

Differences in volcanic risk perception among Goma population before the Nyiragongo eruption of May 2021, Virunga volcanic province (DR Congo)



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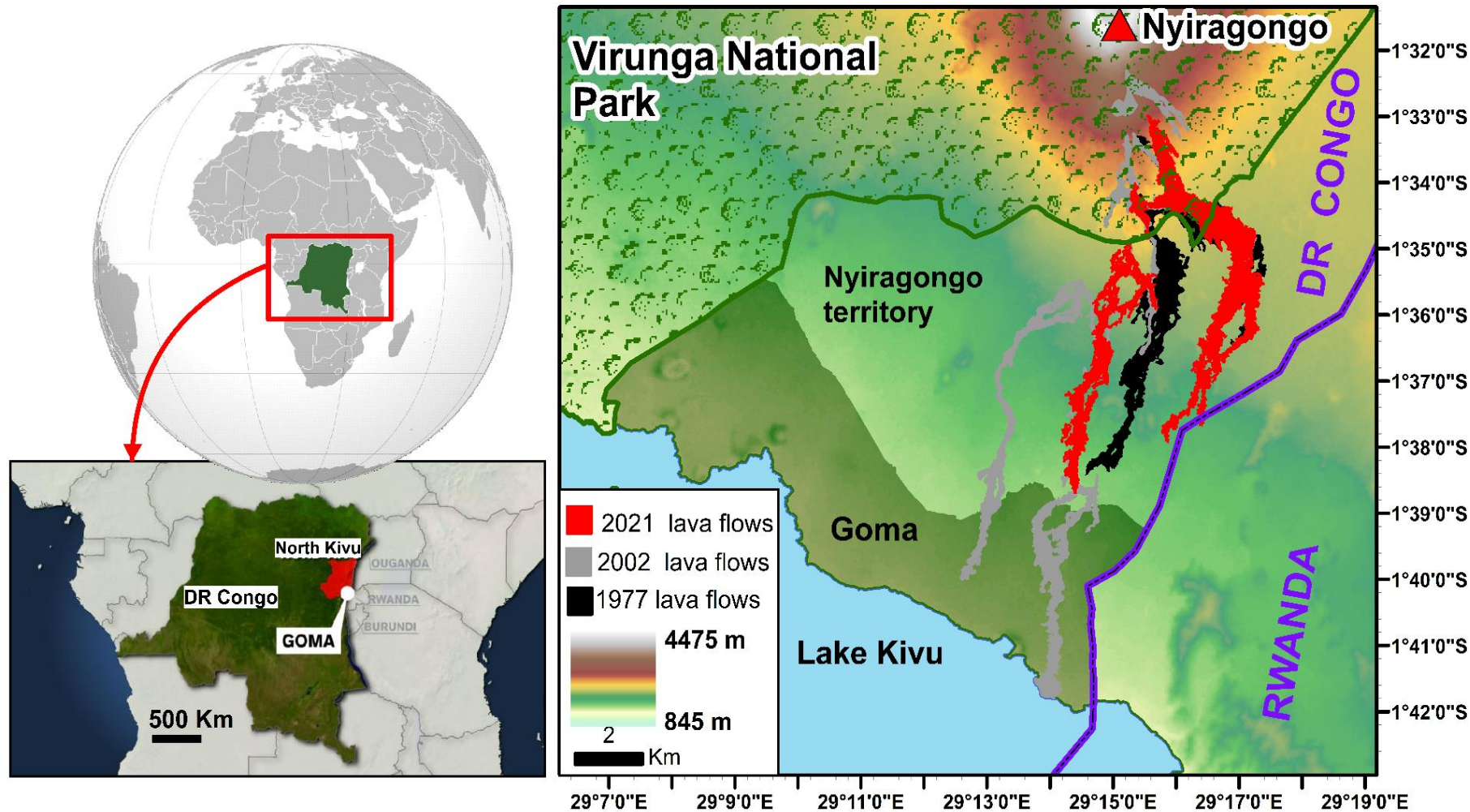
1. Université de Goma (Goma, DR Congo) 2. Royal Museum of Central Africa (Tervuren, Belgium,) 3. Vrije Universiteit Brussels (Brussels, Belgium)





