Risk attenuation and Seismic activity at Nyiragongo and Nyamulagira volcanoes in the western branch of the East African Rift for DR Congo

Leon Bora Uzima[1,2,3,*], Tomple Byamungu[1,4]
[1]*Centre of Expertise and Geological Survey (CEEG),* [2]*University of Goma,* [3]*Geological Society of Africa (GSAF),* [4]*University of Korea*
[*]E-mail: bob20lk@gmail.com

About 50 to 60 volcanoes erupt every year worldwide. Large eruptions endanger lives, human settlements and livelihoods of the almost 500 millions people estimated to live near active volcanoes in 2000. That number will increase in the future as today more than 60 large cities are located near potentially active volcanoes, threatened by volcanic eruption. Volcanoes with high activity are located predominantly in developing countries, particularly in Latin America, the Caribbean, parts of Asia and in the southwest Pacific. In these countries, despite the improvements in many national civil defense agencies, capacities to manage volcanic emergencies, eruptions are becoming increasingly risky because of rising population density and intense interweaving of infrastructure in the areas surrounding volcanoes. An activity of glow visibility has been noted at Nyamulagira volcano from June 22nd 2014. After few days, the NASA noted this situation by satellite detection and published on its website the appearance of a new lava lake in the Nyamulagira crater. We may note that Nyamulagira volcano (in its known history) logged again in his crater a lava lake from 1921 to 1938 (Mavonga et al., 2010). Here are analyzed the seismic parameters before and after this new event at mount Nyamulagira, and we found that this event was preceded by volcanic tremors (about 12 hours). For these reasons, a revised assessment of seismic and volcanic hazard is urgently needed. In this subject, we describe effort to gather data and derived models of geological processes that can be used to monitoring volcanoes and assess the earthquake hazard, plan the settlement of displaced people and to build back better.