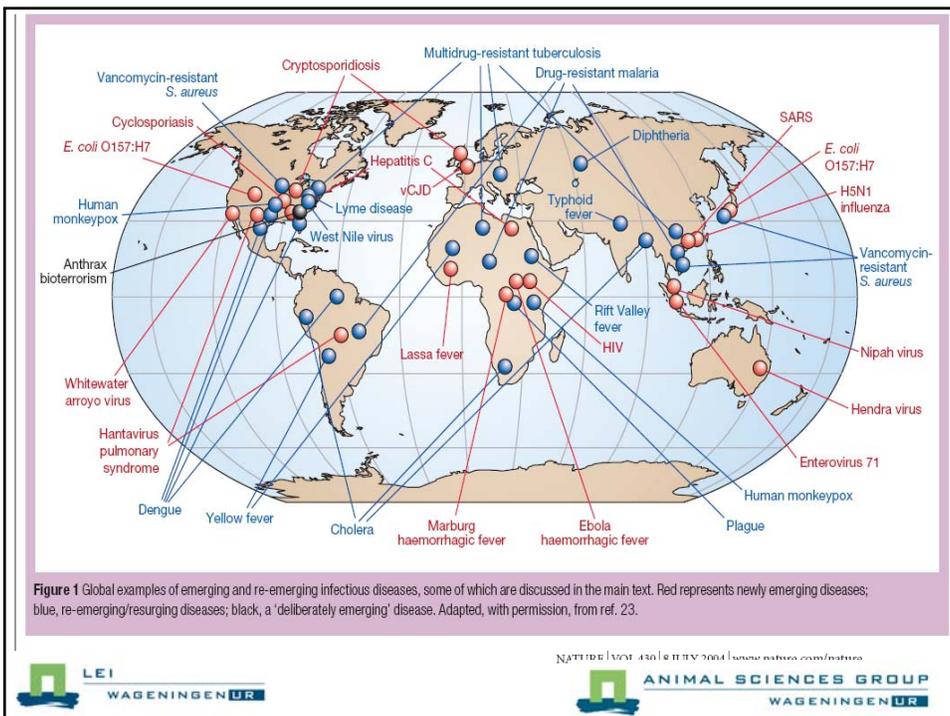


# No reason to panic?

The social and economic impact of emerging and re-emerging diseases

Ron Bergevoet



## Outline

- (Re) emerging diseases: their impact
- Strategies to reduce the impact of re emerging diseases – a worldwide commitment?
- Conclusions and recommendations

## (Re) emerging disease: relevant aspects

Veterinary  
aspects

Economic aspects  
(trade)

(Re) emerging  
disease

Human health  
aspects

Socio-ethical  
aspects

## Veterinary aspects: (other presentations)



## Socio-ethical impact

- In Netherlands: massive culling of animals is not accepted anymore by general public
- In rural areas: larger part of population has no direct relation with agricultural production but has livestock (hobby)
- Outbreaks of epidemics are perceived as a result of large scale production





## Economic aspects:

- Compare the costs of:
  - **Bluetongue** in the Netherlands for 2006 and 2007:
    - 78 million € (*Veldhuis et al 2008*)
  - An outbreak of **FMD** in the Netherlands in 2001:
    - 900 million € (*Huirne et al. 2002*)
  - **SARS** in 2003 in Asia:
    - US\$13 billion (*Brahmbhatt & Dutta 2008*)
  - a pandemic of **Highly Pathogenic Avian Influenza**:
    - *estimated at US \$2 trillion for the global economy* (*Ann 2008*).

## Outbreak cost- Direct impact -

- **Direct losses:**
  - the disease itself,
  - sanitary control measures (stamping-out policies).
  - value of animals culled as such,
  - culling and disposal costs.
- **Control costs:**
  - equipment, facilities, disinfectants, protective clothing, staff in quarantine stations etc.
  - (ring) vaccination where this is considered appropriate and is available.
- **Other direct production losses:**
  - fall in stock
  - the loss in animal value.
  - **restrictions of movement when zoning restrictions are put in place,**

## Article 8.12.2. Terrestrial Animal Health Code (RVF)

- **RVF infection free country or zone**
- A country or a *zone* may be considered free from RVF infection when the *disease* is notifiable in animals throughout the country and either:
  1. the country or *zone* lies outside the historically infected regions, and not adjacent to historically infections; or
  2. a *surveillance* programme as described in Article 8.12.1, has demonstrated no evidence of RVF infection in humans, animals or mosquitoes in the country or *zone* during the past 4 years following a RVF epidemic
- The provisions of the last paragraph of Article 8.12.1. may need to be complied with on a continuous basis in order to maintain freedom from *infection*, depending on the geographical location of the country or *zone*.
- A RVF infection free country or zone in which *surveillance* and monitoring has found no evidence that RVF infection is present will not lose its free status through the importation of permanently marked seropositive animals or those destined for direct *slaughter*.

