Geophysical Research Abstracts, Vol. 7, 00871, 2005 SRef-ID: 1607-7962/gra/EGU05-A-00871 © European Geosciences Union 2005



## Study of physical volcanology and tectonically controlled volcanic instabilities: contributions to a hazard assessment for the Rungwe Volcanic Province, SW Tanzania

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In the 1950s, D.A. Harkin worked for 10 months in the Rungwe Volcanic Province, SW Tanzania. Based on his field experience, he produced some very basic geological and tectonic maps at a scale 1:250 000, with the aid of some of the first aerial photographs of the region. The science of volcanology, still being in an early stage of development, could not provide answers to many of the questions asked. With the emphasis laying on petrology, the volcanoclastica, pyroclastic deposits and debris avalanches were barely described. This Msc thesis builds up from the Harkins papers and takes advantage of the recent progresses in physical volcanology and of information from the latest remote sensing techniques. In the East African region, many volcanic provinces lack even the most basic hazard maps. Through the Landsat TM, SRTM and SPOT images, scientists are trying to understand the current volcanic setting in order to be able to produce adequate hazard assessment maps. Possible hazards are at the time being identified as debris avalanches (dramatically illustrated by a tectonically driven sector collapse), lahars, pyroclastic flows, recent volcanic activity.