

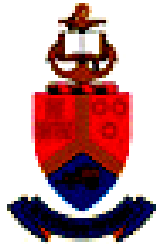
Gideon Brückner

Deputy Director General



New challenges for the veterinary profession in global animal disease control and the trade in animals and animal products

Arnold Theiler Memorial Lecture: University of Pretoria, 4 September 2008



**UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA**



**100 years of excellence and achievements
now compacted into one challenge for the
next 5 to 10 years**

**Why do we need a global approach for the control
of animal diseases
and why should we look differently
at the epidemiology of animal diseases?**



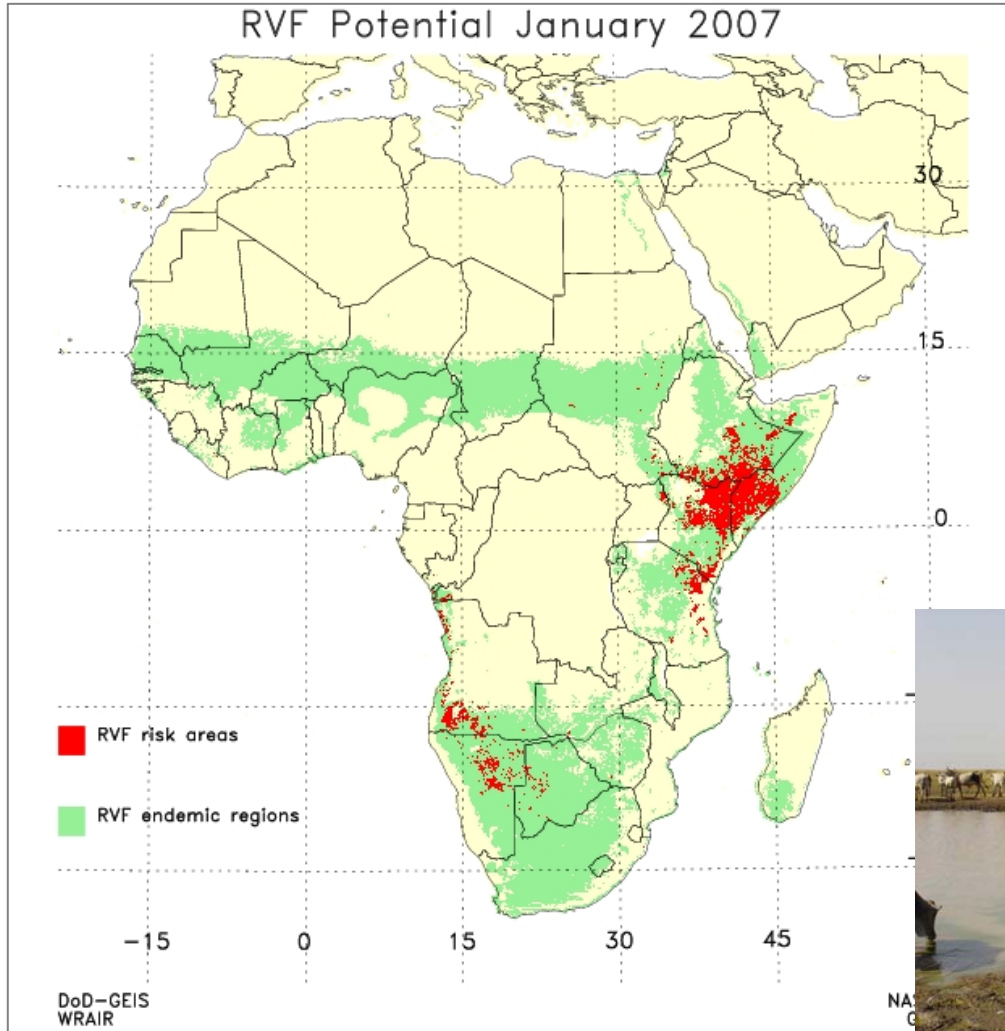
The veterinary profession on the front pages



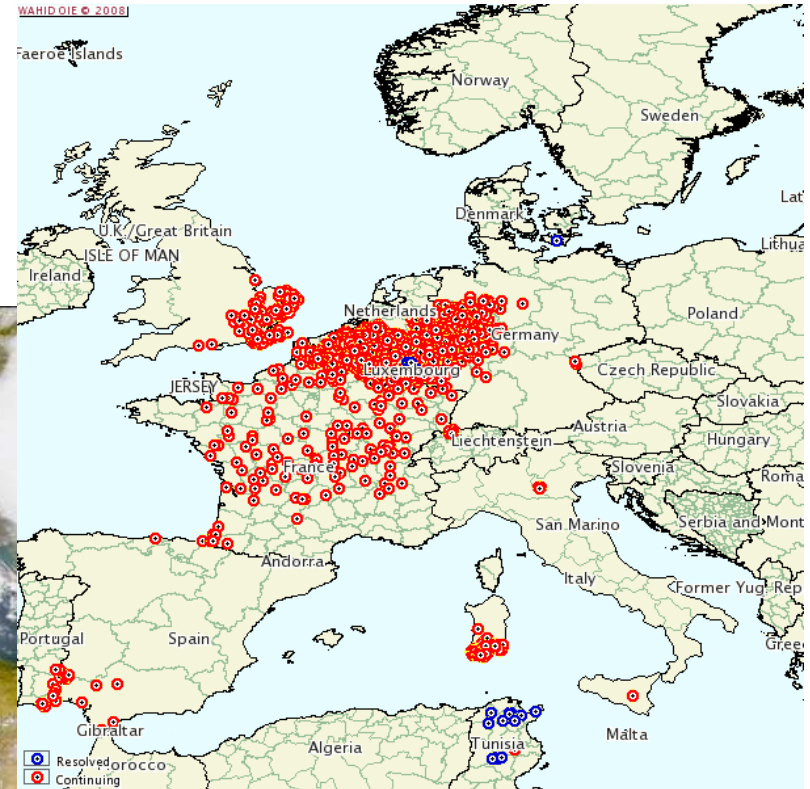
BSE – DEMONSTRATIONS IN KOREA OVER USA BEEF IMPORTS – June 2008



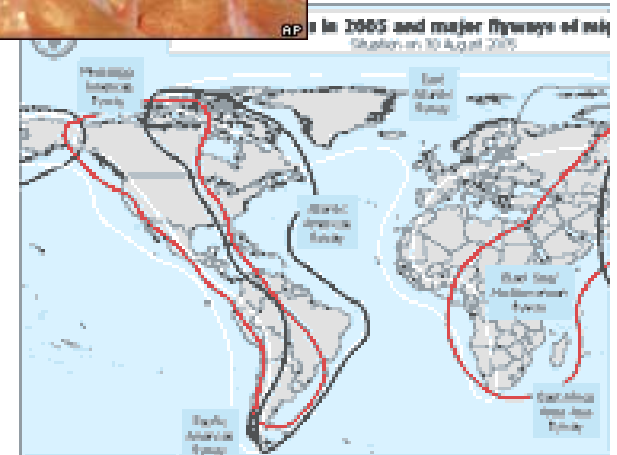
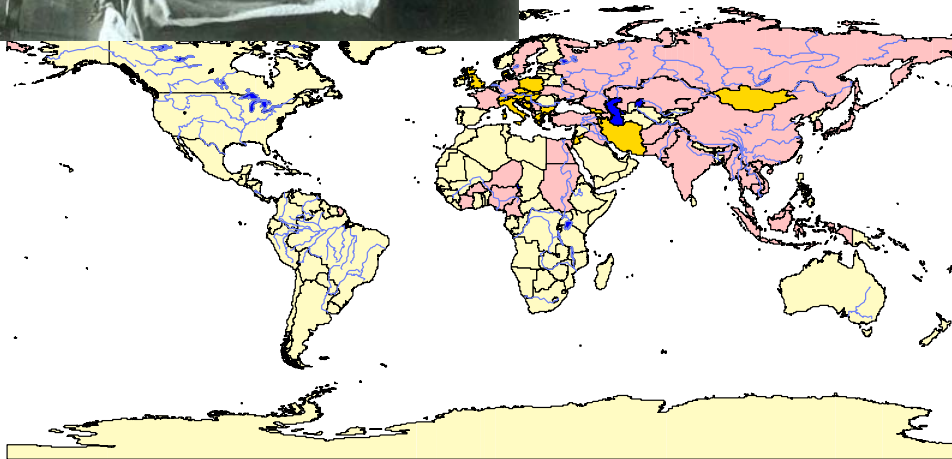
Rift Valley fever



