National-scale exposure datasets for multi-hazard risk analysis for Nepal, Tanzania and global stakeholders

Building Classification Scheme for Risk Assessment

Level 1 - Global Data
- Typically global but can be continental or regional
- Country-specific information is minimal
- Typically generated using a global population dataset as basis for building count and location
- Nearby country’s construction statistics may be used as proxy

Level 2 - Country-level exposure data
- Exposure generated using data collected and reviewed at national level
- Typically, building counts are estimated through census population
- Structure type distributions
- Number of people per household
- Building replacement cost per square meter

Level 3 - Data improvement at the sub-national scale
- Use of remote sensing data to improve spatial distribution of building stock
- Better characterization of construction patterns within different climate, cultural or economic regions in a country
- Improvement of major urban areas in terms of building counts, and structural mapping schemes

Level 4 - Aggregated building-specific data
- Aggregate building level data to obtain accurate spatial distribution
- Apply occupancy and structural distributions to assign proper vulnerability

Level 5 - Site-specific data
- Data collected and provided at site level
- Usually available for a smaller region

Sources of Uncertainty for Exposure Levels
Given the various exposure levels 1-5, uncertainty exists from different sources. As a part of project METEOR, we will provide guidance on sources of uncertainty given typical development practices and illustrate the importance of factoring it in the decision making process.

Sustainability and Capacity Building
Project METEOR will develop processes of building capacity and co-delivering new consistent data to promote welfare and economic development in 47 of the least developed countries, and demonstrate the applicability of the techniques elsewhere.

Network of Stakeholders
- a) Governments / Policy Makers
- b) IGOs and NGOs
- c) Commercial clients in insurance, micro-insurance
- d) Academic and Research organizations

Stakeholder Needs Assessment
- a) Extensive research, interviews, and discussions
- b) Review the challenges and gaps between existing products and needs of the DRR / DRM users

Business Model and Implementation Strategies
- a) Products for underwriting risk by insurers
- b) Public Private Partnership for natural catastrophe schemes
- c) Research on exposure, vulnerability, and hazard topics for advancing discipline

Outreach, Workshops, Publications
- a) Provide material and databases for knowledge sharing
- b) Capacity building to support activities of International Partners
- c) Attend global developmental conferences and workshops