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# 1. Background

In December 2006, the Government of Botswana was informed by the Namibian Government of fish disease outbreaks in the Chobe-Zambezi River. Infected fish were first observed at Impalila Island, Namibia, by the Namibians in October 2006. Similar cases of fish infection were further seen on the Zambian side of the Zambezi River. Subsequent to this, a fish sampling team was assembled by Botswana's Department of Wildlife and National Parks (DWNP) in mid-December 2006 to undertake surveys in the area to determine if the infection had spread to the Botswana side of the Chobe River. The findings indeed confirmed that the fish infection had spread to the Chobe River. Clinical signs of infected fish included body lesions, skin ulceration and blood patches on the body. However, no dead fish were observed in the Botswana side although reports by Zambia indicated that dead fish were seen by fishers floating in the water, especially in the Kasaya River, a tributary of the Zambezi River.

After the confirmation of the occurrence of the infection in the Chobe River, water, tissue, blood and soil samples were collected for further analysis at the National Veterinary Laboratory (NVL) in Sebele, Gaborone, Botswana. A ban on fishing and fish imports from the affected areas was also instituted with immediate effect until further notice. The Government of Namibia had also imposed a fishing moratorium starting from 21 December 2006 to 28 February 2007.

The results from the NVL, which concur with those of Namibia, indicated that there was a lot of faecal bacteria in the Chobe River water rendering it unsuitable for drinking. Other fish disease causing pathogens (e.g. *Aeromonas hydrophila*, *Salmonella* spp.) were isolated. However, their concentration levels were not determined. Analytic results further demonstrated that the Chobe River was the most highly polluted. The laboratory examinations carried out by both Botswana and Namibia emphasized on bacteriological analysis only; other possible aetiological agents such as fungi and viruses were not included in the tests (unpublished report dated 25 January 2007, Kasane Fish Disease Laboratory Investigation Report by Dr J.F.C., NVL, Sebele; unpublished report dated 27 March 2007, Report of outbreak of fish infection in Chobe-Zambezi River System by DWC-Kasane; unpublished report dated 30 March 2007, Report on the fish disease outbreaks in the Chobe-Zambesi River System by Mr Shaft M. Nengu (DWNP-Gaborone).

As a continuation of the investigations, another team of two experts from Rhodes University, Republic of South Africa was engaged by DWNP-Gaborone to carry out fish sampling surveys in the Chobe River on 18 and 19 April 2007. The team of two experts was joined by the DWNP, the Department of Animal Health and Production and fisheries officers from Namibia, in their sampling activity.

The preliminary findings indicate that the infections were a severe granulomatous mycosis. The lesions closely resembled those caused by the fungus *Aphanomyces invadans*, the aetiological agent associated with the epizootic ulcerative syndrome [EUS] (Enviro-Fish Africa, 2007, Pathology report by Dr K.D.A. Huchzermeyer and Dr P.A. Colly).

In response to a request to FAO by the Government of Botswana for technical assistance in investigating this serious disease outbreak, Senior Fishery Resources Officer (Aquaculture) Dr R.P. Subasinghe of the Aquaculture Management and Conservation Service (FIMA) secured funds and initiated and coordinated the organization of an International Emergency Disease Investigation Task Force on a Serious Finfish Disease in Southern Africa simply referred to in this report as the “Task Force”.