Food and Agriculture Organization of the United Nations

Animal Production and Health Division

One Health contributing to poverty reduction

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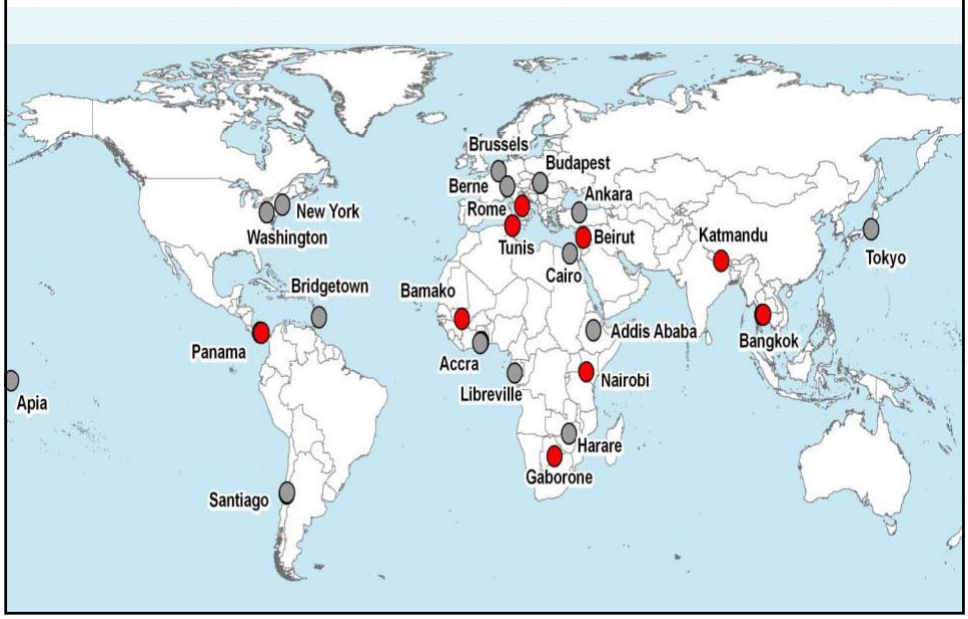
The Food and Agriculture Organization of the United Nations, Headquarters in Rome, Italy

- 192 member countries
  + 2 associate members
  + EU
- Ministers of Agriculture
- Staff 3600 total
- Budget 2012-2013
  2.4 billion USD
- 90 FAO country offices

Regional and subregional offices



FAO Mandate

- helping to build a **world without hunger**
- **Raise levels of nutrition and standards of living**
- **Improve agricultural productivity**
- **Better the conditions of rural populations**
- **Contribute to the expansion of the world's economy**

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

Balancing different objectives for the livestock sector

- Income generation
- Food security and safety
- Environment and natural resources
- Human health

Emerging zoonotic pathogens 1976-

- 1976 Crytosporidium parvum
- **1977 Ebola (Congo**)
- 1977 Hataan virus (Korea)
- **1977 Campylobacter jejuni**
- **1982 E. coli 0157:H7**
- 1982 Borrelia burgdorfi (Lyme Disease)
- **1983 Human Immuodeficiency Virus (HIV)**
- 1983 & 1997 Avian Influenza A H5N2 (USA & Italy)
- 1984 Escherichia coli O157:H7 (USA)
- 1985 Vancomycin-Resistant Enterococcus (USA/UK)
- 1987 Methicillin-Resistant Staphylococcus (USA)
- 1988 Hepatitis E
- 1989 Ehrlichia chaffeensis
- 1989 Venezuelan Hemmorrhagic Fever (Venezuela)
- 1989 Barmah Forest Virus (Western Australia)
- 1991 Guanarito virus (Venezuela)
- 1991 & 1997 Avian Influenza A H5N1 (UK & China)
- 1992 Bartonella henselae (cat scratch disease)
- 1993 Sin nombre virus (USA)
- 1993 & 1995 Avian Influenza A H5N2 (Mexico)
- 1994 Hendra Virus (Australia)
- 1994 Sabia virus (Brasil)
- **1996 Bovine Spongiform Encephalopathy (UK)**
- 1996 Laguna Negra Virus (Paraguay/Bolivia)
- 1996 Australian Bat Lyssavirus (Australia)
- 1996 Vancomycin-Resistant Staphylococcus (Japan)
- 1997 Menangle Virus (Australia)
- **1997 H5N1 flu (Hong Kong)**
- **1998 Nipah Virus (Malaysia)**
- 1999 Choclo Virus (Panama)
- 1999 & 2007 Avian Influenza A (Italy & Netherlands)
- 2002 Monkeypox (USA)
- 2002 & 2004 Avian Influenza A H7N3 (Chile & Canada)
- 2002 & 2007 Avian Influenza H7N2 (USA & UK)
- 2003 Severe Acute Respiratory Syndrome - SARS (China)

