

He Study on the Countermeasure and Impacts of Heavy Materials in Soil

Khampasith Thammathevo^{1,3}, Jianguo Bao^{1*}, Mupenzi Jean de la Paix ^{2 4}

¹*China University of Geosciences, Environmental studies school, 388 Lumo road, Wuhan, 430074 Hubei, China*

²*State Key laboratory of Desert and Oasis Ecology, Xinjiang Institute of Ecology and Geography, Chinese Academy of Sciences; 818 Beijing Road South, Urumqi, Xinjiang, 830011, China*

³*Civil Engineering Department, Engineering Faculty, National University of Laos, Sokpaluang Campus, P.B 1366*

⁴*Independent Institute Lay Adventists of Kigali, (INILAK), P.O. Box 6392 Kigali, Rwanda*

Emails: bjanguo888@126.com

Abstract: The research was undertaken at Salakham Marsh to assess the countermeasure and the impact of heavy materials in soil. Soil sample analysis was carried out by spectroscopic technique and pHmeter. Results indicated that As, Cd, Cu, Ni, Pb, and Zn were main heavy elements that contaminated the soil in salakham marsh with pH ranges between 4-6 mg kg⁻¹ which makes the soil to be very acidic. Based on these results, different solutions can be demonstrated to avoid heavy metals in soil. The erosion control verification and watershed regulation may be good strategies that can be applied in order to prevent an increase of heavy elements in Salakham marsh.

Keywords: countermeasure, heavy materials, pollution, sediment