



Comprehensive Disaster Management Programme (CDMP)

Policy, Programme and Partnership Development (PPPDU)

Disaster Management and Relief Bhaban, 92-93 Mohakhali C/A, Dhaka-1212, Bangladesh.

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Comprehensive Disaster Management Programme (CDMP) Monthly Progress Report

Component No.: BGD/01/004-CDMP/EC/4a/PC-III

Name: Seismic Hazard and Vulnerability Assessment for Dhaka, Chittagong, and Sylhet City Corporation areas

Task:

- Soil drilling, sampling & laboratory analysis
- Geophysical data acquisition
- Building survey of Level-1, 2 & 3 (Dynamic Behavior)
- GIS & Lifeline Information Collection and Digitations

Name of SIA: Asian Disaster Preparedness Center (ADPC)

Reporting Month: October 2008

Date of Submission: 28 October 2008

1. Activities and outputs

<i>Activity</i>	<i>Corresponding output</i>
Continuation of additional geophysical data acquisition, so far we have done 53 shallow seismic, 112 single micro-tremor and 3 array micro-tremor measurements in Dhaka, Sylhet and Chittagong cities	- Additional TAG suggestions and recommendations - Engineering Geologic Mapping
Additional soil drilling and soil samplings (disturbed & undisturbed) in 3 cities, so far we have done 15 boreholes in Dhaka, Chittagong & Sylhet.	- Additional TAG suggestions and recommendations - Engineering Geologic Mapping
Starting undisturbed soil mechanic analysis in reputed laboratory (BUET) as per TAG recommendation	- Additional TAG suggestions and recommendations - Engineering Geologic Mapping
Letter of permission for active fault identification (detail mapping, trenching, sampling, etc) from BDR Office	- Time Predictive Fault Modeling
Finishing of the Level-1 & 2 building survey in Chittagong (6600 building) and Sylhet (3500 building).	- Will be used to develop Fragility Curve to be used in HAZUS for further analysis
Continuation of the Level-3 building survey (Dynamic behavior measurement) in Dhaka (65), Chittagong (55) and Sylhet (40)	- Understanding of the behavior of typical buildings in three cities during different magnitude of earthquake and other physical conditions. - To develop the fragility curve of different types of

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	buildings within 3 cities for developing HAZUS analysis in Bangladesh context
Finishing the clustering data in Dhaka and detail survey of Lifeline facilities (bus stand, train station, steamer station)	- Collected information will be converted into digital format and will be ready to be used in HAZUS analysis
Continuation for collection of secondary information regarding lifeline in Sylhet and Chittagong (Gas, Water Supply, BTCL and PDB)	- All the information will be converted into digital format to be used for GIS analysis and data preparation - Further details of the digital format will be converted for suitable use in HAZUS.
Continuation of Professional Interview in Chittagong and Sylhet	- Will help to understand the building construction practice in Bangladesh and in these cities in particular. - This will help to develop the HAZUS analysis in Bangladesh context.

2. Deviations from plan

<i>Nature and extent of deviation</i>	<i>Reasons for deviation</i>	<i>Mitigation measure</i>
Delay on getting letter of permission from BDR (Ministry of Home Affairs) for fault mapping and trenching	Inter-ministerial bureaucracy for the traffic of letter (CDMP – Ministry of FDM – Ministry of Home – BDR)	- ADPC had resend letter to CDMP to speed up the permission from BDR for trenching - ADPC actively visiting BDR office to explain the necessity of permission and maintain communication with BDR officer
Delay on finalizing the GIS database inventory for 3 cities	- Digitizing and georeferencing of thousands hardcopy maps (with hand drawing updates) to be incorporated to GIS database - Permission to access some data from other institutions (gas, electricity, telecommunications, etc)	- Number of additional assistant for GIS entry database had been increased to speed up the works - ADPC actively visiting respected office to explain the necessity of permission and maintain communication with respected institution's officer

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3. Activities to be undertaken during next month

3.1. Seismic Hazard

- Finalizing field report & preparation for analysis of additional geophysical data (Single & Array Microtremor, shallow seismic) as per TAG suggestions
- Finalizing field report of additional soil drilling in 3 cities
- Finalizing results of soil mechanic analysis (disturbed & undisturbed) from reputed laboratory
- Active fault identification in the field through trenching works & sampling for C14 dating analysis

3.2. Vulnerability Assessment

- Finalizing of the field report for building survey Level-1 & 2 and data entry in Chittagong & Sylhet cities
- Finishing field works of Dynamic behavior measurement of building in three cities
- Continuation of lifeline survey in Chittagong, Sylhet & Dhaka cities
- Continuation of GIS database entry and acquisition for detail maps (Ward wise, building and lifeline data)
- Finishing professional interview with practitioners, contractors and others in 3 cities

4. Challenges encountered

<i>Nature of challenge</i>	<i>How challenge met</i>
High water table in the field for October to hamper the field measurement for geophysical data acquisition and soil drilling or sampling	We try to find a suitable place for drilling and geophysical measurement, which is not far from the agreed locations and still in the same geomorphologic unit as per instruction of TAG
Delay and postponement of some letters of permission from government organizations for ADPC to accomplish the works (BDR for trenching, TITAS Gas, BTRC, etc)	Actively visiting respected government organizations with assistance from CDMP to boost the permission process as well as to explain directly to the person in charge for the permission
Permission for Dynamic Measurement of Buildings	<ul style="list-style-type: none"> • ADPC team approached the owner of the building and able to convince people for the permission of the buildings to be surveyed. • Lots of assistance was mostly from general people than that of institution or government owned buildings due to the reason that common people are more aware of their buildings
Permission to access some important information and data from other (Government) organization (i.e. Gas, electricity, telecommunication, etc)	<ul style="list-style-type: none"> • Information regarding lifeline facilities from some of the government organizations has not yet been received due to long process of existing system. • ADPC is still trying to overcome the situation by different approach and intensive communications



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	with the assistance from CDMP.
Detail survey in restricted areas	<ul style="list-style-type: none">• Due to the existing regulations, it was not possible to conduct survey in restricted areas like cantonment, police station and other places.• ADPC had asked for assistance from CDMP in this regard.

5. Lessons learnt/ Additional comments

- As per suggestions from ADPC International experts who came to Bangladesh and visited CDMP/TAG members (Prof. Yamazaki of Tokyo Inst. Tech, Prof. Meguro of Tokyo University, Dr. Bautista of PhilVolcs, etc), it is wise to think the level of high quality outputs from this project as per TAG recommendations to be encountered with the time-frame and natural challenges (geology & geomorphology, secondary data, weather & water table condition, etc) for this huge-task & time-consuming project.

Name and signature of sender

Dicky Muslim