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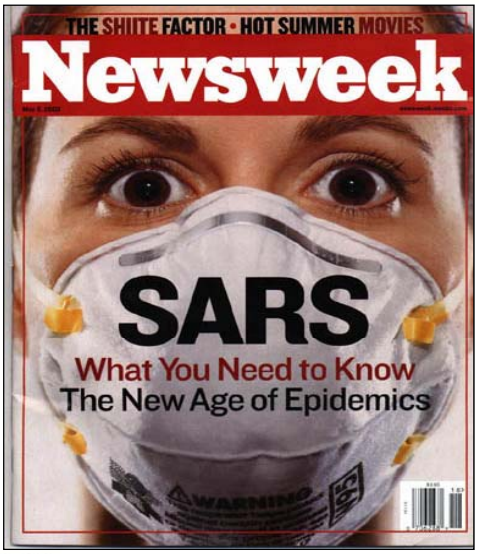
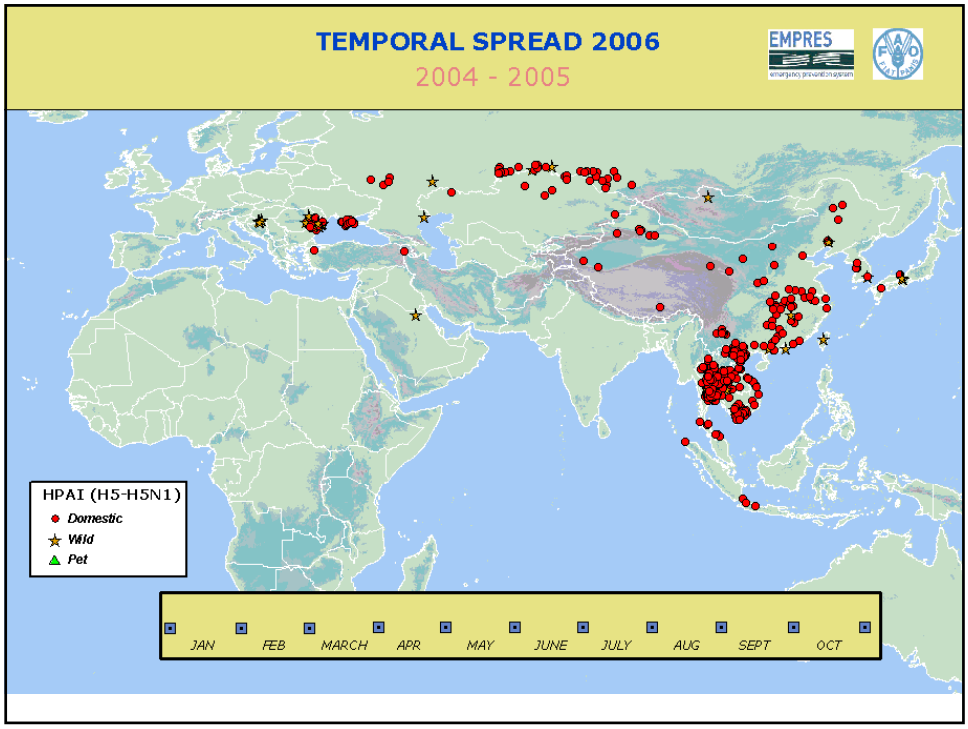
- 2003 Severe Acute Respiratory Syndrome - SARS (China)
- **2003 Avian Influenza A H5N1 (China & Vietnam)**
- **2004 – 2008 Methicillin-Resistant Staphylococcus aureus CC398**
- 2007 & 2008 Avian Influenza A H5N2 (Nigeria)
- **2009 Pandemic Influenza virus A H1N1 (Mexico & USA)**
- ***2009-2011 Escherichia coli* O104:H4 (STEC O104:H4) (Georgia & Germany)**
- (2011-2012 Schmallenberg virus) not zoonotic

What has created a shift in addressing zoonoses?

