MUBAS RESEARCH ON EARTHQUAKES AND OTHER HAZARDS

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MUBAS RESEARCH ON EARTHQUAKES AND OTHER HAZARDS

- The areas of research has focused on design of low cost buildings to withstand earthquakes and floods
- The investigations included building layout and materials of construction
- The building layout included structural form, floor level in relation to observed flood levels and site location of buildings
- The materials of construction considered the traditional construction practices and appropriate cost effective improvements
- The recommended building layout in flood prone areas included elevated platforms above flood levels using moisture impermeable materials such as fired brick or concrete
- The recommended building layout in earthquake prone areas included strong force transfer mechanisms such as use of bamboo reinforcements

Some experiments on bamboo characteristic properties

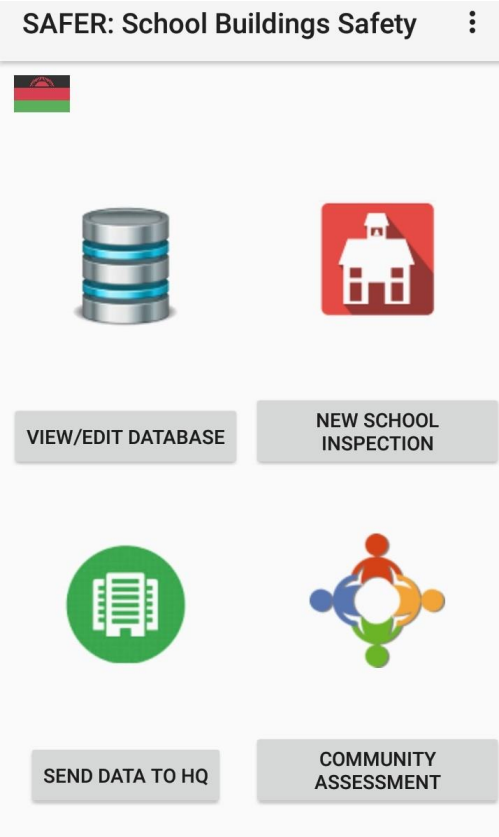
Some experiments on bamboo characteristic properties

Current research in conjunction with University of Bristol - SAFER-PREPARED PROJECT

The SAFER-PREPARED PROJECTS has two main areas of focus:

- Community resilience
- Building resilience

using an app whose interface is:



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Current research in conjunction with University of Bristol

- Community resilience
- The research targeted head teacher, 2 teachers, 2 school management committee members, 5 learners and 5 parents at each school
- 2 schools were targeted in each district: 1 primary school and 1 secondary school
- Questionnaire survey forms were administered
- The data is currently being analysed

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Typical Questionnaire Administration

SAFER-PREPARED PROJECT

RAPID VISUAL INSPECTION OF SCHOOL BUILDINGS

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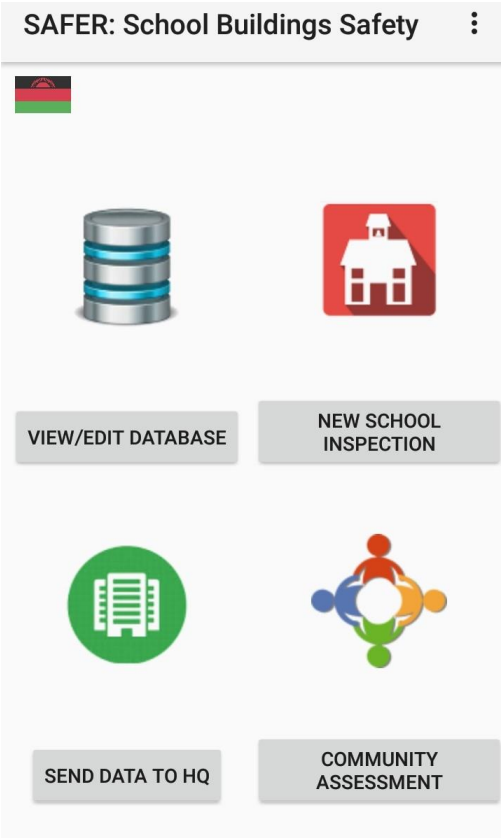
VISUAL INSPECTION OF BUILDING

Method: Visual Inspection

Building assessment technique:

