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## Volcanic risk communication challenges in the global south: the case of Goma, Eastern Democratic Republic of Congo

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The city of Goma is located in the eastern region of the Democratic Republic of Congo. With around one million inhabitants, it is built on lava flows, 15 km south of the active Nyiragongo volcano. Historically, the town was affected twice by eruptions, in 1977 and 2002 and severe destructions were reported. At that time, no volcanic risk preparedness and management tools had been implemented, and communication during and after the eruption was not consistent enough to avoid panic and human casualties. Without an appropriate and accurate risk communication, people may adopt a behavior which can put them at risk, by increasing their vulnerability. Nineteen years after the last disaster, risk management still have to develop an effective risk preparedness strategy and integrate risk awareness raising tools. The aim of this ongoing doctoral research is the assessment of risk culture, building upon a risk perception assessment and identification of risk reduction measures to be enhanced.

A survey of 2224 adults among the general population of Goma was conducted in eight representative neighborhoods in order to assess the risk perception, the experience of the risk communication as well as the risk preparedness of inhabitants. We here present a first analysis of the results regarding the risk communication challenges. Goma is a dynamic town with a young population (80% are under 45 years old), living in relatively poor and large family (51% of households have 4-7 members and 31% 8-11 members; 57% of household have an income between 0-250\$), with rather low education (47% is secondary level and 34% graduated). Language is one of the volcanic risk communication challenges in Goma: apart from French as the official language, Swahili as local, and English imposed by the large humanitarian sector, there are many dialects. Moreover, most communication tools are informal (social networks, friends and relatives...) and inhabitants mostly look for information on religion (22%), health (15%) and politics (12%), but not so much about risk reduction. Local radio (24%), television (14,5%) and social networks (13%) are the most preferred information channels. The city of Goma is also very dynamic: with a high migration rate, the population is growing and renewing itself regularly, to the point that risk communication must take into account the newcomers in order to be efficient. Additionally, our survey shows that experience of disasters and trust in decision-makers also

provide a basis for effective risk communication.

By presenting, as examples, the communication chain during the 2002 Nyiragongo eruption, as well as a more recent example of miscommunication due to the publication, in the general public press, of a scientific article with significant uncertainties in eruption forecast modelling (leading to misinterpretation by non-expert readers), we will demonstrate that the cascading reactions may have consequences putting risk decision-makers and scientists in a difficult position, by provoking a feeling of mistrust and doubt among the population. Based on the Goma case study, we will show that risk communication in the global south is a major risk management challenge with complex issues.