- BSE (1980s)
- Nipah (2000)
- SARS (2003)




TEMPORAL SPREAD 2006
2004 - 2005
EMPRES
HPAI (H5-H5N1)
Domestic
Wild
Pet
JAN
FEB
MARCH
APR
MAY
JUNE
JULY
AUG
SEPT
OCT


H5N1 animal cases in 2012 (status 26 April 2012)
Romania
Bulgaria
Israel
Egypt
Mongolia
Nepal
Bhutan
China
India
Bangladesh
Myanmar
Viet Nam
Cambodia
Lao People's Democratic Republic
Indonesia
Legend
Domestic
Wild
1 month Confirmed (H5N1)
1 month Confirmed (H5)
Past 5 months Confirmed (H5N1)
Past 5 months Confirmed (H5)

FAO/OIE/WHO Collaborative Framework

The FAO-OIE-WHO Collaboration

Sharing responsibilities and coordinating global activities to address health risks at the animal-human-ecosystems interfaces

A Tripartite Concept Note

April 2010

VISION

A world capable of preventing, detecting, containing, eliminating, and responding to animal and public health risks attributable to zoonoses and animal diseases with an impact on food security through multi-sectoral cooperation and strong partnerships.

BACKGROUND

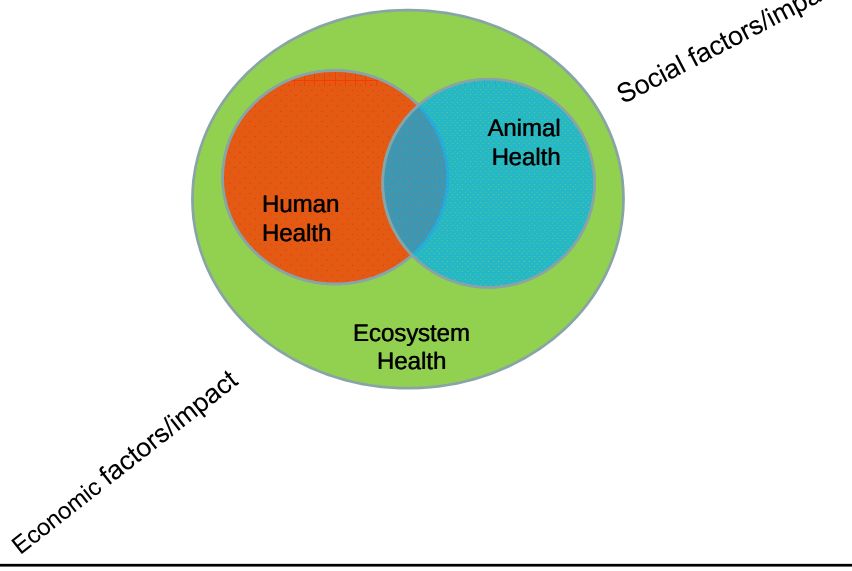
Pathogens circulating in animal populations can threaten both animal and human health, and thus both the animal and human health sectors have a stake in, and responsibility for, their control. Pathogens – viruses, bacteria or parasites – have evolved and perfected their life cycles in an environment that is more and more favorable to them and ensures their continuity through time by replicating and moving from diseased host to susceptible new host.

While the integration of control systems across animal, food and human sectors has been attempted in some countries and regions, most country control systems are generally non-integrated with limited collaborative work. However, the recent efforts to control highly pathogenic avian influenza (HPAI) and contributions towards pandemic preparedness have re-emphasized the need for enhanced concentration on reducing risks associated with zoonotic pathogens and diseases of animal origin through cross-sectoral collaboration, and have underscored the fact that successful and sustained results are possible when functional collaborations are established as is the case in many countries and internationally.

While FAO, OIE and WHO have long-standing experience in direct collaboration, the tripartite partners realize that managing and responding to risks related to zoonoses and some high impact diseases is complex and requires multi-sectoral and multi-institutional cooperation. This document sets a strategic direction for FAO-OIE-WHO to take together and proposes a long term basis for international collaboration aimed at coordinating global activities to address health risks at the human-animal-ecosystems interfaces.