Mobile app



Coverage : 27 districts across the country

Total buildings 216 surveyed

BUILDING ASSESSMENT

Assessment aspects:

- General information about the school:

  Name, location, Identification and students number

- Technical data:

  Building Characteristics: No of storeys, Floor area,

  structural system:(unreinforced masonry with cement mortar)

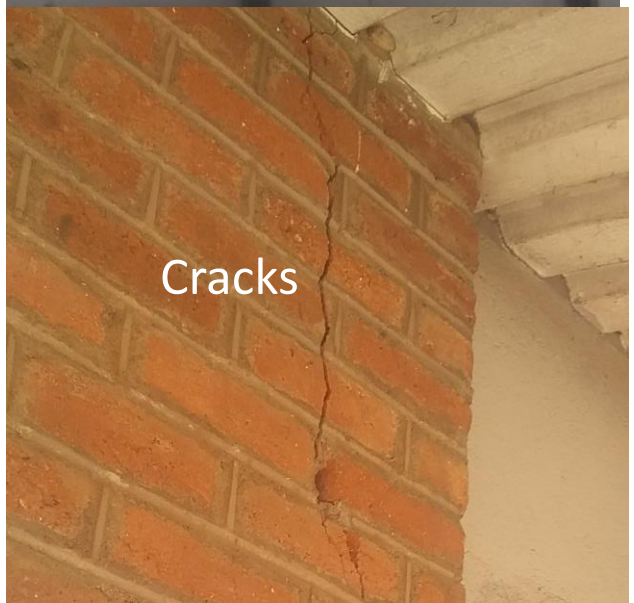
  retrofitting works

- Seismic data

  Soil Category: Rocky or stiff soil, soft soils

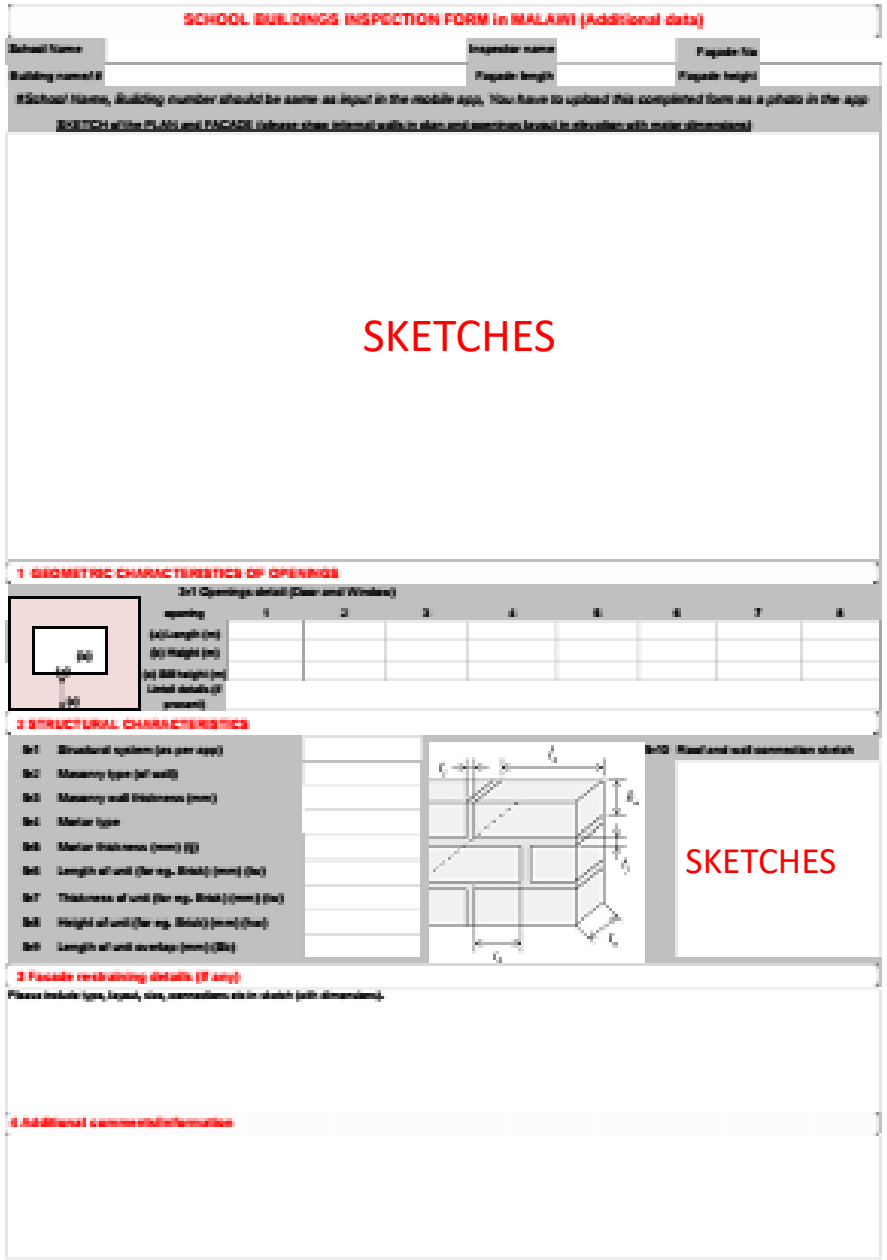
- Vulnerability: damages, moisture, cracks, shape properties, torsion sensitivity, quality of masonry, ground slope etc

