



PALADIN ENERGY LTD

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Government of Malawi Published Responses to Allegations about Kayelekera Mine

- **Press Release - Malawi News: Fish Kills on Lake Malawi in Karonga District (10-16 January 2015)**
- **Press Release - The Nation: Clarification on Kayelekera Uranium Mine Spillage Incident and Radiation Exposure at the Mine (26 March 2015)**



PRESS RELEASE

FISH KILLS ON LAKE MALAWI IN KARONGA DISTRICT

1. Occurrence of Fish Kills in Lake Malawi in Karonga District

The Ministry of Agriculture, Irrigation and Water Development and The Ministry of Natural Resources, Energy and Mining, would like to inform the general public that floating dead fish were observed in the areas of Nyungwe, Hanga, Phapha, Makhala and Kambwe of Karonga District along Lake Malawi during the month of December 2014. The floating dead fish were mainly comprised of Chambo (*Oreochromis spp*), Kampango (*Bagrus meridionalis*), Mlamba (*Clarias gariepinus*), Utaka (*Copadichromis spp*), Ncheni (*Ramphochromis spp*), Nkholokolo (*Synodontis njassae*), Mbuna (*Pseudotropheus spp*) and Chisawasawa (*Lethrinops spp*), among others. The dead fish that were sampled from the affected areas were however all rotten.

2. The Phenomenon of the Fish kills in Lake Malawi

In recent history, fish kills in Lake Malawi have been observed on a large-scale starting in 1999. Prior to the year 1999, the fish kills were reported to have occurred some 40 to 50 years back. Since 1999, the fish kills have occurred lake-wide in the periods 2005-2006, 2010-2011 and in August 2014 and recently in December, 2014, thereby becoming a concern. The past fish kills coincided with persistent and protracted heavy south-easterly winds (Mwera) on the lake. The heavy winds lead to formation of underwater currents locally known as "Mweza". These underwater currents cause the mixing of oxygenated water in the upper layer of the water column where the fish live with the oxygen-deficient water in the deep layers.

Scientific knowledge points to the fact that the oxygen deficient waters have high concentrations of Hydrogen Sulphide (H_2S) and Carbon Dioxide (CO_2). When fish are exposed to these conditions, they suffocate and die. Furthermore, recent studies indicate that there is increase in the depth of the oxygen-deficient water layer. This is attributed to lake-wide deposition of land-base sediments and pollutants. As a result, the size of water layer that supports fish life is being reduced.

The general public is hereby being informed that the Karonga scenario is the first case of localized fish kills in recent times. This therefore needs further investigations to ascertain the cause(s) and related factors resulting in the fish kills.

Government has noted through the media that some people are alleging that the fish kills are linked to the discharge of waste water by Kayelekera Uranium Mine. It is being speculated and asserted that Paladin Africa Limited has secretly started discharging radioactive wastewater into surrounding water bodies which in turn is causing the fish kill. The public is hereby informed that investigations which were conducted recently show that Kayelekera Uranium Mine has never released any effluent into the environment from its storage facilities. It should also be noted that in the rivers surrounding the mine including North Rukuru River, there were no cases of fish kills observed.

3. Current efforts in Investigating the Fish Kills in Karonga

The general public is being informed that investigations are currently underway which are jointly being undertaken by local research scientists from the Government of Malawi through the Department of Fisheries (DoF), Department of Animal Health and Livestock Development (DAHLD) and the Environmental Affairs Department (EAD). The investigations are aimed at establishing the extent of the fish kills and their possible causes in the affected areas. Once these investigations are concluded, the general public will be duly informed through appropriate channels of communication.

4. Conclusion and Recommendations

In view of the importance and significance of fisheries resources to the household livelihoods and national economic development in the country, the Ministry of Agriculture, Irrigation and Water Development recommends that:

- All persons should desist from collecting, selling and utilizing the floating dead fish in any form whether through direct human consumption or as livestock feed. This is mainly due to the fact that any dead fish is likely to be infested with pathogenic bacteria.
- The media is advised to report issues pertaining to the fish kills only when it is availed with expert knowledge/information in order to avoid causing unnecessary alarm or fear to the general public.
- Any persons wishing to have further information on the fish kills should contact appropriate authorities as follows:

Director of Fisheries
Department of Fisheries
P.O. Box 593
Lilongwe
Phone: +265 1 788 511

