



# How DRR policies can get implemented, Bangladesh, Case Study

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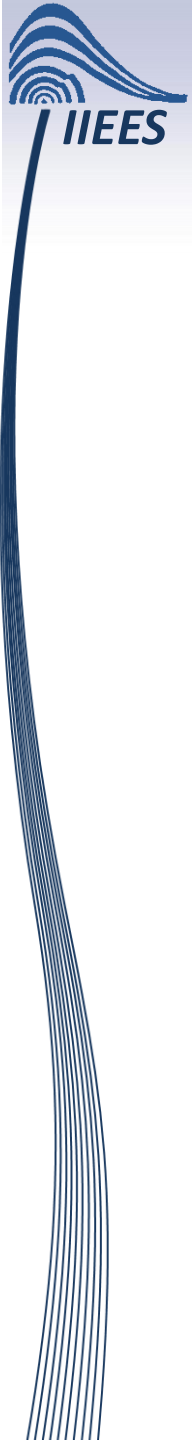
*Empowered lives.  
Resilient nations.*



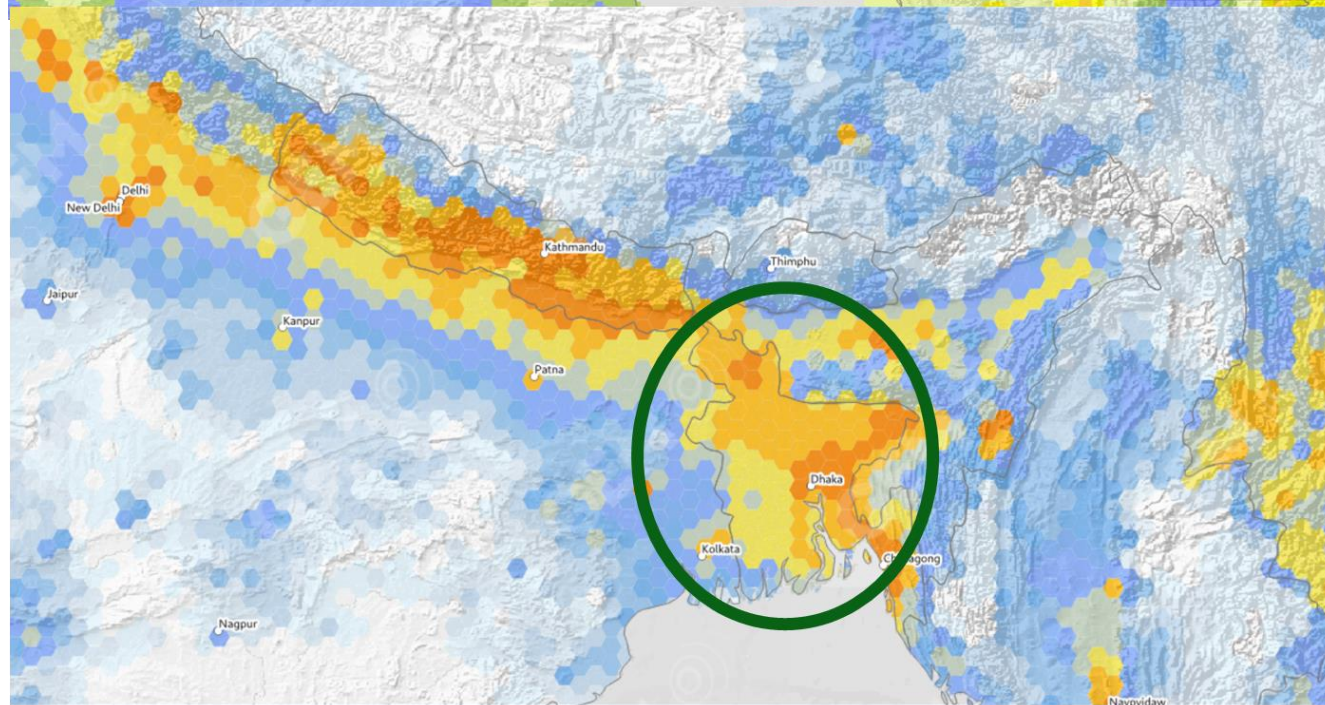
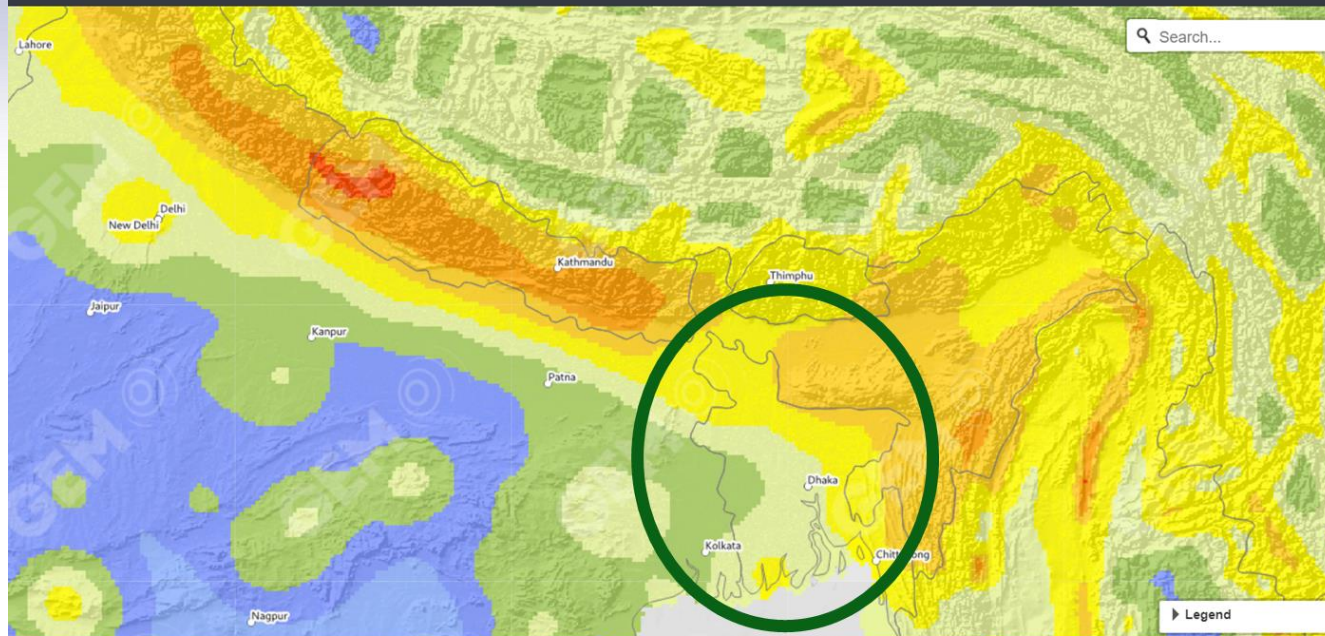
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# BANGLADESH