INSPECTED BUILDINGS



BUILDING INSPECTION DETAILS

- Inspection form was used to record additional structural details
  - Geometric Characteristics of Openings
  - Structural Characteristics
  - Façade Restraining Details (if any)

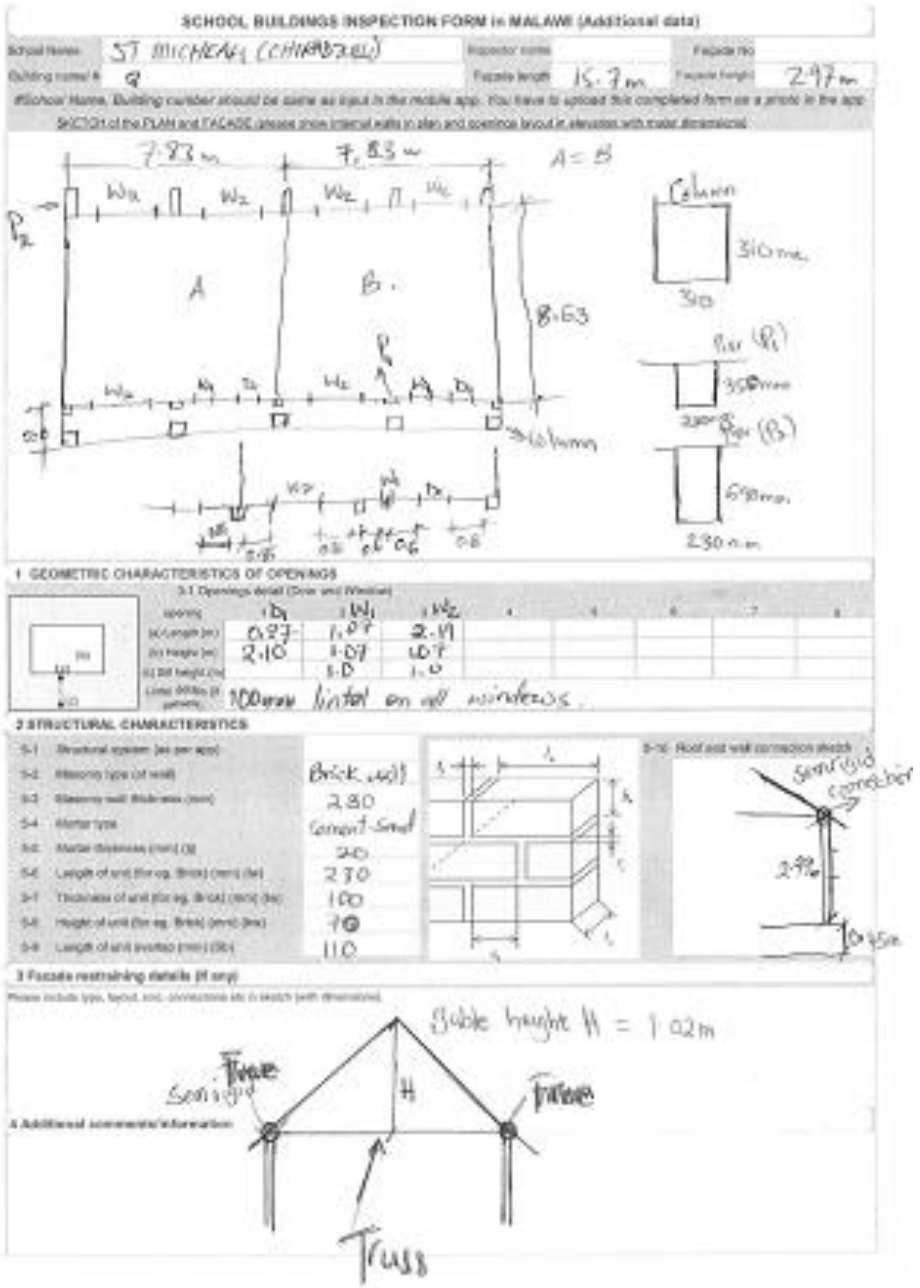


MEASUREMENTS

Façade Restraining Details

