THE ZAMBIAN SEISMIC NETWORK

SEISMOLOGICAL WORKSHOP ON
Managing Waveform Data and Related Metadata for Seismic Networks in

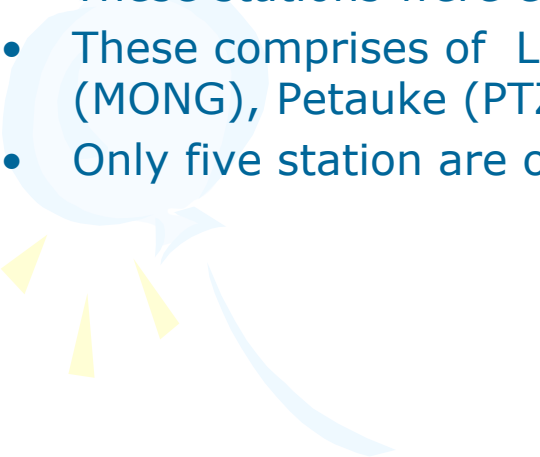**Kuwait City, Kuwait 14 –18 January 2013**

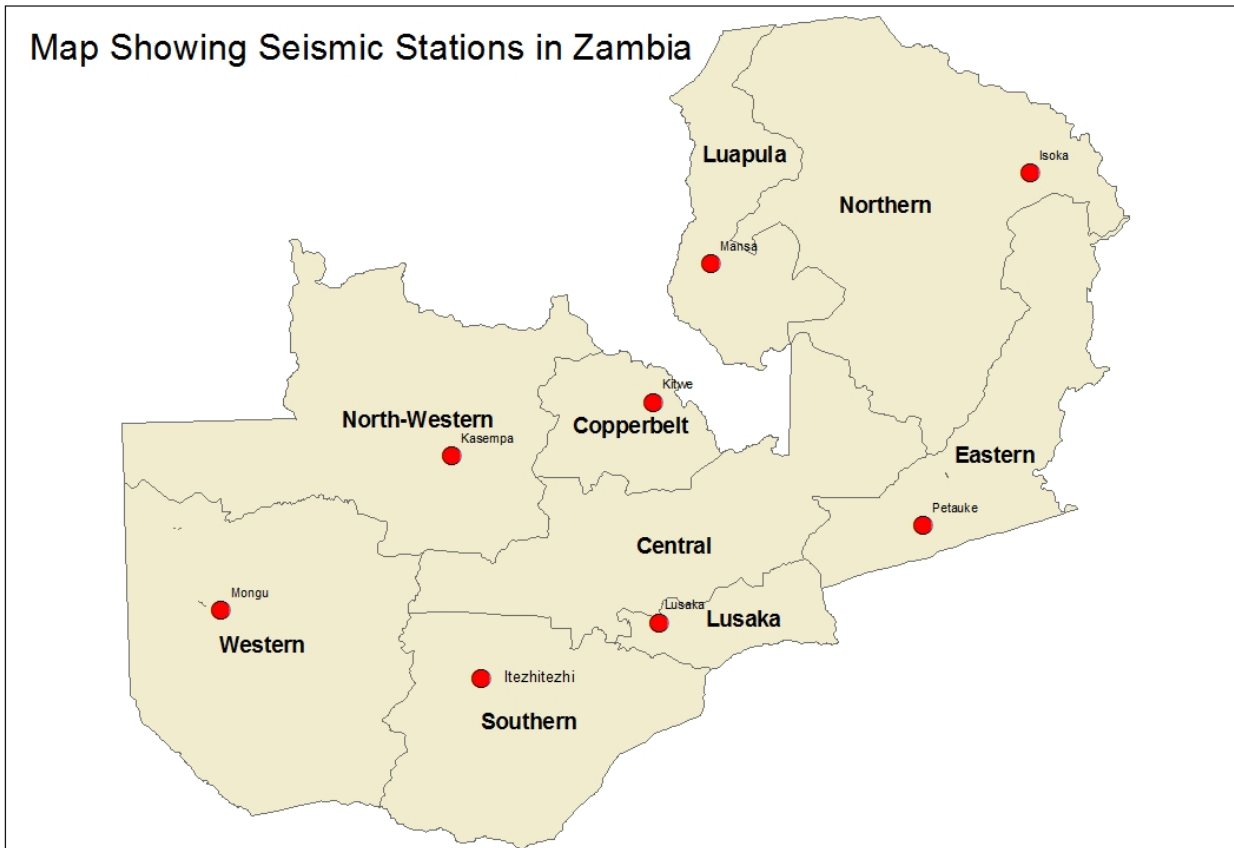By A Mulowezi

LOCATION OF ZAMBIA
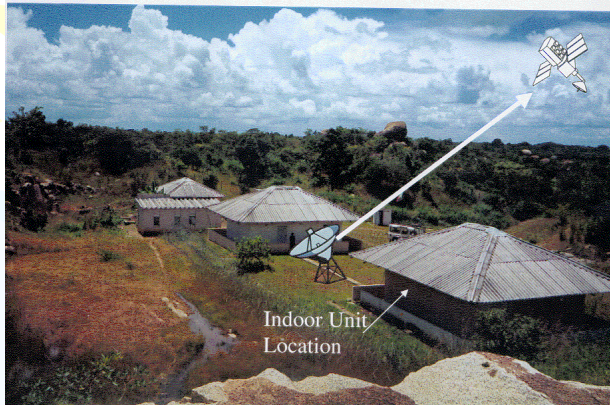
BACKGROUND

ZAMBIAN SEISMIC NETWORK

- The Government of the Republic of Zambia, through Geological Survey under the Ministry of Mines and Minerals Development, operates and maintains a network of eight seismic stations.
- These stations were established way back from 1983 – 1985.
- These comprises of Lusaka (LSZ), Kitwe (KTWE), Itezhitezhi (ITZ), Mongu (MONG), Petauke (PTZ), Isoka (IKZ) and Mansa (MSZ).
- Only five station are operating, namely, LSZ, ITZ, KTWE, MONG and PTZ.
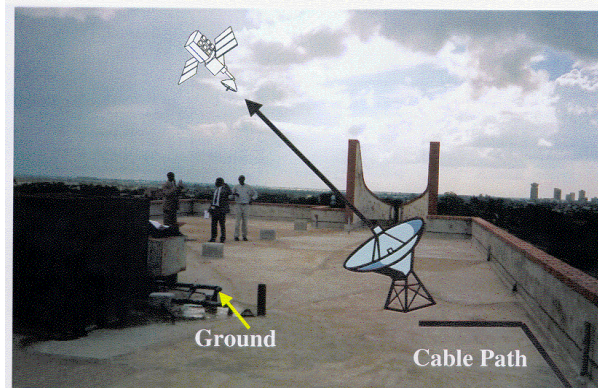
Map showing seismic station distribution