INTRODUCTION

1°. Study area



Goma city: Eastern DR Congo, ~1,000,000 inhabitants

18 Km from the Nyiragongo active volcano.

Lava flow eruptions impacted the city in 1977, 2002 and 2021



INTRODUCTION

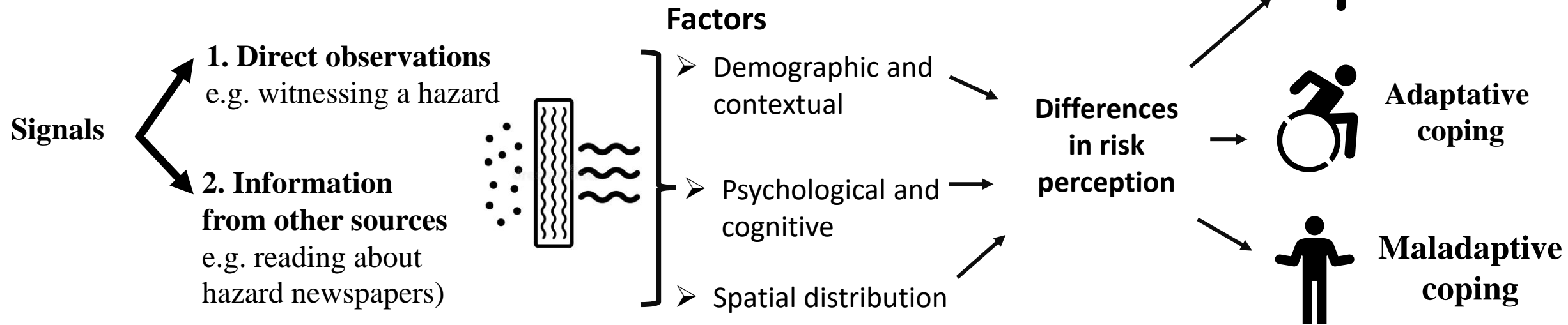
2°. Objectives



Risk perception ?

For an individual, the perception of risk involves the processes of collecting, selecting and interpreting **signals** about uncertain impacts of natural events, activities or technologies

