Please find below the Geo-hazard interview questions for news story in Media

1. Give an overview of Geo-hazard in Khomas Region?

Geo-hazards are geological and environmental conditions that involve long-term or short-term geological processes. Geo-hazards can be relatively small features, but they can also attain huge dimensions for instance submarine or surface landslides and also they can affect local and regional socio-economy to a large extent. The Khomas Region falls under one of our known seismic zones, which means it's prone to earthquake activities due to its geological setting such as the existence of regional tectonic structures such as faults. Faults are thin cracks in rocks that cause moves and cause earthquakes. For instance, around Windhoek, the Pahl Fault is a well-known geological structure that runs in the north-south extending to the south towards Rehoboth, and to the north towards Okahandja. Smaller faults associated with the Pahl Fault are also found in most parts of Windhoek. Faults are relatively common and are found in all parts of Namibia. Although the majority of these faults are currently inactive, some are still active and cause small earthquakes.

2. Give details of the latest development of Geo-hazards in Khomas Region?

The Department of the Geological Survey under the Ministry of Mines and Energy conducted a geotechnical study around Windhoek. The results of the study is for future application in land use planning, civil engineering structures and further city development. The pilot project "Engineering Geological Survey of Windhoek for the Division of Engineering and Environmental Geology" concentrated on mapping and presentation of the most important geo-hazards in the territory of the City of Windhoek, these included:

- Fault zones and related instabilities,
- Slope processes and related instabilities,
- Mud flows after heavy rainfalls and inundation,
- Erosion gullies and related issues,
- Near surface ground water.

The objectives of the project were:

- Compilation of geo-hazard, vulnerability and risk map as a basis for advice on urban land-use planning.
- Development of a standard mapping-based risk assessment approach.

Another pilot project planned for this year to compliment previous studies is the deployment of a seismic network in the Khomas region to monitor seismicity (earthquakes) and identify fault (cracks) or seismically active zones in Windhoek. The project will consist of 10 seismic stations which will be used to monitor earthquakes.

3. Comment on the importance of Geo-hazard information and education?

Geo-hazards mapping and assessment is an important component of disaster management and mitigation to reduce the loss of lives and reduce damage to properties brought about by natural disasters. The aim of creating awareness on Geo-hazards is to reduce the damage caused by natural hazards like earthquakes, floods, droughts and cyclones, through an ethic of prevention.
Geo-hazard mapping explains and identifies various areas that are susceptible various hazards. Geo-hazard awareness is essential to the public because this may reduce a lot of economic loses and avoid loss of lives.

4. Explain the reasons or purpose of Geo-hazard in Khomas Region?

Geo-hazards studies reduces danger, knowing the steps to take during a disaster, whether flooding, earthquakes or any other crisis can greatly reduce the danger and distress the communities may face. Being prepared by knowing what to do reduces uncertainty. The Khomas Region is one of the known seismic zones in the country and creating Geo-hazard awareness to the inhabitants of the region is crucial in order for them to be prepared for any future disastrous events.

5. What are the measures to prevent, prepare, response or mitigate Geo-hazard in Khomas Region and Namibia?

Creating awareness, education and preparedness, can reduce the disruptive impacts of a natural disaster on communities. Mitigation measures such as adoption of zoning land-use practices, and building codes are needed to prevent or reduce actual damage from hazards. Avoiding infrastructural and structural development in mapped risk geo-hazard zones. To be effective, mitigation requires a multidisciplinary team approach, each discipline has a role and contributions to make. Close communication and coordination among researchers, practitioners, and policymakers increase the likelihood that effective mitigation programs will be implemented.

6. Comment on the possible challenges of dealing with Geo-hazard in Khomas Region and Namibia?

Earthquake seismology is a young and less explored career in Namibia and lack of skilled personnel in this discipline is quite a challenge. Seismologist know where earthquakes are likely to happen, however it's very difficult to predict when they will happen. With lack of historical data especially on earthquake records in the country, it is a very challenging issue because all decisions made need to be supported by data. Without data is difficult to give any substantial advice.

The use of probabilistic approach to seismic hazard characterization to forecast future earthquakes has its limitation as it is depended on historical earthquake studies which are sometimes incomplete, geological settings and fault characteristics.

7. What will be your recommendations in dealing with Geo-hazard in Khomas Region and Namibia?

Some of these hazards and their risks can be minimized or prevented by appropriate engineering designs and proactive monitoring, but some others are beyond human control and unpredictable. Many areas

prone to earthquake hazards now use building codes worldwide and this can be adopted in the Khomas region. Any new building or adjustment to existing buildings must be built to strict guidelines that would protect people from future earthquake hazards. Protection involves constructing buildings so that they are safe to live in and will not collapse during a disastrous event.

Landslides, rock slides, debris flows, and floods are predictable to a certain extent, and potential risks could be minimized by the preparation and implementation of suitable engineering designs if cost permits. If the costs are prohibitively high, risks could be identified, and monitoring systems could be designed to provide warning and minimize damages to infrastructure and economic losses and more importantly, to prevent the loss of human lives.

8. What other message you have for the people, especially in Khomas Region?

The public is encouraged to contact the Geological Survey of Namibia for any Geo-hazard related queries. The public is urged to contact the Geological Survey or visit the Ministry's website for more information. The public should not panic during disastrous events, people are encouraged to stay calm and familiarize themselves with safety measures in order to reduce damages caused by Geo-hazards.

References

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