JICA’s Approach for Disaster Risk Reduction in Urban Buildings in Bangladesh

Through an Immediate Remedy Program for RMG after Rana Plaza

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Global Context on Importance of Promoting Urban Resilience

• The Global Goals for Sustainable Development (SDG)

Goal 11: “Sustainable Cities and Communities“ target for "Make cities and Human settlements inclusive, safe, resilient and sustainable"

• Sendai Framework for DRR 2015 – 2030

1) Understanding disaster risk
2) Strengthening disaster risk governance to manage disaster risk
3) Investing in disaster risk reduction for resilience
4) Enhancing disaster preparedness for effective response
Local Context on Importance of Promoting Urban Resilience

Bangladesh 7th 5Year Plan for 2016-2020

Chapter of Disaster Management;
“Most of urban infrastructures and building stock of Bangladesh are not complying with building codes.”

Chapter of Addressing Constraints to Accelerate Manufacturing Growth;
“Safety standards in RMG are becoming a major challenge for sustaining the continued expansion of RMG sector.”

RMG Sector Contributes around 15% of GDP with creation of more than 4 million jobs in Bangladesh
Where Do We Stand in Bangladesh?

- Shankhari Bazar, 2004: 11 died
- Phoenix Garments, 2006: 21 died
- Spectrum Bldg, 2005: 61 died
- Begunbari, June 2010: 25 died
- Rana Plaza, April 2013: Casualty: 1,135
“Project for Capacity Development on Natural Disaster-Resistant Techniques of Construction and Retrofitting for Public Buildings (CNCRP)” and “Financial Sector Project for the Development of SME Enterprises (FSPDSME)”
RMG Sector Safe Working Environment Program

Stakeholders
1. BGMEA, 2. BKMEA, 3. Public Works Department, 4. Bangladesh Bank, 5. JICA

Program
1. Providing Initial & Detailed Assessment
2. Seismic Design
3. Concessional Funding

Application & Selection by BGMEA & BKMEA

Examine & Prioritize by Stakeholders Meeting

Initial & Detailed Assessment & retrofit design

Applying loan to commercial banks

Retrofit or Relocation or Reconstruction

214 Factories Eligible
55 Factories obtain necessary information
2 Factories Prioritized
1 Factory Passed Credit Assessment
Findings from Conducting Building Assessment for RMG Factories

Initial Assessment of 55 factories → 5 Stakeholders Meeting → Detailed assessment & retrofit design → Application of loan to commercial banks

[Finding by Initial Assessment]

36/55 (65.5%) Factories do NOT comply the standards set by Bangladesh National Building Code
Findings on Financial Needs for Remedy to Private Buildings

A Financial Mechanism is Necessary for Private-owned Buildings.

**Factory A**
- BGMEA member
- 300 workers
- 6 stories building
- 2,600sqm

**Estimated Cost** for retrofit/fire safety design & works:
$850,000

**Factory B**
- BKMEA member
- 900 workers
- 4 stories building
- 6,063sqm
- Accord member

**Estimated Cost** for retrofit/fire safety design & works:
$600,000

How much finance is required for the entire RMG sector (including fire safety)?

3,000 × 65% × $600,000
= $1.17 billion?
A RMG Factory Retrofitted

Combination of Japan’s Technical and Financial Assistance
## Issues Found through the Program

<table>
<thead>
<tr>
<th>Building Permit</th>
<th>Technical Capacity</th>
<th>Financial Accessibility</th>
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<tbody>
<tr>
<td>- <strong>Capacity Constraints</strong> of Authority (manpower, proper system)</td>
<td>- Little Consideration to Seismic Safety for Building Construction</td>
<td>- Limited Access to Finance (Lending terms and interest rates for fixed assets borrowing)</td>
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<tr>
<td>- Absence of Necessary Steps in <strong>Approval Procedure</strong></td>
<td>- No Proper License System for Architects or Civil Engineers ..... <strong>Who has Capacity?</strong></td>
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<tr>
<td>- <strong>Deviation</strong> from the Approved Design</td>
<td>- Improper Construction Management</td>
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<td>- Absence of an Enforceable Code until 2006</td>
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**Issues**
Further JICA Projects to Support

**Technical Cooperation 1 & 2**

- System Development for Building Safety / Capacity Building
- Licensing System
- BRA formulation

**Science & Technology**
(2016-2020)

- Deepening Retrofit Technology Next Generation
- Evidence based Analysis
- Retrofit Methodology

**Input for Regulatory Body through Technical Review Panel**

- Building inventory
- Seismic Assessment
- Retrofit Manual
- Retrofit Work
- Law Enforcement
- Human Resource De.
- Construction Manage.
- Retrofit Fire Service Build.
- New Fire Service HDQ
- Finance for Prv Buildings
- Building Approval System

**Urban Building Safety**
(Loan: 2015-2023)

- Support for Building Safety
- Law Enforcement Mechanism
- Setting Building Safety Standards
- Capacity Building of Engineers
- Financial Scheme for Private Safety
# Urban Building Safety Project

**Name:** Urban Building Safety Project (Dec. 13, 2015 Signed)

**Objective:**
To strengthen the building safety in Urban Areas

**Area:** Dhaka Metropolitan Area and Chittagong

**Amount:** 12.1 billion JPY

**Component:**
1. Financing for Private Buildings Safety
2. Construction & Retrofit of Public Buildings Safety
3. Institutional Strengthening
4. Training for Engineers

Construction of the HDQ of Fire Service and Civil Defense with a “base-isolation system” under the Project
In Addition ….

- Solving “Deviation Issues” for further Retrofitting of RMG Factories
- Coordinating Various Initiatives to Set One Standard for Building Safety (Seismic & Fire) by Following Laws & Regulations of the Country
- Formulating Technical Review Panel under the Urban Building Safety Project (Agreed in L/A) as Early as Possible
- Improving Accessibility to Funding (Lower On-Lending Interest) for Private Building Funding
- Identifying Capable Engineers/Architects (Firms) for Seismic Assessment & Design (Training)
Thank you very much for your kind Attention