Slovic et al. (2004), *Risk Analysis*





METHODS

1°. Risk perception indicator

- Perceived likelihood of hazard
- Perceived severity of impacts on the city



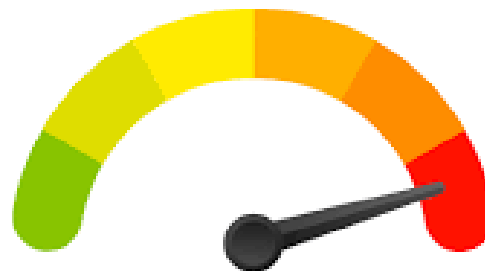
**Perceived
Severity**

**Perceived
Vulnerability**

- Perceived likelihood of being personally impacted



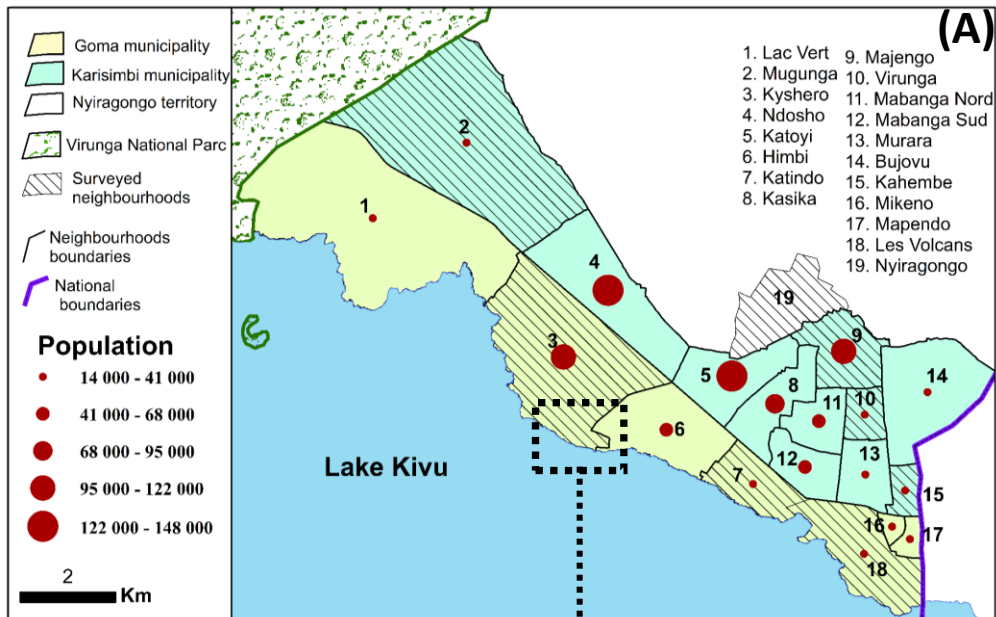
Risk perception





METHODS

2°. Survey processing



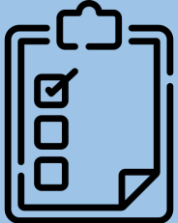
(B)

Household

- 8 representative neighborhoods selected (A)
- Around 270 sampling points by neighbourhood (B)
- A questionnaire survey was conducted (C)
- **Total respondents: 2,224 of 18 years and above**

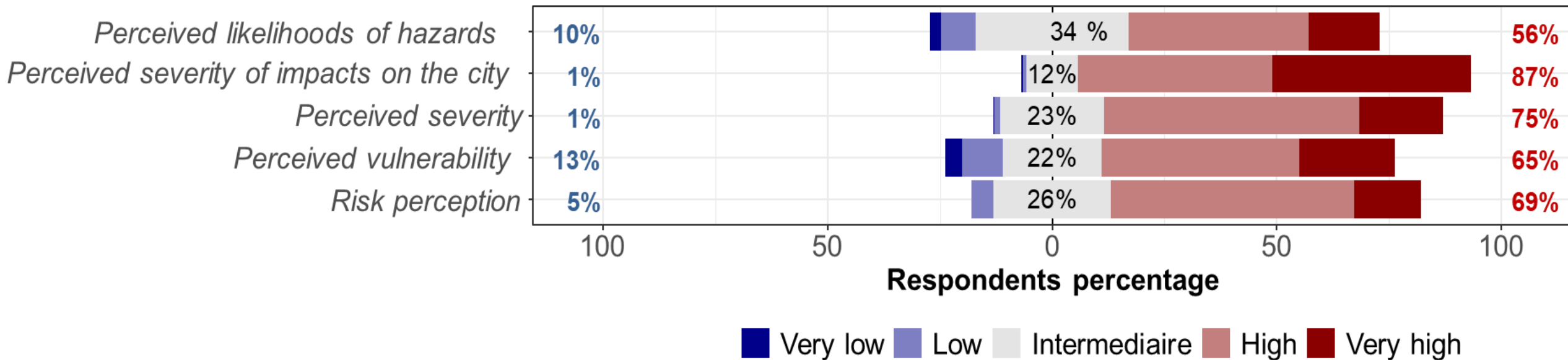


(C)



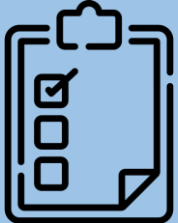
RESULTS

1°. Level of risk perception



➤ Impacts are highly perceived

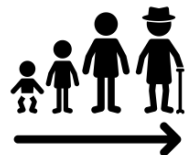
➤ High risk perception in Goma before the 2021 eruption