## Social Indicators

Population (Million):	164.670
Population Growth Rate (%/Year):	1.049
GDP (Billion USD):	249.724
GDP per Capita (USD):	1,517
Gross Savings (Billion USD):	87.997
Life Expectancy (Years):	72.49
GINI Index:	32.1
Human Development Index:	0.8

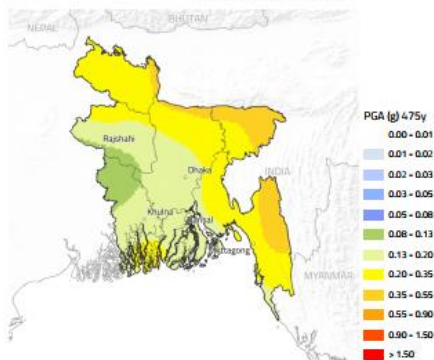
## Risk Indicators

Occupancy	Asset Replacement Cost (Billion USD)	Average Annual Loss (Million USD)	Average Annual Loss Ratio (%)
Residential	403.6	384.7	0.95
Commercial	232.8	158.3	0.68
Industrial	19.4	13.3	0.69

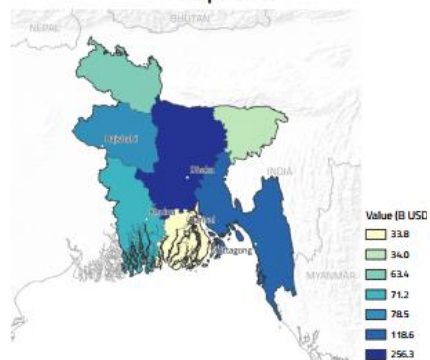
## Major Earthquakes

2003 M 5.7 - Rangamati	2 fatalities
1999 M 4.2 - Maheshkhali	6 fatalities
1988 M 5.8 - Sylhet	2 fatalities

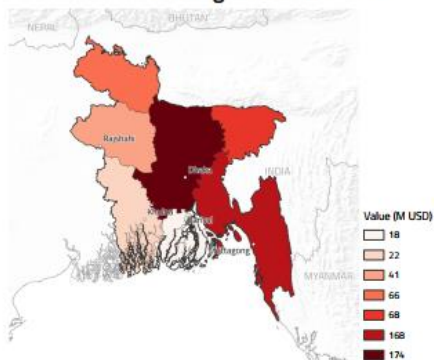
## Seismic Hazard



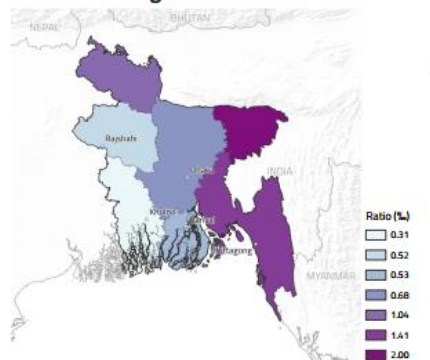
## Exposure



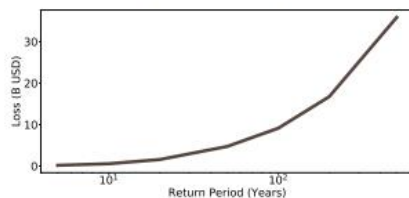
## Average Annual Losses



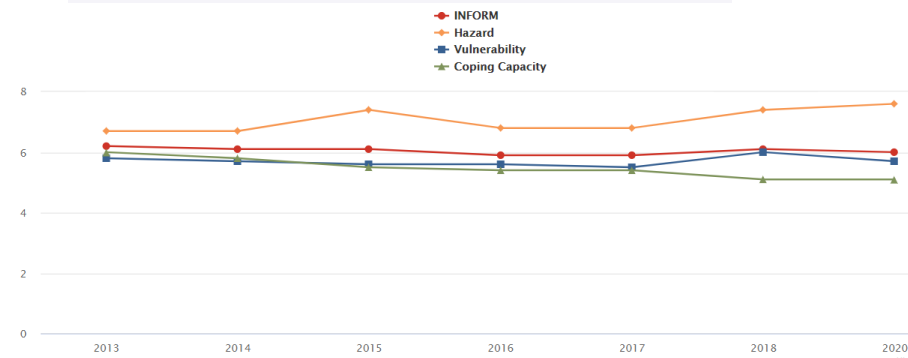
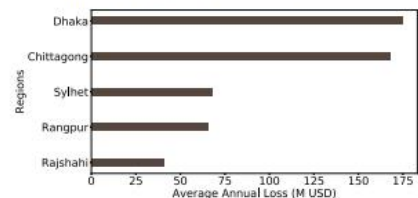
## Average Annual Loss Ratios








## Loss Exceedance Curve



## Regions of Highest Earthquake Risk



## WorldRiskIndex 2019 Overview

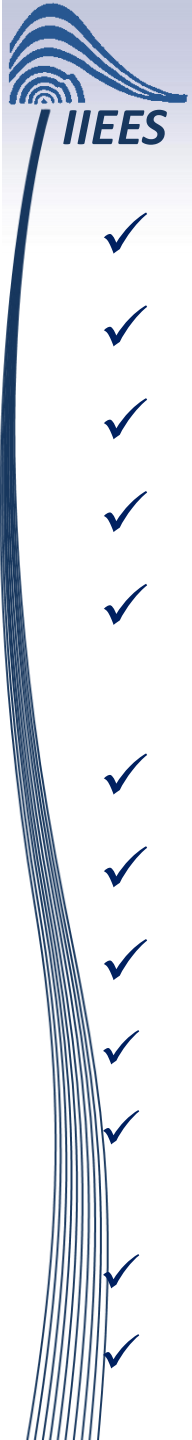
	Classification	WorldRiskIndex	Exposure	Vulnerability	Susceptibility	Lack of coping capacities	Lack of adaptive capacities
	very low	 0.31 - 3.29	0.90 - 9.59	21.11 - 33.08	8.75 - 16.50	36.44 - 58.83	11.16 - 22.73
	low	 3.30 - 5.49	9.60 - 12.30	33.09 - 42.10	16.51 - 20.65	58.84 - 71.95	22.74 - 32.26
	medium	 5.50 - 7.51	12.31 - 14.73	42.11 - 47.91	20.66 - 28.43	71.96 - 78.62	32.27 - 38.94
	high	 7.52 - 10.61	14.74 - 19.61	47.92 - 61.79	28.44 - 45.05	78.63 - 84.65	38.95 - 51.52
	very high	 10.62 - 56.71	19.62 - 99.88	61.80 - 76.13	45.06 - 70.46	84.66 - 94.14	51.53 - 68.95