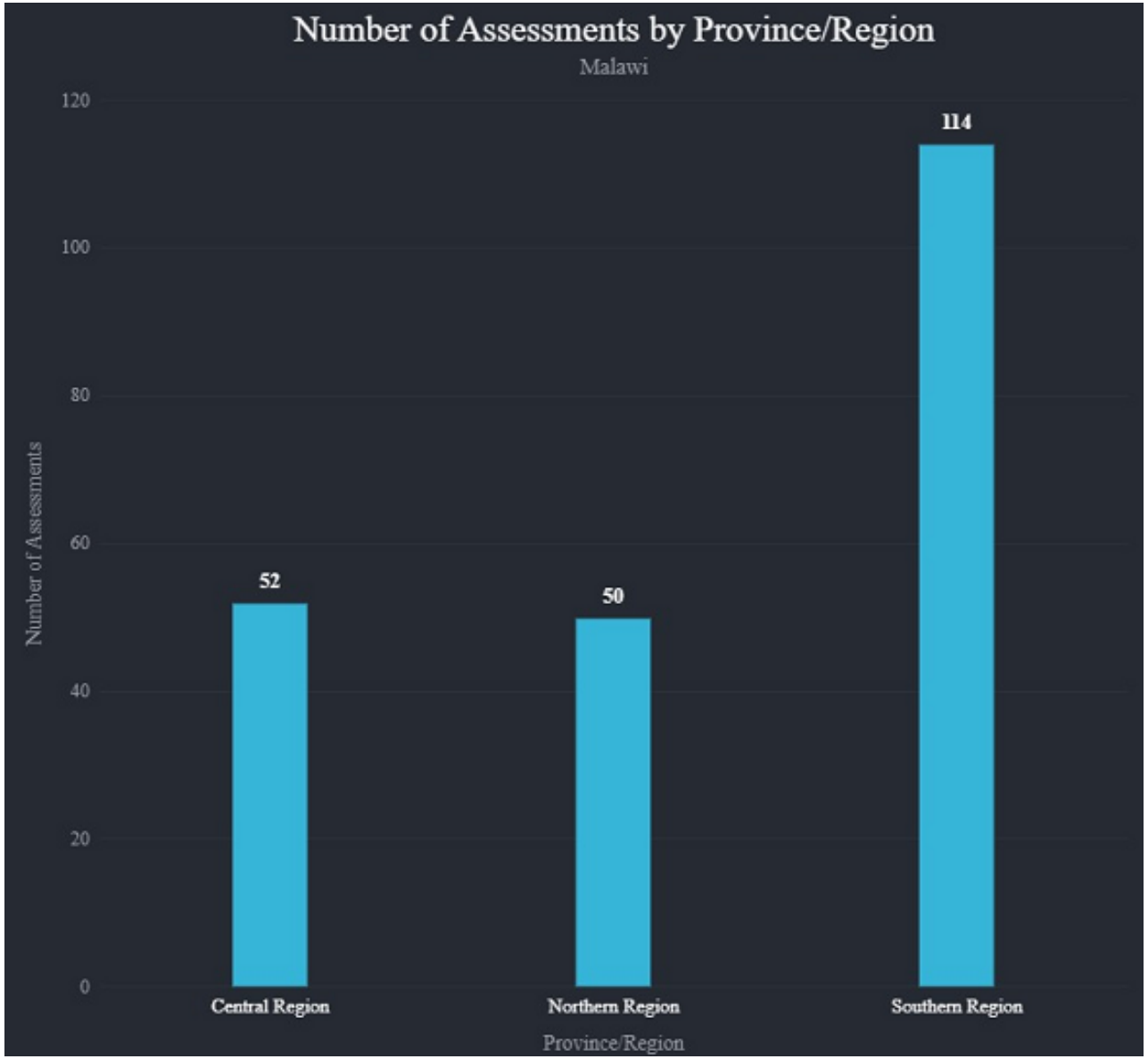
Geometric Characteristics of Openings

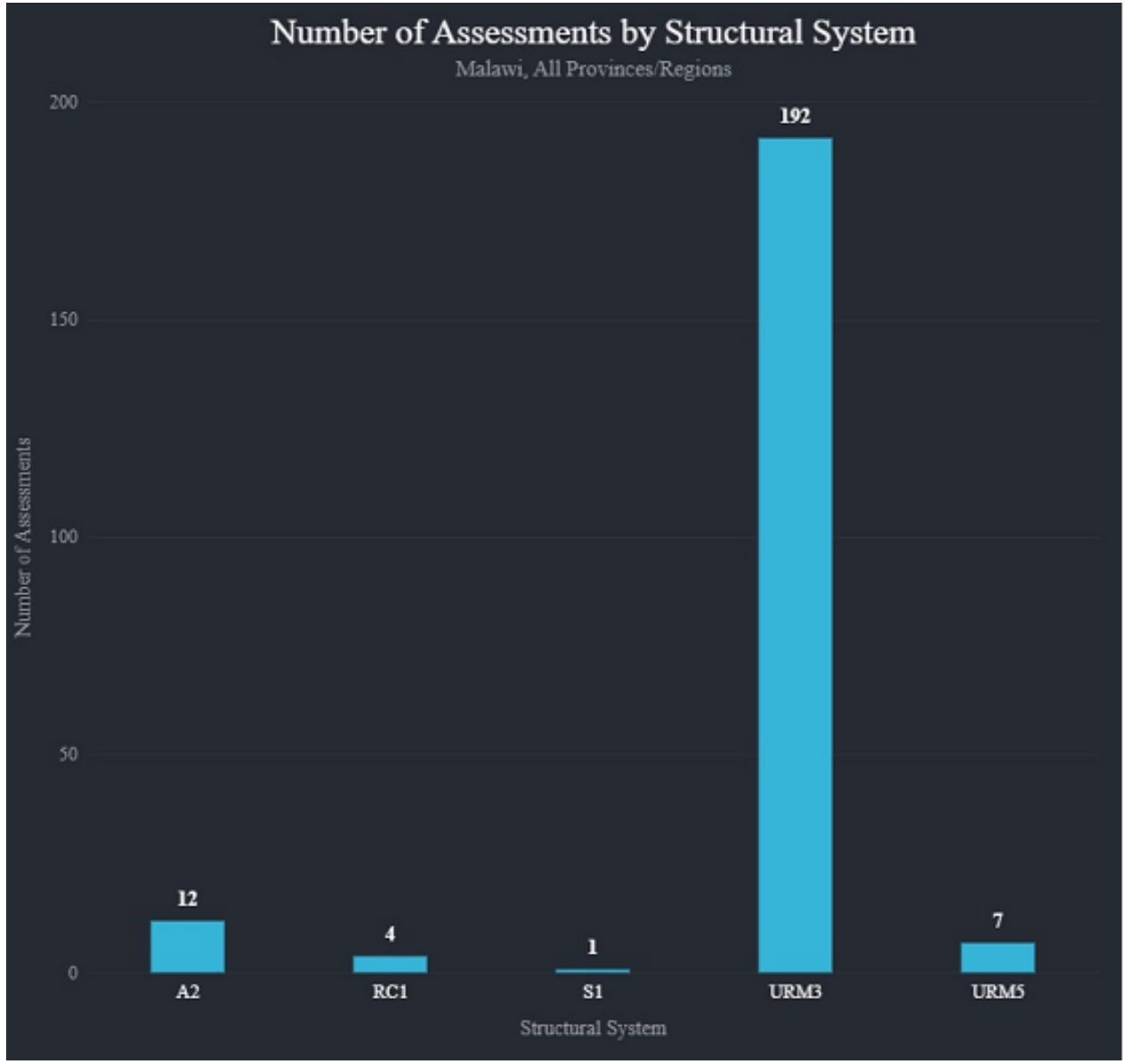
- Structural Characteristics



