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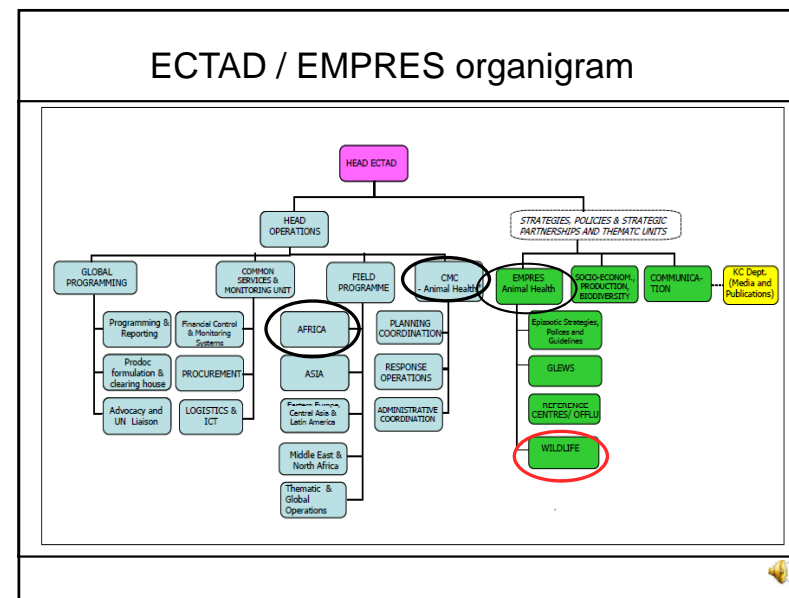



## The FAO EMPRES Wildlife Unit & ECTAD

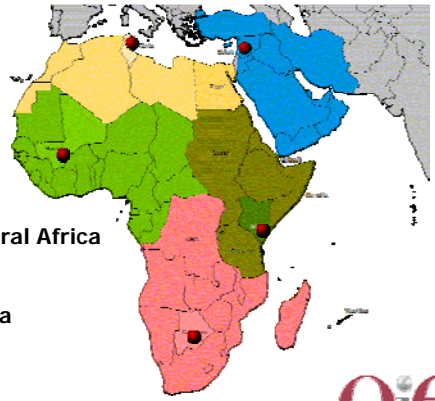
Broadening FAO's Approach at the Livestock / Wildlife / Human health interface

Scott Newman- EMPRES Wildlife Unit, Rome  
Susanne Munstermann – ECTAD Gaborone






 **RAHC - in Africa & the Middle-East**



West and Central Africa  
Middle East  
Southern Africa  
North Africa  
East Africa



 **FAO EMPRES Wildlife Disease Unit**

- FAO Global Strategy: “wildlife is a vital part of understanding the epidemiology & ecology of diseases”
- Establish **collaborations** that enable FAO to promote, coordinate, finance, technically support, & implement
  - Capacity Building & Training
  - Publications- FAO manuals, web-based material, manuscripts
  - Wildlife Disease Surveillance
  - Livestock-Wildlife Interface & Disease Ecology Studies
  - Support CMC Missions
  - Co-coordinate 2 Scientific Task Forces with UNEP-CMS
  - Data & information sharing - many outlets including multilateral environmental agreements (MEA's)



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## Training and capacity building



 **EMPRES**

- > 1000 in-country nationals, > 100 countries in the Caribbean, South America, Europe, Africa and Asia

Participants: MOA, MOE, MOH, NGO's, Universities,...




- Topics
  - avian influenza
    - disease transmission risks among poultry-wild birds-humans
    - animal capture & handling, sample collection & cold chain, etc.
    - PPE and human health risks
  - wildlife biology and ecology
  - habitat use & migration ecology
  - population monitoring methods
  - disease surveillance strategies
  - outbreak investigation strategies- to assess the role of wildlife




Animal Health Service

## Production of Technical Manuals

English, French, Spanish, Chinese, Russian, Indonesian, Vietnamese, Turkish, Thai, Hindi, Myanmar, Bangla

