

# Working group 2:

## Systematic observation and monitoring for climate change adaptation and Loss and Damage

Topic/Challenge	Description (key questions, requirements, identified groups)	Potential follow up activities (joint projects)
Sea level rise threat on coastal reclamation land (i.e. Singapore)		
Scenario, probability, loss/damage estimation	Similarity/different scenario between one to another area in simulating/modeling SLR	Expanding case studies to other countries (i.e. from Singapore to Sri Lanka, Thailand and etc.)
Data availability for larger area: H-res. DEM (< 10m)	Data accessibility in developing countries are still limited	TanDEM-X (?)
Connection with decision making (funding and implementation)	Public Private Partnership on the project development	Extending best practices to other countries (i.e. from Singapore to Sri Lanka, Thailand and etc.)
Availability of National Spatial Data Infrastructure for data interoperability	Resource availability and commitment from relevant institutes	
Water preservation	Education and participatory approach to integrate the local knowledge and the space-based information	Bank of water, Natural water storage
The use of space-based information to enhance CCA measures	Participatory approach to integrate the local knowledge and the space-based information	The use of global archives data to enhance analysis

# Dr. K. Kaju

- Singapore: Coastal reclaimed land
- Land use: most occupied area is in the coastal
- Hazard:
  - Flood: rainfall induced with high tide
  - Coastal erosion, saline water intrusion, flooding, slope instability —> Climate change information system
- Method:
  - coastal characteristics
  - vulnerability
  - economic loss
- 3D mapping (role of EO) —> combined satellite and ground based survey (for all over Singapore)
  - DEM: 3-7 cm
- 100 year scenario
  - 3.29 m inundation level
  - 6,437 Ha inundated
- Depth-Damage function (from what hazard?)
- Indirect loss
- Conclusions: Physical impact of SLR in Singapore under various scenario

# F. Ohemeng

- So much water, so much land but
  - During rain: flooding happen (3 months)
  - During dry: drought (8 months)
- Deforestation (Chaku)
- Adaptation measures:
  - Irrigation (dam?/reservoir), water harvesting, Conservation farming, Agroforestry, Precision agriculture and etc. and so forth
  - Irrigation strategy for CCA
    - Water and land mapping, water harvesting tech., Irrigation system, water management.
  - Space contribution
    - Site selection (pre), land use mapping (during), monitoring (post: livestock, water resource pest and disease and etc.)