Geoscience in collaboration with religion to save lives and livelihoods in seismic risk regions: a case study from Haiti

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Eighty-four percent of the world's population self-identifies as religious, and many of these people live in low-income contexts exposed to seismic hazard risk and to potentially disastrous outcomes. Using a case-study from Haiti, this presentation explores the theoretical benefits of a geoscientific–religion collaboration contribution to education modules for saving lives and livelihoods in seismic risk zones. Our previous research, carried out in areas most affected by the 2010 earthquake in Haiti, which caused catastrophic fatality and life-changing injury rates across the demographic spectrum, revealed that many people had little inkling of what an earthquake was or of how they should respond to one. However, this ignorance was not due to lack of desire for, or lack of interest in the significance of seismic hazard risk awareness or of disaster mitigation. On the contrary, we found a very serious desire for education that would lead to greater awareness and disaster mitigation. The real problem was based in a lack of access to educational systems and in the lack of serious geoscience within the educational curriculum. Drawing on my research carried out after the 2010 Haiti earthquake, and our recent publication, Abbott, Roger P and Robert S. White, Narratives of Faith from the Haiti Earthquake: Religion, Natural Hazards and Disaster Response. (New York: Routledge, 2019), this presentation, advocates for an experimental project methodology that would combine both geoscience and religious education working in collaboration to demonstrate the potential benefits for saving lives and livelihoods for vulnerable communities exposed to seismic risk. In Haiti, the majority of educational establishments are faith-based. Therefore, these establishments are significant stakeholders for geoscientists to be in collaboration with. The geo-scientifically educated students can then input their education into parental/familial life, thereby extending the seismic hazard awareness and disaster mitigation procedures even more widely in society. In geographical contexts, where religious beliefs are endemic to daily life, a religious collaboration with geoscience could help establish a religious as well as confident scientific logic and resilience from embracing the geoscience relevant to students' locales, as being both scientifically and theologically justified. The five-year longitudinal project we advocate would involve constructing a contextualised science-faith teacher-training module, its implementation in selected schools in Haiti, and the utilisation of Raspberry Shake seismometers in those schools for monitoring and collection of seismic activity data. A control group would also be selected, which would neither be subjected to the educational material, nor would they have the Raspberry Shakes. Analysis of the data from both groups and of any changes in disaster awareness and mitigation in one group in comparison with the other would reveal the feasibility and beneficial nature of such an indigenised educational programme for a national
curriculum in Low Income Countries.