RESULTS

2°. Factors of risk perception

Demographic and contextual factors



Age and family status



Disaster experience



Household income



Risk
perception

Psychological and cognitive factors



Perceived
exposure to
environmental
cues



Comprehension
and interest in
seeking risk
information



Anxiety

⊗ No differences in risk perception



Gender



Religion



Transport



Household size

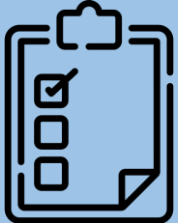


Education

⊗ No differences in risk perception



Trust in DRR
stakeholders



RESULTS

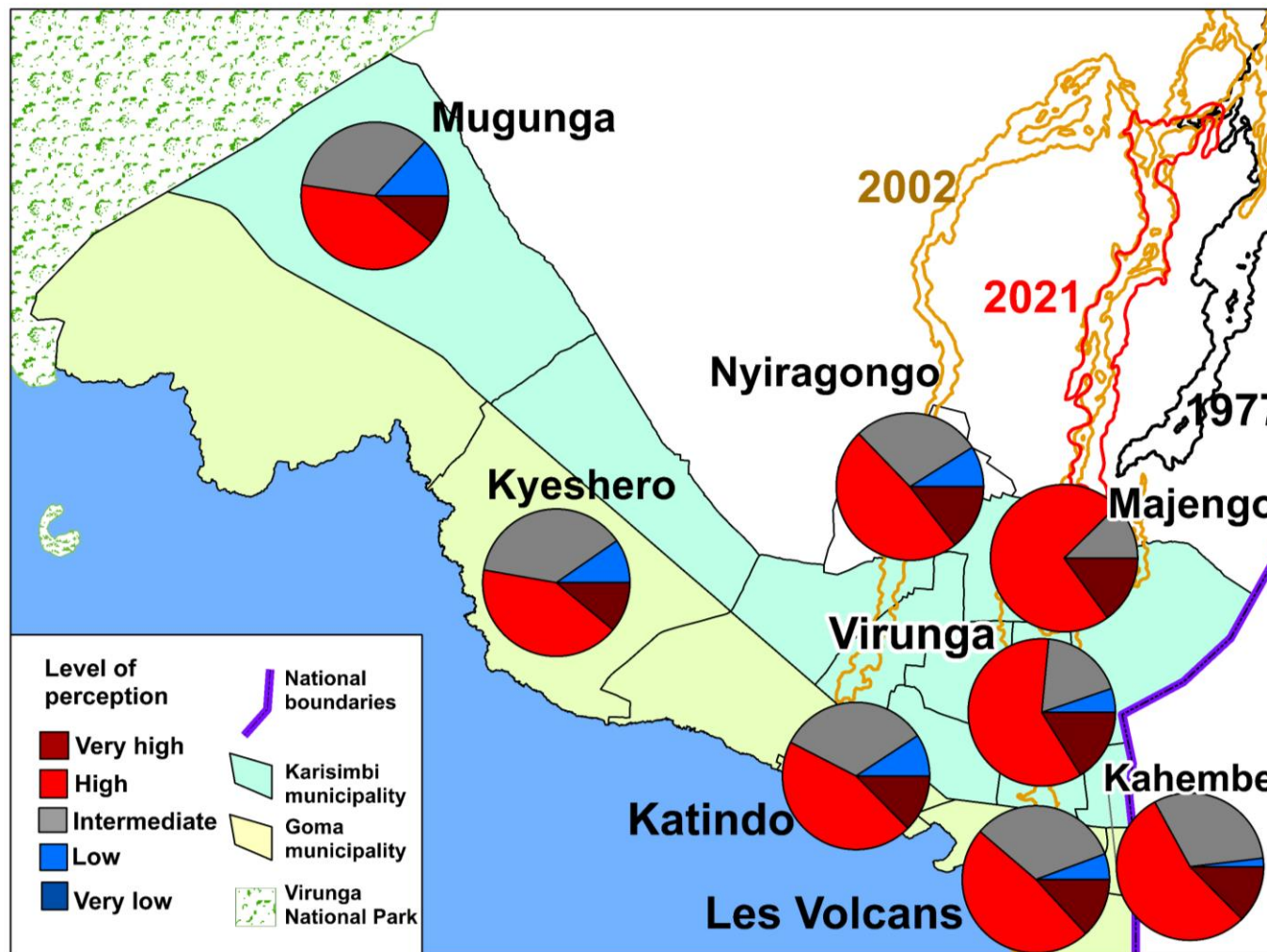
3°. Spatial distribution



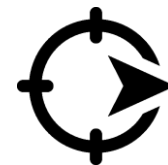
West part of Goma

Lowest levels of risk perception observed in the **extreme west**

•(Mugunga and Kyeshero).



