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A fish disease threatens the livelihoods and food security of millions who depend on fisheries from the Zambezi River Valley

Millions of people inhabiting the Zambezi River Valley and depending on fishery resources are at risk of losing their livelihoods and important source of protein due to the outbreak of a fish disease called Epizootic Ulcerative Syndrome (EUS) 1/. The disease is caused by the fungus *Aphanomyces invadans*; it forms ugly lesions on the fish, which makes it unappealing for consumers (see Figure 1). Although the EUS-infected fish do not pose human health hazards for consumers, it is not recommended for human consumption unless proper precautions are taken 2/.

Figure 1: Fish showing EUS lesions from Caprivi Region of Zambezi River (courtesy Dr. B. Van der Waal)

EUS has now been confirmed in three countries in Africa (Zambia, Namibia and Botswana; Figure 2) with some 20 freshwater food fish species added to the list of more than 50 species susceptible to EUS. The Text Box below shows an informal assessment of the current situation in Zambia. If not properly contained, there is the risk of the disease spreading to other countries surrounding the Zambezi River as well as other river systems in the region. Continuous occurrence of EUS may also negatively impact biodiversity of the Zambezi River which is home to more than two hundred fish species, some of which are endemic to the river, and many of which are fished heavily for food. Scientists fear that the infection may further spread into the Lake Kariba system threatening food security in the area.

This disease is not unique to Africa. In the early 1970s, it swept across many countries of Asia, Australia, and the United States of America, causing significant loss of income to fishers and fish farmers and adversely affecting biodiversity.

1/ http://www.oie.int/eng/normes/fcode/en_chapitre_2.1.10.htm

2/ FAO, 2009. What you need to know about EUS – An extension brochure. For further information contact: Melba.Reantaso@fao.org or Rohana.Subasinghe@fao.org, www.fao.org/fishery.

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS, ROME

The Case of Zambia: An informal assessment of the current situation

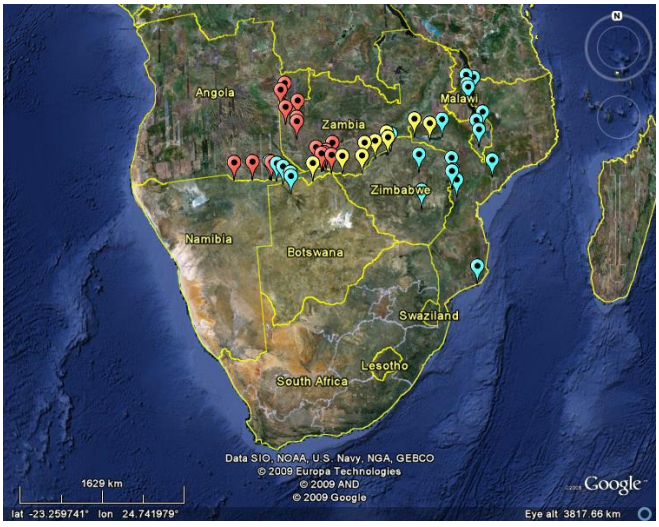
- There have been four outbreaks in Zambia since 2006. In 2006, the outbreak was in Sesheke district, in 2007 in Mongu plains, in 2008 in Zambezi and Chavuma and currently in Mwinilunga, including the Kabompo river system, where disease was not present before.
- The number of villages affected could well be over 2000 as the river systems sustains two big provinces of Zambia and all the districts and settlements are on the river banks, affecting possibly about 700 000 people.
- The entire population in the above mentioned areas depend on fishing activities and could face food insecurity. In 2007, Senanga district estimated the lost revenues from Fish levies at about USD 6 000 in 3 months. This is a rural district depending mainly on fishing activities, where fish is the cheapest source of protein. These are also HIV-AIDS affected areas.

Source: Dr. Bernard Mudenda, School of Veterinary Medicine, University of Zambia

An International Emergency Disease Investigation Task Force formed by FAO at the request of the Government of Botswana, confirmed, for the first time, the presence of EUS in Africa (Kasane, Botswana) in June 2007. The Task Force identified various actions to be taken by the countries bordering the Zambezi River system, and recommended the development of a programme to strengthen capacity for fish disease diagnosis and control, quarantine and responsible movement of live aquatic animals. The report also recommended strengthening of the policy and regulatory frameworks and implementation of better aquatic animal health management programmes in southern Africa 1/.

The EUS outbreak in the Chobe-Zambezi River system had exposed serious aquatic bio-security weaknesses in the southern African region. An ongoing active targeted surveillance for EUS is assessing the spread and distribution of EUS in the region. Preliminary results, however, indicate that EUS is spreading; both upstream and downstream in the Zambezi River (see Figure 2).

Figure 2: Locations of some of the EUS-confirmed (red balloons), EUS-suspected (yellow balloons) and EUS-negative (blue balloons) sites resulting from targeted EUS surveillance conducted by FAO in 2007 and 2008 (courtesy Dr. F. Corsin)



1/ FAO. 2009. Report of the International Emergency Disease Investigation Task Force on a Serious Finfish Disease in Southern Africa, 18-26 May 2007. Rome, FAO. 2009. 70p.

Since 2007 FAO has been providing capacity building opportunities (e.g. basic EUS diagnosis, targeted EUS surveillance, basic aquatic animal health management, basic introduction to risk analysis) to the seven countries in southern Africa (Angola, Botswana, Malawi, Mozambique, Namibia, Zambia and Zimbabwe) participating in a regional technical cooperation programme (see Figure 3). In response to urgent requests by a number of countries, FAO is also helping to develop and implement an aquatic bio-security framework for southern Africa and build capacity for the management of Zambezi River resources.

Figure 3: FAO In Action – Participants doing laboratory work during the Training Workshop by FAO at the School of Veterinary Medicine in Lusaka, Zambia, February 2009 (Courtesy Dr. M. Reantaso)

Continuous surveillance of EUS along with concerted national and international support are needed to prevent the spread of the disease and to mitigate the impact on vulnerable populations and the environment.