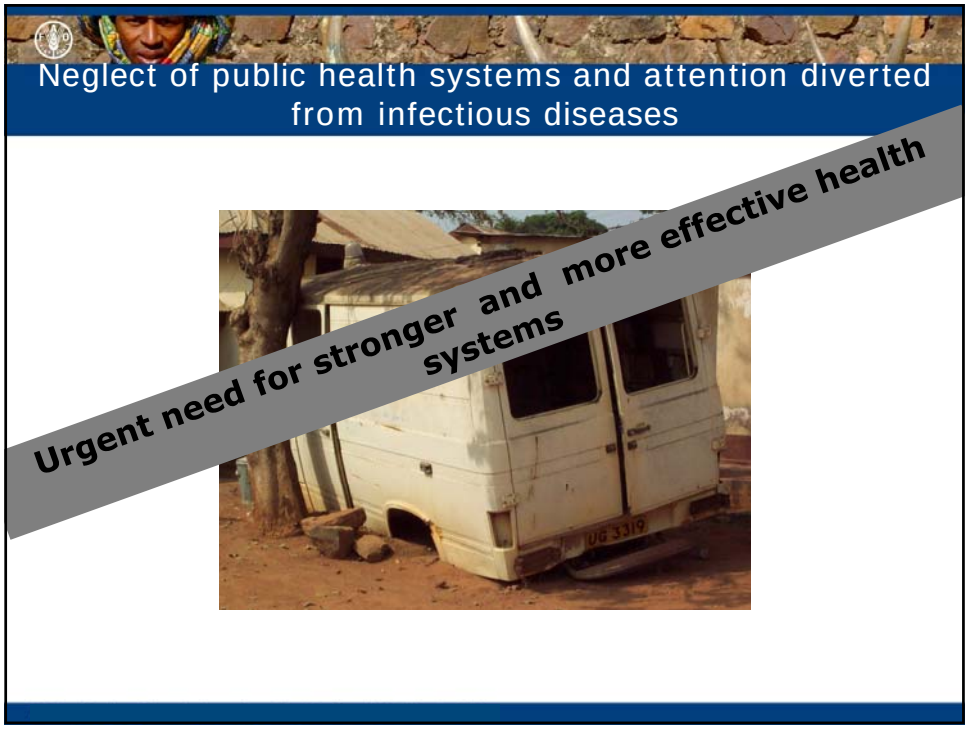
A complementary agenda and new synergies between FAO, OIE and WHO will include normative work, public communication, pathogen detection, risk assessment and management, technical capacity building and research development.

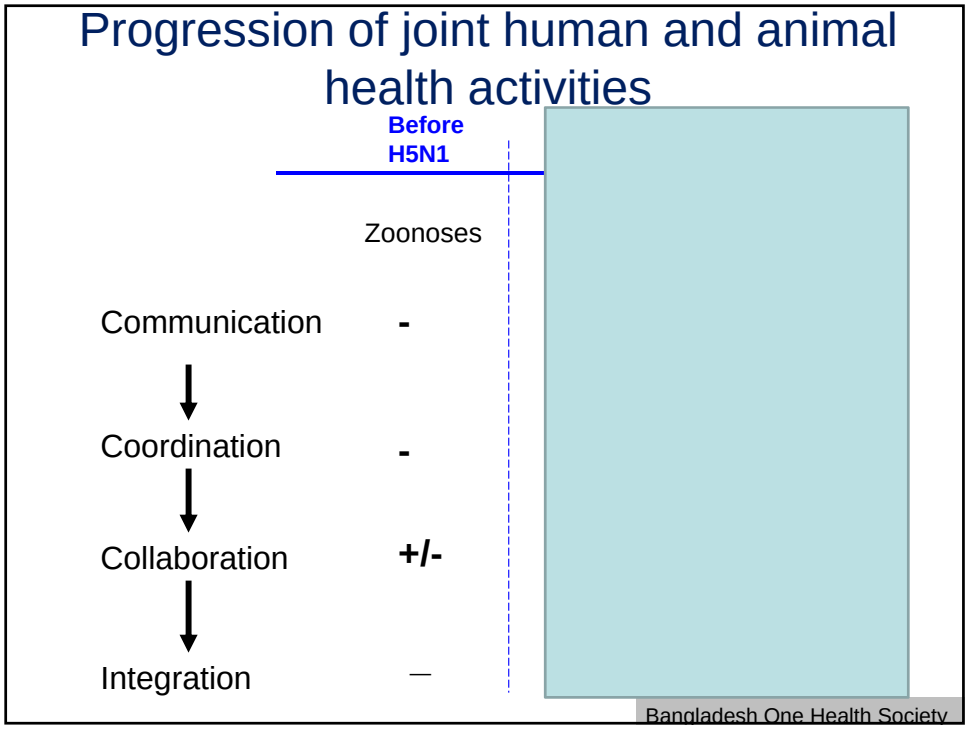
One Health




Delivering One Health
What's it going to take?
Understanding complexity
Dealing with the unknown
Responding to uncertainty
We can make it happen.
Let's begin.
www.fao.org
ECTAD