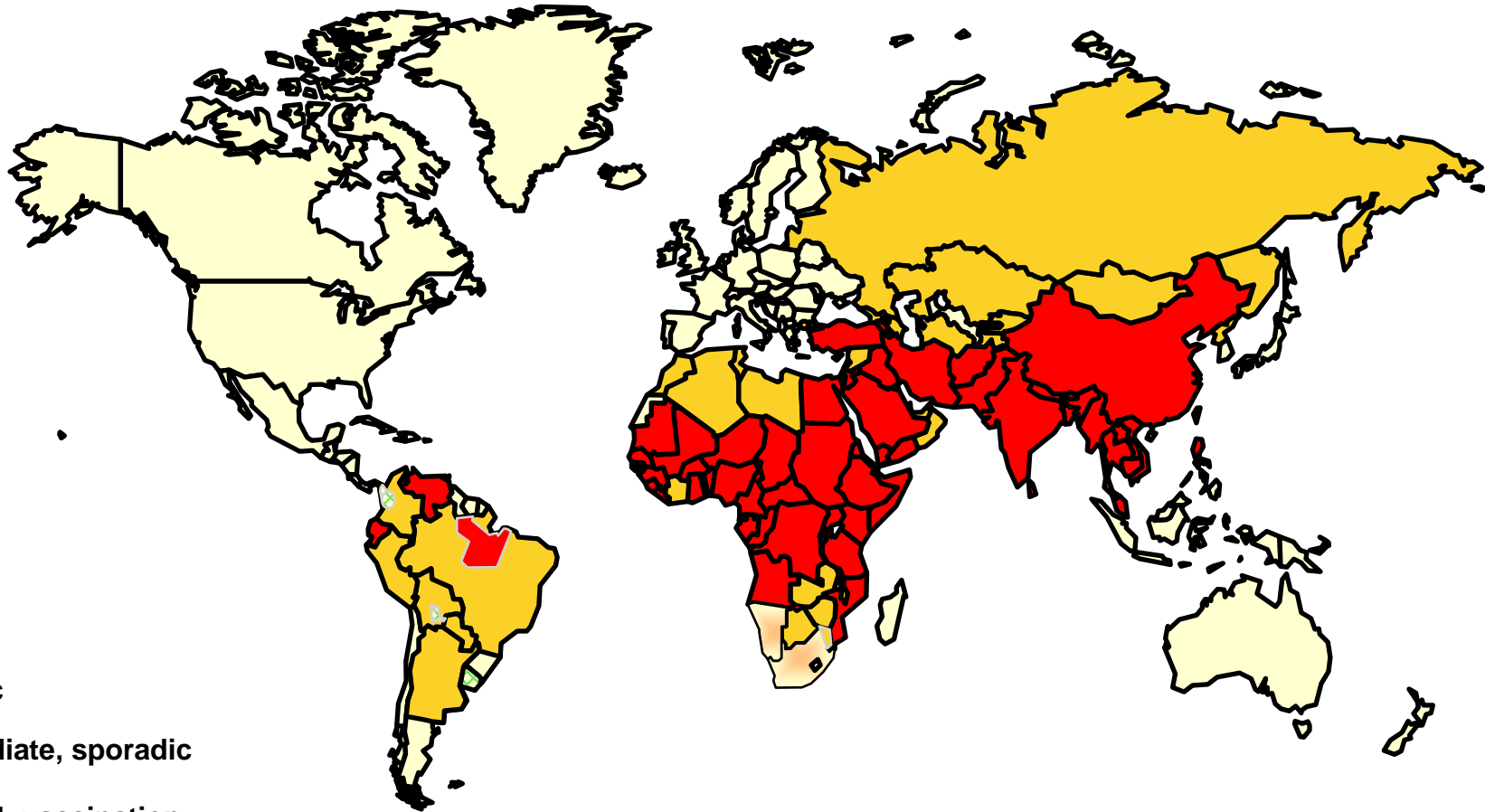
Bluetongue








Highly pathogenic avian influenza (H5N1)

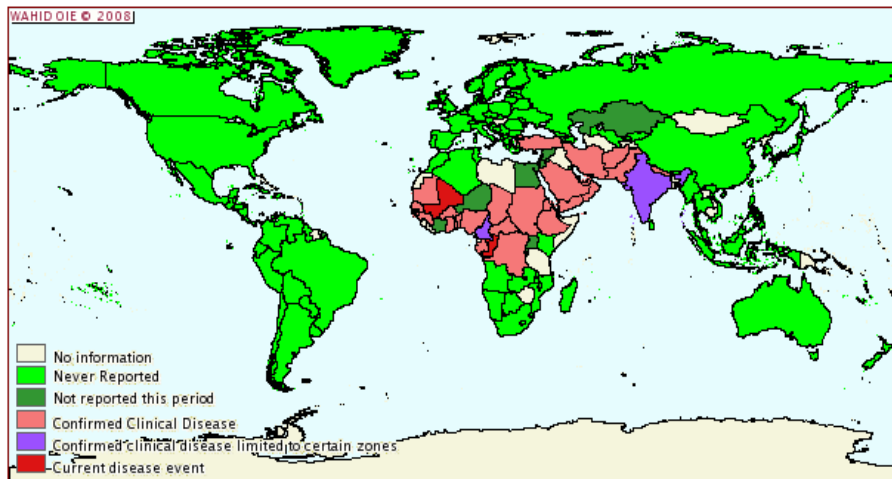


Conjectured Status of FMD

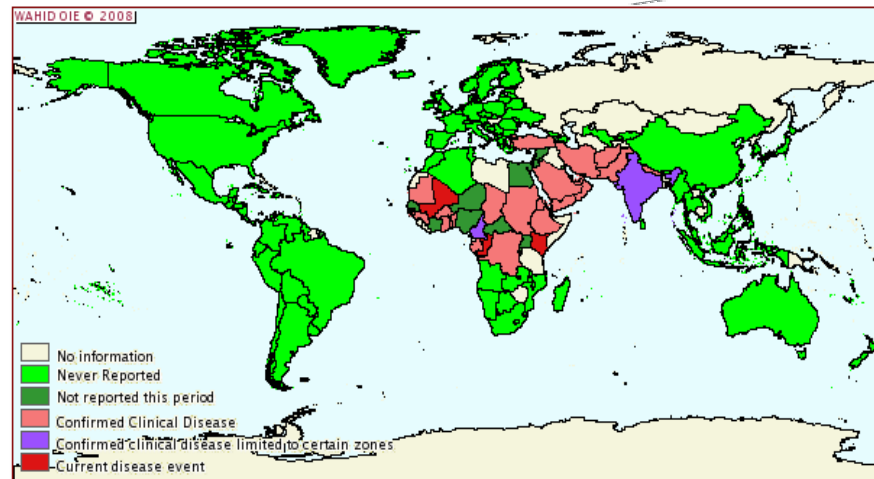


-  Endemic
-  Intermediate, sporadic
-  Free with vaccination
-  Free. Virus present in game parks
-  Free

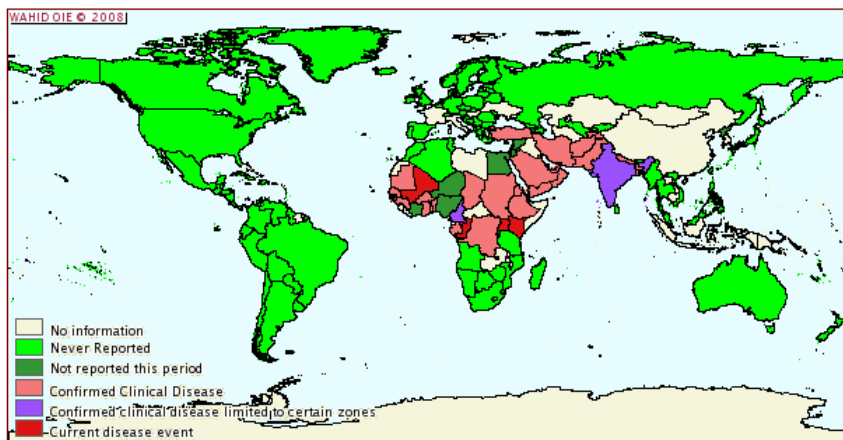
Peste petit ruminants: World Situation 2006 -2007



