Welfare Concerns

- Animal welfare advocates raised several concerns about cruelty to animals during trade
- Abuse of animals during transportation:
  - Improper vehicles; overloading; poor ventilation
  - Inadequate water during transportation
  - Animals exposed to unnecessary injury and pain, sometimes death
    - Animals left in hot vehicles during transit
    - Poor restraint of animals during transport
    - Instance of ship capsizing, 14,000 sheep drown but crews were rescued.
- Abuse of animals during slaughter:
  - Inhuman killing



# Abuse of Animals During Transportation 1/3

- **Use of improper vehicles**
  - Animals exposed to discomfort
  - Instance of ship capsizing and 14,000 sheep drown but all crews were rescued



Source: Eyes on animals

# Abuse During Transportation 2/2

- Poor restraint of animals causing pain, injury and sometimes death



Source: quora

# Abuse of Animals During Transportation 3/3

- **Overloading –**
  - movement is impossible
  - No access to water and feed
  - Left in the hot sun



Source: AgriProfocus



# Abuse During Slaughter

- Inhumane killing of animals



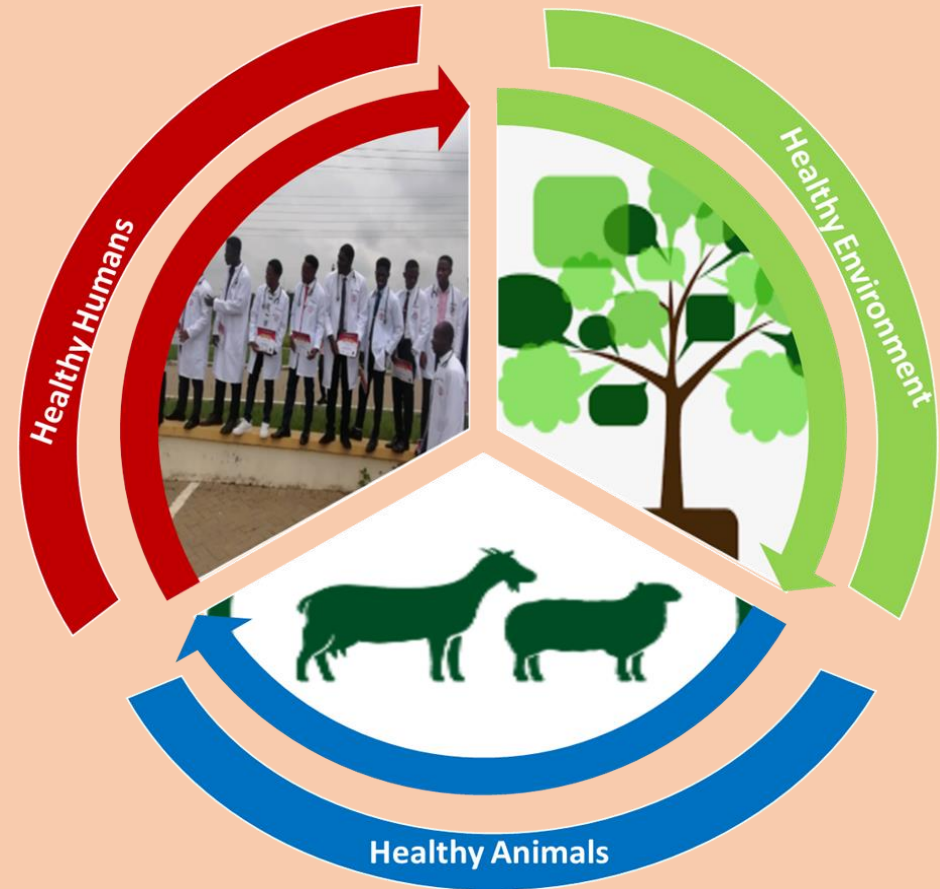
Source: medium.com

# One Health Concept in Wildlife and Livestock Trade

- Humans, animals and their shared environment are interconnected
  - Particularly evident at live animal markets
- The health of people, animals and the environment are linked to one another
  - No single individual, organization, or sector can effectively address health issues at the animal-human-environment interface alone
- One Health concept aimed to effectively address health issues at the human-animal-environment interface through collaboration among different disciplines such as human health, animal health, environmental health, and other relevant sectors

# One Health Components

- **Human health, Animal Health and Environmental Health agencies**
- Collaboration, coordination and information sharing lead to:
  - **Best health outcomes for humans, animals and their shared environment**





# Looking Into The Future 1/4

- **Develop guidelines for monitoring and surveillance at wildlife and livestock markets**
  - Countries should research and document all wildlife and livestock markets to ensure proper and effective monitoring
- **Enact and enforce appropriate laws regulating wildlife and livestock trade**
  - **OIE should help develop capacity of Veterinary Services of member countries to strategize and implement laws regulating animal trade**

# Looking Into The Future 2/4

- **Develop and strengthen capacity for monitoring human, wildlife and domestic animal diseases and enhance protocol for prompt information sharing**
- **Establish Integrative disease control programs at the postgraduate level for in-depth collaborative research into new strategies of infectious disease detection, rapid diagnosis and prompt intervention particularly at live animal markets**

# Looking Into The Future 3/4

- **Develop and enforce implementation of a comprehensive One Health approach involving human, animal and environmental health agencies to achieve sustainable wildlife and livestock trade**
  - We need to re-evaluate our thinking on One Health towards making it more effective
  - Without collaboration we will not achieve much
  - **Any lessons learnt from COVID-19 pandemic?**
    - Identify risk early through effective tracking systems; team work
    - Intensify public education/awareness creation campaigns
  - Role of each agency within the One Health triad should be well defined



# Looking Into The Future 4/4

- **Role of Animal Health Sector:**
  - Regulate live animal trade – movement certification and control; welfare
  - Provide guidelines on prompt detection and accurate diagnosis of pathogens at live animal markets and points of entry into countries
  - Provide surveillance data on pathogens detected at live animal markets, points of entry into countries and share such information with sister agencies
- **The role of the Human Health Sector**
  - Screen workers, regular patrons and other stakeholders at live animal markets
  - Adopt effective tracking systems
- **The role of the Environmental Health Sector**
  - Keep the environment safe and clean (e.g. regular fumigation of wildlife and livestock markets; proper disposal of carcasses; ensuring proper drainage systems)

# Conclusion

- Potential risk of the emergence of next pandemic from wildlife and livestock trade can be mitigated by effective monitoring and regulation of related activities
- Collective and coordinated action based on “One Health” approach remains essential to ensuring a safer and a sustainable animal trade devoid of high risk disease pandemics and cruelty to animals



# Information Source

- Websites:
  - One Health and Wildlife trade – preventing future pandemics.  
<https://www.rural21.com/english/news/detail/article/one-health-and-wildlife-trade-offs-preventing-future-pandemics.html>
  - One Health Basics. <https://www.cdc.gov/onehealth/basics/index.html>
  - The first human case of Marburg virus in West Africa is no surprise.  
<https://theconversation.com/the-first-human-case-of-marburg-virus-in-west-africa-is-no-surprise-heres-why-166694>
  - One Health. <https://www.oie.int/en/what-we-do/global-initiatives/one-health/>
- Karesh, W. B., Cook, R. A., Bennett, E. L., & Newcomb, J. (2005). Wildlife trade and global disease emergence. *Emerging infectious diseases*, 11(7), 1000–1002. <https://doi.org/10.3201/eid1107.050194>

***Thank you!***  
***Merci!***  
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