


## ***Seminar on “Seismic Retrofit and A Step Forwards Building Safety” -The Third Memorial of the 2013 Rana Plaza Incident-***

On 23 April 2016, one day before the Third Memorial Day of Rana Plaza Tragedy, Public Works Department (PWD) under the Ministry of Housing and Public Works (MoHPW) and Japan International Cooperation Agency (JICA) held a seminar for launching the “Project on Promoting Building Safety for Disaster Risk Reduction in Bangladesh (BSPP)” at Lakeshore Hotel, Gulshan 2, Dhaka. Vice Chancellor, University of Asia Pacific, Prof. Jamilur Reza Choudhury, as the Chief Guest. And Joint Secretary of Ministry of Housing and Public Works, Rahamat Ullah Mohd. Dastagir, ndc, as well as Additional Chief Engineer of Public Works Department, Syed Azizul Haq, as special guests, and Chief Representative of JICA Bangladesh Office, Mr. Mikio Hataeda as the Guest of Honour were present in the inaugural session of the seminar. The seminar was chaired by Mr. Ainul Farhad, Additional Chief Engineer (P & SP) of Public Works Department. In the opening session, the representatives participated from different ministries, relevant govt. agencies, donor agencies, national and international NGOs, universities and other relevant stakeholders.

Recent earthquake occurrences, geological reports and past earthquake history since 1548 in this land making us deep concern about risk of loss and chance of sufferings, mainly due to rapid unplanned, uncontrolled urbanization and non-compliance of BNBC (Bangladesh National Building Code). It can be rememorized the collapse of Rana Plaza, a readymade garments factory in April 2013 took 1135 lives and left thousands in irrecoverable loss and pain. And this is a living example of uncontrolled construction in the present time as well as in past.


<p><i>Workshop: "Seismic Retrofit and A Step towards Building Safety" 23, April 2016</i></p> <p><b>Are the Buildings in Bangladesh Vulnerable ??</b></p> <p><i>Buildings were Collapsed due to Faulty and Weak Foundation Structure frequently EVEN without an Earthquake</i></p> <p><b>Phoenix Garments, 2006</b> 21 died, several injured</p> <p><b>Spectrum Bldg, 2005</b> 61 died, 86 injured</p> <p><b>Tazreen, 2012</b> 117 died, 200 injured</p> <p><b>Begunbari, June, 2010</b> 25 died</p> <p><b>Shankhari Bazar, 2004</b> 33 died</p> 	<p><i>Workshop: "Seismic Retrofit and A Step towards Building Safety" 23, April 2016</i></p> <p><b>RMG Project</b> <b>RMG Sector Safe Working Environment Program</b></p> <p>Dec. 2013, ~300 Garment factories applied from BGMEA and BKMEA. Feb. 2014, Simplified and Detailed Evaluation. Feb, 2015, Retrofitting Construction started Jan, 2016, First Retrofitting Construction completed</p> <p><b>Findings on Simplified Evaluation of 55 buildings in RMG factories out of 312.</b></p>  <p>■ Comply BNBC ■ Lower than BNBC ■ Substantially Lower than BNBC</p>
<p><b>Building Situation of Bangladesh</b></p>	

Rana Plaza incident brought forward CNCPR Project (2011-2016), a technical cooperation project, by JICA and PWD in cooperation the retrofitting of Ready Made Garments (RMG) factories in Bangladesh with a very soft term loan. In continuation of retrofitting RMG factory Buildings, JICA extends its cooperation into public and private buildings and structures in collaboration with PWD.

*Workshop: "Seismic Retrofit and A Step towards Building Safety" 23, April 2016*

### Options to minimize building disasters during an EQ

- **Option 1**  
Demolish vulnerable buildings (and rebuild/relocation)
- **Option 2**  
Enforce BNBC for new buildings, (with raising awareness)
- **Option 3**  
Retrofit existing important buildings (government and private)



Manual for Seismic Retrofitting Evaluation of Existing Reinforced Concrete Buildings  
 Manual for Seismic Retrofit Design of Existing Reinforced Concrete Buildings  
 Manual for Retrofit Construction and Supervision of Reinforced Concrete Buildings  
 Guidelines for Quality Control of Design and Construction of Reinforced Concrete Buildings  
 Manual for Seismic Design of Reinforced Concrete Buildings  
 Manual for Vulnerability Assessment and Damage Prediction of Reinforced Concrete Buildings

*Workshop: "Seismic Retrofit and A Step towards Building Safety" 23, April 2016*

### Actual Retrofitting Works during CNCRP/BSPP

Rana Plaza Incident

	2013	2014	2015	2016	2017	2018
Fire Station Retrofit						
RMG Factory Retrofit #1						
RMG Factory Retrofit#2						
Public Building Retrofit #1						
RMG Factory New Design						
Private Building Retrofit #2						

At least 6 retrofit works including under preparation are commenced based on PWD (CNCRP) Manuals after RANA Plaza Incident

Manuals will be seen in PWD web site

## Main Outcomes of CNCRP

Under CNCRP Project, five Manuals and one Guidelines on building retrofitting have been prepared, contributing to building safety in Bangladesh. These five manuals cover Seismic Evaluation, Seismic Retrofitting Design, Construction Supervision, New Building Seismic Design, and Vulnerability Assessment and Damage Prediction for Flood etc. Thus, CNCRP stands in leadership on systematic and documented retrofit works in Bangladesh. In the aforesaid seminar, there were more than 100 participants in different position starting from elites, professors, professionals, officials, engineers, users/from organizations, BGMEA, BKMEA, WB, ILO, FSCD, DoA, RAJUK, Universities, factory owners and consultants. Second session of the seminar was colored in certificate awarding to the factory owners of DK Knitwear Ltd., The 1<sup>st</sup> retrofitted factory in Bangladesh supported by JICA and PWD.



**Certification of Building Safety by Seismic Retrofitted Building to the RMG Factory Owner**

The Seminar also reviewed building safety activities so far in Bangladesh like CNCRP and CDMP, and current situation of several projects such as UBSP by JICA, URP by WB, and SATREPS by JICA and HBRI which might be triggered by CNCRP. The seminar weighted on the training of engineers, masons and people, how to enforce BNBC to the building owners, politicians and nations towards building safety in Bangladesh. And, therefore the BSPP, succeeding project of CNCRP shall proceed as well as develop a new horizon in this field.

## BSPP

Project on Promoting Building Safety  
For Disaster Risk Reduction

*Md. Ahsan Habib, PEng,  
Project Manager of CNCRP,  
Superintending Engineer, PWD  
ahsanenr@yahoo.com  
Md. Shakhawat Hossain,  
Deputy Project Manager of CNCRP,  
Executive Engineer, PWD  
Summon\_212@yahoo.com*