Max. value = 100, Classification according to the quantile method

Rank	Country	WorldRiskIndex	Exposure	Vulnerability	Susceptibility	Lack of coping capacities	Lack of adaptive capacities
1.	Vanuatu	56.71	99.88	56.78	35.32	84.36	50.66
2.	Antigua and Barbuda	30.80	69.95	44.03	23.38	76.65	32.05
3.	Tonga	29.39	61.41	47.86	28.19	79.92	35.47
4.	Solomon Islands	29.36	48.31	60.77	46.37	80.95	55.00
5.	Guyana	22.87	44.98	50.84	26.41	79.68	46.44
6.	Papua New Guinea	22.18	32.54	68.18	55.45	86.21	62.88
7.	Brunei Darussalam	21.68	57.62	37.62	15.26	67.14	30.45
8.	Guatemala	20.69	38.56	53.65	32.19	83.96	44.80
9.	Philippines	20.69	41.93	49.34	28.86	80.98	38.17
10.	Bangladesh	18.78	32.48	57.83	32.93	86.13	54.44
11.	Cape Verde	18.02	38.26	47.10	31.13	67.63	42.54
12.	Fiji	17.83	38.43	46.41	21.54	78.76	38.93




# **Situation Assessment of Capacity and Disaster Management System in Bangladesh**

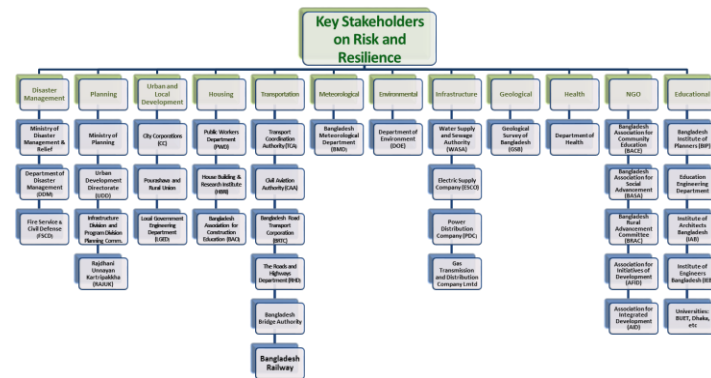


# Bangladesh Policy Framework

- ✓ SOD: Standing Orders on DM of GoB (2009 and 2019).
- ✓ National Plan for Disaster Management (2016-2020)
- ✓ Disaster Management Act (2012). Legal Framework of GoB
- ✓ GoB Disaster Management Vision and 7<sup>th</sup> Five Year Plan,
- ✓ CDMP: Earthquake Vulnerability Assessment and Earthquake Contingency Plan of 6 Cities.
- ✓ Bangladesh National Building Code (BNBC)
- ✓ Building Construction Committee (BCC)
- ✓ Debris Management Guideline (2015 draft).
- ✓ National Women's Advancement Policy (2011),
- ✓ National Child Policy (2011), Children Act (2013), National Education Policy (2010),
- ✓ Policy Guideline of Dead Body Management after Disaster (2016)
- ✓ And other 30+ more documents

