

Advances in Use of Technology and Partnerships for Disaster Risk Assessment and Key Lessons

**Technology Showcases and Networking for
Disaster Risk Management**

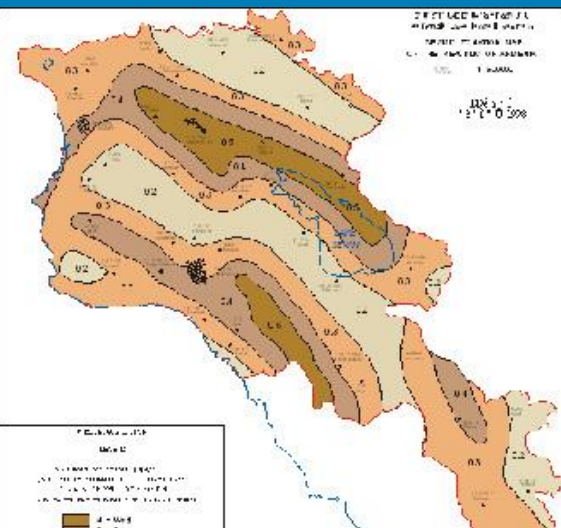
20 September 2014

Manila

ADB

Disaster Risk Assessment

- Identification and estimation of **hazards**
- Identify elements at risk in areas that could potentially be affected by hazard events – **Exposure**
- Identify **vulnerability**
- Estimate **risk**, combining the likelihood characteristics and exposure and vulnerability



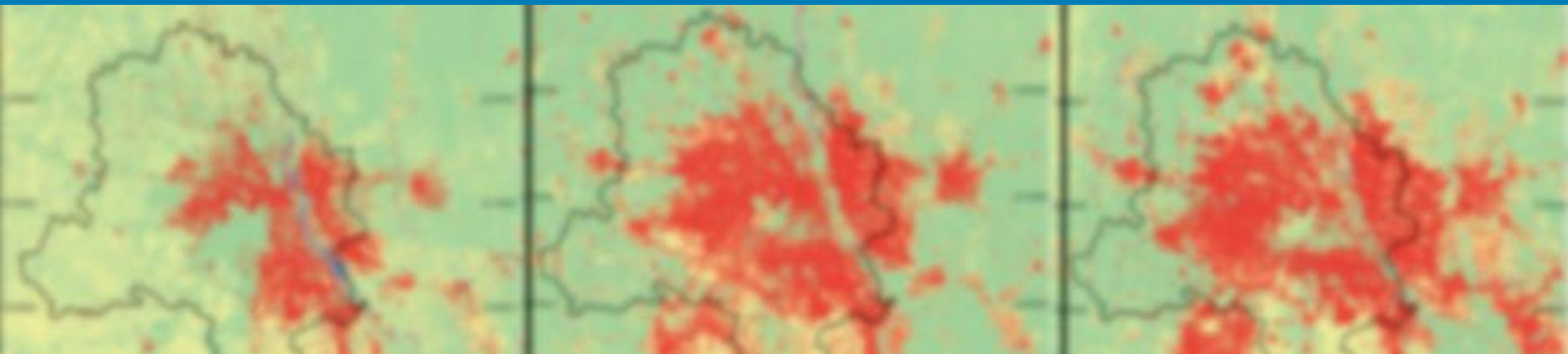
Increased understanding on disaster risk assessment

- Risk evolves and must be managed on an ongoing basis, and
- DRM requires many partners working cooperatively and sharing information

