



## MEDIA RELEASE

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### Major research into animal-to-human diseases launched

Minister welcomes four-year project aimed at improving Tanzania's development prospects and its people's lives

A major, international research programme exploring the factors that drive animal-to-human ('zoonotic') disease transmission in Tanzania has been launched, with the aim of informing new strategies for disease control and elimination.

The Tanzanian Minister for Livestock and Fisheries Development, Hon. Dr. Titus Kamani (MP), opened an inception workshop in Arusha, Tanzania, for the interdisciplinary team of researchers from Tanzania, the UK, USA and New Zealand taking part in **Social, Economic and Environmental Drivers of Zoonoses in Tanzania (SEEDZ)**.

SEEDZ is a four-year project funded under the Zoonoses and Emerging Livestock Systems (ZELS) programme, a £20.5 million research and training programme supported by six UK funding agencies. It is considering the drivers, risks and impacts of brucellosis, Q fever and Rift Valley fever – all diseases that can pass from animal to humans (known as 'zoonoses'). The diseases affect cattle, sheep and goats, causing livestock production losses and impacting upon the livelihoods of the people who depend on them. They can also cause severe illness in people – and sometimes chronic disability and death – further impacting upon people's development prospects and adding to their poverty.

At present these diseases are estimated to cause substantial economic losses for Tanzania, as well adding a significant burden of human misery to its population. However, the true impact remains unknown as the diseases are difficult to diagnose in both humans and livestock species. In people, all cause fever and they are often misdiagnosed as malaria.

#### *One Health approach*

The SEEDZ team includes animal and human health experts, as well as anthropologists, geographers and economists, exemplifying its 'One Health' approach to zoonoses. The premise of One Health is that the health of people, animals and the environment are inter-related, and the approach emphasises the importance of a collaborative and interdisciplinary approach to research, as well as an integrated and inter-sectoral approach to disease management.

Professor Sarah Cleaveland of the University of Glasgow, UK, a veterinary epidemiologist with more than 20 years' experience in Tanzania researching the links between human, livestock and wildlife health, is leading the SEEDZ project. She said:

*"This study is unusual in that medical, veterinary and social scientists will be working together, collecting both quantitative data, such as that relating to infection dynamics, and qualitative data, such as that relating to behavioural change. The study will also emphasise interactions with farmers, consumers and policymakers to gain a broad understanding of different perspectives. By integrating our findings we aim to produce models that can help predict changes in disease risks as well as inform any policy shifts and institutional changes that might be required in the battle to reduce the burden of these zoonotic diseases."*

### *Livestock practices in a time of transition*

Tanzania is currently experiencing major transformations. These include:

- Rapid urbanisation
- Intensification of livestock production systems
- Land-use shifts
- Increased influence of global market dynamics
- New technologies

The consequences of these changes on livestock-keeping practices and zoonotic disease risk are unknown at present. SEEDZ researchers will explore how these changes affect urban, peri-urban and pastoral communities in Arusha, Monduli District and Ngorongoro District respectively. In this way the team is seeking to determine how the changes experienced by Tanzania are affecting people, according to their differing livestock-keeping practices and connections to an urban centre. Professor Joram Buza, leading the SEEDZ team at the Nelson Mandela African Institution of Science and Technology (NMAIST), Tanzania, said:

*“This research will provide an in-depth case study for assessing the impact of urbanisation on zoonotic diseases. This is important because more than half of Africa’s people are expected to live in cities by 2015. So, although the lessons of this research will have primary significance for Tanzania, we expect them to be relevant to other countries and regions too.”*

In addition to the University of Glasgow and NMAIST, the SEEDZ partners are: ESRC STEPS Centre, at the Institute of Development Studies (IDS), UK; Kilimanjaro Christian Medical Centre (KCMC)-Kilimanjaro Clinical Research Institute (KCRI), Tanzania; Sokoine University of Agriculture (SUA), Tanzania; Tanzania Wildlife Research Institute (TAWIRI); National Institute for Medical Research (NIMR), Tanzania; Ministry of Livestock and Fisheries Development, Tanzania; Food and Agriculture Organization; University of Otago, New Zealand; and Washington State University.

SEEDZ Tanzania is one of 11 programmes funded under ZELS, a joint research initiative between the UK’s Biotechnology and Biological Sciences Research Council (BBSRC), Defence Science and Technology Laboratory (DSTL), Department for International Development (DFID), Economic and Social Sciences Research Council (ESRC), Medical Research Council (MRC) and Natural Environment Research Council (NERC). Three other ZELS research programmes also took part in the Arusha workshop: **Hazards Associated with Zoonotic Enteric Pathogens in Emerging Livestock Meat Pathways (HAZEL)**, aims to develop understanding of how zoonotic intestinal pathogens flow through the meat chain in Tanzania and to develop policies to improve food safety; **Molecular Biology of Brucellosis in Northern Tanzania** aims to generate data and tools, and provide training and establish partnerships, to develop a brucellosis control programme in Tanzania; and **Life on the Edge: Tackling Human African Trypanosomiasis (HAT) on the Edge of Wilderness Areas**, aims to identify cost-effective and ‘ecologically smart’ strategies to control HAT.

Tanzania is recognised as a high-priority country for endemic zoonotic diseases because many communities are highly dependent on livestock and a large proportion of its population is engaged in livestock-keeping. Extensive interactions between wildlife and livestock pose challenges for disease control, however identifying sustainable strategies for livestock development will be of critical importance to Tanzania, for its own food security, for the expansion of regional trade and to protect the value of its natural resources.

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