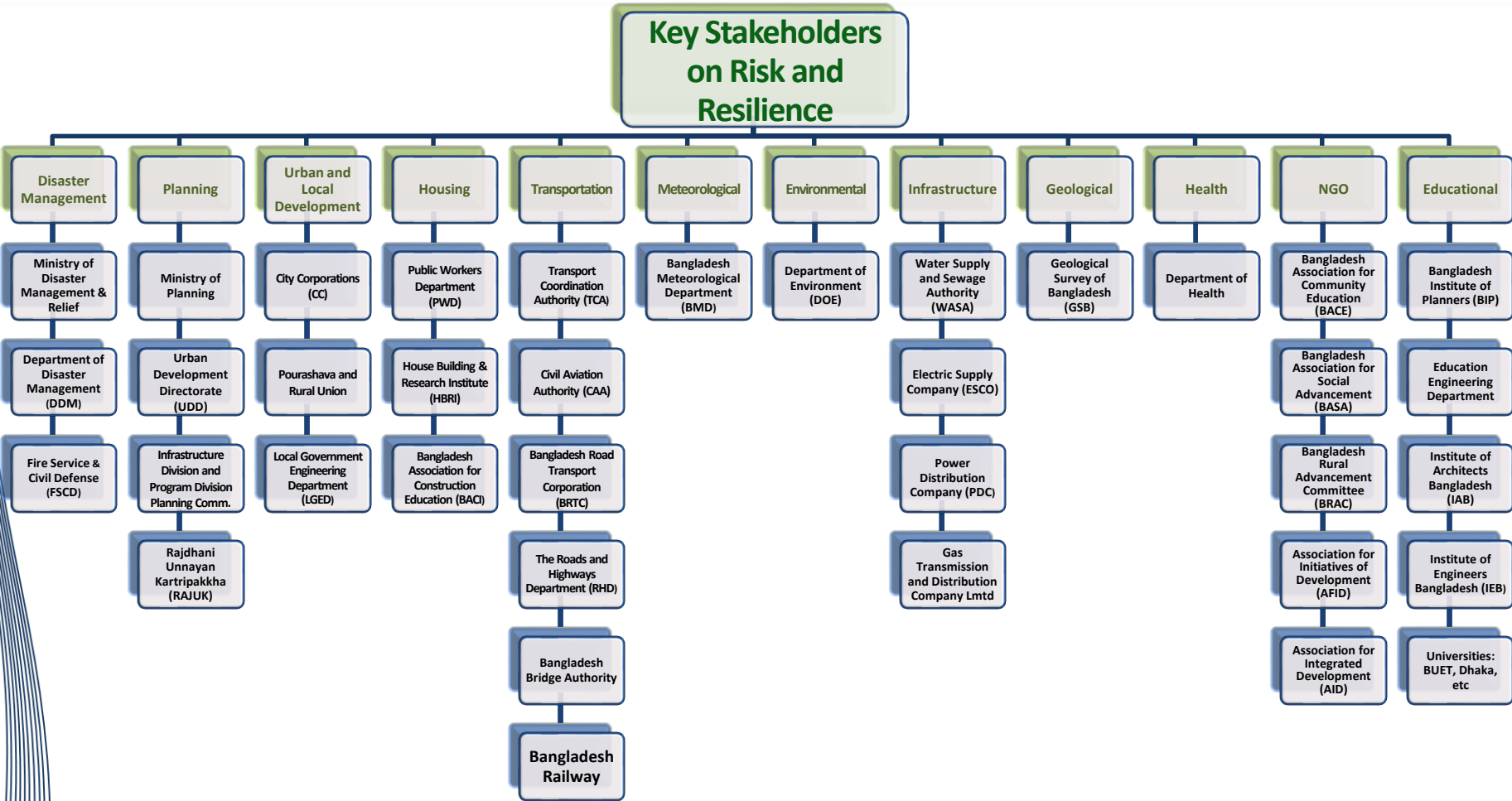
# Bangladesh Institutional Framework

- ✓ Disaster Management Bureau (DMB) in 1993.
  - ✓ Department of Disaster Management (DDM)  
To promote disaster prevention, mitigation and preparedness, provide guidelines and to organize training and awareness for the concerned people and stakeholders to mitigate the impacts of disasters.
  - ✓ Ministry of Disaster Management and Relief (MoDMR)  
Key government responsible body with the mission of achieving a paradigm shift in disaster management from conventional response and relief to a more comprehensive risk reduction culture, and to promote food security as an important factor in ensuring the resilience of communities to hazards.
  - ✓ National Disaster Management Council (NDMC),  
Supreme body for providing overall direction for DM, headed by the Prime Minister.
- All Key Players are:
- 
- ```
graph TD; A[Key Stakeholders on Risk and Resilience] --> B[Disaster Management]; A --> C[Planning]; A --> D[Urban and Local Development]; A --> E[Housing]; A --> F[Transportation]; A --> G[Microfinancial]; A --> H[Environmental]; A --> I[Infrastructure]; A --> J[Geological]; A --> K[Health]; A --> L[NGO]; A --> M[Educational]; B --> B1[Ministry of Disaster Management & Relief]; C --> C1[Ministry of Planning]; D --> D1[City Corporation (CC)]; E --> E1[Public Works Department (PWD)]; F --> F1[Transport Coordination Authority (TCA)]; G --> G1[Bangladesh Meteorological Department (BMD)]; H --> H1[Department of Environment (DOE)]; I --> I1[Water Supply and Sewerage Authority (WSSA)]; J --> J1[Geological Survey of Bangladesh (GSB)]; K --> K1[Department of Health]; L --> L1[Bangladesh Association for Community Education (BACE)]; M --> M1[Bangladesh Institute of Planners (BIP)];
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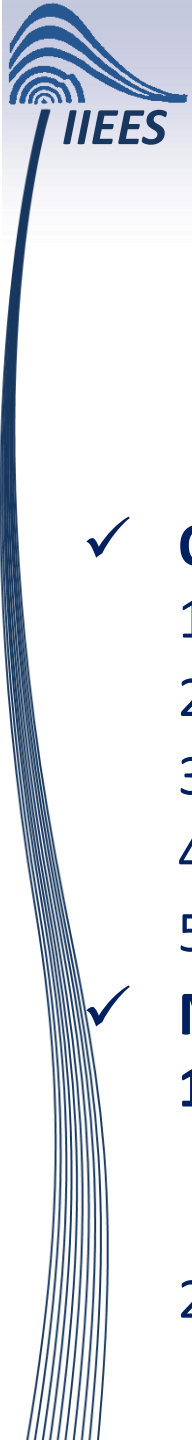




# Bangladesh Institutional Framework







# Ministry of Disaster Management and Relief



## ✓ Objective:

1. Professionalizing Disaster Management System
2. Strengthening Institutional Mechanism
3. Empowering a Risk Communities
4. Strengthening Emergency Response System
5. Developing and Strengthening Regional and Local Networks

## ✓ Missions:

1. Achieving a Paradigm Shift in Disaster Management. from conventional response and relief to a more comprehensive risk reduction culture.
2. Promoting food security as an important factor in ensuring resilience of communities to hazards.



# IIEEP National Plan for Disaster Management (2016-2020)

- ✓ **Vision:** Building on Achievements, tackling new risks, and winning resilience against all odds.
- ✓ **Goals:**
  1. Saving lives
  2. Protecting investments
  3. Effective recovery and rebuilding
- ✓ **Strategy Directions**
  1. Upgrading existing DM programs and policies;
  2. DM governance;
  3. Investments for building resilience against chronic disasters;
  4. Social protection;
  5. Inclusive development;
  6. Private sector engagement;
  7. Resilient post-disaster response and recovery; and
  8. Emerging risks.
- ✓ **Priority Level Action Plans: Same as SFDRR**

| Priority 1                                                                                                                                                                                                                             |                                                                                                                                                                                        | Priority 2                                                                                                                                                                                                                                |                                                                                                                                                                                                | Priority 3                                                                                                                                                                                                       |                                                                                                                                                                                                | Priority 4                                                                                                                                                                                                                      |                                                                                                                                                                                                                |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Actions                                                                                                                                                                                                                                | Key Targets                                                                                                                                                                            | Actions                                                                                                                                                                                                                                   | Key Targets                                                                                                                                                                                    | Actions                                                                                                                                                                                                          | Key Targets                                                                                                                                                                                    | Actions                                                                                                                                                                                                                         | Key Targets                                                                                                                                                                                                    |
