

Training Programme Report

Earthquake Risk Mitigation and Building Codes

National Institute of Disaster Management (South Campus)

Ministry of Home Affairs, Govt. of India, New Delhi

Date: March 5-9, 2018

Venue: APHRDI campus, Bapatla, Andhra Pradesh – PIN 522 101

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| Dates & Venue | March 5-9, 2018 |
| Course Team | Prof. Chandan Ghosh and Dr. Amir Ali Khan |
| Training Programme Objectives | <ul style="list-style-type: none">• To enhance professional capacity of engineers, architect and town planners of Delhi on the aspects of seismic hazard and vulnerability assessments of existing built environment in Delhi• To make aware of the fallacies in the ongoing construction practices in the city, pros and cons of building permit process and familiarize with correctives measure against seismic and fire safety• To have onsite experience of random sampling of building materials and construction quality checking and monitoring of new construction• Familiarize with building defects and diagnostic tools, fire safety, electrical and plumbing installations and promulgation of building bye laws, testing and seismic safety evaluation of some selected buildings in Delhi• To bring out a guideline/manual for certifying structural safety against potential hazards |
| Topics covered during the Training Programme | <ul style="list-style-type: none">• Seismic Vulnerability of Bapatla and adjoining areas• Earthquake safety & Building performance – video show & Interaction• Construction materials and quality checking in APHRDI construction vs. BIS code provisions• Disaster management system of the country and outlay of the future plans• Earthquake history of Southern India and vulnerability profile• Familiarity with building bye-laws and National Building Code - 2016• Building performance vs. Structural safety assessment - Case Study• Nonstructural/Structural damages and Rapid Visual Screening (RVS)• Visit to a construction site – ongoing and constructed ones in Bapatla• Ongoing construction site experience sharing & steps for Development of specific guideline for EQ. safe building construction• Seismic response evaluation of important establishments and systematic approach to seismic strengthening and retrofitting of buildings• Development/up gradation of standards, guidelines dealing with earthquake resistant design |
| Participants of the Training Programme | There were 24 participants, including states like Arunachal Pradesh, Karnataka, Kerala) attended the training programme comprising of engineers, architects mostly in academic & research domains |

Photos



a)



b)



c)



d)



e)

- a) Class room lecture , b) Construction site – curing of the walls at ground floor, c) Bricks being used for construction , d) pre-fabricated Reinforcing bar for column, e) excavation of the foundation (GWT is very shallow)

Final Schedule

| Hrs | Monday (March 5) | Tuesday (March 6) | Wednesday(March 7) | Thursday (March 8) | Friday (March 9) |
|---------------------|--|--|---|--|--|
| 9:30 | Registration | | | | |
| 10:00 - 10:15 | Inauguration | Recapitulation – 1 st day | Recapitulation – 2 nd day | Recapitulation – 3 rd day | Recapitulation – 4 th day |
| 10:15 - 11:30 | Expectations, Experience Sharing & Ground Rules - CG, AAK | Engineering Approaches for Seismic Risk Mitigation - CG | Discussion on RVS exercise Participants / CG, AAK | Experimental investigation-shake table and liquefaction modeling - CG | Retrofitting Techniques for earthquake risk mitigation - CG |
| 11:30 | Tea Break | Tea Break | Tea Break | Tea Break | Tea Break |
| 11:45 - 13:00 | Earthquake risk & hazard profile of South India - AAK | School and Hospital Preparedness for Earthquake Risk Mitigation - AAK | RVS of buildings around – a tool to mitigate the earthquake risk - CG | Seismic Micro- zonation studies for earthquake risk mitigation - CG | Administrative concerns for earthquake safety of buildings – Local Resource Person |
| 13:00 | Lunch break | Lunch break | Lunch break | Lunch break | Lunch break |
| 13:45 - 15:15 | <u><i>Do</i></u> | Non-structural mitigation of earthquake risk with a short field visit - AAK | National Building Code -2016 and its implications in Earthquake Risk Mitigation - CG, AAK | Architectural and Planning Approaches for Seismic Risk Mitigation - Sampurnanand Mohapatra, Asst Director, Town & Country Planning, AP | Training evaluation exercises Valedictory Function |
| 15:15 | Tea break | Tea break | Tea break | Tea break | Tea break |
| 15:30 - 17:00 | Local Built Environment and Earthquake Risk Mitigation – a discussion - CG&AAK | Field Visit for conducting Rapid Visual Screening of Buildings - CG, AAK | -Do- | Preparing earthquake risk mitigation plan – an exercise - CG | |
| 17:00 - 17:15 | Summary of 1 st day's program | Summary of 2 nd day's program | Summary of 3 rd day's program | Summary of 4 th day's program | |

List of Participants

| Sl. NO. | Name | Designation and Organization | Contact details | |
|------------|------------------------------|--|-----------------|--|
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