

A Handbook for Earthquake Resistant Construction and Seismic Safety



THE REPUBLIC OF UGANDA



**A Handbook for
Earthquake Resistant Construction
and Seismic Safety**

Earthquake Resistant Construction Handbook

FOREWORD

Earthquake disasters are unpredictable and occur at a time when they are least expected. Following the earthquake of 1994, the Government of Uganda committed itself to support initiatives that would contribute towards earthquake disaster preparedness and mitigation. Development of guidelines for construction of earthquake resistant building structures was one of the efforts that the Government undertook in this regard. Accordingly, a National Task Force was set up to carry out necessary investigations to develop the appropriate guidelines. The Task Force carried out socio-economic, housing, building materials and construction technology baseline surveys in the project area. Besides, it also reviewed various documentary sources both in hard copy and through Internet. Experiments were also conducted on samples of building materials collected from the districts of Bundibugyo, Kabarole, Kasese, Kamwenge and Kyenjojo to determine their properties and suitability for earthquake resistant construction.

This Handbook is therefore an output of this process and is intended to guide various stakeholders in the construction of earthquake resistant buildings in the earthquake prone areas in Uganda. The guidelines contained herein, if adhered to are expected to significantly reduce the extent of damage on buildings as well as the risk of loss of lives during any major earthquake occurrence. Simplified diagrammatic illustrations have been widely used to illustrate the application of the earthquake resistant principles in construction of safe houses as well as restraining or anchoring nonstructural elements in order to reduce the risk.

I wish to acknowledge the contribution of the following Task Force members who worked as a team to accomplish this task:

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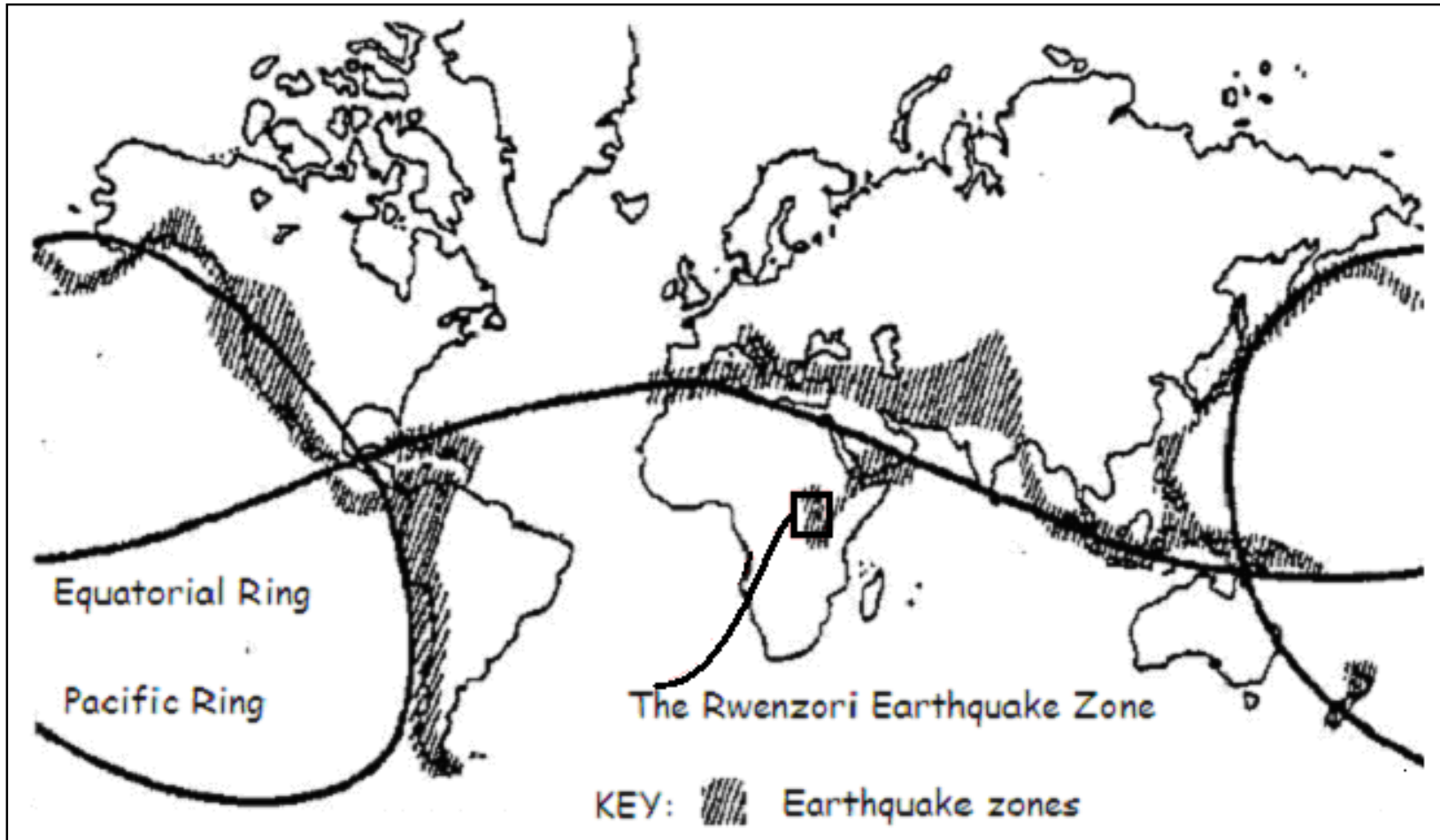
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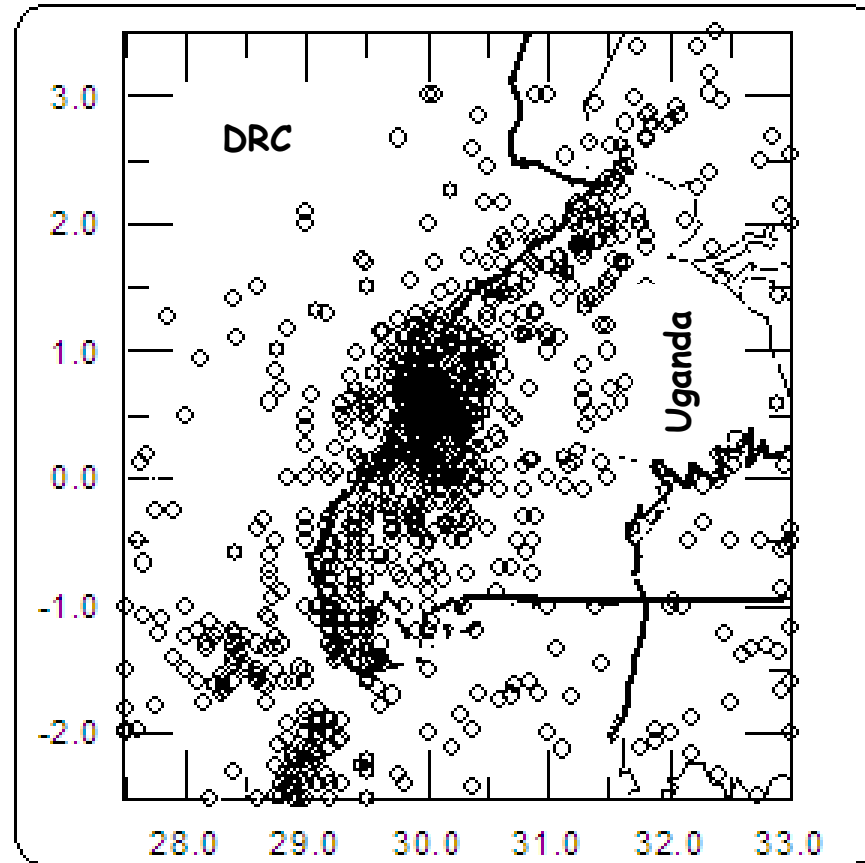
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Earthquake zones (Houben, Guillaud 1984)



Each dot represents an earthquake occurrence between 1902 to 1999.

Seismicity in Uganda 1902 - 1999

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The Catholic Cathedral at Fort Portal rebuilt after the 1966 earthquake to earthquake resistant standards



Earthquake resistant building in Virika Hospital, Fort Portal, rebuilt after 1994 earthquake; notice the timber at the gable end of the wall.



The Kingdom of Toro Palace for H.H. King Rukira Bashaija Oyo Nyimba Kabamba Iguru Rukidi; rebuilt after 1994.



Landslides are very common in the Rwenzori Zone