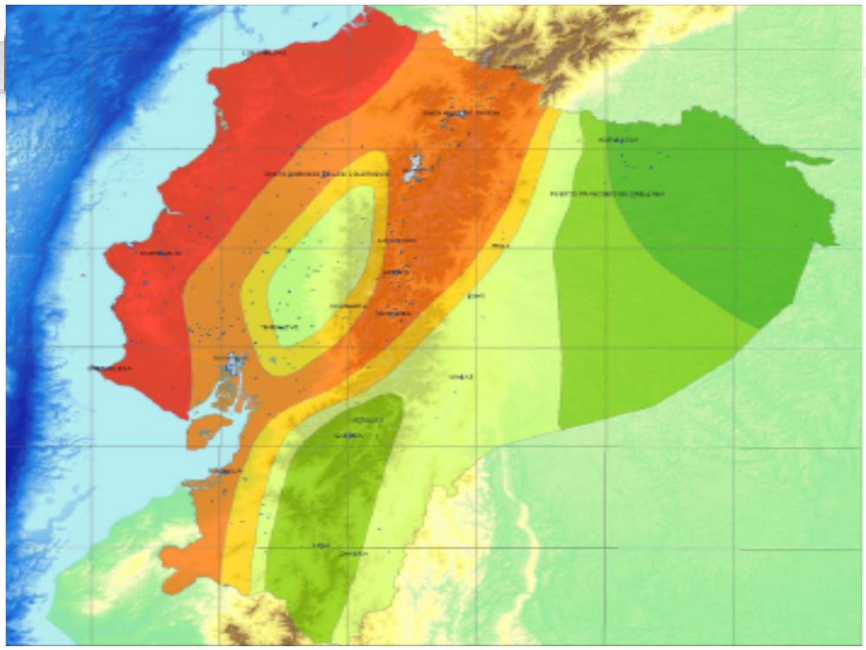

ECUADOR Action Plan

Technical Deep Dive on Seismic Risk and Resilience
March 12 – 16, 2018
Tokyo, Sendai and Kobe

Pablo Armas

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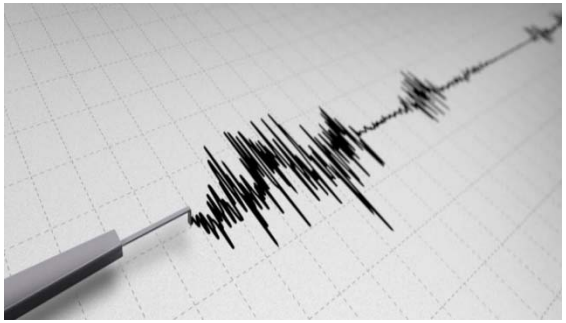
ECUADOR Key Takeaways from TDD

1. Seismic Risk Identification
2. Seismic Risk Preparedness
3. Seismic Risk Reduction in the Built Environment
4. Disaster Response



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ECUADOR Accomplishments Needed (Part 1)

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1. Seismic Risk Identification
    1. Update National Seismic Hazard Map
    2. Conduct Microzonation (Produce City-Specific Seismic Hazard Maps)
2. Seismic Risk Preparedness
        1. Improve/Increase Seismic Monitoring Instrumentation
        2. Train Technical staff on new Ecuadorian Building Code (NEC)
        3. Train Non-Technical Staff (brick layers, artisans, etc.) on NEC
        4. Train Communities on Seismic Risk

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ECUADOR Accomplishments Needed (Part 2)

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3. Seismic Risk Reduction in the Built Environment
    1. Mitigation:
        1. Evaluate Essential Buildings
        2. Execute Structural Reinforcement of Essential Buildings
        3. Build Regulatory Capacity in Line with Recommendations of WB/CRO "Preliminary Building Regulatory Capacity Assessment" for Quito (July 2017)
        4. Regulate Engineering Designs and Construction Processes

4. Disaster Response
        1. Develop National Response Plan according to Response Strategy developed with WBG support
        2. Raise Awareness and Conduct Disaster Response Drills at National, Local and Community levels.

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ECUADOR Actions to be Taken

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- **Short-term (1 year at least):**
  - Update National Seismic Hazard Map – IGEPN & SGR
  - Improve/Increase Seismic Monitoring Instrumentation – IGEPN & SGR
  - Develop NRP according to Response Strategy developed with WBB – Consultants & SGR
  - Raise awareness and conduct drills at National, Local and Community levels – SGR
  - Develop a handbook with effective guidelines to regulate and control engineering designs and construction processes Consultants & MIDUVI

Medium-term (2-3 years):

- Conduct Microzonation (City-Specific Seismic Hazard Maps) – Consultants, IGEPN & SGR
- Evaluate Essential Buildings – Consultants, MIDUVI & SGR
- Raise awareness and conduct drills at National, Local and Community levels – SGR
- Train Technical staff on Ecuadorian Building Code (NEC) – MIDUVI & SENESCYT
- Train Non-Technical Staff (brick layers, artisans, etc.) on NEC – Academia
- Train Communities on Seismic Risk – Local Government-SGR
- Build Regulatory Capacity in line with "Preliminary Building Regulatory Capacity Assessment" – Local Government
- Regulate engineering designs and construction processes – Local Government

Long-term (4-5 years):

- Execute Structural Reinforcement of Essential Buildings – Contractors, Consultants, Local Government, MIDUVI & SGR

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Barrier/Challenge of Implementation of Plan

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1. Ecuadorian economic situation (Seek international assistance to complement Government funding)
2. Prioritization of needs/projects of Central Government (Advocate for seismic risk management agenda)
3. Technical Staff familiarity with NEC and its application (Conduct trainings)
4. Community awareness of seismic risk (conduct awareness campaign, training and drills)

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ECUADOR Support Needed

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- **World Bank:**
  - Technical assistance and financing
- **DRM Hub/TDLC Program**
  - Technical asistance on Disaster Risk Management/Seismic Hazard
- **Knowledge Products (Case Studies, Policy Notes, etc.)**
  - Building regulations, seismic preparedness, structural reinforcement, people relocation and any other policies implemented after Hanshin-Awaji Earthquake

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