

You go, I stay: intrahousehold evacuation behavior upon Goma's volcano eruption



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Abstract

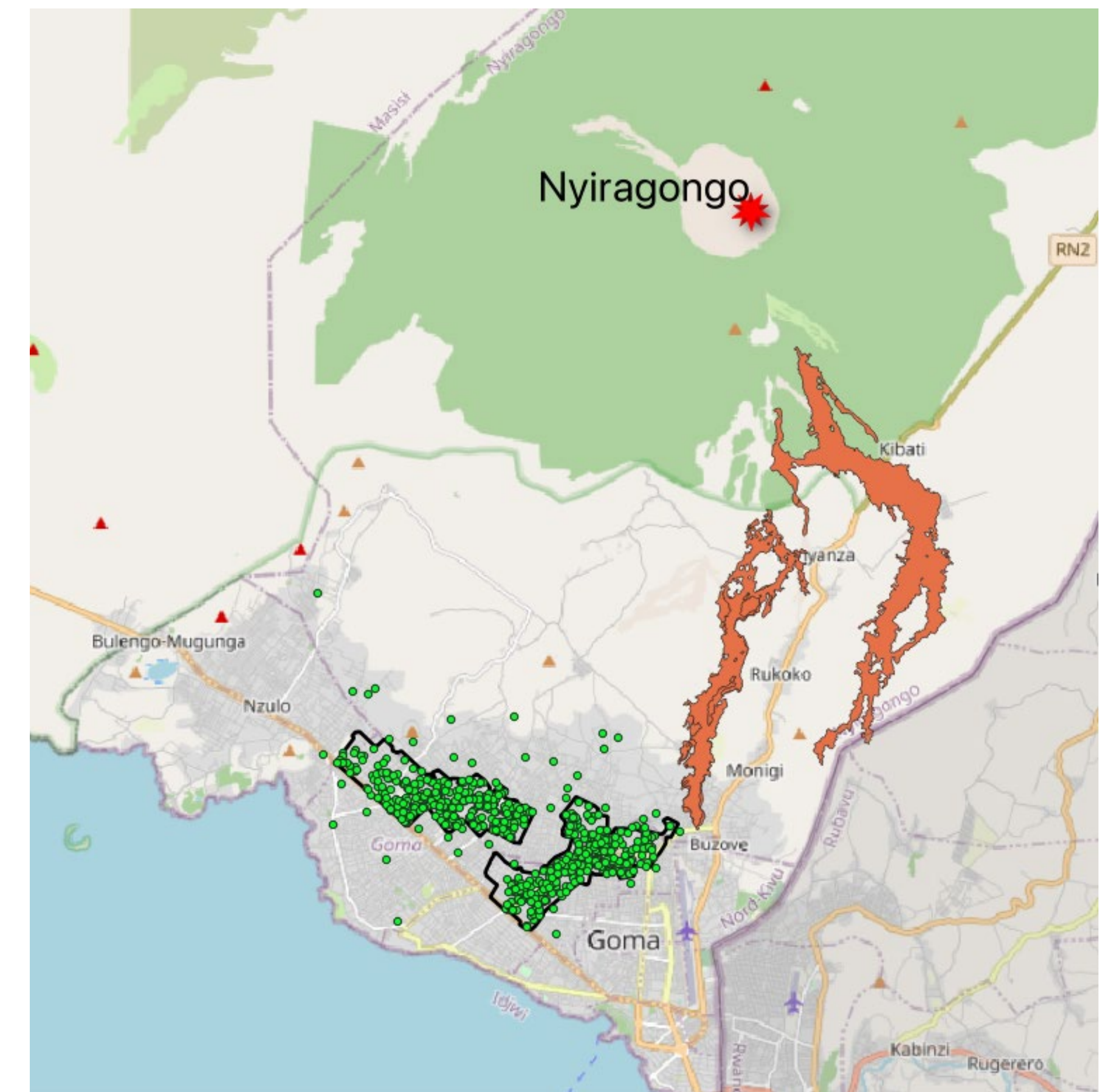
Low-income countries are disproportionately affected by natural disasters, and the situation is set to worsen with global warming. Evacuation preparedness is an effective strategy to reduce the burden of disasters. However, existing evacuation plans are primarily based on studies conducted in high-income countries. In this study, we examine the evacuation behavior of almost 5,000 individuals from 637 households in Goma, Democratic Republic of Congo, during the May 2021 volcano eruption, making it the first of its kind in an African context. Contrary to common assumptions, we find that one-third of households partially evacuated, leaving some members behind. We demonstrate that the partial evacuation decision relates to intra-household labor division and the specific contextual factors of low-income settings, such as traditional gender roles, the need to protect property, and low car ownership.

“N1. “I asked my wife and children to flee but I stayed. I lost so much property in 2002 by running away unnecessarily, I couldn't repeat the same mistake. Even if I was told that the lava is one km away, I wouldn't flee. I would have preferred to wait for him, face him, feel his warmth rather than leave my belongings in the hands of thieves” (Male household head, 64 years old)

“N2. “Most people who fled our neighborhood were first of all the moderately rich and the poorest... For the really rich, they didn't really feel willing to run away just like that and leave all their possessions, everything they fought for, in the hands and at the mercy of thieves. Only the richest towards the city centre who had the possibility of paying guards or policemen to secure their belongings fled without worrying.”