Director of Environmental Affairs
Environmental Affairs Department
P/Bag 394
Lilongwe 3
Phone: +265 177111
Fax: + 265 1773 379

Signed:

Signed:

Erica Maganga (Mrs)
Secretary for Agriculture, Irrigation and
Water Development

Yanira M. Ntupanyama (PhD)
For Secretary for Natural Resources,
Energy and Mines



MINISTRY OF NATURAL RESOURCES, ENERGY AND MINING

Press Release

Clarification on Kayerekera Uranium Mine Spillage Incident and Radiation Exposure at the Mine

The Ministry of Natural Resources, Energy and Mining wishes to provide the general public with official information about a spillage incident that occurred at Kayerekera Uranium Mine on 5th January, 2015.

Uranium mining and processing generates waste materials that require proper management. At Kayerekera Uranium Mine, there are waste management facilities including: Ponds for storage of runoff water from the mine pit and waste rock piles; Tailings Storage Facilities for storage of tailings (mixture of liquid and solid waste material from the processing of uranium) and Sediment Retention Tank for temporary holding of sediments and run off water from around the plant.

As the mine is under care and maintenance, only environmental monitoring and maintenance is taking place. On 5th of January, 2015 some employees were carrying out maintenance of the sediment retention tank which contained non-radioactive materials comprising sand, lime and water among other things. On the same day, there was a heavy rain storm which affected the tank by causing the inside rubber liner and metal to separate and release the contents in a slurry (semi-solid) form. The spilled material was pushed by run-off onto access roads and into a drift between Runoff Water Pond II and Tailings Storage Facility. The material which spilled from the tank is estimated at 500 cubic metres which is 10% of the total capacity.

On the same day of the incident, the company reported to the Director of Environmental Affairs Department in accordance with Environment Management Act (No. 23 of 1996) and Atomic Energy Act (No. 11 of 2011). In addition, the company within a few days after the spillage: a) removed the spilled material and disposed it into the tailings storage facility; b) stabilized the tank with soil around it to prevent more spillage; c) Took water samples from surrounding water bodies to check for possible contamination.

In order to safeguard human health and the environment, Government through Environmental Affairs Department and Central Water Laboratory conducted inspections on 8th and 9th January, 2015. Water samples of surrounding water bodies including the Sere River were collected and analyzed on-site to monitor for any possible contamination. All parameters analyzed were within the acceptable levels.

World Health Organization (WHO) standards and guidelines for drinking water stipulate that uranium levels in drinking water should not exceed 0.03 mg/l. Water Analysis Results indicate that the water in Sere River, both upstream and downstream have traces of uranium. However, the levels are within acceptable levels. For example, in North Rukuru River which is downstream of the mine, uranium levels were 0.027 mg/L which is within the WHO Standards for drinking water. It should be noted that the water in Sere River shows traces of uranium even upgradient of Kayerekera mine area mainly due to the parent rock of the area.

The Ministry would like to assure the general public that Paladin Africa responded to the incident in an appropriate manner and laboratory results attest to the fact that there was no pollution of water bodies as a result of the spillage. Government made a number of recommendations which were implemented including the following; that Paladin should (a) carry out maintenance of the affected tank and ensure that the spill does not occur again; (b) submit a detailed report about the incident; and (c) members of public should be duly engaged and allowed to see for themselves what really happened and the measures taken.

Members of the public are further informed that Paladin Africa Limited conducts ongoing radiation monitoring of the environment and its workers at the Mine in accordance with the provisions of the Acts mentioned above and the International Atomic Energy Agency standards. The monitoring reports are submitted to, and reviewed by Government on a regular basis.

The Ministry wishes to advise that should anyone have concerns about Uranium mining or any issues dealing with radiation exposure they should contact the Ministry directly for assistance. Finally, the Ministry would also like to inform the general public that in order to effectively regulate and monitor the uranium mining activities and the application of nuclear science and technology in Malawi, the Government is in the process of fully operationalizing the Atomic Energy Regulatory Authority, which was established by the Atomic Energy Act, to ensure safety and protection of the people and the environment from the harmful effects of ionizing radiation.

Signed

Y.M. Ntupanyama, PhD
PRINCIPAL SECRETARY

MINISTRY OF NATURAL RESOURCES, ENERGY AND MINING