WILD BIRD HPAI SURVEILLANCE

WILD BIRDS AND AVIAN INFLUENZA

Animal Production and Health

 **Field Epidemiology Training Program- for Veterinarians**  
**Animal-Human-Environmental Interface**


Overall Objective: Participants will learn about the interface between livestock, wildlife, human, and environmental health and their role as field epidemiologists in dealing with disease ecology, transboundary & EIDs

Participants: field veterinarians & wildlife biologists & public health medics from Thailand, Philippines, Malaysia, China, Myanmar, Mongolia, Laos, Cambodia, & Indonesia – February 2010

- Topics
  - Multisectoral cooperation: One Health
  - Wildlife Epidemiology: bats as an important wildlife indicator sp.
  - Wildlife Epidemiology: wildlife trade and bushmeat
  - Designing and conducting integrated surveillance, monitoring, and outbreak investigations
  - Managing risk at the interface: Implications to the human, livestock, and wildlife sectors
  - Communication and decision making with environment and wildlife considerations

Co-organised by Thailand Department of Livestock Development, Ministry of Agriculture and Cooperatives (Principle organizer), Thailand Department of National Parks, Wildlife and Plant Conservation & Environment, Thailand Ministry of Public Health & Thailand Universities






## ECTAD

For TADs such as AI, FMD, ASF, RVF

- Surveillance methodology and techniques
- Laboratory diagnosis
- Epidemiology and GIS
- Production of manuals, SOPs etc
- [www.fao-ectad-gaborone.org](http://www.fao-ectad-gaborone.org)
- Assist EMPRES in identification of trainees from the Region




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## Surveillance / tracking


Wild birds




## Avian Influenza Surveillance in over 30 countries



Countries with FAO wild bird surveillance projects for HPAI H5N1







OPEN ACCESS | freely available online

**Evidence of Infection by H5N2 Highly Pathogenic Avian Influenza Viruses in Healthy Wild Waterfowl**

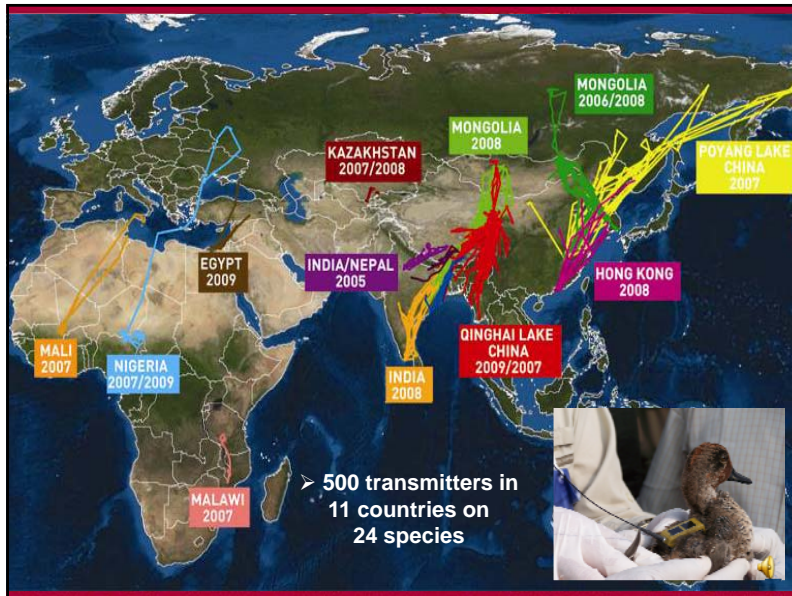
Nikolaus Gaidet<sup>1,2,3</sup>, Giovanni Cattoli<sup>1,2</sup>, Sallia Fransmans<sup>1</sup>, Scott H. Newman<sup>1</sup>, Ward Hagenaars<sup>1</sup>, John Y. Taha<sup>1,2,3</sup>, Julian Cappelle<sup>1</sup>, Tim Gielman<sup>1</sup>, Tony Isenhardt<sup>1</sup>, Patricia Gil<sup>1</sup>, Isabella Krieger<sup>1</sup>, Aline Rensen<sup>1</sup>, Boris Capua<sup>1</sup>, Shireen Hameed<sup>1</sup>, Florien van den Broek<sup>1</sup>, Ulf Dittmann<sup>1</sup>, John H. Michelbacher<sup>1</sup>, Jean Lubbel<sup>1</sup>, Joseph Drommore<sup>1</sup>, François Mouton<sup>1</sup>