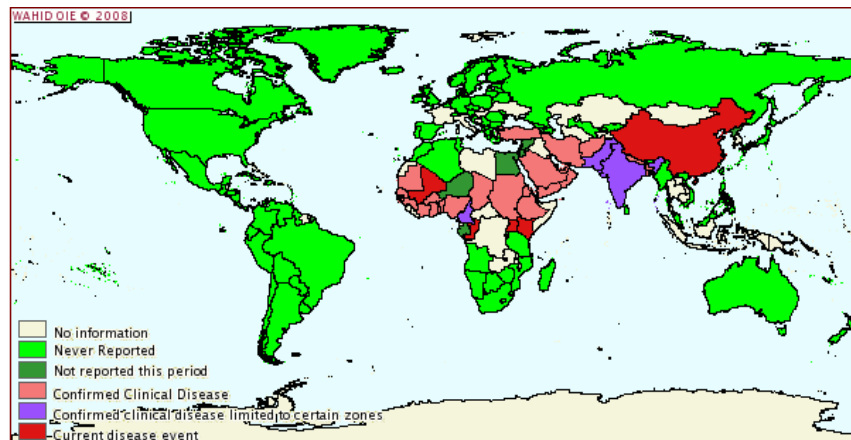
Jan – Jun 2006



Jul – Dec 2006

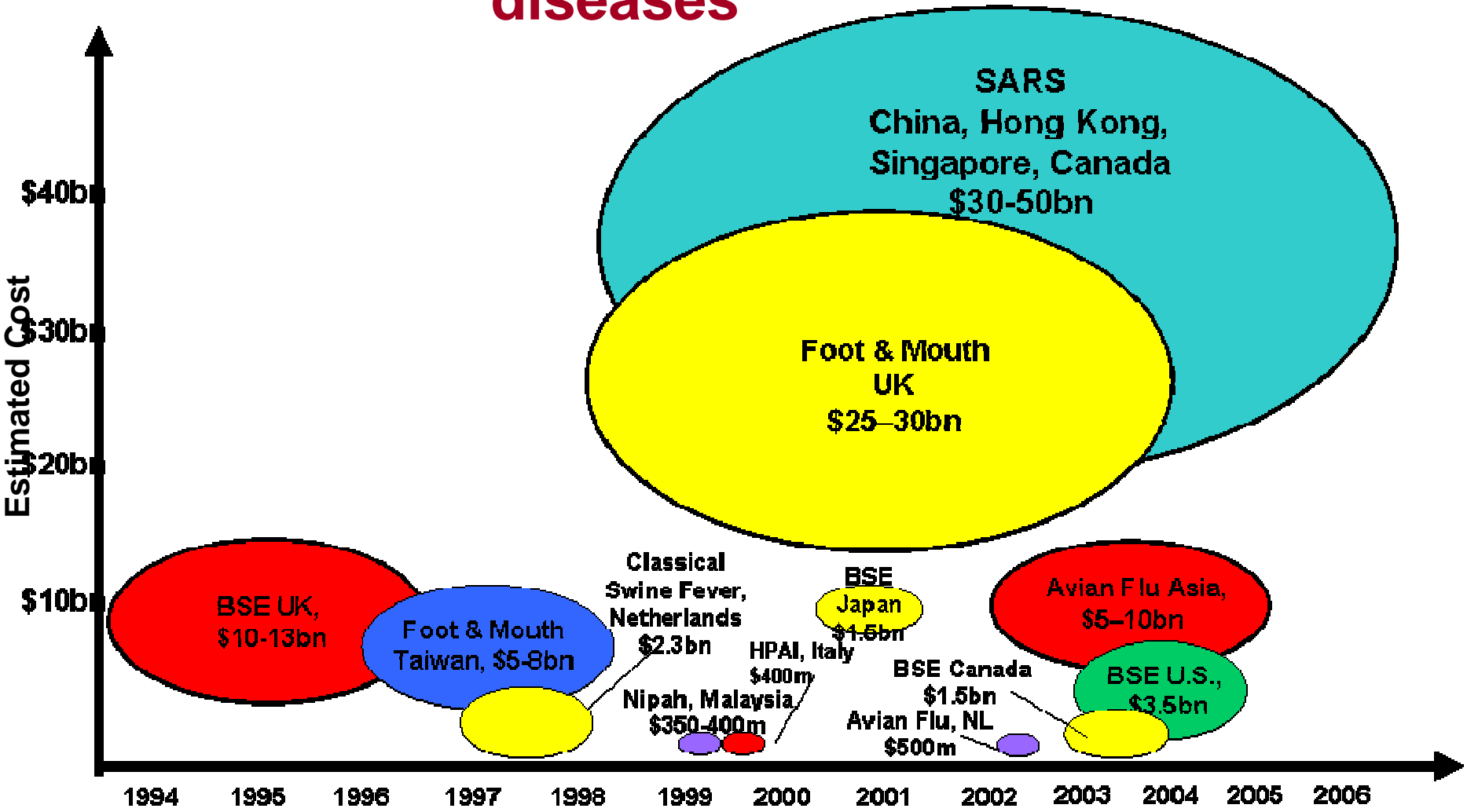


Jan – Jun 2007



Jul – Dec 2007

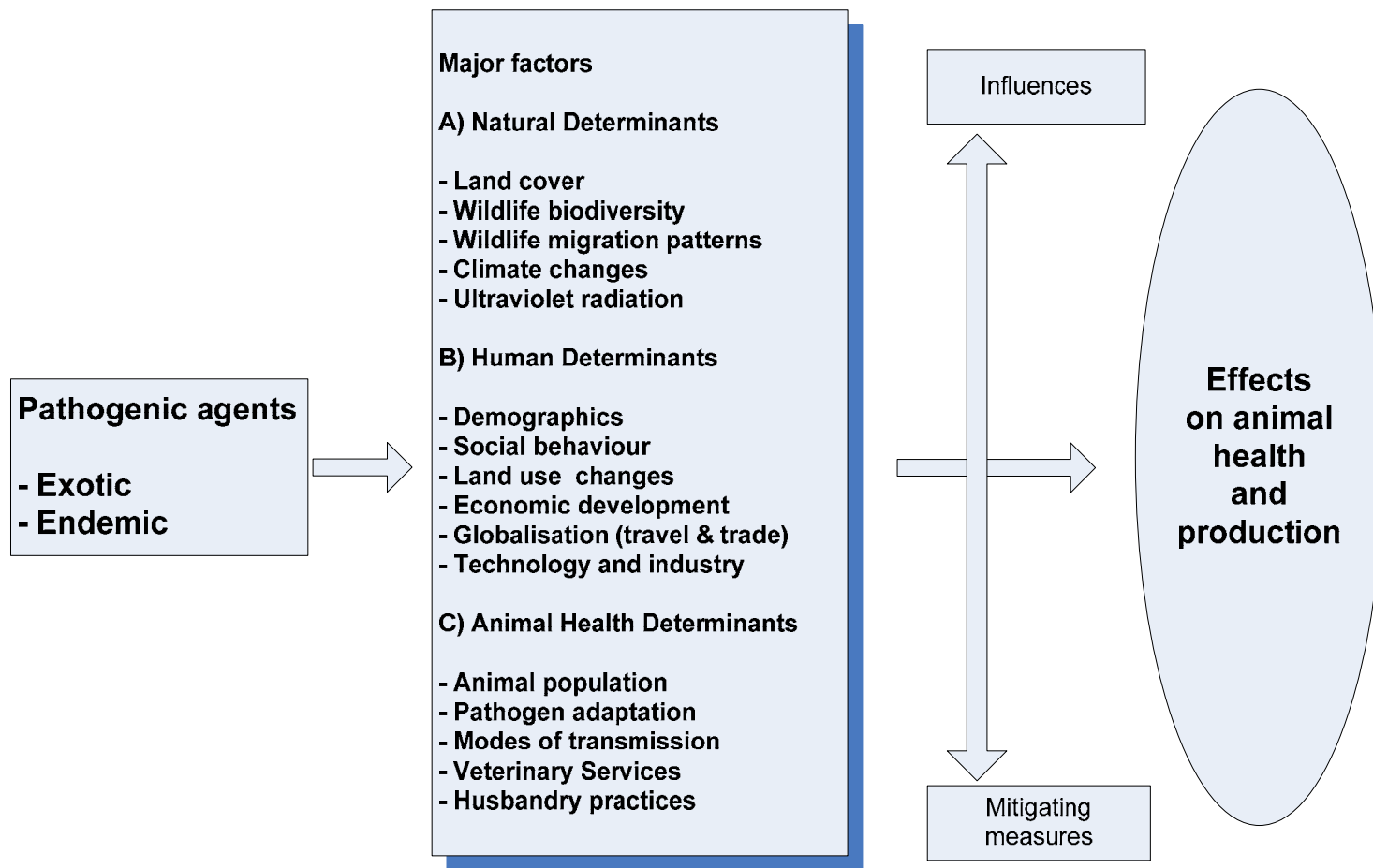
Economic impact of Emerging diseases



Figures are estimates and are presented as relative size.

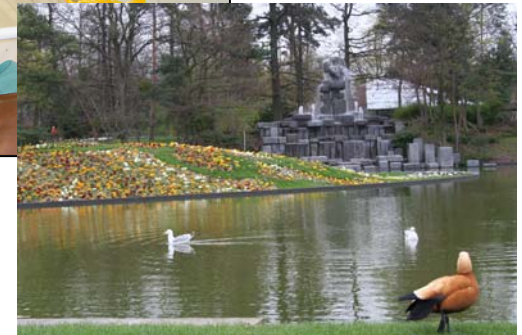
Risks for disease spread

Fig.1. Conceptual considerations – national and international factors influencing potential risks to animal health in the UK

