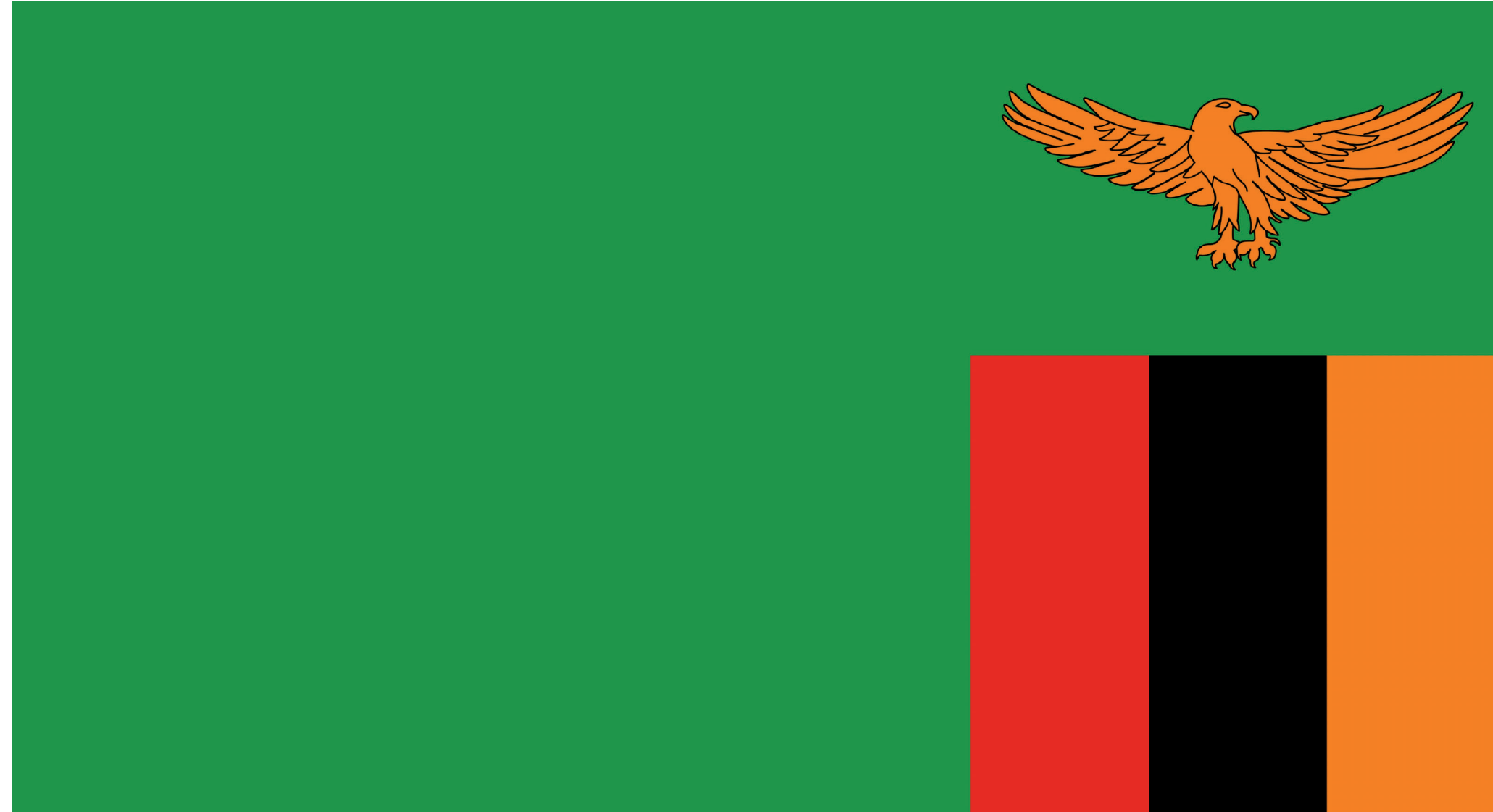


ZAMBIA



TRAINING MANUAL TO ENFORCE THE NATIONAL GUIDELINES FOR MINE WASTE STORAGE FACILITIES (TAILINGS STORAGE FACILITIES AND WASTE ROCK DUMPS)