SUMMARY OF ASSESSMENTS

Total building 216 in 27 districts





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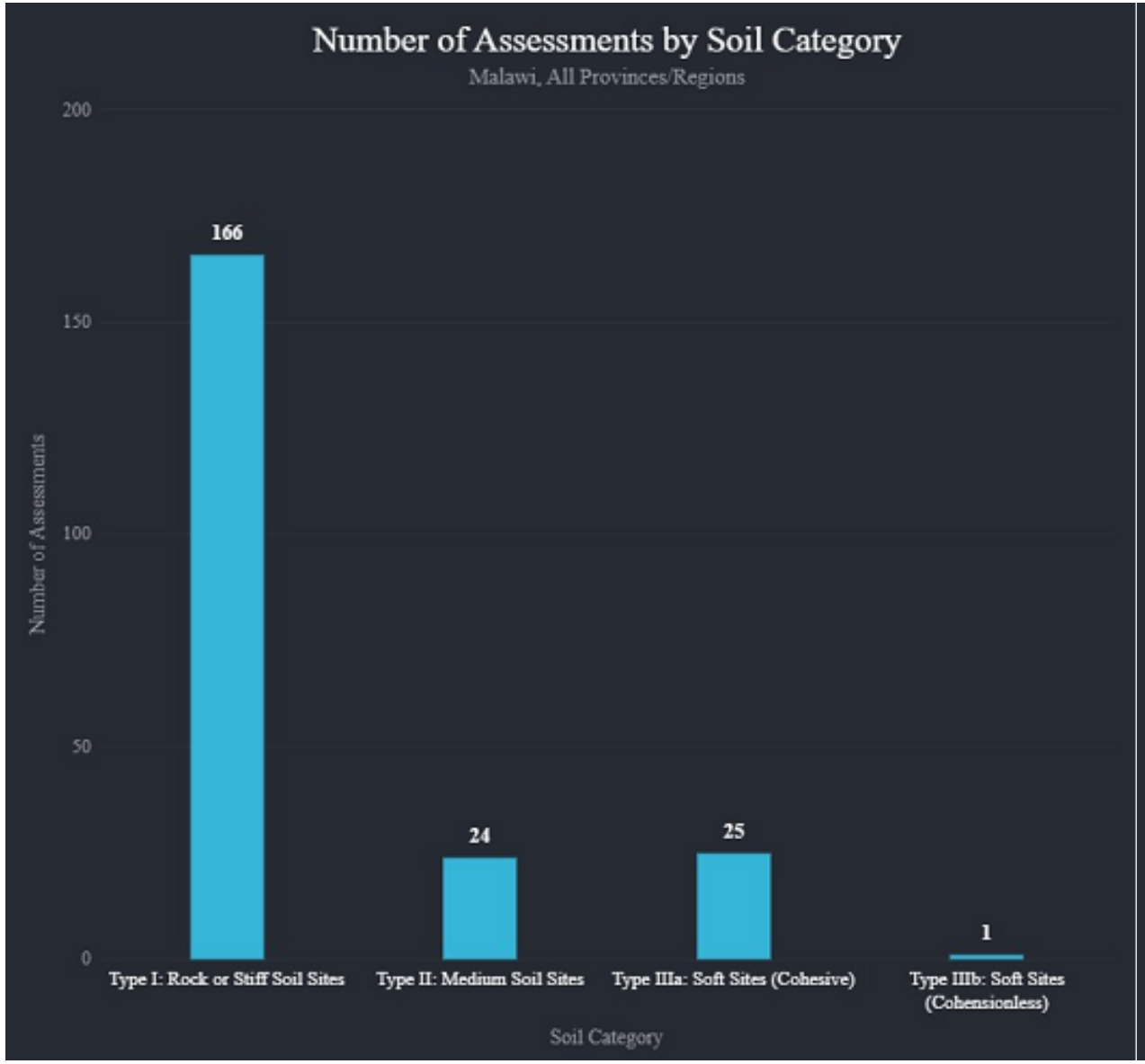

