



SATREPS KAMPAI Project

(The Project for Visualization of Impact of Chronic / Latent Chemical Hazard and Geo-Ecological Remediation in Zambia)



SATREPS KAMPAI Project



Japan International Cooperation Agency
ZAMBIA OFFICE



Background



The increased occurrence of metal pollution in the environment has been associated with anthropogenic activities such as effluents and emissions from mines and smelters that often contain elevated concentrations of toxic metals including lead (Pb), cadmium (Cd), mercury (Hg) and arsenic (As). As such, widespread metal contamination has frequently been reported in regions with long histories of mining, especially in the vicinity of non-ferrous metal smelters where high concentrations of toxic metals contaminate water, soils and vegetation. Due to limited ecosystem-monitoring and health risk data in developing countries, metal contamination continue to pose a major health risk in humans and animals. In Kabwe Town, the capital of Zambia's Central Province, extensive Pb contamination of township soils resulting in alarming Pb poisoning in children in the vicinity of the Pb-Zn mine have been reported.

Given this background, the SATREPS KAMPAI Project was established in Zambia to create a database of environmental pollution in Zambia. It is also necessary to raise the level of environmental research and education as well as to develop social systems including assessment system for economic ecosystem and technologies for environmental remediation. In this case work toward the geo-remediation and improvement of geo-ecosystem quality is necessary. "Visualizations" of negative impact on socio-ecosystem by pollutants are needed to accelerate the improvement of polluted environments and to attend to the "latent" health risk by the chemical hazard. The aim of this project is to establish a model for the sustainable socio-ecosystem development in metal-polluted areas of African countries.

Overall Goal

The negative impact caused by lead (Pb) pollution in Kabwe mining area is reduced and novel protocol for metal pollution countermeasure established based on the research achievements is perceptible and utilized worldwide.

Project Purpose

Novel and effective countermeasure and protocol are proposed.

Core Activities

Various activities related to the outputs above

Expected Outputs

1. Lead contamination mechanisms and pathways from pollution source to soil surrounding the pollution source in Kabwe area are elucidated.
2. Lead contamination mechanisms and pathways from soil surrounding the pollution source to human body in Kabwe area are elucidated, and human health risk and economic impact caused by Pb exposure (pollution) are quantitatively assessed.
3. Effective and economical remediation and pollution source control technologies are developed and proposed.
4. Capacities for monitoring the Pb contamination are strengthened and Monitoring laboratory is operated.



Project Sites



Target group(s)/Beneficiaries

Residents of Kabwe city in the Republic of Zambia



Core schools of the project in University of ZAMBIA School of Veterinary Medicine and School of Mines

Implementing Organization

The University of Zambia under the Ministry of High Education with collaboration with the Ministry of Health

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Period of Cooperation

5 years from the commencement of the project

For further information, please contact;

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