Transboundary Animal Diseases

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Animal Health Service
Food and Agriculture Organization of the UN

- 192 member countries + EC
- Ministers of Agriculture
- HQ-Rome
- Mandate to assure food security and relief hunger

With the Agriculture Department
- FAO/WHO Codex Alimentarius secretariat
- Animal Production and Health Division
- Nutrition and Consumer Protection Division
Two families

Germany: The Melander family of Bargteheide
Food expenditure for one week: 375.39 Euros or $500.07

Chad: The Aboubakar family of Breidjing Camp
Food expenditure for one week: 685 CFA Francs or $1.23

http://www.humanespot.org/node/2885
Transboundary Animal Diseases (TADs)

- epidemic diseases,
- highly contagious or transmissible
- potential for very rapid spread, irrespective of national borders,
- causing serious socio-economic and possibly public health consequences
Transboundary Animal Diseases (TADs)

- Rinderpest
- Foot and Mouth Disease
- Classical Swine Fever
- African Swine Fever
- Peste des Petits Ruminants (PPR)
- Contagious bovine pleuropneumonia
- Newcastle Disease
- Rift Valley Fever
- Brucellosis
- Highly Pathogenic Avian Influenza
- (Rabies)
RINDERPEST

Signs:
- Fever
- Discharges: nose, eyes
- Diarrhoea/dysentery
- Ulcers in mouth
- Death (can exceed 90%)

GREP PROGRESS

Early 1980s

Early 1990s

2008 last suspicions
Distribution of Peste des Petits Ruminants in the world

1942-1972

1980-1982

1987

2007

2008
Emerging Infectious Disease events

Global trends in emerging infectious diseases. Jones, K.E., 2008 Nature
Neglected/endemic Zoonoses

- Echinococcosis/Hydatidosis
- Cysticercosis/Toxocariasis
- Leptospirosis
- Toxoplasmosis
- Chagas
- B-Tuberculosis

Emerging zoonoses

- Rabies
- Rift Valley Fever
- Leishmaniasis
- West Nile
- Q-Fever

- HPAI
- Nipah/Hendra
- Ebola/Marburg (SARS)
- Monkeypox
- CCHF
- Hanta

Trichinellosis
- Cryptosporidiosis
- Cysticercosis/Toxocariasis
- Leptospirosis

Brucellosis
- Anthrax

- Anisakiasis
- E.coli 0157
- MRSA
- BSE
- Hepatitis E

Salmonellosis
- Staph
- Campylobacter
- Listeriosis
- Yersiniosis

Food-borne diseases

residues contaminants
Global Early Warning System

→
Disease intelligence

Global Early Warning and Response System (GLEWS) for Major Animal Diseases, including Zoonoses
Rapid response to transboundary and emerging animal diseases threats
Veterinary Education

- a way of thinking
- identification and problem solving
- practical skills
- research skills
- communication skills?
- role in public health?
- ethics?
- interdisciplinarity?
- cultural sensitivities?
- global outlook??
Profile of Veterinarians

- clinical care and prevention
  - companion animal
  - livestock
  - exotic animals
  - wildlife
  - herd health
the private veterinarian = first line of defense!

- suspicion
- reporting to vet authority
- adhere to and cooperate with control measures
- social responsibility
Profile of Veterinarians

- laboratory
- academia
- research
- (applied research??)
Emergency preparedness and response

- a continuous process
- contingency planning
- surveillance
- outbreak investigations
- implement emergency procedures
- (outbreak) communication
Profile of Veterinarians responds to the needs of society?

- protect human health and wellbeing

Additional skills needed
- management
- policy making
- communication
- extension
- training
Strengthening cooperation between developing and developed countries

Building bridges in veterinary education
SAPUVETNET III - Partners

Europe
- Portugal
- UK
- Netherlands
- Italy
- Spain

Latin-American
- Argentina
- Brazil
- Chile
- Colombia
- Costa Rica
- Cuba
- Mexico
- Nicaragua
- Uruguay

FAO associate member
Building bridges in veterinary education

- Partnering of veterinary faculties
- Development of joint training modules
- e-conferences
- exchange of academicians
- exchange of students for part of the academic year (international “ERASMUS”?)
- twinning students from different continents for assignments
International organizations

- **student internship** at international organizations or in projects

- **sabbaticals for academicians** at OIE, FAO or WHO in relevant departments of mutual interest

- provide lectures (face to face or long distance)

- provide networks, contacts, materials, etc
preparing today
the veterinarians of tomorrow

Thank you!!!
**Figure 1:** Economic Impact of Selected Infectious Diseases: Recent Livestock Disease Outbreaks and SARS

- **BSE, UK:** $10–13 bn
- **Foot & Mouth, Taiwan:** $5–8 bn
- **Classical Swine Fever, Netherlands:** $2.3 bn
- **Nipah, Malaysia:** $350–400 m
- **HPAI, Italy:** $400 m
- **BSE, Japan:** $1.5 bn
- **Avian flu, NL:** $500 m
- **Avian Flu, Asia:** $50–15 bn
- **BSE, Canada:** $1.5 bn
- **BSE, US:** $3.5 bn
- **Foot & Mouth, Brazil:** $1 bn

Figures are estimates and are presented as relative size.