Building a prepared community to volcanic risk: assessment of awareness raising tools for secondary school in Goma, (Eastern DR Congo)

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Disasters induced by natural hazards are increasing globally and have severe impacts. Some of these hazards, as volcanic eruptions, are related to the earth’s interior mechanisms and cannot be prevented. Thereby, risk mitigation is the best strategy for reducing their impacts in densely populated areas, such as the city of Goma in the eastern Democratic Republic of Congo, exposed to volcanic threats from Nyiragongo. This requires the population to be prepared to respond to volcanic risk, by having a high state of awareness, anticipation, and readiness. “Living with a volcano” should be one of the life skills all Goma children acquire during their schooling, regardless of where they attend school. Therefore, this study used a mixed-method approach (questionnaire survey, focus group and written composition) to assess the awareness raising impact of two educational tools recently implemented in Goma for secondary students: the Hazagora serious game and the volcano museum. Several students (402 in total) from 12 schools participated in one of these risk awareness activities, while other students were assessed as controls. Results indicate that the tools have a positive impact on students’ volcanic disaster understanding, their risk perception, and their implication in DRR initiatives. Specifically, the volcano museum increases knowledge of volcanic process more than the Hazagora serious game; the latter increases more the perceived self-capacities and willingness of implementing protective measures. Risk perception raises almost identically with both tools. In general, participants indicate that they receive sufficient scientific information throughout the Hazagora serious game and the volcano museum visit to better understand the physical mechanisms of volcanic hazards and their impacts on human properties and livelihood. In addition, they claim to have received relevant information on protective measures and abilities, and to be willing to search for additional risk information. This study highlights that the two tools are complementary; thus, awareness raising through a diversity of tools can be more effective than a single and isolated activity.