

An EcoHealth Approach to link Ecological Risks to Human Health in a Changing Environment

Bam H.N. RAZAFINDRABE¹, ○Bin HE^{2,3}, Kiyoyuki YAOTA¹,
Satoshi SAITO¹, Ryohei KADA¹, Kaoru TAKARA³

¹Research Institute for Humanity and Nature (RIHN), Kamigamo, Kita-Ku, Kyoto 603-8047, Japan

²Center for Promotion of Interdisciplinary Education and Research, Educational Unit for Adaptation and Resilience for a Sustainable Society, Kyoto University, Gokasho, Uji, Kyoto 611-0011, Japan

³Disaster Prevention Research Institute (DPRI), Kyoto University, Gokasho, Uji, Kyoto 611-0011, Japan

In the Laguna Lake Basin of Philippines, there has been an observed increase in the prevalence of Soil-Transmitted Helminth (STH) infections and the cause of this increase has not yet been investigated. Moreover, STH infections are most prevalent in developing countries and are usually associated with increased morbidity and mortality. The increased incidence of STH in developing countries can be linked to poverty, inadequate sanitation facilities, unsafe water supply, indiscriminate defecation and poor eating habits. The World Health Organization (WHO) reports that STH infections are the most common of the neglected tropical diseases (NTD), which affects approximately 2 billion people worldwide. Children infected with STH usually manifest with stunted growth, decreased physical activity and poor physical and mental development. In addition, chronic STH infections result in loss of appetite, stunting and anemia.

The Laguna Lake Basin area is also frequently flooded since it is located near the lakeshore. No study has addressed flooding in the area or tested the hypothesis that the frequent flooding could increase the rate at which the infections are being transmitted. The relationship between the changing landscape in the uplands and the frequency of flooding and prevalence of the infections has not been confirmed.

Therefore, the challenge of the Ecosystem approach to human health is how to meet human needs without modifying or jeopardizing the ecosystem in the long term, and ideally, even improving it. EcoHealth is an innovative and effective way to generate new knowledge to better address the trade-offs between livelihoods, environment, and human health. It is reported that long-standing environmental hazards, environmental changes, rapid economic growth are affecting the health and livelihoods of poor people around the world. These vulnerable communities live in degraded ecosystems that threaten their health. With few resources to face these problems, they face environmental pollution, and new and old infectious diseases. Thus, this research aims to link ecological risks to health. More specifically, this study aims at identifying and analyzing the nature and extent of past and current land use change, water and sediment related risks to the health security of the people in selected sites in the Laguna region, Philippines. It is also expected to suggest practical policy recommendations to improve current land use and development planning as well as public health systems, while enhancing mutual international level research collaborations between researchers from Japan and the Philippines.