## Impact of Export Restrictions

- Agriculture in Dutch economy: Total export > 20 billion €
  - Primary production → 2% of NL economy
  - Agro- industry and trade → 10% of NL economy
- Export Dutch Dairy products:
  - Total 1.634.002 \*1000 kg dairy products (PZ)
- Pig production in the Netherlands
  - Annual production: 21 million pigs
    - Of which 14 million slaughtered in NL,
    - 5 million Export piglets
    - 3.5 million Export live slaughter pigs

## Outbreak cost: -Indirect impact-

- Ripple effects:
  - impacts on livestock and livestock product prices
  - upstream and downstream activities along the livestock value chain upstream → includes export losses
- Spill-over effects:
  - **Other sectors as tourism and services**
  - food availability and quality for poor communities → issues of food security,
  - negative effects on poverty alleviation.
- Control costs and the indirect effects are responsible for large part of the total costs and depend to a large extent on the duration of the outbreak

## Spill over effects: human health aspects

- SARS 2003 in Asia
  - from February 8 to 10 2003 the SMS text message “There is a fatal flu in Guangzhou” was sent 126 million times in Guangzhou city alone. (Pomfret, 2003)
  - the estimated GDP losses in 2003 for the four economies discussed amount to on the order of \$13 billion, despite there being only somewhat over 7000 possible cases and a little over 700 fatalities in the 4 economies combined. (Brahmbhatt&; Dutta, 2008)

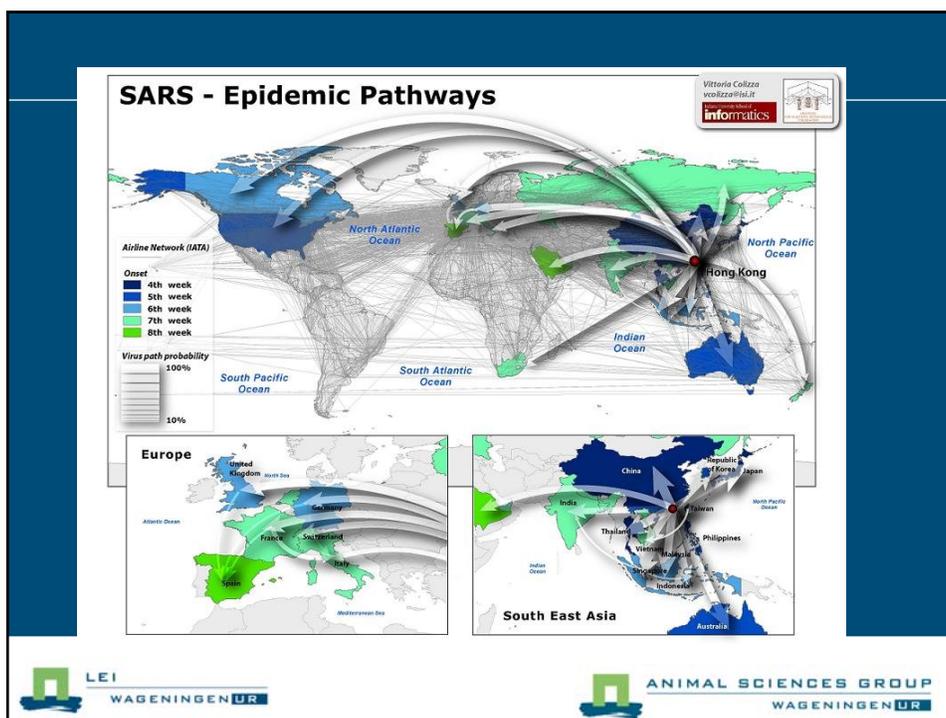
## SARS 2003

**SARS originated from China**



**Avoid Traveling to: China,  
HongKong**

Strongly Protest the  
Statement about China  
on <http://www.sars.com>



## Human health aspects

- Each previously unknown emerging disease is a potential zoonosis
- Timely and adequate diagnosis, information and communication is vital → diagnostic infrastructure at source
- Collaboration between human health, veterinary and wildlife authorities

## Communication

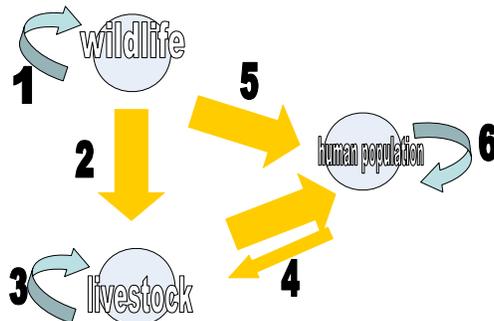
- In the beginning of an outbreak: a lot of uncertainty and tremendous requests for information
- The more facts the less room for fiction
- New communication channels: less possibilities to control the quality of information

Strategies to reduce the impact of re emerging  
diseases – a worldwide commitment?

## Control strategy for emerging diseases

- Basic ingredients
  - Emergency preparedness
  - Surveillance networks
  - ( Control of) outbreak
  - Trust and commitment of stakeholders in approach
- Separate action or integrated in strategies which are regional, national or local/sector public goods?

## Who is in charge?



### *Veterinary Services (VS) :*

Veterinary services are the cornerstone in prevention and eradication of zoonosis. They play a major role in the steps 2, 3, and 4 of figure 1

### *Human health authorities*

Involvement in steps: 5,6 and partially 4

Step 1 and 5 are rarely monitored in routine programs. The moment a wildlife source of human infections is determined specific programs are introduced to monitor the prevalence in specific wildlife sources.

## Control of outbreak of a emerging disease

- Some countries are able to do this themselves
- If not is next option feasible?:
- International assistance to quickly eradicate:
  - Technical assistance (human and veterinary health)
  - Logistics (including rapid access to global emergency funds)
  - Funding and effective implementation of compensation schemes

*What is the attitude of decision makers in relation to these diseases?*

*In the very unlikely event we will have an outbreak this will have such disastrous effects that it legitimizes all costs to prevent that*

*Versus*

*Are there no better means to spend money with direct benefits for human and veterinary health?*

## Conclusion

- To limit the impact of outbreaks of (re)emerging diseases involves an international multi-disciplinary collaboration between human health services, veterinary services, wildlife authorities and communication professionals
- Continuous commitment of the global society is needed



Thank you for your attention  
questions?

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