Keywords

1. Disaster management
2. Evacuation behavior
3. Intra-household labor division



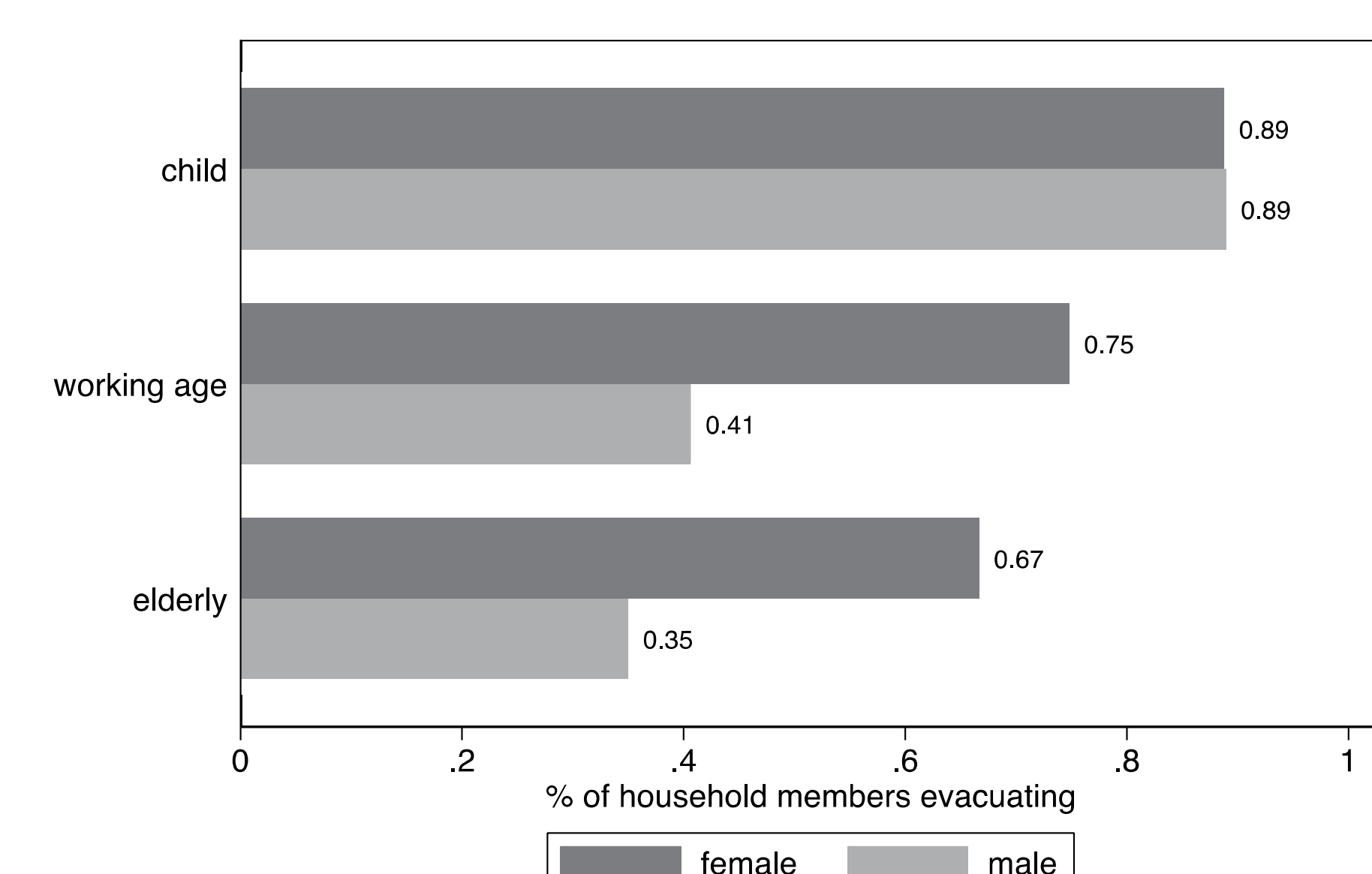
Notes: This map shows the location of our two study areas in 2019 (black contours). Green dots indicate the location of households interviewed for this study. The extent of the lava flow is indicated in orange. Source: Authors' compilation based on data from the United Nations Satellite Centre and OpenStreetMap.

Evacuation status of households and individuals

	Obs.	Mean	Std. dev.	Min	Max
Household: some evacuated, some stayed	637	0.29	0.46	0	1
Household: all members stayed	637	0.33	0.47	0	1
Household: all members evacuated	637	0.38	0.49	0	1
Individual: evacuated	4,807	0.60	0.49	0	1
Household head: evacuated	570	0.42	0.49	0	1
Survey respondent: evacuated	615	0.50	0.50	0	1
Split household: nr. members staying	187	2.38	2.24	1	12
Split household: % members staying	187	0.30	0.23	0.1	0.92

Notes: Our sample contains 637 households, with 4,807 members that were present in Goma at time of eruption. At the time of the eruption, 570 household heads and 615 survey respondents were present in Goma. In 187 households we observe split evacuation decisions.

Gender differences in evacuation rates within households that partially evacuated



Notes: This figure is based on the subsample of 1,532 individuals belonging to the 187 partially evacuated households. It displays the evacuation rate per age group, comparing males to females.

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