Zoonoses and pandemics

- the role of livestock?

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Zoonoses:
Infectious diseases transmitted between Animals and Humans

About 60% of all infectious diseases in humans are zoonoses.
More than 70% of emerging infectious diseases in humans originates from animals (majority wildlife).

Affects the poor the most
- Zoonoses are regularly circulating in the livestock population (endemic)
- The poor live more often close to their livestock
- Insufficient sanitary/hygicnic conditions
- Urban livestock farming
Zoonoses in livestock and wildlife (examples)

Endemic
- Brucellosis
- Campylobacteriosis
- Leptospiros
- Tuberculosis \((M.\ bovis)\)
- Japanese encephalitis
- Nipah virus infection

Epizootic/Epidemic
- BSE
- Influenza A

Epizootic/Epidemic
- Corona viruses
- Ebola

Transmission to humans via direct contact, aerosols, food or vectors
Brucellosis – direct contact and food borne

Risks when
-assisting birth/abortion of calves or lambs and
-consuming unpasteurized dairy products
Japanese encephalitis – spread by mosquitos

Risks:
Allowing breeding grounds for the mosquitos
Urban animal farming
Geographic distribution of competent vectors changes fast because of CC
Campylobacter – food borne

Risks from poor hygiene
- mixing areas for humans and poultry
- when cooking poultry
Influenza A – changing all the time...

Ebola and bushmeat
The SARS/MERS/Covid19 origins......

Zhou et al., Nature 2020; Zhang et al., Curr Biol., 2020
Preventing Zoonotic transmission is a responsibility for the livestock sector - that also improves livestock health and productivity

I. Improve diseases monitoring in livestock and livestock foods
II. Improve biosecurity
III. Improve food safety
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Thank you!