Map Showing Seismic Stations in Zambia

OVERVIEW OF LUSAKA SEISMIC STATION

Overview of the Site from Edge of the Quarry

Indoor Unit Location

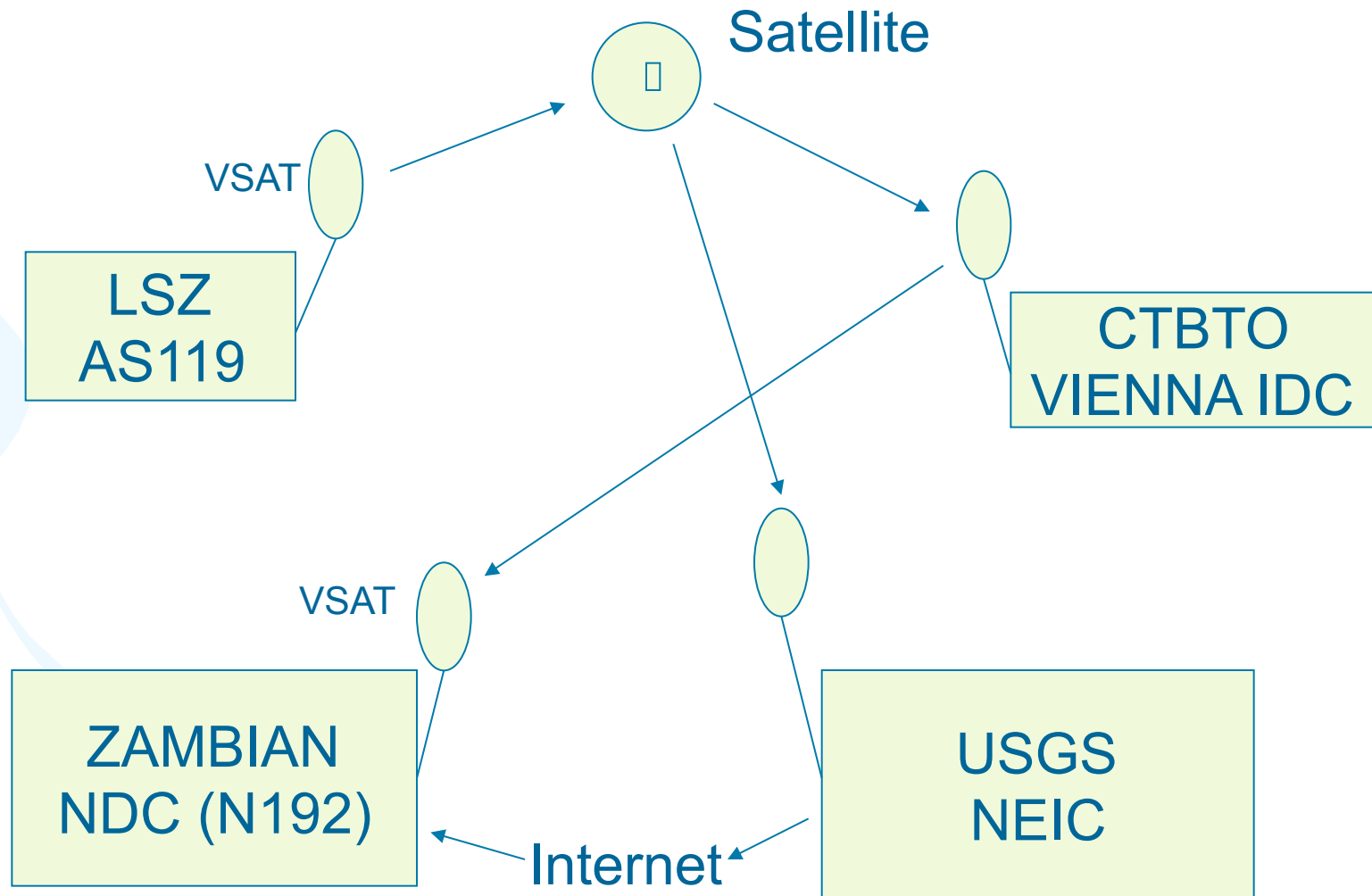Antenna Location

Ground

Cable Path

- – Location of Antenna and equipment:
  - • Antenna Site
  - • Indoor Equipment Location
- – Cable Run, Grounding and Power
- – General Information
  - • Outdoor environment
  - • Access to site
  - • Housing facilities
  - • Specialised equipment
  - • Transportation to site
  - • Communications
  - • Personnel accommodation
  - • Onsite facilities
  - • Special permission to install VSAT
- – Networking
- – Coordination issues
  - • Manned/unmanned station
  - • Site preparation (civil works)
  - • VSAT shipment

AS119 – NDC192 DATA FLOW

Satellite

VSAT

LSZ
AS119

CTBTO
VIENNA IDC

VSAT

ZAMBIAN
NDC (N192)

Internet

USGS
NEIC

The newly constructed Mongu station

- Earthquake of Mag 5.1 that was 10km away from the only hydropower station
- To construct about three station to monitor seismicity around the dam

Challenges

- Lack of operational funds
- Manpower
- Bad communication facility

Benefits

- Zambia through these stations have been able to access data
- Through cooperating partners some members of staff has been trained up to Msc level
- Technical staff at NDC have been attending training Courses coupled with introductory workshops and seminars
- Acquisition of application software's (in a Box) Dimas and Seisan software for analysis
- Accessing data for the end users has been made possible
- Data sharing within the neighboring Countries

The End

THANK YOU FOR YOUR ATTENTION