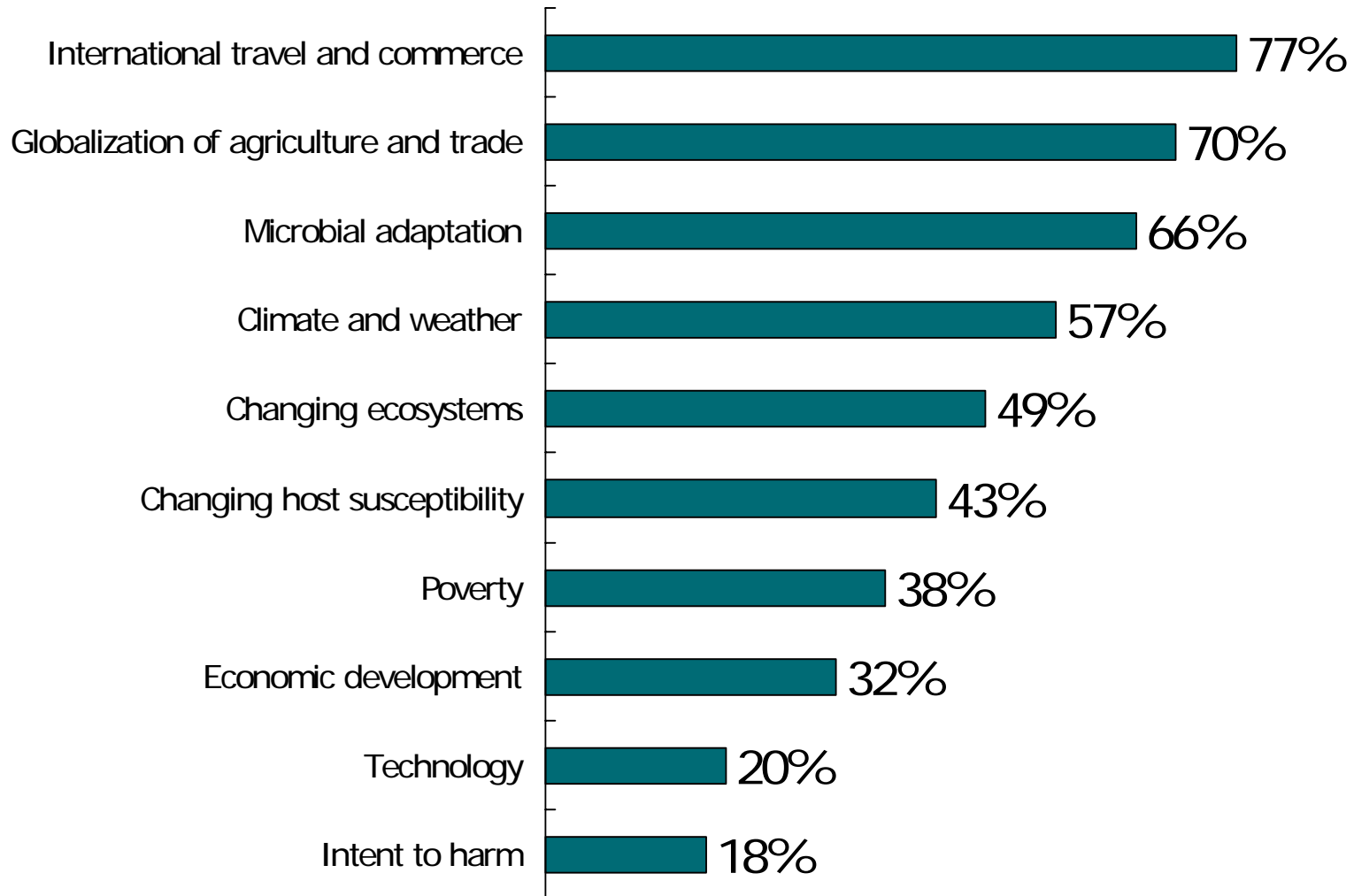


Zoonotic potential of animal pathogens

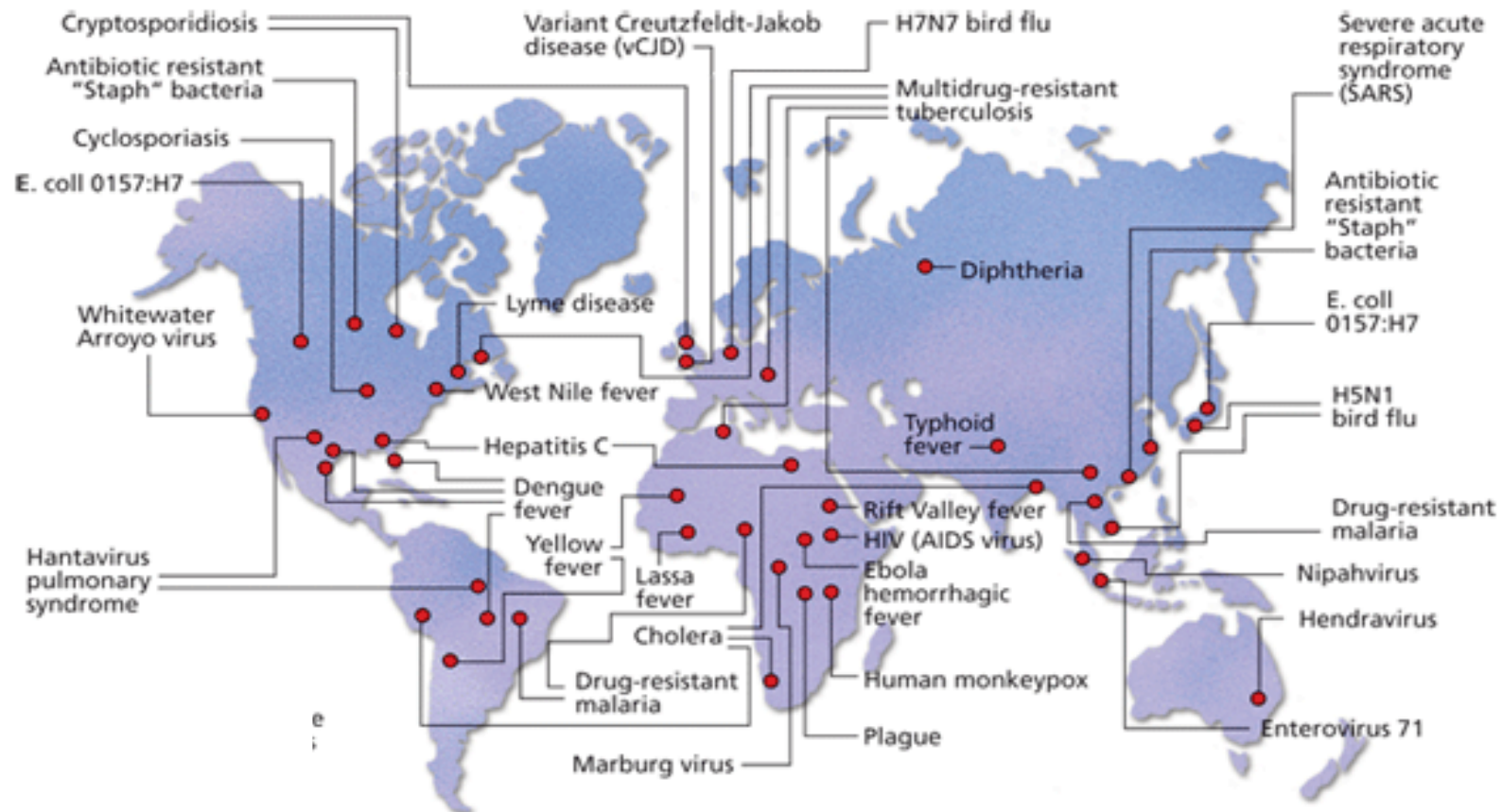
- 60% of human pathogens are zoonotic
- 80% of animal pathogens are multi-host
- 75% of emerging diseases are zoonotic
- 80% of agents having a potential bioterrorist use are zoonotic pathogens
- Nearly all new human diseases originate from animal reservoirs
- Diseases can now spread faster across the world than the average incubation period of most diseases



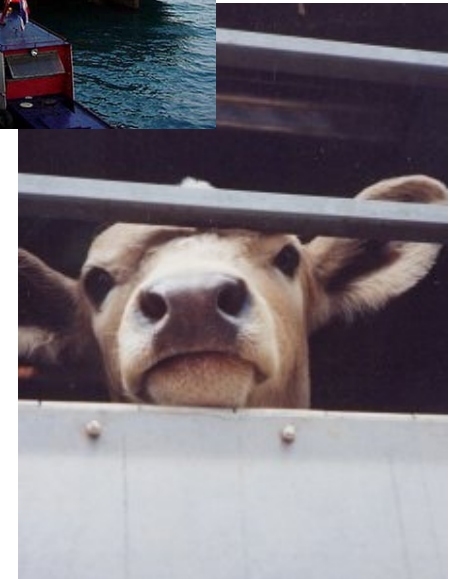
Factors of emergence and re-emergence



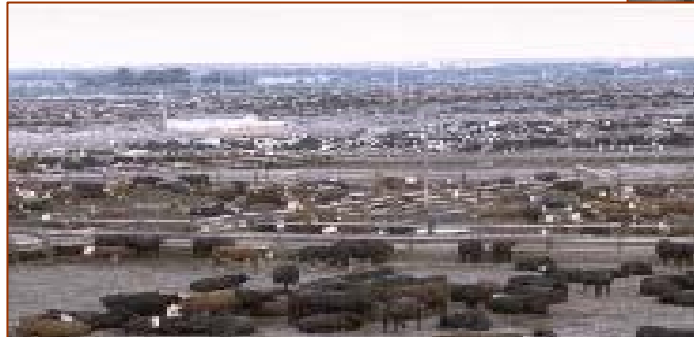
Emerging and re-emerging infectious diseases



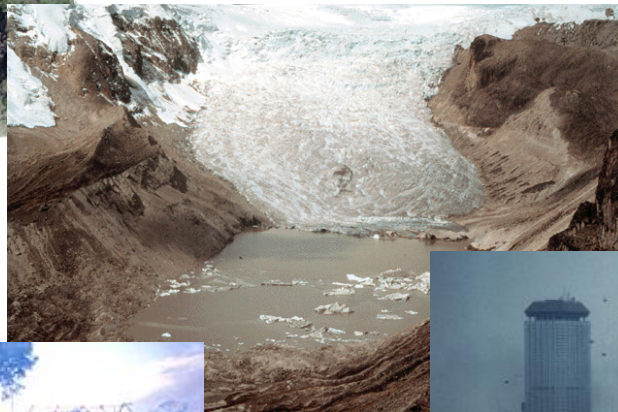
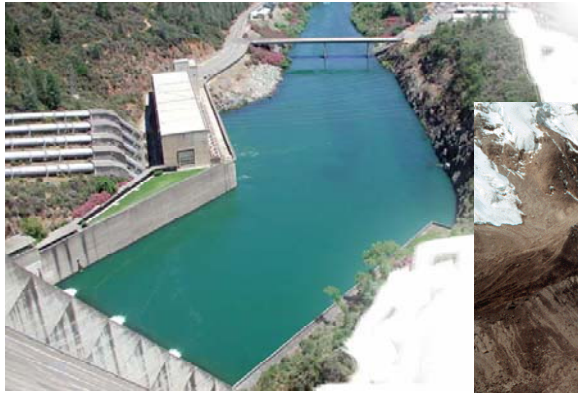
Veterinary science – within the global village



