

**ECOWILDVET 2015 TANZANIA PROGRAMME**  
**HUMAN - LIVESTOCK -WILDLIFE INTERFACE - ECOSYSTEMS**  
**HEALTH**  
**2015**



**EcoSytemHealth**

**2015**



**Next Excursion: 28<sup>th</sup> February to 21<sup>st</sup> March 2015**

**Session Organizers:**  
**Faculty of Veterinary Medicine, Sokoine University of Agriculture,**  
**Morogoro, TANZANIA**  
**Institute for Infectious Diseases and Zoonoses, LMU Munich,**  
**GERMANY**

**Contact: Dr. Manfred Tanner,**  
**Manfred.Tanner@micro.vetmed.uni-muenchen.de, 08824 2869699**

### SESSION GOALS

- **Produce globally aware ecosystem and wildlife health professionals able to solve problems in diverse cultural contexts.**
- **Develop understanding of the conditions and constraints relevant to addressing health and conservation issues in developing countries.**
- **Allow participants to develop a professional network of colleagues and exchange ideas in a supportive environment.**

### **THEMES TO BE COVERED:**

In order to maximize opportunities at multiple national parks, management areas, and community sites, this course will not be organized into strict modules. Instead the following themes will be introduced and then reinforced at many of the sites throughout the course.

#### **Theme 1 - Health and Conservation at the Wildlife-Livestock-Human Interface (HCI)**

Description: Natural resource conflicts and disease transmission are most likely to occur at the spatial and temporal interface between human populations (with their domestic animals) and wildlife. Anthropogenic changes to our ecosystems are expanding this interface with often deleterious consequences for both people and wildlife. EcoWildVet students will explore this issue by talking with and learning from case studies presented by researchers actively working to mitigate these problems; participating in field excursions to sites of wildlife-human conflict; talking with pastoralists living near a wildlife protected area; and participating in research project activities (bovine tuberculosis testing of cattle, environmental sampling for pathogens) to evaluate the prevalence of zoonotic disease at the interface between wildlife, livestock and human populations.

#### **Theme 2 - Challenges with Diagnosis, Surveillance and Control of Zoonotic and Emerging Infectious Diseases in Developing Countries (ZED)**

Description: Zoonotic pathogens are the most significant cause of emerging infectious diseases in people. Wildlife and domestic animals are an important part of the public health picture, as they provide a “zoonotic pool” from which diseases may emerge. We will explore the challenges to diagnosing, controlling and implementing surveillance programs for zoonotic and emerging infectious diseases in Tanzania. Diseases that will be highlighted include Rift Valley Fever, Leptospirosis, Brucellosis and Bovine Tuberculosis, with an emphasis on current research and innovative methods being developed in Tanzania for diagnosis and surveillance.

### **Theme 3 – Wildlife Health and Conservation Challenges in Protected Areas (CPA)**

Description: Approximately 25% of Tanzania's land lies inside protected areas. Despite this significant achievement, Tanzania's biological diversity remains threatened. EcoWildVet participants will learn about the health and conservation challenges faced by professionals working in Tanzanian National Parks. They will participate in projects addressing some of these issues in Mikumi and possibly Ruaha National Parks. By visiting two parks, participants will have the opportunity to compare and contrast the challenges facing these parks. Additionally, participants will learn about new initiatives that have created community based wildlife management areas. The course will have field exercises inside Wildlife Management Areas, and discuss the pros and cons of community-based conservation initiatives with Tanzanians actively working in the field. The benefits and problems associated with ecotourism and cultural tourism will also be discussed. Finally, challenges and recent success in the conservation of Zanzibar's indigenous forests and mangroves will be highlighted in a visit to Jozani Chakwa Bay Conservation Area.

### **Theme 4 – Health and Conservation Policy at the National and Global Level (POL)**

Both national and international policies affect conservation in developing countries. Policy implications arising from case studies about the environmental degradation eg. drying of rivers, flooding etc and community-based conservation will be discussed. Participants will also gain familiarity with Tanzanian law regarding the environment, wildlife, and veterinary medicine.

### **Theme 5 – Threats to Tropical Fresh Water and Marine Ecosystems (FWM)**

Tanzania's incredible biodiversity depends on the health of its fresh water and marine ecosystems. Tanzania has more inland waters than any other country in Africa, 1424 km of Indian Ocean coastline, and the Zanzibar and Mafia Island archipelagos. The health and ecosystem services of Tanzania's freshwater ecosystems are severely strained by the needs of Tanzania's human population. We will highlight these issues by closely studying the 15 year conservation crisis of the Great Ruaha River. The history and consequences of the drying of the Great Ruaha River will be presented in a detailed case study. Participants will visit various sites along the river and its tributaries to 1) see examples of irrigation and water diversions, 2) assess fish species diversity and 3) sample for pathogens in the water. Pollution problems and the latest research in freshwater and marine ecosystems will be highlighted through discussions and field exercises at Sokoine University of Agriculture and the Institute for Marine Sciences on Zanzibar. Coral health, and innovations in mariculture will also be addressed.

