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'Understanding volcanoes and society: the key for risk mitigation'



Livelihood adaptation to long term exposure to volcanic ash at Tungurahua volcano, Ecuador

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Volcanic hazards may be brief and episodic in their violent phases, but the long duration of high-risk periods that characterize many eruptions have complex and chronic patterns of social, economic and political impact. By studying the case of agricultural communities living on and around the slopes of Tungurahua volcano, this research aims to trace how impacts of hazards and responses to risk have played out for these communities, and especially considers how knowledge and experience gained through long term exposure to volcanic ash has allowed people to adapt their livelihoods. Adaptation measures include amongst others, changes in types of crops farmed locally and the development of a range of measures to protect livestock. This knowledge includes identifying the effect of different types of ash (grain size and colour) on different crops and has been learned through trial and error and by sharing information between local residents. This presentation will also explore the problems that farmers have in coping with volcanic ash and the social, political and economic context underpinning these issues. By focusing on people's efforts to protect and maintain their livelihoods in Tungurahua, this paper will show the importance of understanding responses to risk and volcanic hazards as interconnected social processes. This knowledge can be useful to other populations exposed to volcanic hazards elsewhere in the world, particularly in temperate climates where similar crops are harvested and animals are reared. This work is based on information gathered during field research as part of the STREVA (Strengthening Resilience to Volcanic Hazards) project in collaboration with the IG-EPN, Ecuador. Field research included interviews with local residents across 20 different communities, a large-scale household survey (411 households) and a series of workshops with farmers between 2013 and 2016.