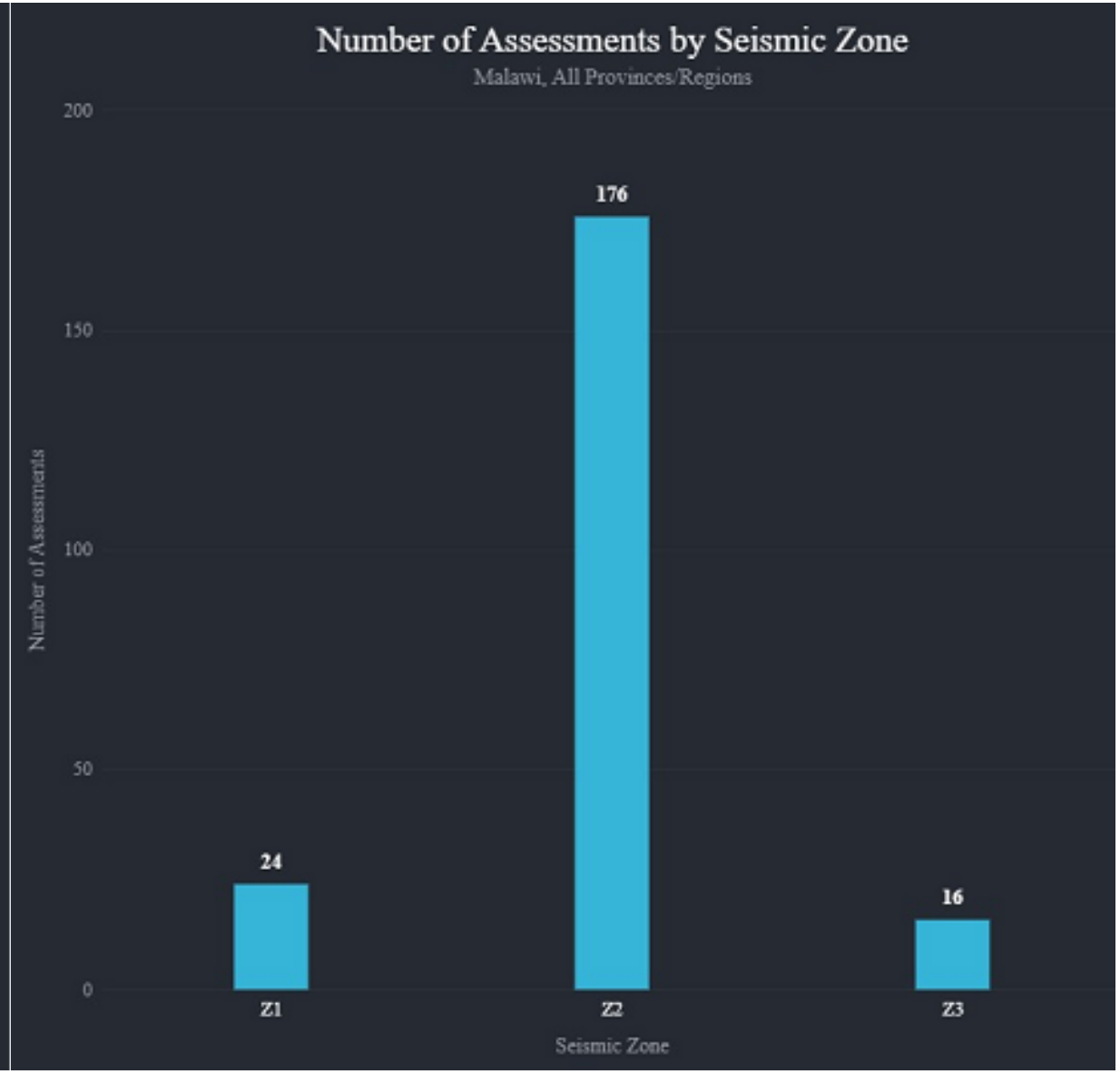

THANK YOU