East part of Goma



Highest levels are observed in the **east**

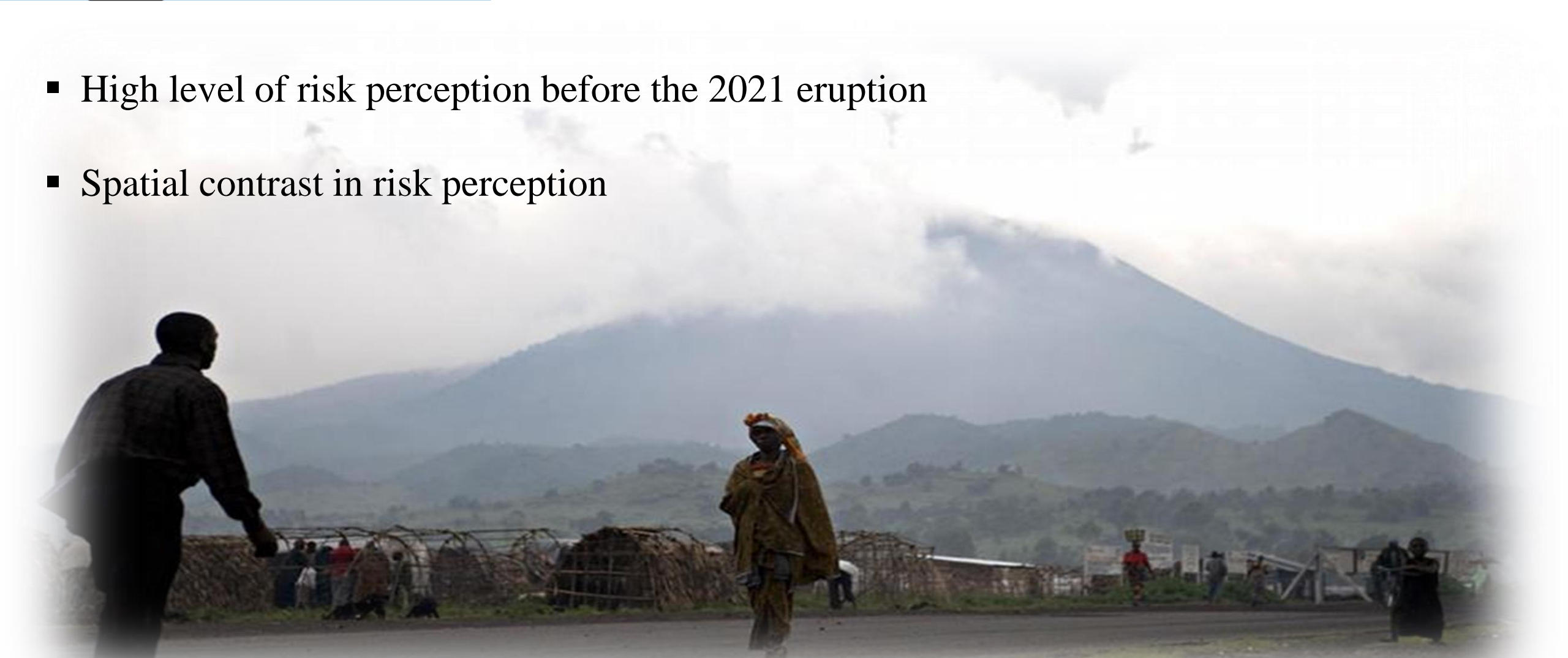
- Severely impacted** in 2002 (Majengo and Virunga)
- Hosted 2002 disaster victims (Kahembe)





CONCLUSION AND PERSPECTIVES

- High level of risk perception before the 2021 eruption
- Spatial contrast in risk perception





FREE TO CONTACT ME FOR QUESTIONS:
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