| DM-related research and development activities on scientific and socio-economic issues.<br><br>Studies on other hazards (e.g. cold wave, lightning, fire, chemical hazards and oil spills).                                            | At least two R&D projects (scientific and socio-economic) completed with directions for future research.<br><br>Studies on resilience building for at least two human-induced hazards. | Strengthen formal institutional capacities and social protection institutions.<br><br>Guidelines for private sector investment for resilience.<br><br>Close gaps in institutional policies and programs on drought and cold wave hazards. | Social protection for disaster resilience agency established.<br><br>Guidelines for risk-informed private sector investments produced.<br><br>Drought and cold wave unit in MoDMR established. | DM financial options - private sector, insurance and funding for social protection.<br><br>Resilience institutions - Research & Development Center, National Emergency Operations Center.                        | Concept paper on DM financial options produced.<br><br>At least one institution (R&D Center or NEOC) initiated.                                                                                | Financial instruments e.g. recovery compensation or loans.<br><br>Business continuity.<br><br>Emergency preparedness and response to human-induced disasters.<br><br>Preparedness and response measures for slow-onset hazards. | Concept paper on finance for disaster recovery produced.<br><br>Emergency preparedness and response plan produced of at least one human-induced and one slow-onset (e.g. drought) hazard.                      |
| <b>Continuing actions</b>                                                                                                                                                                                                              |                                                                                                                                                                                        |                                                                                                                                                                                                                                           |                                                                                                                                                                                                |                                                                                                                                                                                                                  |                                                                                                                                                                                                |                                                                                                                                                                                                                                 |                                                                                                                                                                                                                |
| <i>Contemporary technologies and innovations for improved weather and climate monitoring, prediction and forecasting.</i><br><br><i>Awareness raising and data products on earthquakes. Upgrade and strengthen national awareness.</i> | At least one demonstrated innovation in forecasting of at least one hazard (e.g. drought, landslide) and another initiated.                                                            | <i>Inter-ministerial coordination to develop sectoral policies and capacity building.</i><br><br>Strengthen the capacity of DMCs.                                                                                                         | Inter-Ministerial Disaster Management Coordination Committee (IDMCC) to make provisions for periodic review of NPDM 2016-2020.<br><br>Urban DMCs activated.                                    | <i>Nationwide capacity building for resilience.</i><br><br><i>Physical works and structural measures for resilience.</i><br><br><i>Strengthen flood management.</i><br><br><i>Strengthen cyclone management.</i> | National DM capacity building plan pilot implementation.<br><br>Construction of at least five fire stations completed in district headquarters and construction of further stations initiated. | <i>Inclusive recovery and rehabilitation strategy.</i><br><br><i>Upgrade and strengthen national awareness.</i><br><br><i>Strengthen forecasting and early warning systems.</i><br><br><i>Build capacity on</i>                 | Preparedness and emergency response guidelines produced for at least one more prioritized sector.<br><br>Pilot recovery and rehabilitation strategy program initiated.<br><br>Capacity raising program for CPP |

**Visible achievement of DRR in Bangladesh indicates that most of the well-thought planned programs have not being implemented in most part of the country, especially toward earthquake disaster risk reductions.**

## ✓ **Responsibilities:**

1. Advising the government on all matters relating to disaster management; and
2. Maintaining liaison with different government agencies, aid-giving agencies, NGOs and Voluntary Organizations and ensure their maximum cooperation and coordination in all matters of disaster management.

MoDMR has the responsibility for coordinating national DM efforts and NDMC is the supreme body for providing overall direction.

## ✓ **Key national level DM institutions within SOD:**

1. NDMC
2. Inter-Ministerial Disaster Management Coordination Committee (IMDMCC);
3. National Disaster Management Advisory Committee (NDMAC);
4. National Platform for Disaster Risk Reduction (NPDRR);
5. Earthquake Preparedness and Awareness Committee (EPAC); and
6. Focal Point Operation Coordination Group of Disaster Management, FPOCG;
7. Sub-national levels: Disaster Management Committees (DMCs) at district, upazila, union, pourashava and ward levels.

✓ **SOD composed:**

1. 16 national level coordination and technical committee;
2. 17 local level Disaster management committee, and Response Coordination groups.

✓ **SOD National Level Roles:**

1. Regulatory Framework;
2. National Mechanism for Policy Guidance and Coordination; and
3. Supporting Role of Ministry of Disaster Management and Relief.

✓ **SOD Local Level Roles:**

1. City Corporation Disaster Management Committee (CCDMC)
2. District Disaster Management Committee (DDMC)
3. Upazila Disaster Management Committee (UzDMC)
4. Pourashava Disaster Management Committee
5. Union Disaster Management Committee
6. Local Disaster Response Coordination Group (LDRCG)
7. Local Level Multi-Agency Disaster Incident Management System

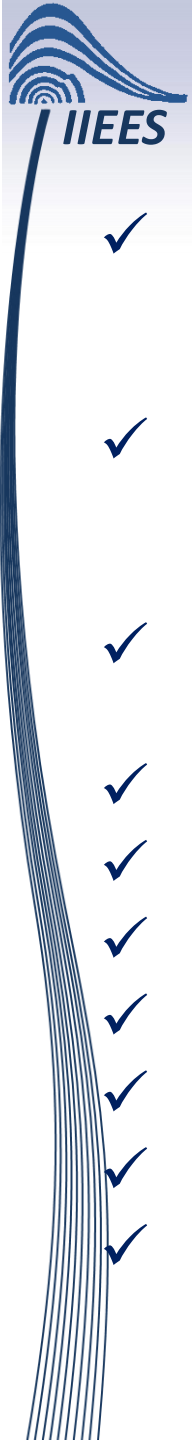


|    |                                                                                     |                  |
|----|-------------------------------------------------------------------------------------|------------------|
| 1  | Minister, Ministry of Disaster Management and Relief                                | Chairman         |
| 2  | Secretary, Ministry of Disaster Management and Relief                               | Vice- Chairman   |
| 3  | Secretary, Ministry of Public Administration                                        | Member           |
| 4  | Secretary, Ministry of Agriculture                                                  | Member           |
| 5  | Secretary, Finance Division, Ministry of Finance                                    | Member           |
| 6  | Secretary, Economic Relations Division                                              | Member           |