- Avian H5N2 influenza viruses with highly pathogenic (HP) genome in 2 healthy birds in north Nigeria
- White-faced Whistling Duck (*Dendrocygna viduata*)
- Spur-winged Goose (*Plectropterus gambensis*)
- WFWD flew eastward to Lake Chad in four stages covering a total distance of 655 km







### Improving understanding of the wild bird-domestic bird interface in different agricultural landscapes


- Implement surveillance of domestic and wild birds at strategic locations
- Establish wild bird monitoring at important bird areas near poultry
- Characterize the static and dynamic distributions of resident and migratory birds and free grazing domestic ducks across wetlands
- Identify and evaluate wild bird markets for disease transmission risk
- Live bird market sampling





### ECTAD

- Risk assessment based surveillance:
  - For **HPAI** in domestic poultry (MAL, MOZ, ZAM, ZIM) in collaboration with ILRI
  - For **ASF** in Mauritius (feral and domestic pigs)
  - For **RVF** in Madagascar (cattle and mosquitos) in collaboration with IP
  - For **FMD** in collaboration with SFMDP in MAL, BW



## ECTAD & CIRAD

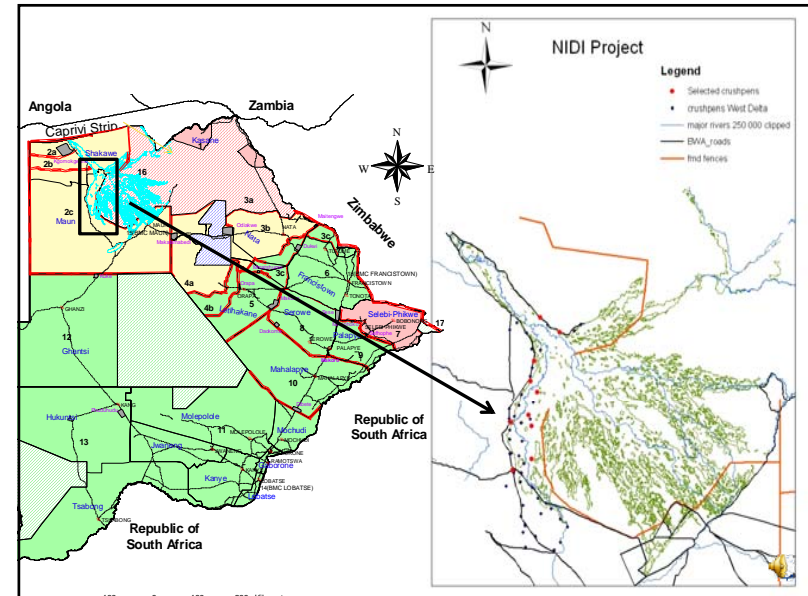
**N**gamiland **I**nterface **D**isease **I**nvestigation project ( **NIDI** )

### Objective

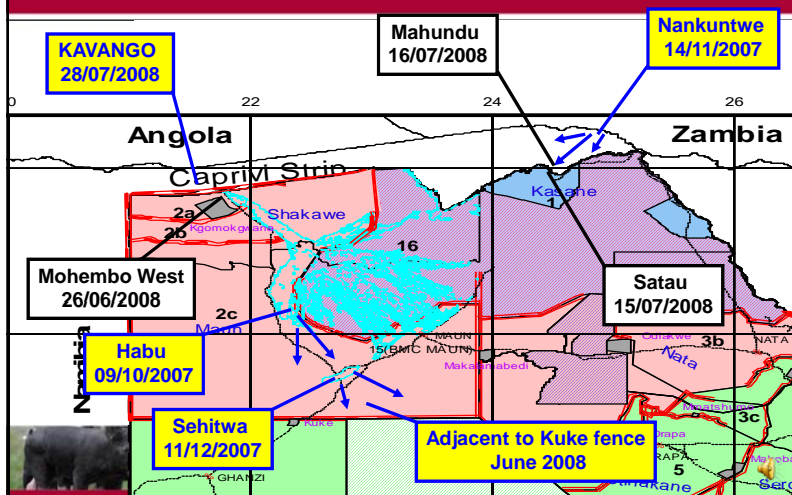
To improve knowledge on epidemiology of TADs present at the interface of the Okavango Delta with surrounding livestock farming areas