The impact of environment on food safety concerns



The impact of ecosystems on animal diseases

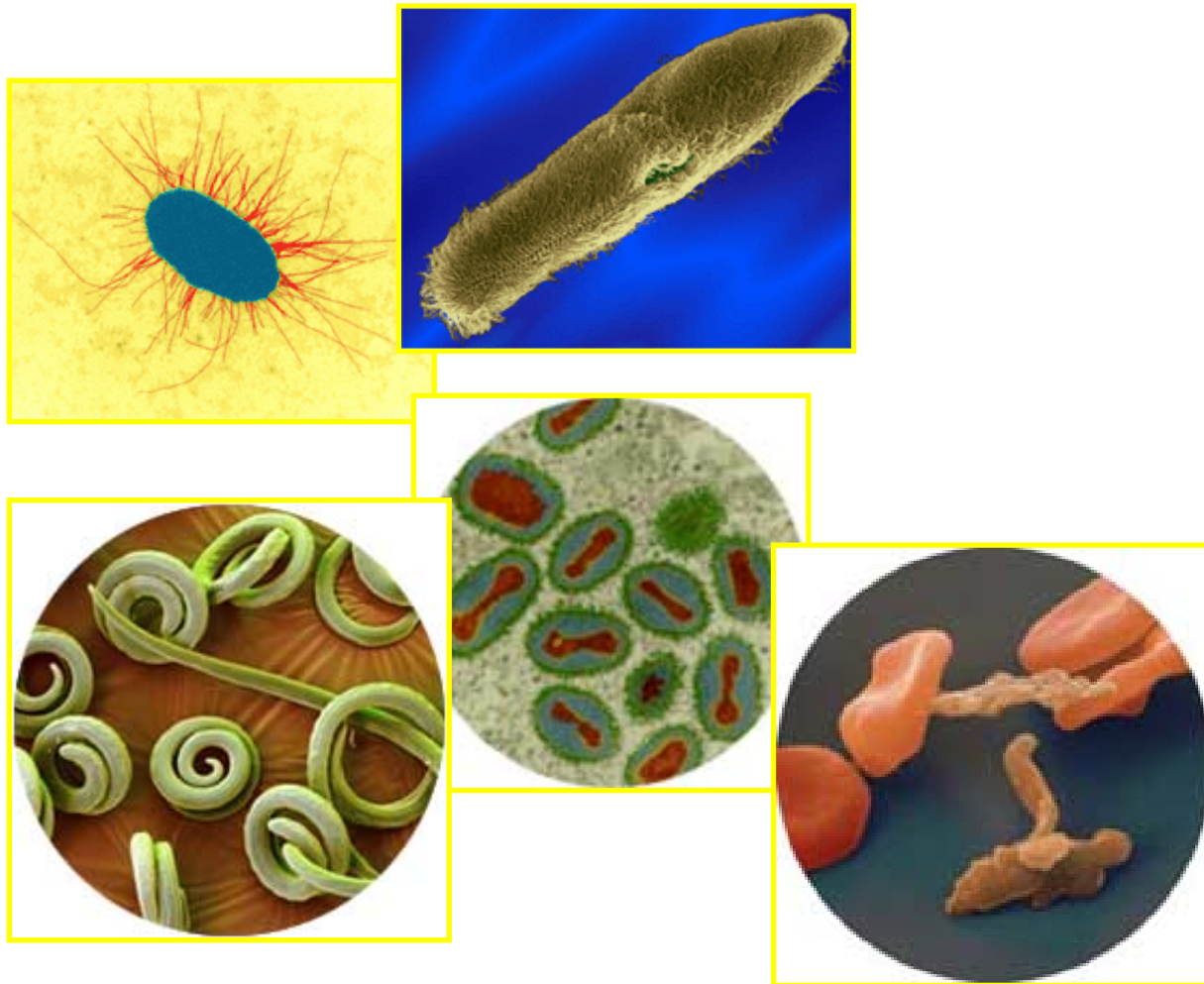


Annual global trade in exotic animals

- 4 million birds
- 640,000 reptiles
- 40,000 primates
- Illegal trade
unknown – estimate
\$4-6 billion



Our enemies



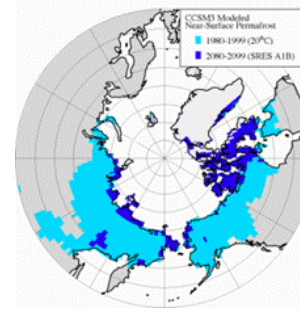
Wildlife factor

- **Forest encroachment**
 - Nipah, Hendra and Ebola
- **Exotic animal farming**
 - SARS
- **Trade in exotic animals**
 - Monkey pox, psittacosis
 - 37.8 million counted animals imported in USA from 163 countries in 2000-2004
- **Livestock/wildlife farming**



Climate change - diseases

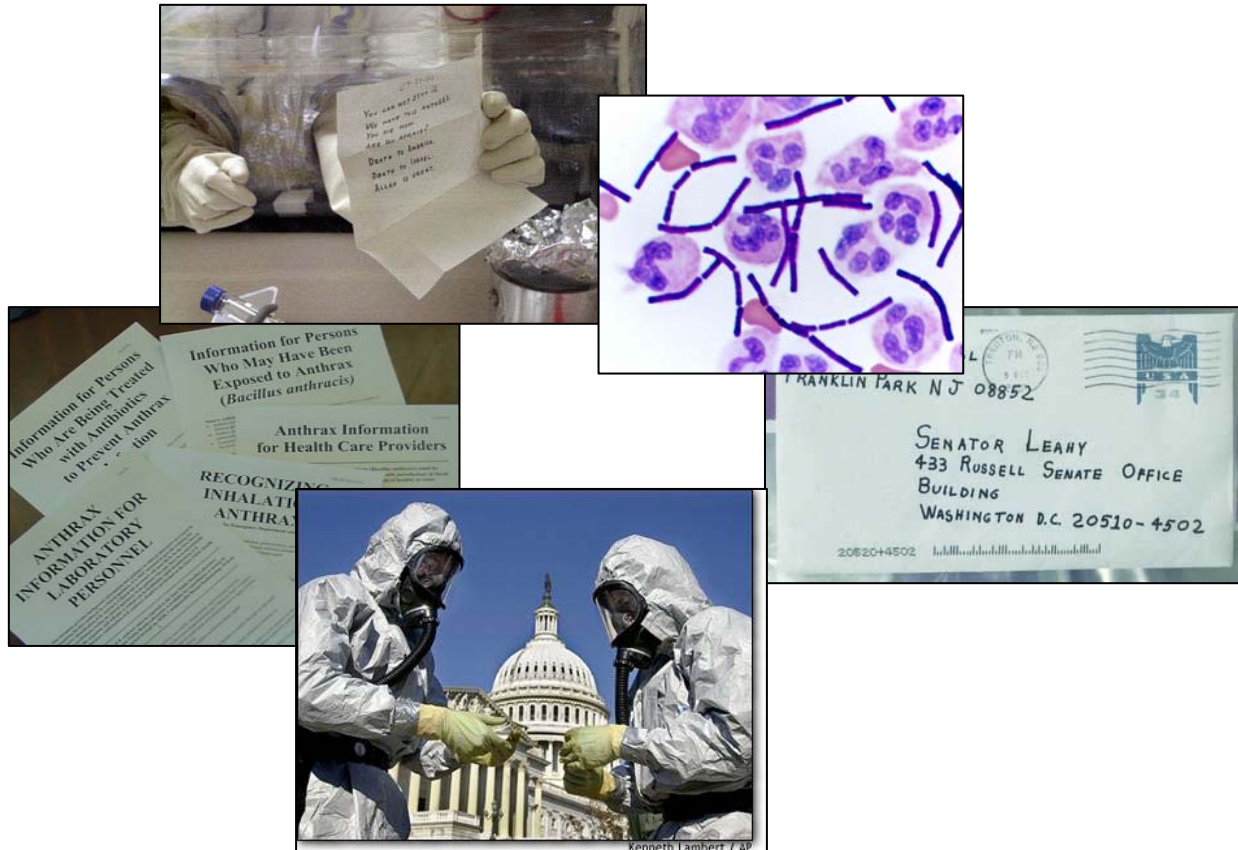
- Vector ecology and distribution (flies, ticks, mosquitoes)
- Invading pathogen adaptation with new vectors
- Migratory patterns
- Floods, drought
- Deforestation



Spill over and spill back

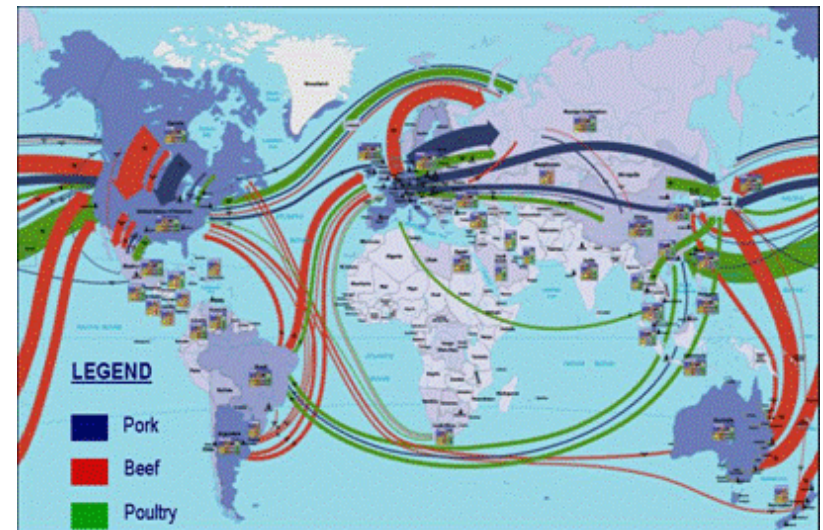


Bioterrorism and agroterrorism



Global spread of pathogens

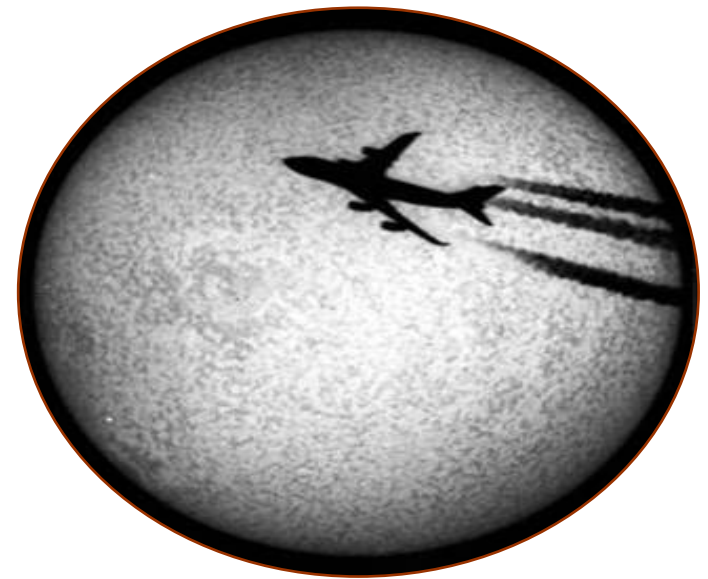
- **Increases in international air travel (5%/yr)**
- **Include the shipment of livestock and animal products**
- **Animals pathogens can move to any part of the world in a time shorter than the incubation periods of main epizootic diseases**
- **Entrenchment in poor farming communities**