| 7  | Secretary, Ministry of Housing and Public Works                                     | Member           |
| 8  | Secretary, Energy and Mineral Resources Division                                    | Member           |
| 9  | Secretary, Ministry of Information                                                  | Member           |
| 10 | Secretary, Ministry of Foreign Affairs                                              | Member           |
| 11 | Secretary, Ministry of Defense                                                      | Member           |
| 12 | Secretary, Ministry of Primary and Mass Education                                   | Member           |
| 13 | Secretary, Secondary and Higher Education Division                                  | Member           |
| 14 | Secretary, Technical and Madrasa Education Division                                 | Member           |
| 15 | Secretary, Power Division                                                           | Member           |
| 16 | Secretary, Railways Division                                                        | Member           |
| 17 | Secretary, Roads and Highways Department                                            | Member           |
| 18 | Secretary, Bridges Division                                                         | Member           |
| 19 | Secretary, Ministry of Social Welfare                                               | Member           |
| 20 | Secretary, Ministry of Women and Children Affairs                                   | Member           |
| 21 | Secretary, Security Services Division                                               | Member           |
| 22 | Secretary, Public Security Division                                                 | Member           |
| 23 | Secretary, Local Government Division                                                | Member           |
| 24 | Secretary, Health Services                                                          | Member           |
| 25 | Secretary, Ministry of Health and Family Planning Affairs                           | Member           |
| 26 | Representative, Cabinet Division                                                    | Member           |
| 27 | Director General, Department of Disaster Management                                 | Member           |
| 28 | Director General, Health Services                                                   | Member           |
| 29 | Director General, Fire Services and Civil Defense Department                        | Member           |
| 30 | Director General, GSB                                                               | Member           |
| 31 | Director General, NGO Affairs Bureau                                                | Member           |
| 32 | Director General, Department of Women Affairs                                       | Member           |
| 33 | Managing Director, National Foundation for Development of the Disabled Persons      | Member           |
| 34 | Chairman, RAJUK                                                                     | Member           |
| 35 | Divisional Commissioner, DHAKA                                                      | Member           |
| 36 | Divisional Commissioner, CHITTAGONG                                                 | Member           |
| 37 | Divisional Commissioner, RAJSHAHI                                                   | Member           |
| 38 | Divisional Commissioner, KHULNA                                                     | Member           |
| 39 | Divisional Commissioner, BARISAL                                                    | Member           |
| 40 | Divisional Commissioner, SYLHET                                                     | Member           |
| 41 | Divisional Commissioner, RANGPUR                                                    | Member           |
| 42 | Divisional Commissioner, MYMENSINGH                                                 | Member           |
| 43 | Joint Secretary, (Field Administration) Cabinet Division                            | Member           |
| 44 | Joint Secretary, (Disaster Management), Ministry of Disaster Management and Relief  | Member           |
| 45 | Chief Executive Officer, Dhaka North City Corporation                               | Member           |
| 46 | Chief Executive Officer, Dhaka South City Corporation                               | Member           |
| 47 | Managing Director, Dhaka WASA                                                       | Member           |
| 48 | Chief Engineer, Public Works Department                                             | Member           |
| 49 | Chief Engineer, Roads and Highways Department                                       | Member           |
| 50 | Chief Engineer, Local Government Engineering Department                             | Member           |
| 51 | Chief Engineer, Engineering Education Department                                    | Member           |
| 52 | Chief Engineer, Dhaka Electric Supply Company Limited (DESCO)                       | Member           |
| 53 | Chief Engineer, Dhaka Power Distribution Company Limited (DPDC)                     | Member           |
| 54 | Director, Housing and Building Research Institute (HBRI)                            | Member           |
| 55 | Chairman, Disaster Science and Management, University of Dhaka                      | Member           |
| 56 | Chairman, Department of Geology, University of Dhaka                                | Member           |
| 57 | Chairman, Bangladesh Red Crescent Societies (BDRCS)                                 | Member           |
| 58 | Representative, National Forum of organization                                      | Member           |
| 59 | Representative, Hazrat Shahjalal International Airport, Dhaka                       | Member           |
| 60 | Representative, Urban Development Directorate (UDD)                                 | Member           |
| 61 | Representative, Civil Engineering Department, BUET                                  | Member           |
| 62 | Representative, Department of Geography and Environment, University of Chittagong   | Member           |
| 63 | Representative, Department of Regional and Urban Planning, Jahangirnagar University | Member           |
| 64 | Representative, Department of Civil and Environmental Engineering, SUST             | Member           |
| 65 | National Commissioner, Bangladesh Scouts                                            | Member           |
| 66 | Representative, Department of Armed Forces                                          | Member           |
| 67 | Representative, Bangladesh Police                                                   | Member           |
| 68 | Representative, RAB                                                                 | Member           |
| 69 | Managing Director, Nuclear Power Plant Company Bangladesh Lmt.                      | Member           |
| 70 | Director, Department of Weather                                                     | Member           |