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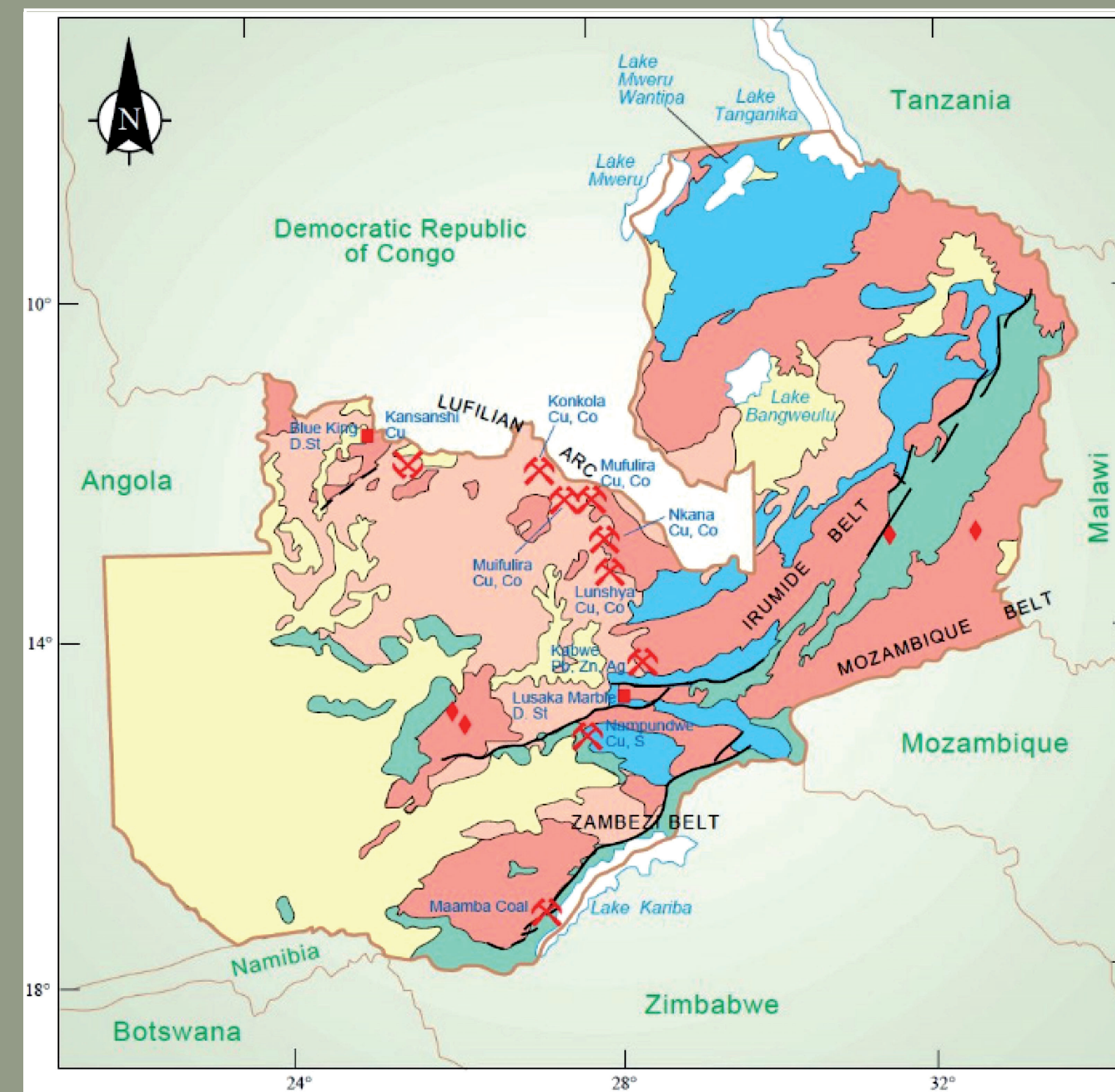
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INTERNATIONAL TRAINING PROGRAMME 308
Mine Water & Mine Waste Management



THE CHANGE PROJECT

Zambia is one of the largest producers of Copper in Africa. The mining sector contribute significantly to the country's revenues. Raw materials produced in Zambia include amongst other Copper, Cobalt, Gold, Nickel, Manganese, Emeralds, Beryllium, a number of gemstones, Sulfur, Zinc, Coal, Iron Ore, Steel, Limestone, Uranium and other Platinum Group Metals.



Geological map of Zambia with selected deposits

With mining comes challenges of managing mining waste. The Zambia Environmental Management Agency and Mines Safety Department developed comprehensive national guidelines for appropriate management Tailings Storage Facilities (TSFs) and Waste Rock Dumps (WRDs) in the mining industry.

To ensure that the guidelines are disseminated and enforced, a training manual has been developed intending to train regulators (ZEMA and MSD) and mine operators on the management of waste storage facilities.

The training manual aims to provide capacity building for Inspectors and Mining Operators on TSFs and WRDs management in Zambia and ensure effective compliance and enforcement of the national guidelines.