Understanding disease drivers for emergence spread and entrenchment

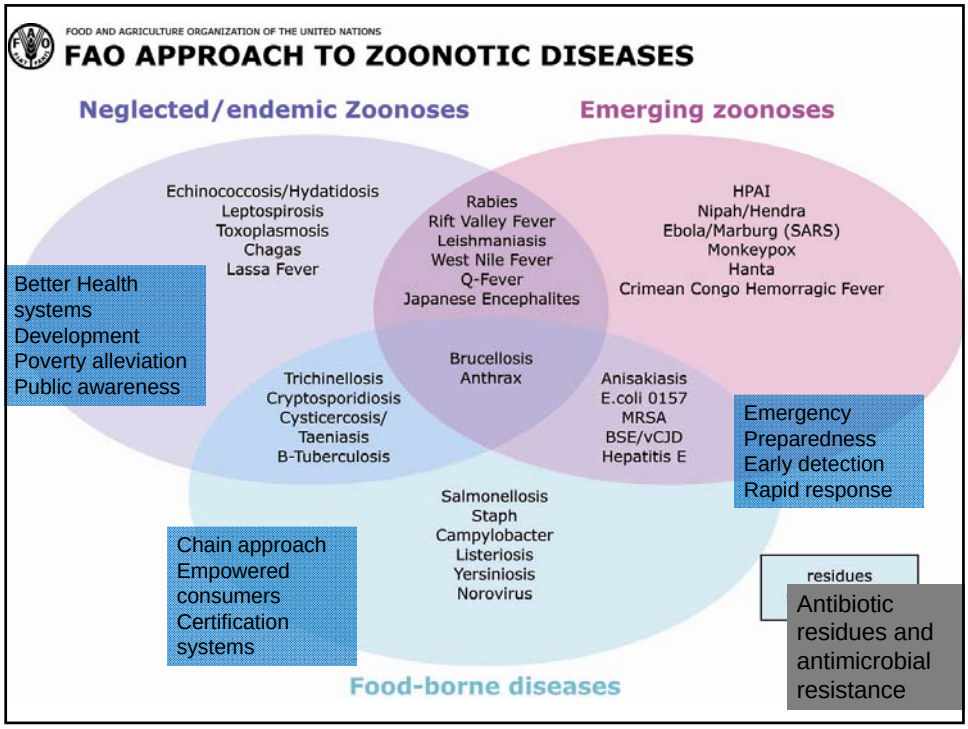

Neglect of public health systems and attention diverted from infectious diseases
Urgent need for stronger and more effective health systems


Progression of joint human and animal health activities
Before H5N1
Zoonoses
Communication
-
Coordination
-
Collaboration
+/-
Integration
–
Bangladesh One Health Society

Integrated simulation exercises

Bosnia & Herzegovina
Using a large map to illustrate and Enhance discussions

Zambia
Introducing the scenario through a theatre sketch


FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS
FAO APPROACH TO ZOONOTIC DISEASES
Neglected/endemic Zoonoses
Emerging zoonoses
Echinococcosis/Hydatidosis
Leptospirosis
Toxoplasmosis
Chagas
Lassa Fever
Rabies
Rift Valley Fever
Leishmaniasis
West Nile Fever
Q-Fever
Japanese Encephalites
HPAI
Nipah/Hendra
Ebola/Marburg (SARS)
Monkeypox
Hanta
Crimean Congo Hemorragic Fever
Better Health systems
Development
Poverty alleviation
Public awareness
Brucellosis
Anthrax
Trichinellosis
Cryptosporidiosis
Cysticercosis/
Taeniasis
B-Tuberculosis
Anisakiasis
E.coli 0157
MRSA
BSE/vCJD
Hepatitis E
Emergency
Preparedness
Early detection
Rapid response
Salmonellosis
Staph
Campylobacter
Listeriosis
Yersiniosis
Norovirus
Chain approach
Empowered consumers
Certification systems
residues
Antibiotic residues and antimicrobial resistance
Food-borne diseases