### **Day 0 (Arrival in Tanzania)**

Arrival of participants throughout the day in Dar es Salaam, transport to Mikumi National Park

### **Day 1 Orientation & Introduction to Mikumi NP (CPA)**

#### **Day 2 (CPA/HCI/ZED)**

**Field exercises: Survey for wildlife areas**

**Role of wildlife veterinarians and wildlife health in Tanzania**

**Bovine tuberculosis in Africa**

**Elephant conservation in the Selous-Niassa wildlife corridor**

#### **Day 3 (CPA)**

**Field exercises: Survey for wildlife areas**

**Travel from Mikumi National Park to Iringa**

**Operating and developing small-scale tourism in Tanzania**

#### **Day 4 (POL/HCI/CPA)**

**Village visit: community level sustainable development and appropriate technologies to improve health and livelihoods**

**Visit to improved livestock Farm, Iringa**

**Bird diversity in Tanzania and surveillance for avian influenza in wild birds**

#### **Day 5 (CPA)**

**Optional Field trip ancient site eg. Ismilia Stone Age site**

#### **Day 6 (ZED/HCI/CPA)**

**Control and surveillance for zoonotic diseases and diseases of economic importance in livestock**

**Travel to Wildlife Management Area**

**Overview of the Wildlife Conservation in Southern corridor**

#### **Day 7 (CPA/FWM/HCI/POL)**

**Wildlife Field Exercises**

**Fish diversity and sampling in the Great Ruaha River-Group A**

**Walking transect for wildlife presence and sign- Group B**

**Field Necropsy Lab, special considerations for developing countries - Group C**

**Case Study: The Unintended Consequences of Development Assistance: the case of Usangu irrigation schemes**

**Wildlife Field Exercises (continued)**

#### **Day 8 (CPA/FWM/HCI/POL)**

**Integration of concepts – Discussion of health and economic challenges faced by pastoralists**

**Cultural visit with Maasai households, Malinzanga village**

## **Wildlife Field Exercises**

### **Day 9 (HCI/ZED/FWM)**

**Case Study: Spatial decline of buffalo in the Ruaha ecosystem**

**Health for Animals and Livelihood Improvement (HALI) in the Ruaha ecosystem**

**Travel from Lunda to Tungamalenga village, Chogela campsite**

**Field Exercises at the Human-Livestock-Wildlife Interface**

**Exercise 1: Sampling for zoonotic pathogens in water sources - Group A**

**Exercise 2: Bovine tuberculosis testing in pastoralist cattle - Group B**

**Exercise 3: Wildlife conflicts at the human-livestock-wildlife interface - Group C**

### **Day 10 (HCI/ZED/FWM)**

**Field Exercises at the Human-Livestock-Wildlife Interface\***

**Case Study: Community-based Wildlife Management Areas in Tanzania**

**Field Exercises at the Human-Livestock-Wildlife Interface**

**Special BBQ Dinner/campfire with Wahehe drama group performance**

### **Day 11 (HCI/ZED/CPA/FWM)**

**Wrap-up discussion of field exercises**

**Wildlife Conservation in Protected Areas of Tanzania**

**Travel from Tungamalenga to Ruaha National Park Headquarters**

**Conservation and Management of Ruaha National Park**

**Wildlife health issues in Ruaha National Park**

**Threats from unmanaged fire in the Ruaha ecosystem**

### **Day 12 (CPA)**

**Game drive: survey for giraffe skin disease & buffalo herd counts**

**Giraffe and buffalo counts discussion**

**Vegetation sampling at fire research plots**

### **Day 13**

**Travel from Ruaha to Morogoro (lunch at Tan-Swiss)**

### **Day 14 (ZED/POL/HCI/FWM)**

**Introduction and Welcome to Sokoine University of Agriculture (SUA)**

**Veterinary Education in Tanzania; roles of public and private sector**

**Rift Valley Fever: Lessons learned from the 2007 outbreak, health significance & implications of climate change**

**Tour of Sokoine University Veterinary School**

**Laboratory demonstrations**

**Innovations in disease diagnostics for the developing world-tour and demonstration of**

**APOPO Vapour Detection Technology**

**From the field to the lab: Isolation and characterization of zoonotic bacteria from water sources**

**Small Animal Practice and Animal Welfare in Tanzania**

**Day 15 (ZED/HCI/FWM)**

**Focused Sessions on Health and Pollution**

**Session One - Avian Influenza and Village Poultry Health-Group A**

**Session Two – Using biomarkers to assess environmental pollution in Tanzania-Group B**

**Session One – Group B and Session Two – Group A**

**Day 16**

**Travel from Morogoro to Dar es Salaam Airport**

**flight from Dar es Salaam to Zanzibar**

**Zanzibar Institute of Marine Sciences, University of Dar es Salaam**

**Coral reef ecology and its implications to coastal communities**

**The profile of the Institute of Marine Sciences**

**Day 17 (FWM/CPA)**

**Jozani-Chwaka Bay National Park**

**Seaweed farming in a coast village**

**The group will be divide in to two depending on individual interests**

**Group one: Snorkeling and diving in Prison Island**

**Group two: Guided or unguided tour of the stone town**

**Day 18 (FWM/CPA)**

**Water quality and Marine Pollution in Tanzania**

**Seaweed Farming**

**Finfish farming, half pearl production and shell polishing**

**Visiting Bweleo village in Fumba Peninsular**

**EcoWildVet 2014 Course Wrap-Up**

**Special end of course dinner**

**Day 19 - 21 – Depart Tanzania**

**Personal trips**