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# Seismic hazard studies in Ghana and the success story

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## INTRODUCTION AND MAIN RESULTS

The seismic risk confronting Ghana has not been given the needed attention. Strategies for earthquake disaster risk reduction must be considered a priority by policy makers for sustainable development. Action plans stipulating guidelines on how infrastructure must be designed to withstand earthquake shocks must be encouraged. This could help reduce casualties in the event of a major earthquake.

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## Introduction

Ghana is in a seismically active region and has experienced two major earthquakes of magnitude 6.5 on the Richter scale in 1862 and 1939. Twenty lives were lost in the two earthquakes, and many structures were destroyed. In recent times earthquakes of magnitude 1.0 to 4.8 have been recorded in the country. This study is focused on the recent earthquake activities in Ghana and is intended to raise awareness on the rising seismic activities and awaken relevant authorities and the public on the need for timely measures for mitigating the risks and disasters associated with earthquakes in Ghana. The National Data Centre in Ghana fifteen years on has made significant progress towards the goals of the CTBTO. The data Centre established in 2010 with the aim of monitoring compliance of the CTBT has also been beneficial in the country in the monitoring of earthquakes. With the help of IMS seismic data and the national data, earthquake monitoring is enhanced for seismic hazard studies in the country. This is one of the scientific benefits of the CTBTO to the NDC. The NDC is complementing the efforts of the Ghana Geological Survey Authority in monitoring seismic activity in the country with the data it receives from the IDC

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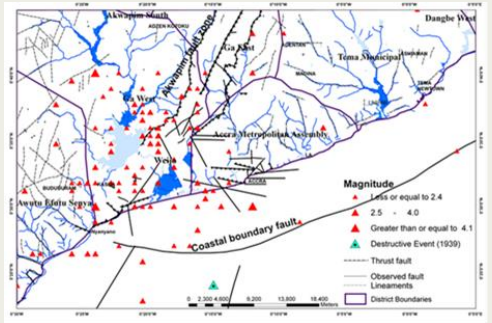



**Seismicity map of the Greater Accra Metropolitan Area**

## Strategies to minimize the risks posed by earthquakes in Ghana

- Earthquake disaster risk reduction should be a major concern for Ghana's sustainable and developmental goals. Measures for this risk has always been a relatively low priority for policy and decision makers. It is very important for decision makers to adopt cost effective policies to reduce the risk posed by earthquakes and allocate appropriate resources to mitigate them.

### ➢ Periodic Interaction with stakeholder agencies in disaster risk reduction

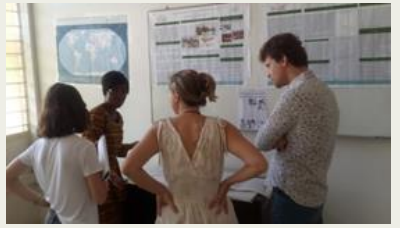
Geological Survey Authority, National Data Centre of the Ghana Atomic Energy Commission, National Disaster Management Organization, Earth Science Department of the University of Ghana etc

### ➢ Earthquake awareness Education

- Interaction with residents in the earthquake prone areas.
- Education on earthquake safety measures.
- Education on what to do before, during and after an earthquake.
- Earthquake disaster risk measures

**Briefing before outreach**

## Interaction with stakeholders



**Time with teachers**

**Addressing students**

## Conclusion

- Most people are aware that they live in earthquake prone areas but have no measures put in place to mitigate it in any form.
- The agencies and institutions responsible for permitting and regulating building activities in Ghana do not emphasize on the need for geophysical evaluation of land before, during and after development.

## Recommendations

- It is recommended that all residents in earthquake prone areas seek professional advice for a seismic, geotechnical and geological evaluation of the sites where their structures are located to determine the hazards and possible solutions.
- There is the need to involve the local chiefs, opinion leaders, real estate developers and the residents in the mitigation process since they are the custodians of the land.

GHANA ATOMIC ENERGY COMMISSION