SIGNIFICANCE FOR THE PEOPLE AND THE ENVIRONMENT

Guidelines for the monitoring of waste facilities are essential because the consequences of potential failure can be extreme to the environment. Tailings and/or waste-rock often contain metal sulphides which oxidize when exposed to oxygen and water. Sulphide oxidation as waste rocks or tailings interact with water and air produces an acidic metal-laden leachate over long periods of time in absence of acid buffering minerals.

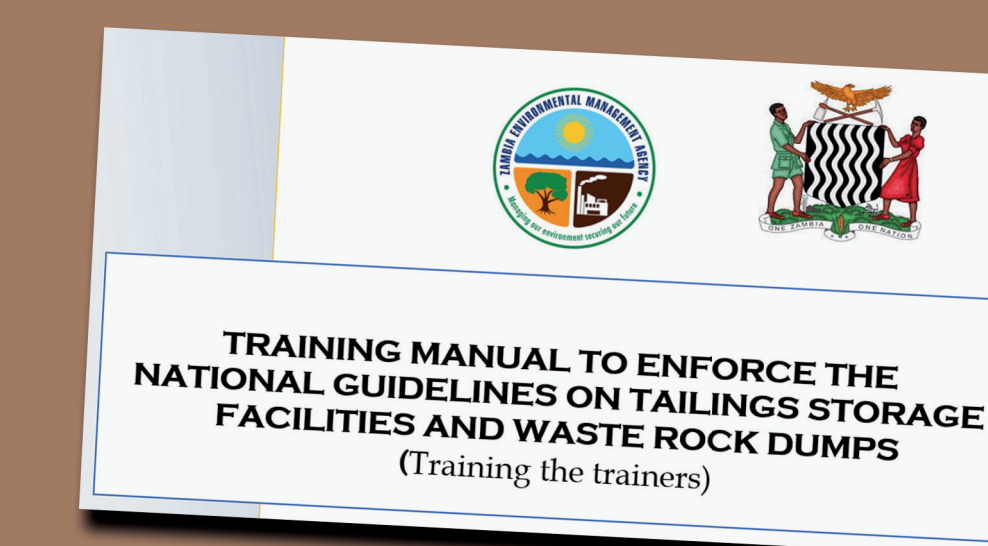
The training manual seeks to build capacity for regulators and operators of the waste facilities in the mining industry. The manual describes how to organize site selection review and on-site visits from the planning of an inspection to the reporting phase. Furthermore, it provides information about how to set up post-inspection activities which are in line with the provisions of the law. This manual also seeks to improve the quality of EIA reviews and inspections conducted by ZEMA and MSD on mining facilities.

RESULTS AND ACHIEVEMENTS

Planned project activities could not be undertaken due to Covid-19 restrictions and the pending validation of the national guidelines on management of mine waste that was developed by previous Zambian participants to ITP308 programme in 2019 and 2020. However, the draft manual on the enforcement of the national guidelines on management of mine waste is available and only awaiting reviews, final compilation, and eventual launching. The information contained in the manual will increase institutional capabilities on TSFs and WRDs management. In order to ensure that all stakeholders have access to the same and current information, the manual will be circulated to the third parts such as Water Resources Management Agency (WARMA) and mining companies.

An information leaflet about Class C Mining, was completed to serve as a guide to the following programme participants with the hopes of them being able to complete the toolkit.

Information leaflet for the final toolkit



THE WAY FORWARD

The initial phase of the project will end with the compilation of training manual on the national guidelines on the management of tailings storage facilities and waste rocks. Post-manual compilation activities will include campaigning to get the guidelines validated, thereafter holding workshops to launch the training manual and train the trainers of who will be running workshops on the guideline.

We recommend that a review of the draft guidelines should be done with stakeholders. A committee should be constituted to review the guideline and have it validated. The validated document can then be launched and adopted by mining operators and regulators. The results of the review activities will be used to improve the training manual and ensure relevance and adequacy of information to be communicated to the appropriate stakeholders.

MSD and ZEMA seek to have an integrated approach to the management of waste facilities in Zambia to ensure that they are safe and stable, erosion-resistant and non-polluting during construction, operation, and prior topost decommissioning. They further seek to make the prediction of possible long-term performance and potential environmental impacts of both the TSFs and WRDs long after a tenement is relinquished.

The training manual will endeavour to enforce the guidelines to promote safety of communities, mining employees and the environment at large by ensuring that both inspectorate regulators and mine operators are trained adequately. In training the trainers of trainees, capacity will be built across the two institutions.