Delhi 1992, 8.7 million

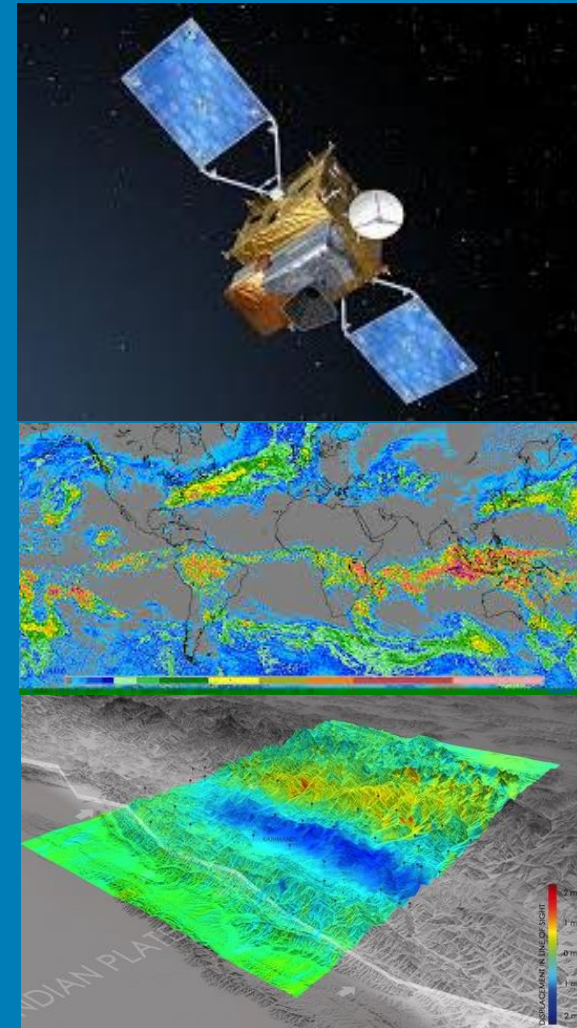
Delhi 2000, 13.7 million

Delhi 2011, 16.3 million



Hazard

- High resolution digital elevation data for coastal and flood plains
- Real time and historical hydro-met info in digital formats
- Data on displacement of land mass after an earthquake
- Creating and providing open access to many global and national data sets



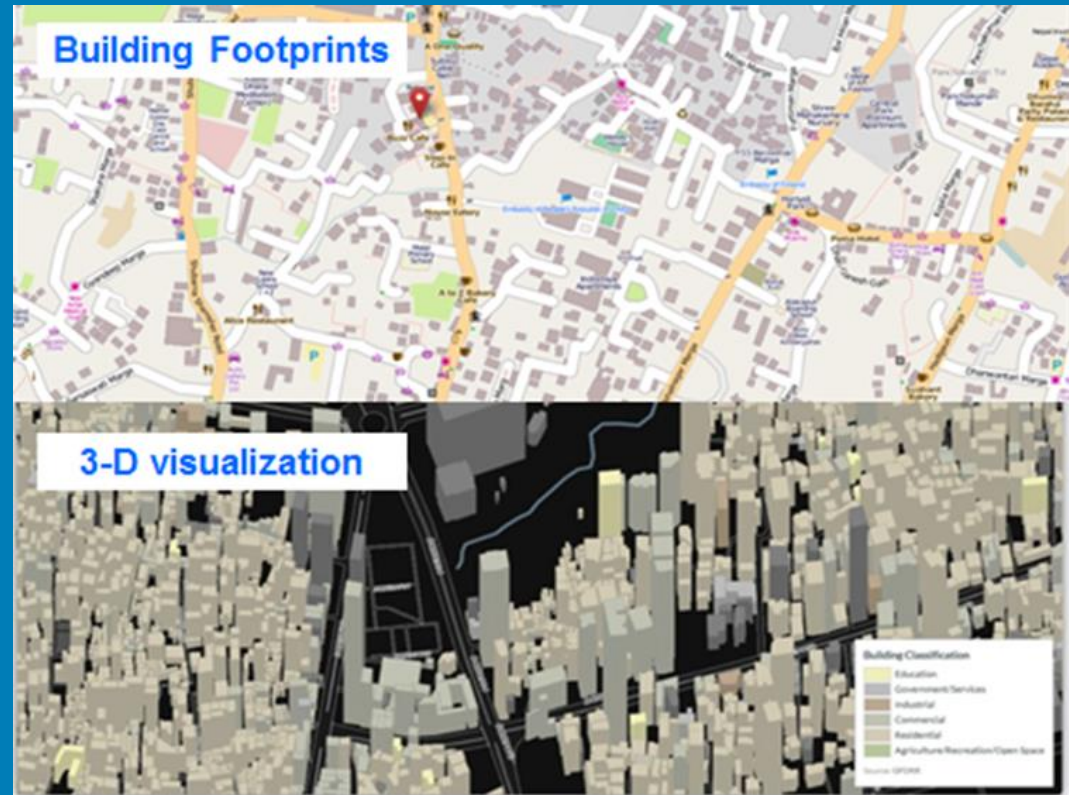
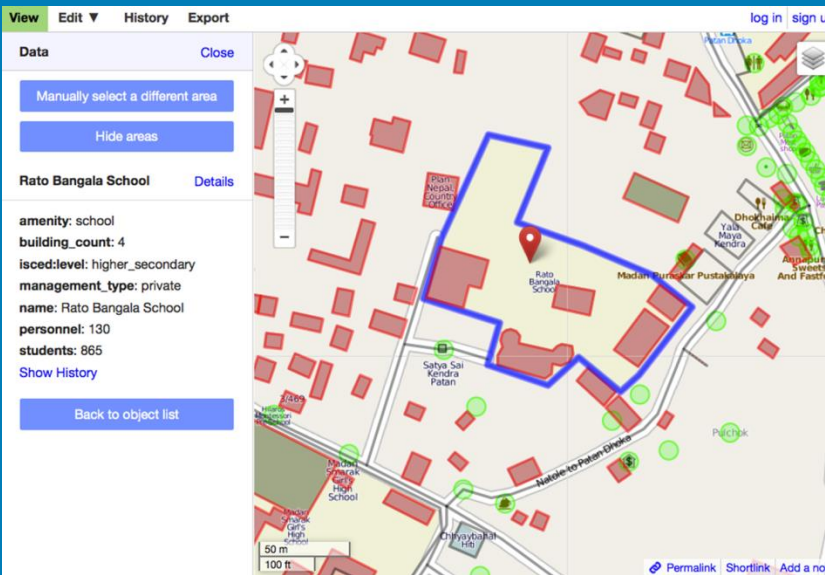
Exposure

