Disaster Databases in Bangladesh

Expert Group Meeting on Improving Disaster Data to Build Resilience in Asia and the Pacific

September 30 – October 01, 2013
Sendai, Japan

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Bangladesh Bureau of Statistics (BBS)

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Comprehensive Disaster Management Programme
Low-lying deltaic country in South Asia formed by the Ganges, the Brahmaputra and the Meghna rivers.

- About 93% of the catchment area is outside the international boundary.
- The rivers of Bangladesh drain run-off of upstream catchments of area about 1.73 Million square km.

More than 310 rivers and tributaries have made this country a land of rivers.

- The country has the world’s longest unbroken sandy beach of 120km.
- 80% floodplain with 20% hill areas.

**Location:** 20°34' - 26°38' N 88°01' – 92°41' E

**Area:** 147,570 sq. km

**Population:** 150 million
Introduction - GANGES, BRAHAPUTRA AND MEGHNA RIVER BASIN
Natural and human induced hazards –

- floods
- cyclones
- droughts
- tidal surges
- tornadoes
- earthquakes
- river erosion
- fire
- infrastructure collapse
- high arsenic contents of ground water
- water logging, water and soil salinity

People are exposed to hazards

- Victim to global Climate Change, most vulnerable country
Introduction - Bangladesh Country Profile

Multi-hazard Map
## Introduction - Bangladesh Risk Profile

<table>
<thead>
<tr>
<th>Hazard</th>
<th>Flood</th>
<th>Flash Flood</th>
<th>Drought</th>
<th>Cyclone, tidal surge, salinity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>Vulnerable land area</td>
<td>61.09</td>
<td>23.09</td>
<td>45.89</td>
<td>31.99</td>
</tr>
<tr>
<td>Vulnerable population</td>
<td>71.47</td>
<td>26.75</td>
<td>45.73</td>
<td>26.71</td>
</tr>
</tbody>
</table>
Needs to
save lives,
reduce economic losses and suffering

How
By building disaster databases, which will be

Systematic and timely collection of data
Standardized format
Geocoded
Scalable
Sustainable

Which needs capacity building, discussion, sharing
Data Collection and Dissemination Layers

1. Country (NDRCC/DMIC)
2. Division (7) DMIC (DRRO)
3. District (64) DMIC (DRRO)
4. Upazila (485) DMIC (PIO)
5. Union (4551) (DMC)
Objective – Disaster Database

- To facilitate -
  - National and International humanitarian communities for disaster Preparedness, Risk Reduction, Response and Recovery
  - Disaster Trend Analysis
  - Social Safety net program
  - Monitoring DRR investment impact
  - Reviewing national risk reduction strategies, action plan etc.
Disaster Database – Present Status

- Organizational Level
- Disaster Occurrence Specific
- Not Standardized
- Not Coordinated
- Damage and Loss only
- Not Public

- Some Initiatives are -

- Cyclone Event database from Bangladesh Meteorological Department (BMD)
- Cyclone Event Database from Bangladesh Bureau of Statistics (BBS)
- Flood Event Database by Flood Forecasting and Warning Centre (FFWC)
- Situation Report from DMIC, CDMP/MoDMR based on D-Form
- Disaster Incidence Database (DIDB), CDMP
Initiative towards Building Disaster Database

Disaster Incidence Database (DIDB)

- Track disaster event and store relevant information on disasters in Bangladesh
- GIS-based open source database; its content is focused on recent disaster events. Interactive web-based system that includes tables, dynamic query and maps.
- Resolution: District/Sub-District
- URL: www.dmic.org.bd/didb
Initiative towards Building Disaster Database

Disaster Incidence Database (DIDB)

[Image of Disaster Incidence Database interface showing data on cyclones and damages]
Initiative towards Building Disaster Database

Disaster Incidence Database (DIDB)
Initiative towards Building Disaster Database

**4W Database [Who is doing What Where and When]**

- Track DRR Investment and its Impact in Bangladesh
- GIS-based open source database; Focusing on to avoid duplicate investment initiative; Interactive web-based system that includes tables, dynamic query, Reports and maps.
- Resolution: District/Sub-District/ Union
- URL: www.dmic.org.bd/4w

[Data Collection Format](#)

[Thematic Area and Activities](#)
Development of Baseline Database Development

- **Steps followed for building the baseline**

- MOU Signed between CDMP and BBS (to establish Union-level baseline database to be used for Damage/Loss estimation and other analysis)

- Analyzing **D-Form** Requirement

- **Questionnaire** Developed to meet D-Form requirement and for other requirements like Vulnerability Analysis

- Field testing of Questionnaire (Piloting)

- Given Training to 23 Regional Statistical Officer (RSO) of BBS

- RSO then gives training to Upazila Statistical Officer (USO)