Pathogen spread

➡ **Pathogens are transported around the world faster than the average incubation time of most epizootics**

➡ ***There is no place in the world from which we are remote and no one from whom we are disconnected***



Factors in emergence favouring the international spread of animal diseases and zoonosis

- **International travel and commerce**
- **Breakdown of public health measures**
- **Indiscriminate use of antimicrobials**
- **Poverty and social inequality**
- **Ruralisation of the urban environment**
- **War and famine**
- **Lack of political will**
- **Intent to harm**
- **.....**

Some of the more important diseases of concern to southern and eastern Africa

- **Potential economic disasters (animal health, food security)**
- **Potential human health (zoonosis)**

- **Foot and mouth disease**
- **Classical swine fever**
- **African swine fever**
- **Avian influenza**
- **Rabies**
- **Newcastle Disease**
- **Rinderpest**
- **Botulism**
- **CBPP**
- **Rift Valley Fever**
- **BSE**
- **African Horse Sickness**
- **Nipah Virus**
- **Psittacosis**

- **Avian influenza**
- **Rabies**
- **West Nile Fever**
- **Botulism**
- **Rift Valley Fever**
- **BSE**
- **Psittacosis**



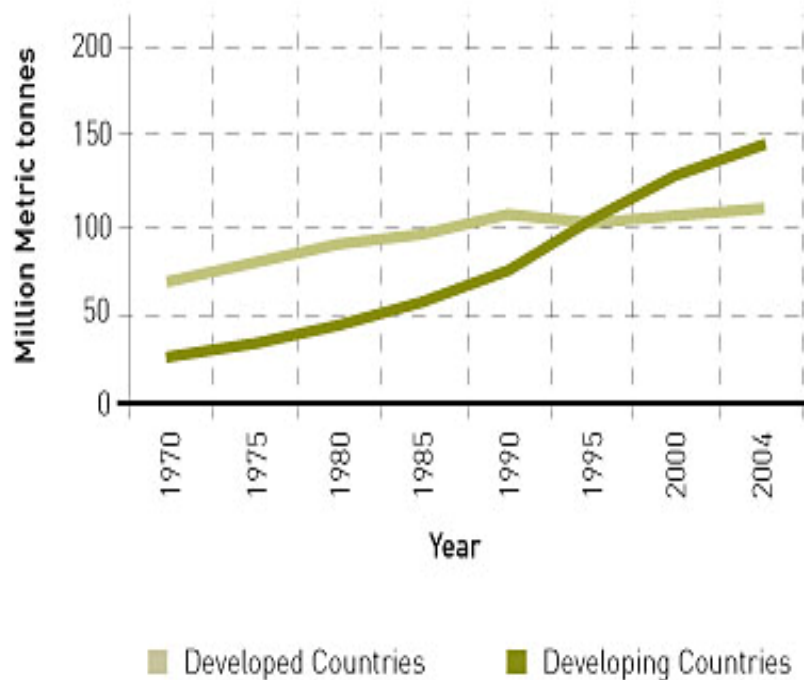
Safe Food always begins with healthy animals



Animal health is a key component of animal welfare

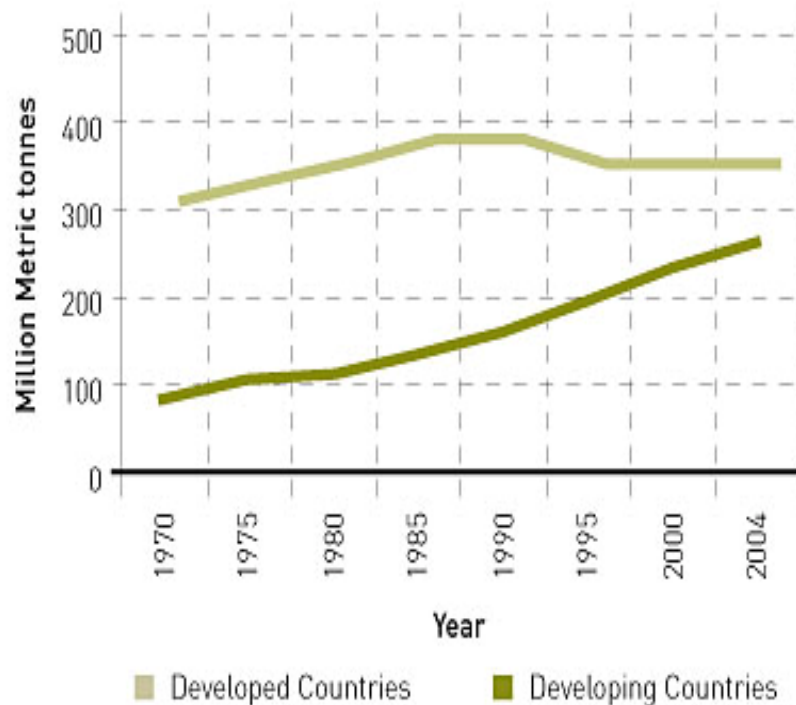
Increasing food demand

MEAT PRODUCTION



Source: FAO (2005)

MILK PRODUCTION



Source: FAO (2005)

Of veterinary concern ...

- Last year, over 21 billion food animals were produced for over 6 billion people.
- 1 billion people worldwide rely on livestock for livelihood
- Worldwide population increase by 72 million/year
- By 2020 the demand for animal protein up by 50% mainly in developing countries.
- 80% export from developed countries and 5% from LDC
- 90% of beef and poultry export come from 5 countries