- Global – data sets on population, settlement,
- National – data from various ministries and statistics authorities are increasingly released for public use
- Local – Open, crowd-sourcing techniques (e.g 160,000 building mapped in Indonesia using Openstreet Map)



Exposure contd.

- Mapping foot print and exposure details of houses



Vulnerability functions

Development country specific vulnerability functions for the local building stock. eg.

Philippines

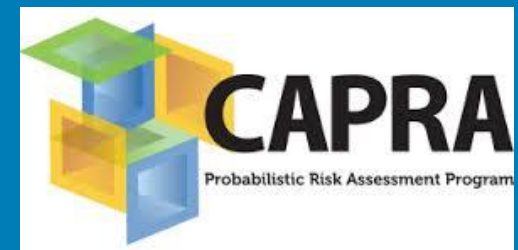
Indonesia

Nepal

Bangladesh

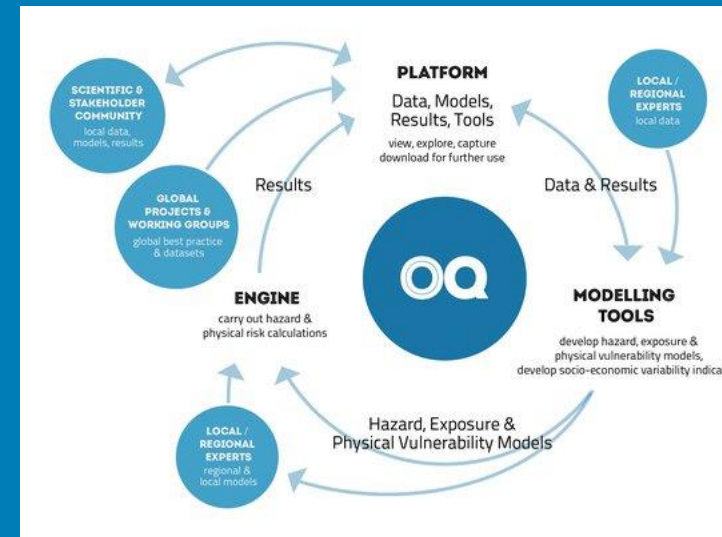
Risk Modelling , Visualization and Communication

- Open quake
- CAPRA
- InSAFE
- Geo Node



Partnerships: Public, Private, NGOs & Academic

- OpenQuake - Global Earthquake Model
- Willis Research Network initiative
- The Understanding Risk community of practice
- Various country cases: Philippines, Bangladesh, Nepal, Armenia



Key Lessons

- Ownership of risk assessment process and efforts to reduce risk – involve stakeholders from the very beginning
- Promote inter-disciplinary and multi-sectoral collaboration at all levels from community to international
- Well-targeted education and communication of risk information can increase awareness of natural hazards and their potential impacts.
- Understand and communicate the limitation of risk information
- Promote the generation of open data