Road, Housing &
Urban Development
Research Center

UNITED NATIONS
ESCAP
Economic and Social Commission for Asia and the Pacific

the Asia Pacific Centre for Disaster
Information Management (APDIM)

BHRC Activities and Potential for Sharing with Other APDIM members

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Main Areas of colbroations

- Seismic Microzonation
- Seismic Building CODE and its Development
- Rehabilitation of masonry, Hybrid and other Type of Structures
- Seismic Design and retrofitting of nonstructural Elements
- Seismic Design and retrofitting of infra-structure systems
- Early warning Systems and Development of strong motion network
- Education and Workshops

Microzonation

1- General Zonation: Grade-1 method

2- Detailed Zonation: Grade-2 method

3- Rigorous Zonation: Grade-3 method

1- General Zonation: Grade-1 methode

Source of data and studies:

Codes of practice
Information available from historic documents including intensity of past earthquakes and it's damaging (determination iso-intensity past earthquake) and historic earthquake catalog
Published reports and other available source including surface geology maps (estimating the affections from variations of geology formations on earthquake intensity using surface geology)

Pros & cons:

- Low cost with very low Precision

Application:

- Covering a vast area like province or country

Scale:

- Map Scale: 1: 50000 – 1: 1000000

2- Detailed Zonation: Grade-2 method

Source of data and studies:

Collections of additional data and information such as geological maps and aerial photos
Implementation of limited geotechnical studies and equal linear analysis
Determination of soil layers characterization using SPT/CPT test microtremors

Scale:

- Map Scale: 1: 10000 – 1: 100.000

Pros & cons:

Medium cost with low Precision•

3- Rigorous Zonation: Grade-3 method

Source of data and studies:

Geophysical studies
Drilling borehole an Geotechnical studies and implementation of both in situ and laboratory tests
Ground response analysis using linear/nonlinear analysis methods

Pros & cons:
Higher cost with high Precision

Application:
high potential earthquake hazard sites

Scale:
Map Scale: 1: 25000 – 1: 5000

Lab Facilities

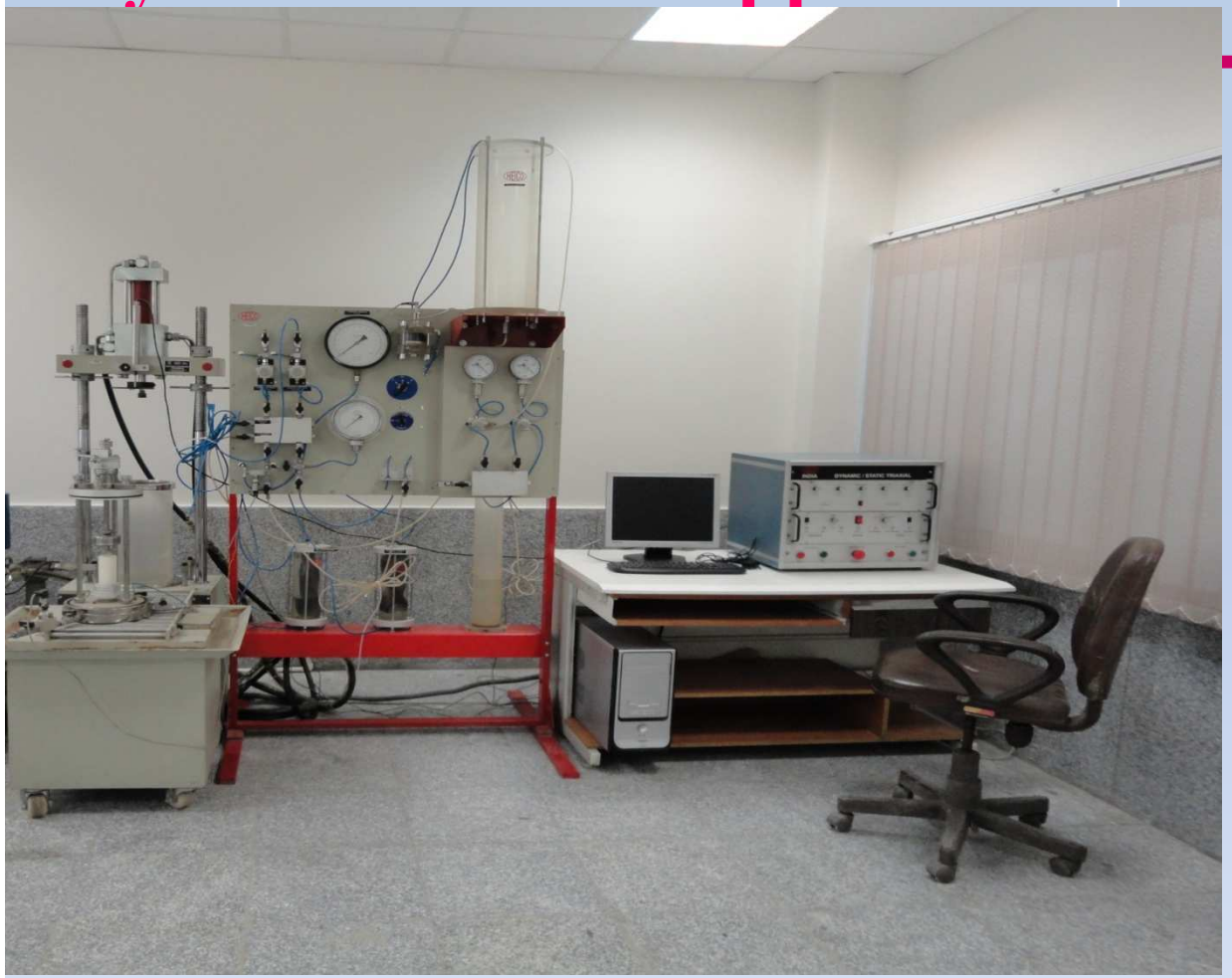
Specimen size : 200 mm diameter and 400 mm height & 300 mm diameter and 600 mm height

Confining pressure : 2 MPa for soil and 20 MPa for rock specimens

Wave forms: sin, rectangle and triangle

Large Triaxial **dynamic** apparatus

ll dynamic triaxial apparatus



: 38, 50, 75 and 100 mm diameter

sure : 1 MPa