Veterinary services – a global public good

**Safe animal
production**

Food safety

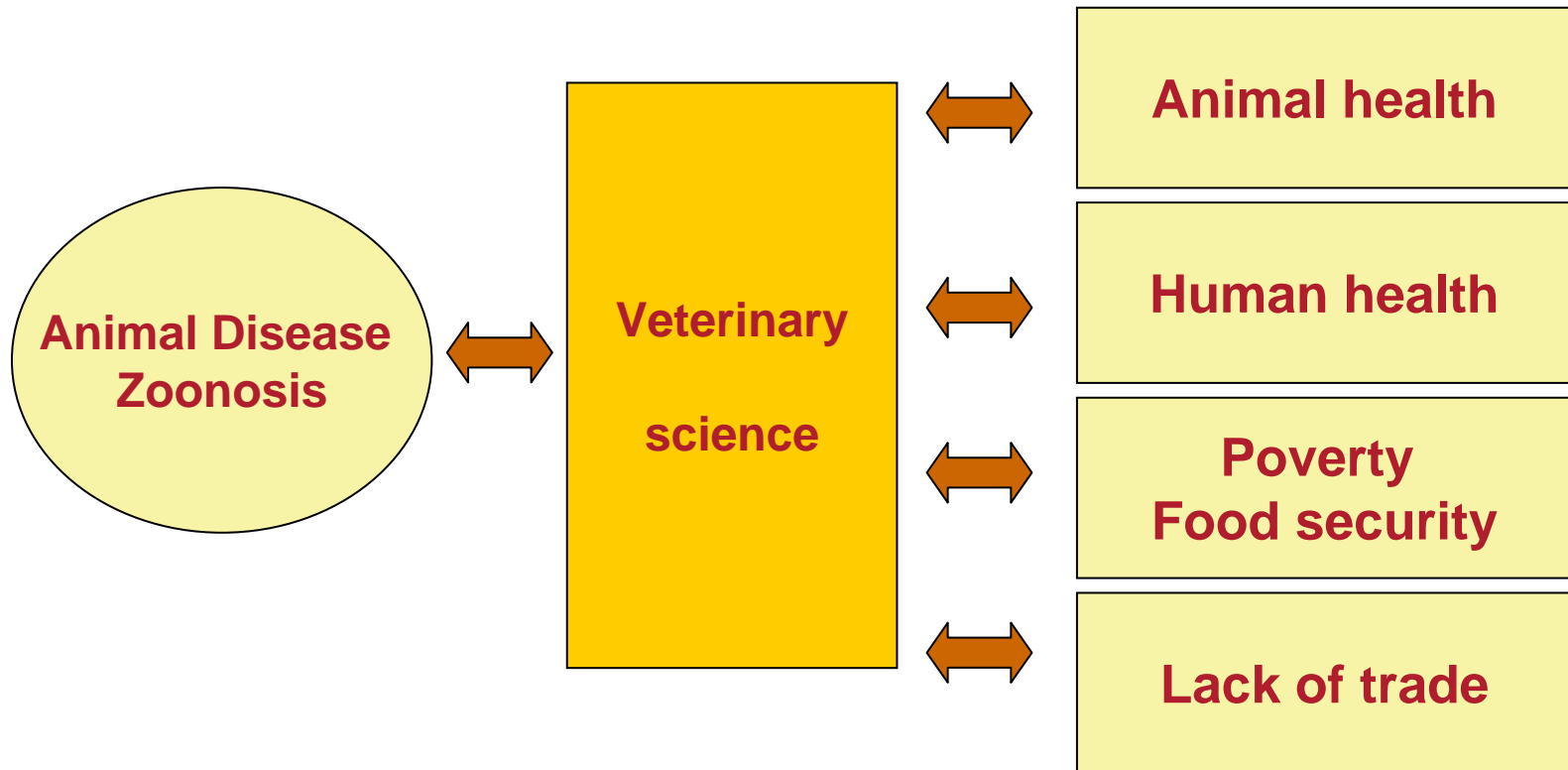
**Alleviation of
poverty**

**Public and
animal
health**

**Market
Access**

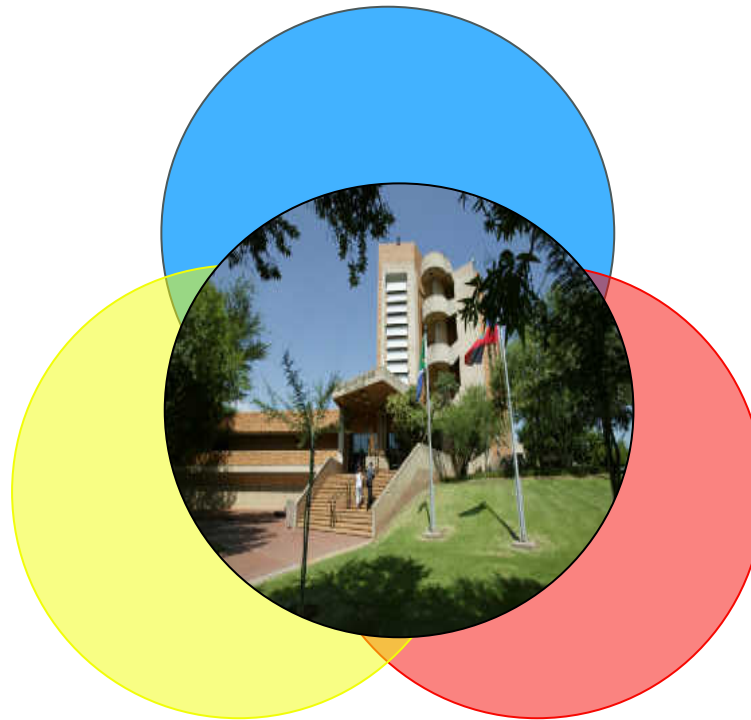


Veterinary science – the essential buffer mechanism and guarantee



Key role players in surveillance and early warning

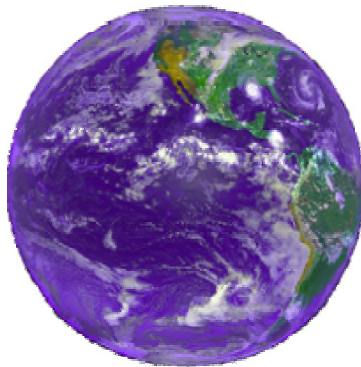
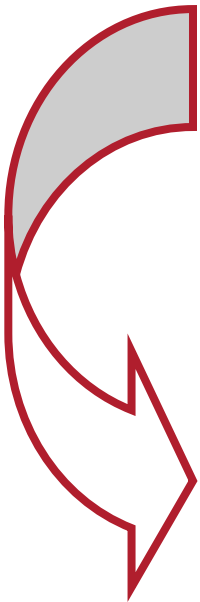
Official
Veterinarians



Private
Veterinarians

Farmers /
Stakeholders/Public

- The OIE was created in 1924 to prevent animal diseases from spreading internationally



World Organisation
for Animal Health

- The 4th Strategic Plan (2006-2010) extends the OIE's global mandate to *“the improvement of animal health all around the world”*

Priority concepts for OIE approach to global animal health and disease control



- International Public Good
- Good governance and veterinary legislation
- Well functioning infrastructure and resources of Veterinary Services
- Public/Private partnerships
- Early detection and rapid response
- Surveillance, transparency, pathogen confinement
- Meeting of Deans of Veterinary Faculties 2009



**Key principle for disease control
aimed at the international trade in
animals and animal products**

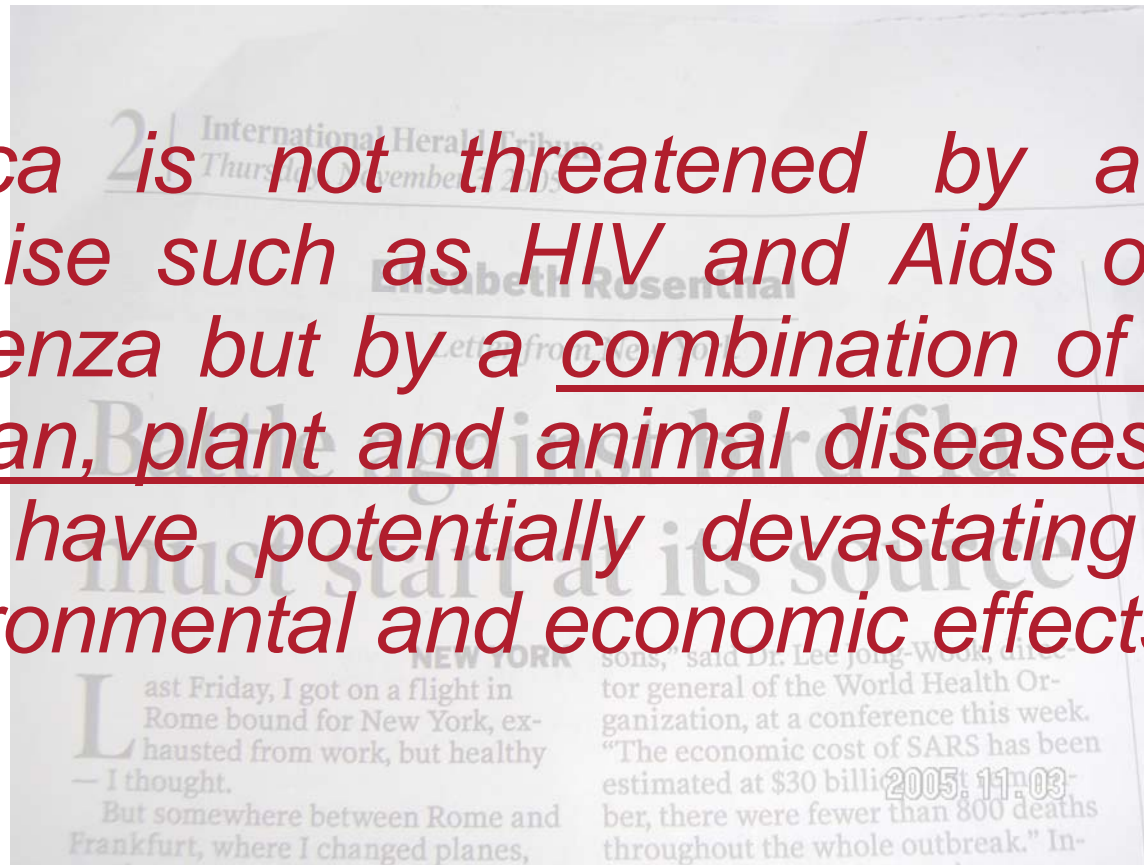
***The acceptance of the sanitary
guarantees of the **exporting country**
and how closely it satisfies the
desired level of protection for human
and animal health and zoonosis of the
importing country***

OIE PVS Evaluations

OIE Regions	OIE Members	Country Requests received	PVS Missions done	Confidentiality Release
Africa	51	36	31	15
Americas	29	12	9	3
Asia & Pacific	28	13	9	5
Europe	51	9	8	4
Middle East	13	10	5	1
Total	172	80	62	28

Aug 20, 2008 (The Monitor/All Africa Global Media via COMTEX News Network):

“Africa is not threatened by a single malaise such as HIV and Aids or Avian Influenza but by a combination of various human, plant and animal diseases, which can have potentially devastating social, environmental and economic effects”