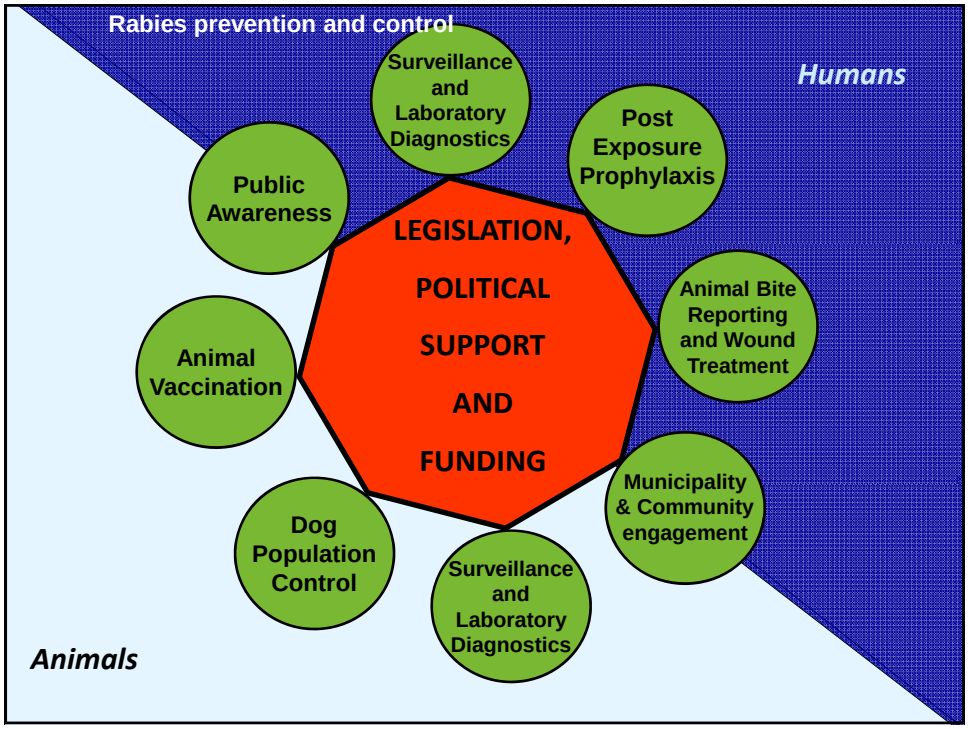

Communities are key for disease reporting, prevention and control
Target beneficiaries

How are (zoonotic) diseases prioritized?

- based on science?
- political decisions?
- social reasons??
- fear driven?
- combination of all?

Rabies a One Health Model disease

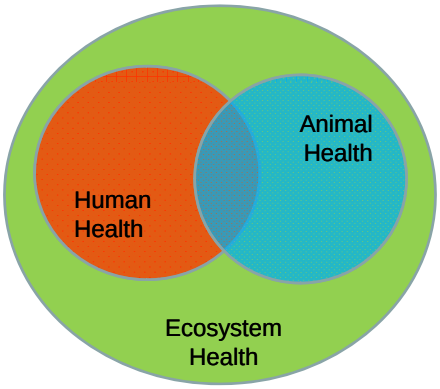
- Good tools available for prevention and control
- Important zoonotic diseases however still much neglected…. falls between the cracks…..why?
- Need for advocacy (World Rabies Day)
- Need for a multidisciplinary and multi-sectoral approach (One Health)


Rabies prevention and control
Humans
Animals
Surveillance and Laboratory Diagnostics
Post Exposure Prophylaxis
Public Awareness
LEGISLATION, POLITICAL SUPPORT AND FUNDING
Animal Bite Reporting and Wound Treatment
Animal Vaccination
Municipality & Community engagement
Dog Population Control
Surveillance and Laboratory Diagnostics


When old systems do not solve new problems anymore….
…there is a need for a paradigm shift
Bellagio 2011
hoto: A.Gomez de Silva

One Health

*...enhancing **communication and leadership** skills, development of cultural sensitivity, and an ability to be engaged in multifaceted and **multidisciplinary teamwork becomes essential.***



*...**Needs** and **opportunities** for One Health professionals are expanding rapidly in public and private agencies dealing with animal and human health, agencies and corporations charged with public health, safeguarding the environment, food safety, consumer protection and food security...*

*..There is an increasing **societal need** for public health professionals with the competencies, knowledge, and skills to address the **multidimensional problems** of zoonotic and food-borne diseases"...*

THANK YOU!