

2015/2016 El Nino: Methodologies for Loss Assessment

Regional Consultative Workshop on El Niño in Asia-Pacific

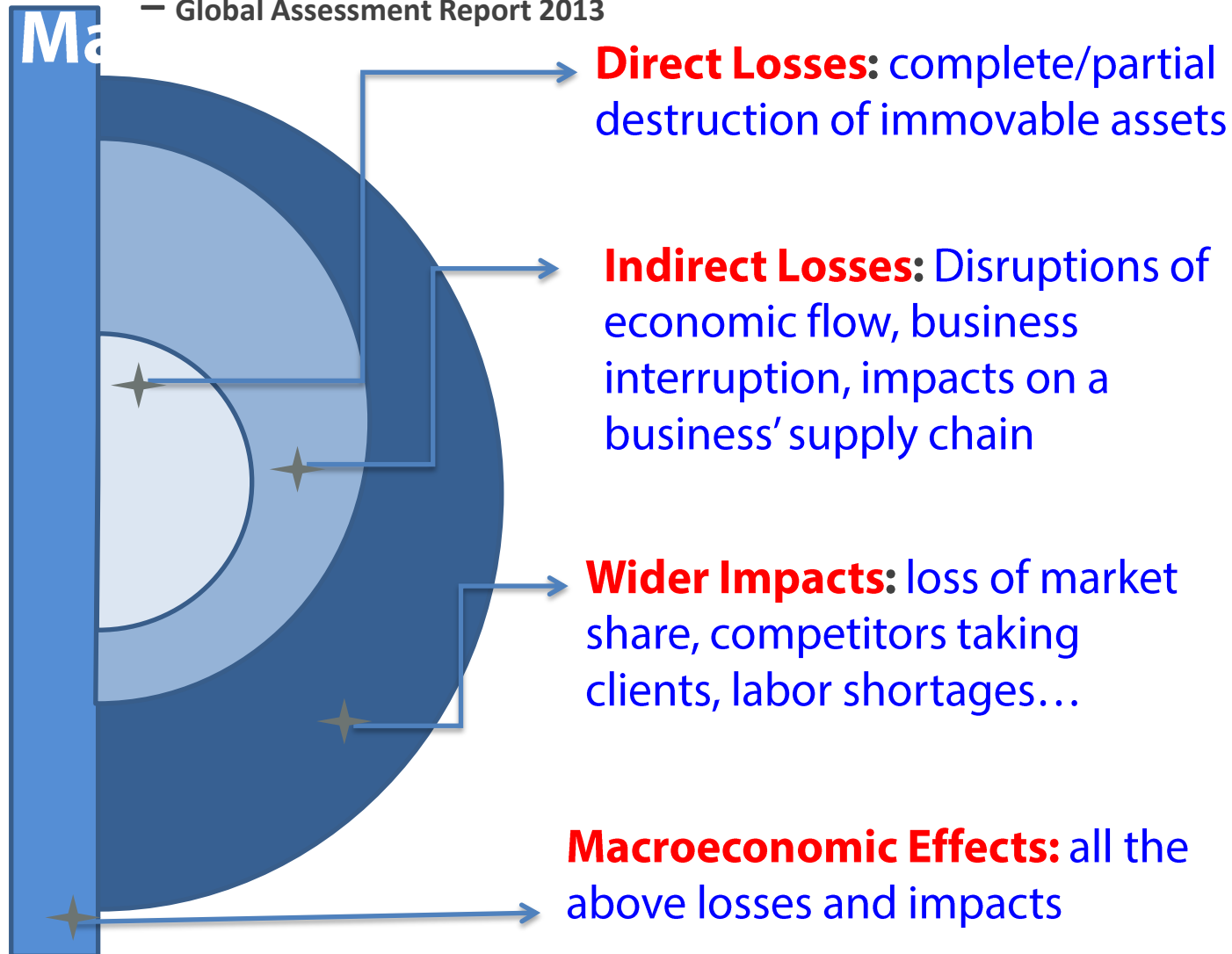
7-9 June 2016

VIE Hotel Bangkok, Thailand

Damage and Loss Assessment:

Concepts

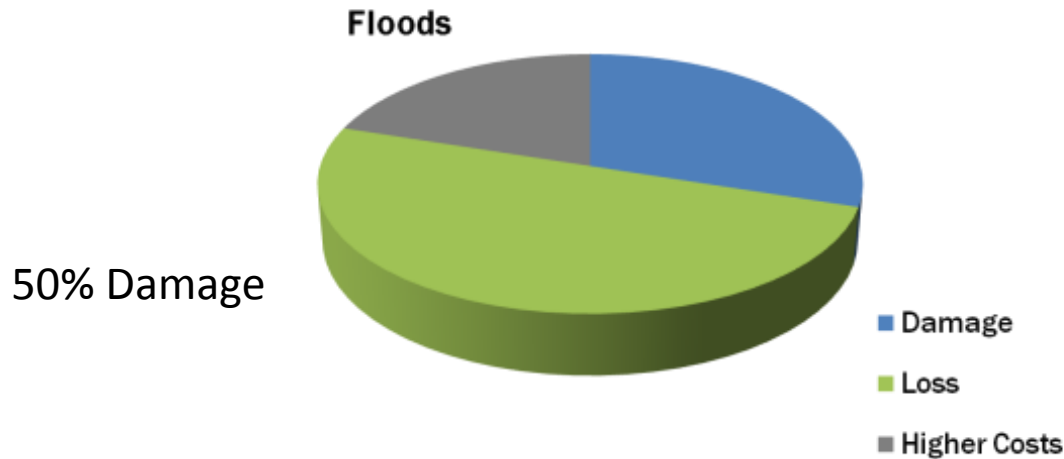
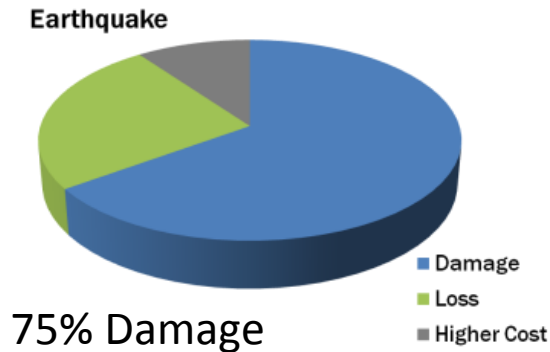
Close to 50 percent of disaster impacts are not accounted for
— Global Assessment Report 2013



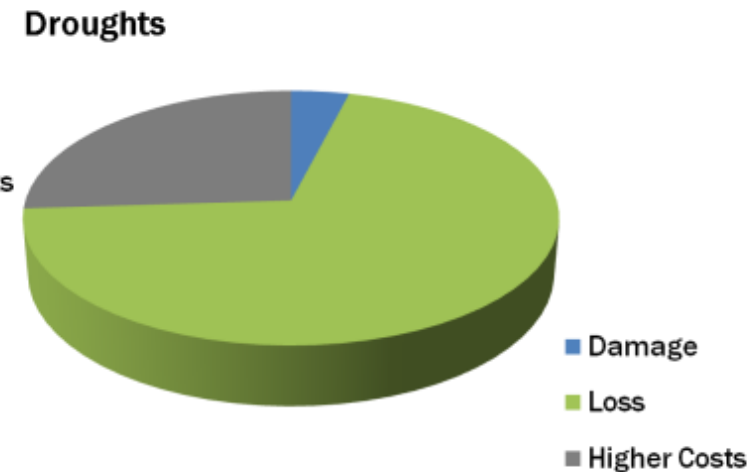
Damage and Loss:

Typical Hazard Context

- Earthquake – Higher value of damage
- Floods and Cyclone – Higher value of damage and losses
- Drought – High value of losses