- USO collect Union Level Base line from secondary information and field survey

- USO sent collected to RSO to sent BBS HQ

- BBS HQ Checks, and builds **database**
Cyclone Shelter Database

Shelter Information

SHELTER INFORMATION

SHELTER: Amtali AK High Attested GPS
UNION: Amtali
UPAZILA/P.S: Amtali
DISTRICT: Barguna

Details: Amtali AK High Attested GPS

<table>
<thead>
<tr>
<th>Name</th>
<th>Desc</th>
<th>Name</th>
<th>Desc</th>
<th>Name</th>
<th>Desc</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shelter ID</td>
<td>010121A-A</td>
<td>Upazila S.N</td>
<td>57</td>
<td>Shelter Condition</td>
<td>Moderate usable</td>
</tr>
<tr>
<td>Shelter Name</td>
<td>Amtali AK High Attested GPS</td>
<td>GeoCode</td>
<td>1040913024</td>
<td>District</td>
<td>Barguna</td>
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</table>
## Select Committee Location

<table>
<thead>
<tr>
<th>Select Level</th>
<th>District</th>
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<tbody>
<tr>
<td></td>
<td>District</td>
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</table>

<table>
<thead>
<tr>
<th>Division</th>
<th>District</th>
<th>Upazila</th>
</tr>
</thead>
<tbody>
<tr>
<td>Khulna</td>
<td>Bagerhat</td>
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</tbody>
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<table>
<thead>
<tr>
<th>Union</th>
<th>Current</th>
<th>All</th>
<th>Print friendly</th>
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## District: Bagerhat

<table>
<thead>
<tr>
<th>Chairman’s Name &amp; Mobile No.</th>
<th>Member Secretary’s Name &amp; Mobile No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Md Akram Hossain</td>
<td>Md Ajharul Islam</td>
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<tr>
<td>01720460406</td>
<td>01718631243</td>
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<table>
<thead>
<tr>
<th>Upazila: Bagerhat Sadar</th>
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<tbody>
<tr>
<td>Adviser’s Name &amp; Mobile No.</td>
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<tr>
<td>Md Rejaul Karm</td>
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<tr>
<td>01912063418</td>
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<tr>
<th>Union: Barai para</th>
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<tbody>
<tr>
<td>Chairman’s Name &amp; Mobile No.</td>
</tr>
<tr>
<td>Liaqat Ali Bishwas</td>
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<tr>
<td>01721046956</td>
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<thead>
<tr>
<th>Union: Bemarta</th>
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<tbody>
<tr>
<td>Chairman’s Name &amp; Mobile No.</td>
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<tr>
<td>S M Emdadul Haque</td>
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<td>01710886259</td>
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<th>Union: Bishnupur</th>
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<td>Chairman’s Name &amp; Mobile No.</td>
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<tr>
<td>Abdul Aziz Haoladar</td>
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<td>01712217106</td>
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<tr>
<th>Union: Dema</th>
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<tr>
<td>Chairman’s Name &amp; Mobile No.</td>
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EARTHQUAKE VULNERABILITY AND DAMAGE ASSESSMENT

GIS-based Building Inventory Database:

Dhaka : 327000  Chittagong : 183000  Sylhet : 52,000

| Major Structural Types of Buildings in Dhaka, Chittagong and Sylhet |
|--------------------------|-----------|-----------|-----------|-----------|-----------|-----------|
|                        | RC        | LC        | RC        | RF        | TS + RAL  | Others    |
| Dhaka                   | 55,923    | 33,993    | 40,710    | 140,078   | 55,487    | 634       |
| Chittagong              | 63,905    | 3,190     | 8,047     | 70,173    | 36,562    | 0         |
| Sylhet                  | 13,660    | 2300      | 827       | 30896     | 4000      | 493       |

Total Buildings:
- Dhaka: 326,825
- Chittagong: 182,277
- Sylhet: 52,176
BUILDING AGE AND BUILDING DENSITY OF DHAKA

Legend:
- Ward boundary
- Cluster boundary
- River

Building density (Number per Km²):
- 0 - 1500
- 1500 - 3000
- 3000 - 4500
- 4500 - 6000
- 6000 - 15000

Age of Building:
- <10 years
- 10-30 years
- >30 years
A Good Disaster Database

- Systematic Methodology (with proper definition) - Doable
- Standardized format
- Geocoded
- Scalable
- Interoperable
- Accessible
- Applicable
- Sustainable
Good Practices

- EM-DAT
- GLIDE
GAPS in Disaster Database

- Lack of Coordination between Disaster management Department (DDM) and Bangladesh Bureau of Statistics (BBS)
- Standardization / Definition
- Data Population in Regular Basis (Project Based)
Challenges to build Disaster Database

- Regular update of Baseline Data
- Calculation of Economic Losses
- Resource Mobilization (Money, Capacity)
Way Forward

We will discuss here
Thank you