### **Diseases to be investigated**

- FMD (buffalo only)
- Corridor disease (buffalo only)
- Rift Valley Fever
- Bovine Tuberculosis
- Brucellosis



### Map showing outbreak locations in Botswana and Namibia



## Methodology

- Buffalo survey of 100 animals
  - Probangs and blood
- Cattle survey in 500 cattle
  - Blood
- Samples will be sent to OVI, BVI, BNVL, Pirbright
- Partner: UP, MoA / DVS and DW&NP Botswana

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## Crisis Management Centre - AH

CMC


## CMC Mission: Turkey

January & February 2008, 6 poultry mortality events along the Black Sea

The mission objectives were to:

- 1) Conducted epidemiological investigations at outbreak sites
- 2) Performed species censuses & collected wild bird carcasses at & near outbreak sites for AI testing
- 3) Captured & sampled healthy wild birds at & near outbreak farms
- 4) Assess risk of wild-domestic interface

**This was the first time globally that an outbreak response thoroughly addressed wildlife and poultry issues concurrently**




### Non-zoonotic Diseases

- African Swine Fever (ASF)
- Classical Swine Fever (CSF)
- Contagious Bovine Pleuropneumonia (CBPP)\*
- Foot and Mouth Disease (FMD)\*
- Peste des Petits Ruminants (PPR)
- Rinderpest – Stomatitis/Enteritis



### Zoonotic Diseases

- Anthrax
- Bovine Spongiform Encephalopathy (BSE)
- Brucellosis (B. melitensis)
- Crimean Congo Hemorrhagic Fever
- Ebola Virus
- Food borne diseases
- Highly Pathogenic Avian Influenza
- Japanese Encephalitis
- Marburg Hemorrhagic Fever
- New World Screwworm
- Nipah Virus
- Old World Screwworm
- Q Fever
- Rabies
- Rift Valley Fever\* (RVF)
- Sheep Pox\*/Goat Pox
- Tularemia
- Encephalomyelitis viruses
- West Nile Virus



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## Alliances / Partnerships



## Scientific Task Force on AI & Wild Birds

### Collect & disseminate scientific information on HPAI & wild birds



- Established in August 2005 following concerns about the role of migratory birds as potential vectors of HPAI H5N1
- The FAO was originally an observer, became a full member in March 2007 & started co-convening in June 2007:
- Acknowledged for its commitment & dedication to understanding the role of wild birds in the spread of HPAI H5N1

[www.aiweb.info](http://www.aiweb.info)

## FAO collaboration & contributions to multi-lateral environment agreement (MEA) resolutions

- AEW MOP3 Resolution 3.18
- Ramsar COP9 Resolution IX.23
- CMS COP8 Resolution 8.27



- CBD Decision VIII/32
- AEW MOP4 Resolution 4.16
- Ramsar COP10 Resolution X.21



**CMS COP9 Draft Resolution 9.8:**  
Responding to the challenge of emerging and re-emerging diseases of migratory species, including HPAI H5N1 & the establishment of the **Scientific Task Force on Wildlife Diseases**



## EMPRES Upcoming Activities

- Wildlife capture, restraint, and sampling training for E, W, C, Africa in Kenya
- Wild Bird and HPAI Capacity Building Training- Chad & Sudan
- Bat surveillance and radio-marking - Philippines
- Wild bird surveillance & radio-marking - Turkey & Bangladesh
- 3<sup>rd</sup> AI & Wild Birds Task Force Meeting
- 1<sup>st</sup> Wildlife Disease & Migratory Species Task Force Meeting

## Looking forward to collaborating with you!

**Scott Newman  
Tracy McCracken  
Sergei Khomenko  
Acty George  
Susanne Munstermann**

**EMPRES Wildlife Unit & ECTAD**