| 71 | Representative, Organizations Helping in Development (Nominated by the Government)  | Member           |
| 72 | Representative, Nominated by UNRC                                                   | Member           |
| 73 | 3 Rep. from NGO, active on a National level, Nominated by MoDMR                     | Member           |
| 74 | 2 Rep. from NGO, active on an International level, Nominated by MoDMR               | Member           |
| 75 | Additional Secretary/ Joint Secretary (Disaster Management), MoDMR                  | Member-Secretary |

## Earthquake Preparedness and Awareness Committee (EPAC)

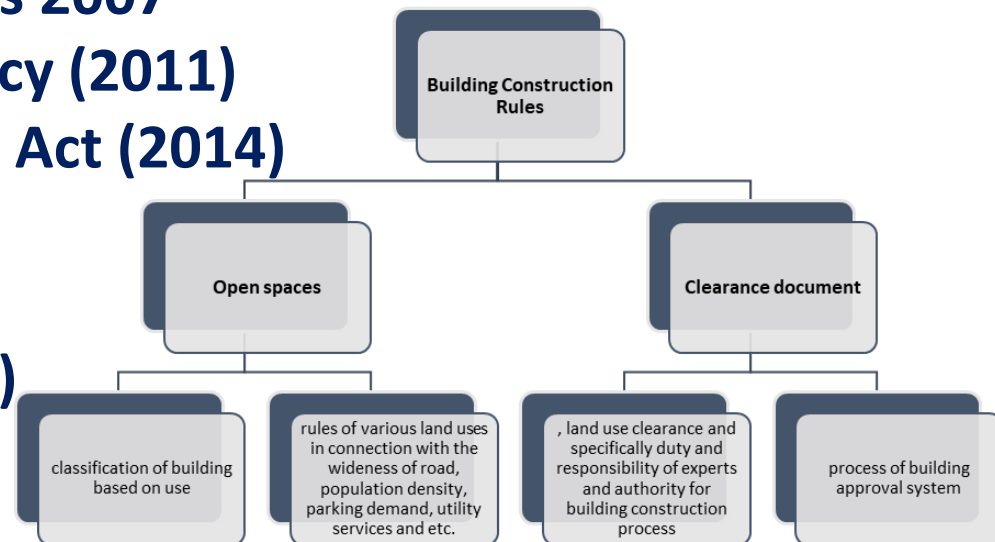
### Responsibilities:

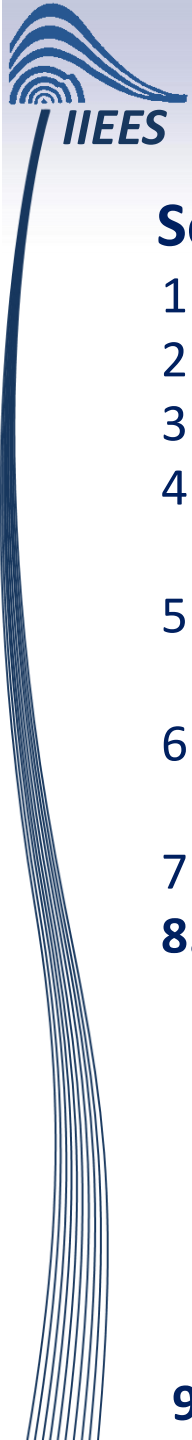
1. Review programs for earthquake preparedness and awareness and provide recommendations for the concerned organizations;
2. Provide advice on earthquake preparedness, search and rescue, determining strategies to enhance the capacity to reformation of the organization;
3. Prepare and recommend a list of equipment for earthquake risk reduction and search and rescue programs after an earthquake;
4. Provide advice on the development of the capacity of the primary and secondary responding person/ organization;
5. To make necessary recommendations on the things to be done for earthquake-north reconstruction and rehabilitation activities;
6. Following the Bangladesh National Building Code and take up advocacy for the construction of houses and buildings;
7. Providing advice on disaster-relief for emergency service deployment and supply systems;
8. Necessary advice for preparing emergency plans and conducting trials
9. Provide recommendations for the formation of multiple sub-committees as needed to reduce, prepare for and respond to earthquakes;
10. Provide Recommendations for educational institutes for awareness activities on “things to do during an Earthquake”;
11. Provide recommendations for preparedness activities and regular earthquake trials in homes, workplaces, home centers and educational institutions;
12. Provide recommendations for communications during emergency situations with mobile number, email id, database creation, updating and dissemination of the person responsible for educational institutes, offices, business centers;
13. Utilization and collection of foreign experiences on earthquake;
14. The construction of buildings must be in compliance with Bangladesh National Building Code;
15. Mobile courts are conducted on a regular basis with the help from representatives of different ministries;
16. Ensuring maximum percentage of emergency drainage system for construction of multistoried buildings;
17. Conduct trials to deal with any accidents in various educational institutes and offices, every three months or intervals of time.



# Building Regulation, Codes and Construction

- ✓ **Building Construction Act of 1952:** To prevent the haphazard construction of buildings that would interfere with proper land use planning; mainly in Dhaka.
- ✓ **Town Improvement Act (1953):** To provide the development, improvement and expansion of the Dhaka and set regulation and rules of RAJUK .
- ✓ **National Building Regulation (1996):** To prevent the haphazard construction of buildings that would interfere with proper land use planning.
- ✓ **Bangladesh National Building Code (BNBC) 2006:**
- ✓ **Building Construction Rules 2007**
- ✓ **National Urban Sector Policy (2011)**
- ✓ **City and Regional Planning Act (2014)**
- ✓ **National City Policy (2014)**
- ✓ **Building Code (2015)**
- ✓ **National Land Policy (2016)**

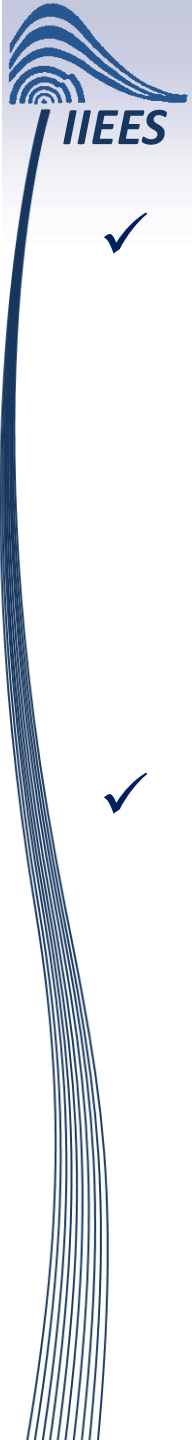




# Building Construction Situation

## Some Reasons for Low Quality Constructions:

1. Outdated Building Code. ➡ Create Risk ➡ Create Demand for DM&R.
2. Lack of ownership and financial incentive for safe construction.
3. Profit oriented construction business. Built to sell.
4. Lack of sufficient guidelines for safe planning, design and construction of buildings and infrastructures against potential hazards in Bangladesh.
5. Extensive code violations due to the lack of knowledge of designers, builders and inspectors; as well as lack of awareness of the owners.
6. No legal regulatory provision exists to keep inefficient and incapable construction firms/builders from entering the construction industry.
7. Complicated approval procedure and paper works.
8. **Conflict of INTEREST, such as:**
  - Complaints filed by RAJUK against builders or building owners for alleged violations of code provisions.
  - Complaints filed by third parties to RAJUK about violations of RAJUK rules by owners/developers that affect the third parties.
  - Complaints filed by builders or building owners against RAJUK for a lack of timely response, a lack of due process, unreasonable requests, unjustified decisions, etc.
9. Etc.



# World Bank-Urban Resilience Project (URP)

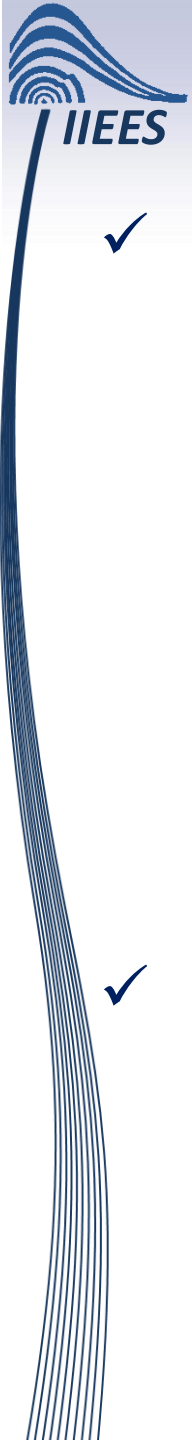
## ✓ **Expected Results:**

1. Increased decentralized emergency response services in Dhaka and Sylhet.
2. Increased capacity of officials and emergency management response personnel.
3. Systems and assessments established to reduce vulnerability of buildings.
4. Risk information in land use planning and management.

## ✓ **key policy recommendations:**

1. The planning structure and process, plan outputs and the structures to implement them must be risk-sensitive.
2. Make the process of plan development and implementation participatory at all levels.
3. Use the Multi-Hazard, Vulnerability and Risk Assessment (HVRA) findings to guide land use planning formulation, zoning ordinances and development regulations.



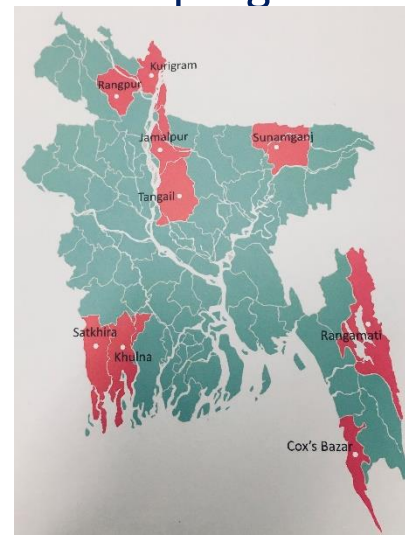


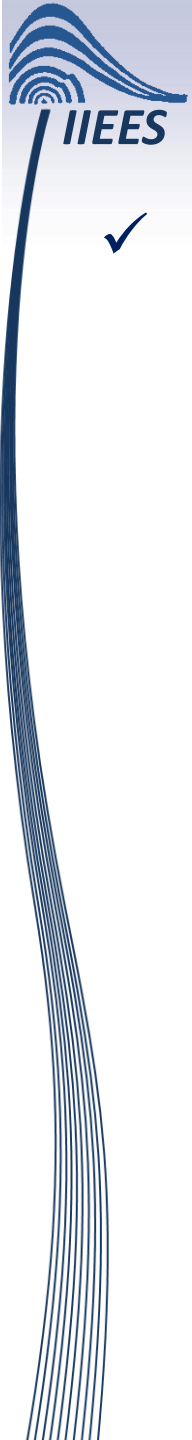
## ✓ Objectives:

1. To provide strategic support in strengthening national capacity to keep pace with the changing nature of disasters.
2. To sustain the resilience of human and economic development in Bangladesh through inclusive, gender responsive disaster management and risk informed development.
3. Substantial increase in resilience to disaster and reduction in disaster risk, loss of lives, livelihoods and health of men, women, girls and boys, and protection of persons, businesses and communities in Bangladesh.
4. Advocacy for implementation of SFDRR and developing necessary monitoring mechanism to oversee implementation progress of SFA.

## ✓ Target Disaster Hotspots for Resilience

1. Urban area of Dhaka, Rangur, Tangail, Rangamati and Sunamganj.
2. Seismic Hazard Area
3. Flood Area.
4. Coastal Zone.
5. Drought Area.



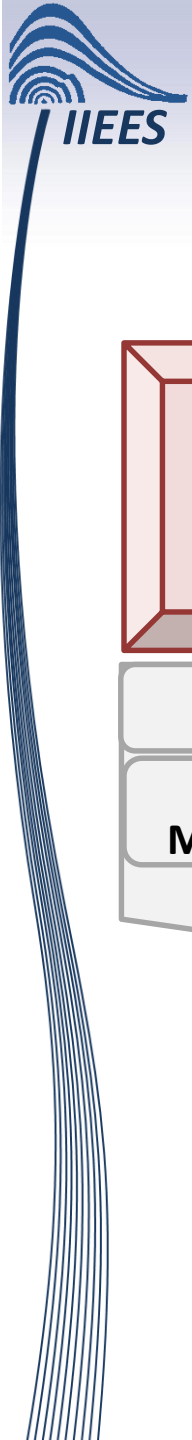


## ✓ Expected Results:

1. Improved capacities for risk-informed and gender responsive development planning;
2. Strengthened gender-responsive national capacities to address recurrent and mega disasters.
3. Improved capacity of GoB to achieve resilience through designing and constructing risk-informed and gender-responsive infrastructure system.
4. Enhanced women leadership capacities for gender-responsive disaster management decisions, investments and policies at national and local levels.
5. Strengthened disability inclusive, gender responsive community preparedness, response and recovery capacities for recurrent and mega disasters.