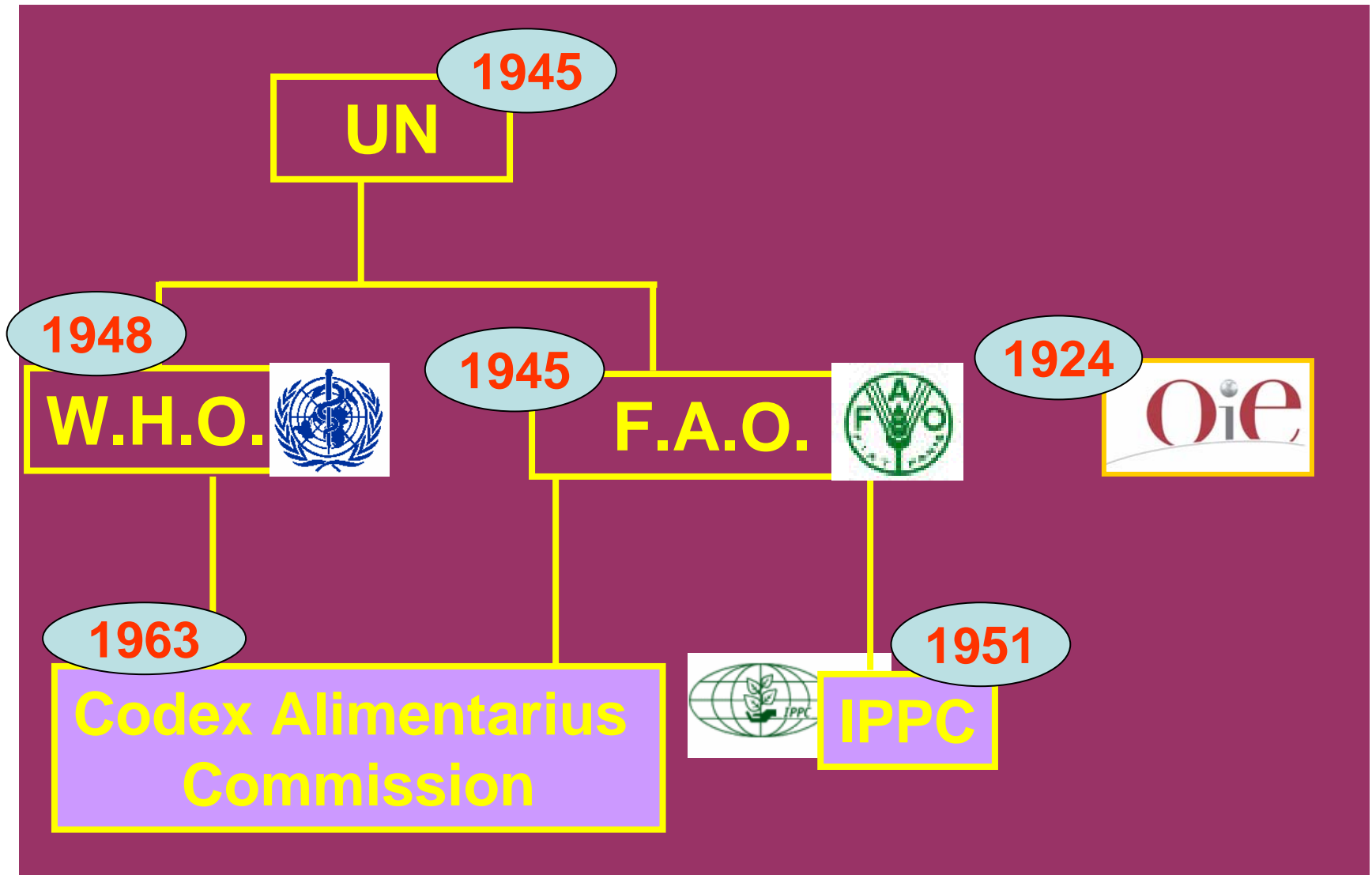


One World – One Health (OWOH)



- **Concept first introduced by WCS (Wildlife Conservation Society) – 2004**
Manhattan principles
- **Triggered by WNF, Ebola, SARS, Monkey pox, BSE, AI**
- **HPAI (H5N1) pandemic triggered wider international response (WHO, World Bank, OIE, FAO, UICEF) – Strategy document**
- **International realization of animal-human-wildlife interface in emerging infectious diseases**
- **Realisation for control of emerging infectious diseases at source → 75% zoonotic = animal source**
- **IHR – International Health Regulations (2007) – veterinarian+public health?**



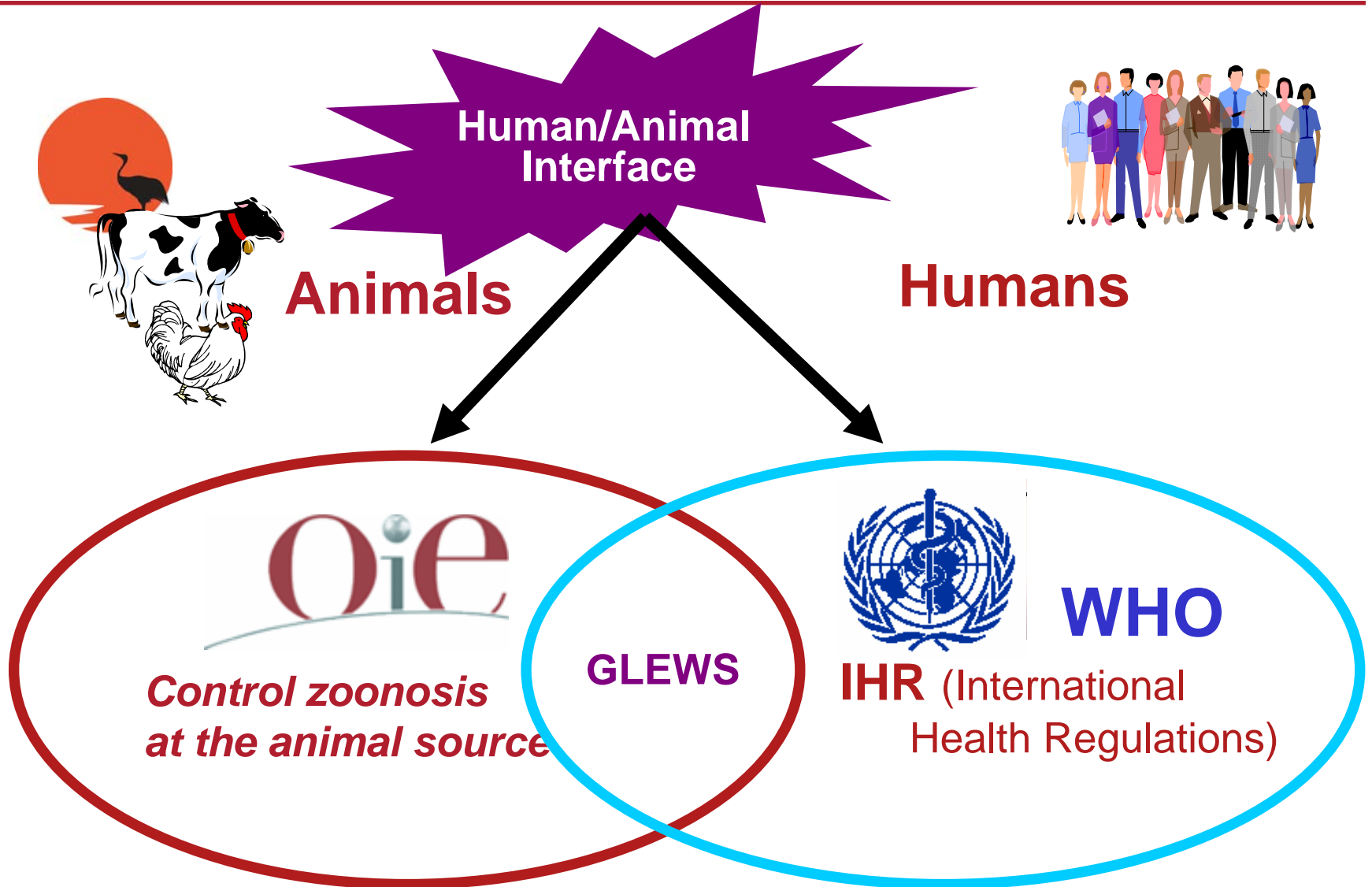


International standards, guidelines and recommendations

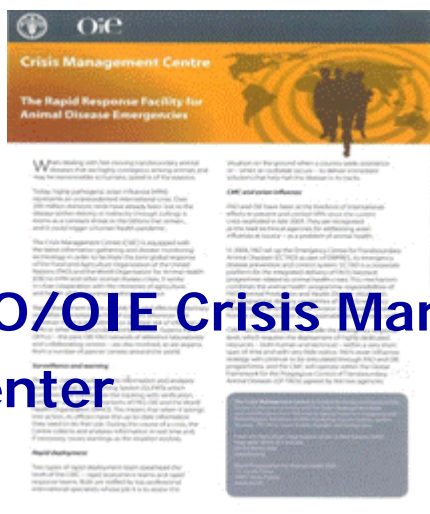
- **Terrestrial Animal Health Code**
- **Aquatic Animal Health Code**
- **Manual of Diagnostic Tests and Vaccines for Terrestrial Animals**
- **Manual of Diagnostic Tests for Aquatic Animals**



One World – One Health (OWOH)



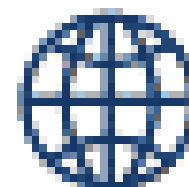
Acceleration of interactions due to the avian influenza crisis



FAO/OIE Crisis Management Center



**FAO/OIE/WHO
GLEWS
GLOBAL EARLY WARNING SYSTEM**



Global Early Warning System

OWOH - broader vision

- Improving public health, animal health and food safety
- Protecting the health of ecosystems
- Role identification and responsibilities
- Focus on human/animal pathogen interface rather than just zoonosis



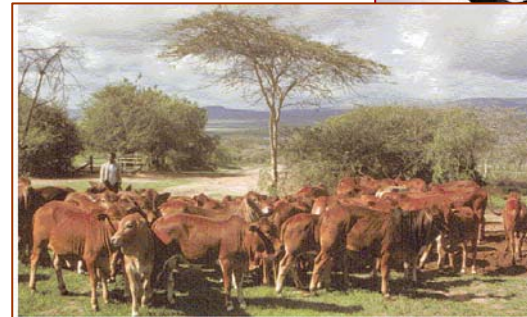
OWOH - overall objectives

- **Build global capacity, as an international public good, in early detection and early response to identify emerging infectious diseases**
- **Control them at source to prevent their spread and entrenchment**
- **Decrease zoonotic disease risks to public health**



In summary – what are the challenges?

- **Accept the change in the global epidemiology of animal disease threats**
- **Accept the challenge and obligation to prevent zoonosis and EID's at the **animal source****
- **Accept the need for supportive good veterinary governance**
- **Accept to always expect the unexpected**
- **Accept the obligation as partners for delivering a global public good**
- **Accept to maintain our identity and role in a multidisciplinary environment**



In conclusion

The veterinary profession has many success stories in Africa ...



Are we ready to take the new challenges?

A large herd of brown and white cattle is gathered in a fenced field. The background is filled with lush green palm trees and other tropical vegetation under a slightly overcast sky.

Thank you very much!

World Organisation for Animal Health

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