Geophysical Research Abstracts
Vol. 15, EGU2013-13223-1, 2013
EGU General Assembly 2013

Geo-risk in Central Africa: integrating multi-hazards and vulnerability to support risk management

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In some places, geo-hazards are a major concern for population, the assets, and the economy. This is especially the case in the East African Rift (EAR), where high volcanic and tectonic activities are sometimes coupled with geopolitical issues and dense population as in the Kivu rift area. That area is one of the most densely populated regions of Central Africa and is affected by decades of political instability and subsequent humanitarian crisis. In that region, geo-hazards are poorly assessed despite the numerous recent and historical events. Moreover, the relief of the rift also corresponds in this area to the main political boundaries, which complicates the coordination and the management of geo-hazards monitoring networks and related mitigation measures. Based on the experience acquired through several projects focused on hazard assessment and reinforcement of local monitoring capacity, the GeoRisCA project is addressing the assessment of the global risk related to the major geohazards that affect the region. Taking into account the identified factors, GeoRisCA's objective is to assess the risk from multi geohazards in a region which is subject to many (possibly combined) disasters every year and which could undergo a large impact disaster in the coming years. At regional scale, the high seismicity and the volcanic activity are the most important concerns. Possible eruptions of lethal gas in certain area around Goma, and the large number of reported and likely future mass movements as well as site-specific seismic amplification effects increase the danger at local scale. As both human lives and specific ecosystems are under threat, comprehensive methodologies are required to reliably assess multi geohazards over both short and long terms and to clearly outline and map related risk. These tools are needed by local and regional authorities as well as local and international stakeholders in management and mitigation processes. Developed methodologies in GeoRisCA combine hazard and vulnerability factors, as well as risk perception indicators. Such an approach combining natural and human sciences to address georisks globally at a regional scale has never been performed in that region so far.