



India Action Plan

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

India - Key Takeaways from TDD



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1. Long term vision & Strategy, and its translation from national level to local level
2. Incorporating lessons from past disasters to minimize future damages/losses
3. Risk communication as a key strand to build disaster resilience
4. Comprehensive planning and Engagement with the key stakeholders (Govt. Sector, Private sector, Educational institutions/research Institutions, public)
5. Investment in focused R &D, collaboration and global outreach



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India - Accomplishments Needed



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1. Ensuring the incorporation of earthquake resistant design features for the construction of new structures
2. Facilitating selective strengthening and seismic retrofitting of existing priority and lifeline structures in earthquake-prone areas
3. Improving the compliance regime through appropriate regulation and enforcement
4. Improving the awareness and preparedness of all stakeholders.
5. Introducing appropriate capacity development interventions for effective earthquake management
6. Strengthening the emergency response capability in earthquake-prone areas



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JAPAN GOV
THE GOVERNMENT OF JAPAN



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India - Actions to be Taken



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- **Short-term:**
 - Realistic and Scientific Seismic Zonation - *Bureau of Indian Standards, National Centre for Seismology, National Disaster Management Authority (NDMA)*
 - Standardized Building Permit System- pilot in selected Urban Local Bodies- *Ministry of Housing & Urban Affairs*
 - National Seismic Safety Policy - NDMA
- **Medium-term:**
 - Inclusion of Earthquake Engineering in the Curriculum of Civil Engineering and Architectural Engineering - *All India Council of Technical Education (AICTE)*
 - Professional Civil Engineers' Bill - *Ministry of Human Resource & Development (MHRD)*
- **Long-term:**
 - Centre of Innovation on Earthquake Engineering on the line of NIED, Japan - *MHRD*
 - Seismic Retrofitting programme for Lifeline structures - *NDMA*
 - Regional Earthquake Early Warning System - *NCS*



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Barrier/Challenge of Implementation of Plan

1. Lack of awareness among various stakeholders
2. Inadequate attention to structural mitigation measures in the engineering education syllabus
3. Lack of provision and Inadequate monitoring and enforcement of earthquake-resistant building codes and town planning bye-laws
4. Absence of systems of licensing of engineers and certification of artisans
5. Need for Inter-agency support and coordination

India - Support Needed



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- **World Bank:**
 - Technical Assistance/Project – Risk Assessment, Building Regulation, mitigation & emergency response, Critical infrastructure protection and Asset Management
- **TDLC Program**
 - TDD on seismic Risk Resilience for Policymakers
 - India-Japan Collaboration for Knowledge Sharing
- **Knowledge Products (Case Studies, Policy Notes, etc.)**
 - Seismic Safety Policy of Japan and other countries
 - J-Alert by JMA
 - Active-passive devices for earthquake resistant buildings / Regulatory Framework



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