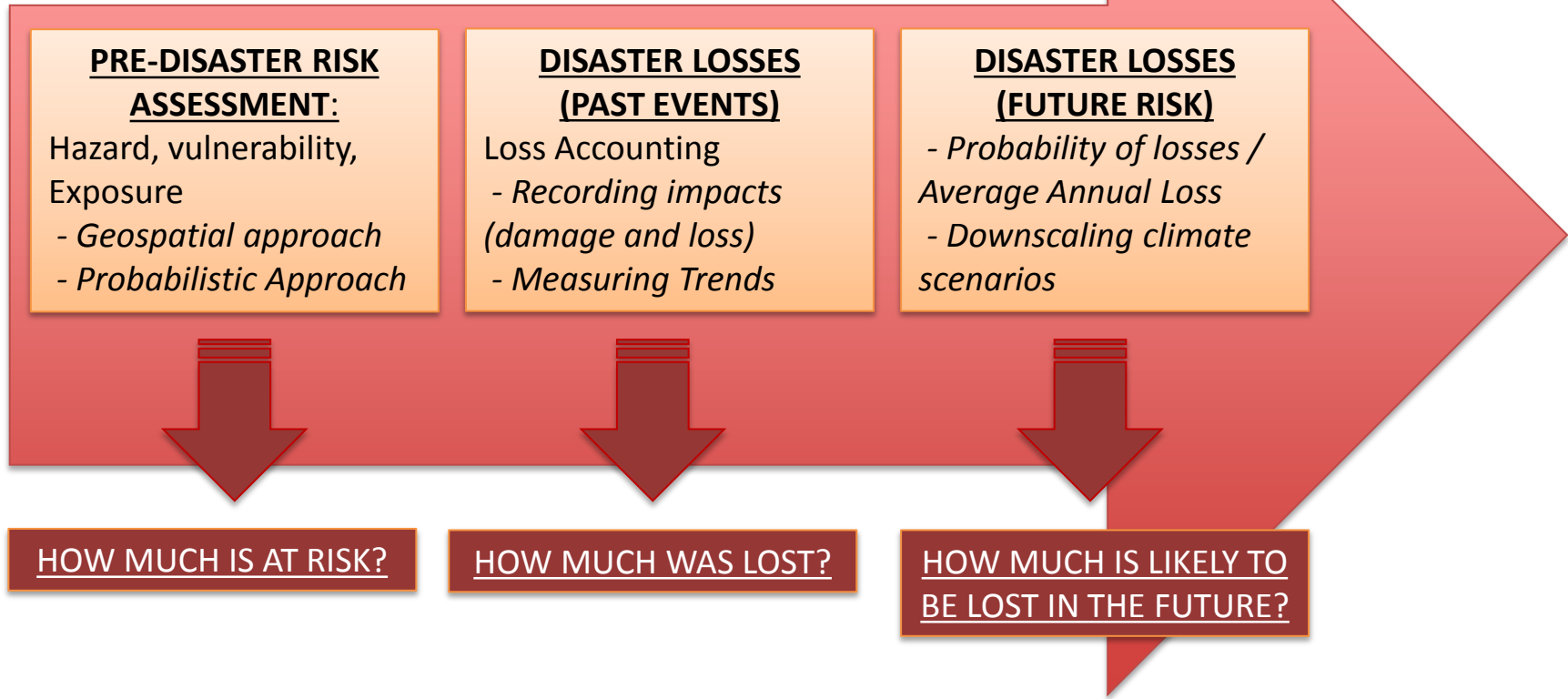
10% Damage



Damage and loss

Three key questions

- How much is at risk?
- How much was lost?
- How much likely to be lost in the future?





PRE-DISASTER RISK ASSESSMENT:

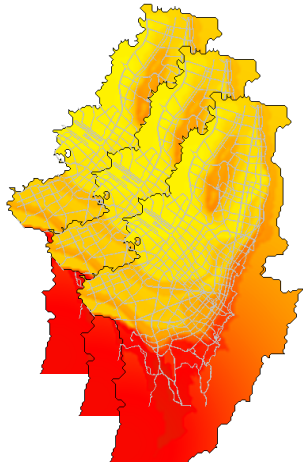
Hazard, vulnerability, Exposure

- *Geospatial approach*
- *Probabilistic Approach*

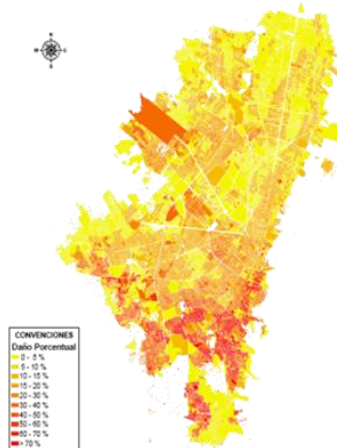
Geospatial Approach

Data intensive

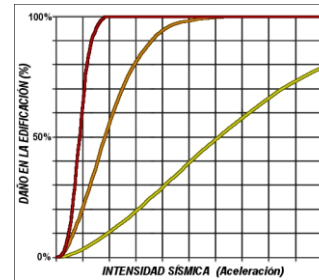
Hazard



Exposure



Vulnerability



Impact/Risk



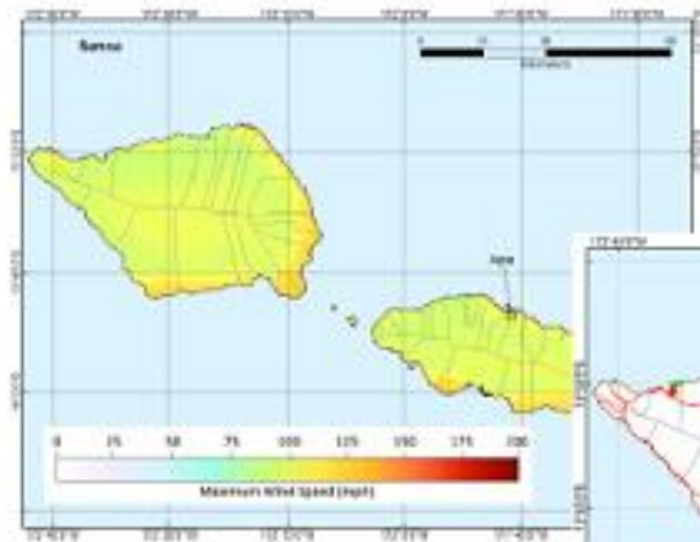
Value at Risk

Statistical - census and survey data

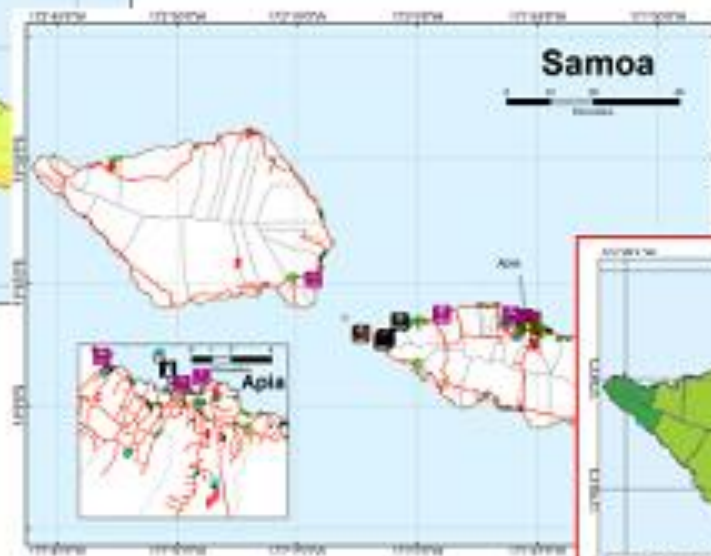
GIS/Geospatial– Infrastructure, settlements, land use..

Cartographic, Geological, Hydro-meteorological ..
Geospatial Data – Vector and Raster

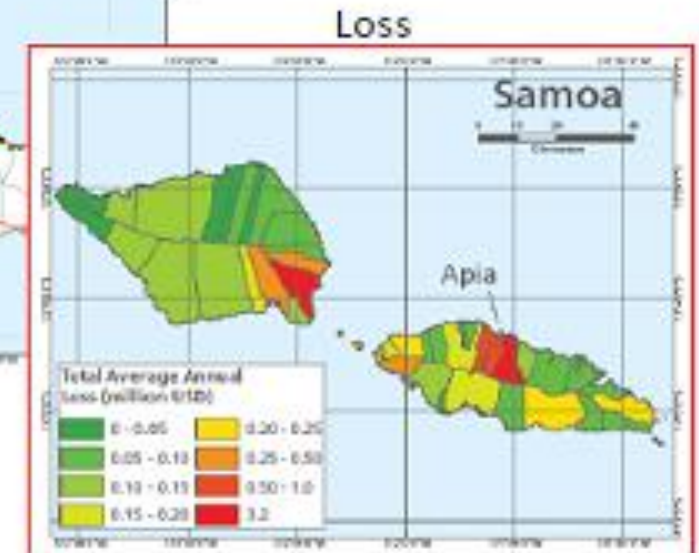
Understanding vulnerability and exposure for loss assessment



Hazard



Exposure



Higher exposure corresponds to greater losses in Samoa

Probabilistic Approach:

Average Annual Loss (AAL)

- AAL refers to the long-term expected losses per year, averaged over many years and linked with the approximate return periods of a specific hazard with significant intensity events.
- The general procedure of calculating AAL consists on an individual evaluation of losses for each hazard scenario, and a subsequent probabilistic integration of these results, using the frequency of occurrence of each scenario