# SWOT Analysis of Bangladesh DRM Frameworks

| Strength                                                     | Weakness                                                        | Opportunities                                                                                   | Threats                                                    |
|--------------------------------------------------------------|-----------------------------------------------------------------|-------------------------------------------------------------------------------------------------|------------------------------------------------------------|
| Legal framework and policy                                   | Low risk awareness<br>Little recognition of earthquake          | Political will and opportunity to bring together all key stakeholders                           | No clear future and continuous policy changes              |
| Laws, Policies, NRP, URP, Building Codes (BNBC)              | Low implementation and enforcement power                        | Economic growth                                                                                 | Lack of concern among public                               |
| Good Experience in Flood and Cyclones                        | Earthquake is not considered as a threat                        | Investment and property value                                                                   | Lack of ownership                                          |
| International Technical assistance                           | No local knowledge                                              | Donors interest in supporting Bangladesh                                                        | No economic incentive for safety                           |
| International funds                                          | Land-use plan                                                   | Construction Economic benefit                                                                   | Corruption among engineer and developer                    |
| Qualified Universities                                       | Lack of Earthquake engineers Program in Universities            | Quality guidance                                                                                | Too many objectives                                        |
| Young Civil engineers                                        | No earthquake engineer experts (lack of expert human resources) | Social capacity building in legislations and laws                                               | Ambitious targets                                          |
| Building codes                                               | Structural engineering is not included in Building codes        | Institutional arrangements in DRM visions                                                       | Lack of system memory                                      |
| Extensive Institutional infrastructures                      | Incompatibility with local resources                            | Risk, resilience and hazard studies, researches and development                                 | Large committees and large Government                      |
| Consideration the economy related risks                      | Low enforcement                                                 | Consideration of renewable energy production                                                    | Immunity                                                   |
| Risk based cooperation in legislations and laws              | Lack of vision, framework, perspectives, plans and benchmarks   | developing scalable and innovative models                                                       | Unsafe development with greater disaster risk              |
| Rural risk reduction plans                                   | Policy-practice disconnect and the missing middle               | Gap elimination in preparedness programs and early warning systems                              | Lack of resilience based and risk sensitive building codes |
| Meteorological risk consideration                            | Gaps in training policy, design and delivery                    | A paradigm shift from disaster response to risk reduction                                       | Lack of social related risk consideration                  |
| Disaster-proofing of development funding (across ministries) | Lack of risk sensitive land use strategies                      | DRR mainstreaming across ministries                                                             | Parallel functional organizations                          |
| Consolidated regulatory framework and planning               | Lack of multi stakeholder cooperation in DRM strategies         | Improving overall effectiveness and timeliness of disaster preparedness and response nationwide | Lack of inter-institutional consultation and coordination  |
| Disaster management training and education                   | Resilience based regulations are required                       | Develop strong and well-managed institutional at national level                                 | Lack of legal authority, monitoring and oversight          |



**Bangladesh are at High Risk of All Disasters due to Improper Urbanization  
Strong Will of the GoB for Safe and Sustainable Development and Be Prepared  
Young Motivated Generation, Availability of Int. Funds**

## **Major Gaps**

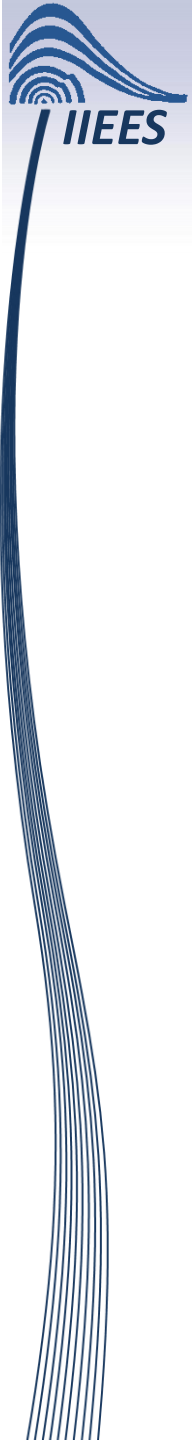
**Lack of Integrated Disaster Risk  
Management and Emergency Response**

**Lack of Integrated Hazard, Vulnerability,  
Risk and Resilience Model**

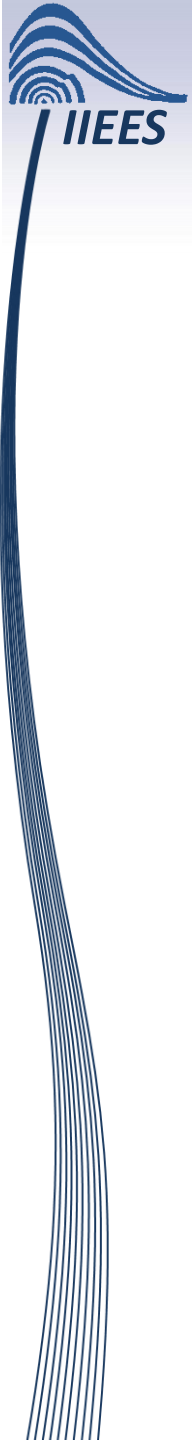
**Technical Capacity, Awareness and Resources**

**Accepting Fact of EQ Risk**





# 10 Key Doable Recommendations With Minimum Cost



Bangladesh are at High Risk of All Disasters due to Improper Urbanization  
Strong Will of the GoB for Safe and Sustainable Development and Be Prepared  
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## Major Gaps

Lack of Integrated Disaster Risk  
Management and Emergency Response

Lack of Integrated Hazard, Vulnerability,  
Risk and Resilience Model

Technical Capacity, Awareness and Resources

Accepting Fact of EQ Risk

## Integrated-Effective Risk Governance

Nexus Integration of All Policies and  
Stakeholders Mission and Objectives  
Toward Safe and Resilience Bangladesh

Development of Integrated and  
Comprehensive Risk and Resilience  
Model of Bangladesh (BRRM)

Optimized and Prioritized DRM and  
Resiliency Objective that are Doable,  
Implementable and Achievable

Risk-Based Disaster Management,  
Response, Recovery and Reconstruction

Risk Communication and Creating  
Demand for Safety

Comprehensive and integrated  
capacity building

## Avoid, Reduce and Transfer Physical Vulnerability and Risk

Avoid Creating New Risk through Safe and Resilient Planning, Design,  
Construction and Maintenance of New Building, Lifelines and Infrastructures with  
adaptation of Risk Sensitive Land Use Planning and No Code Violation

Gradual Vulnerability and Risk Reduction  
of Existing Building & Infrastructures,  
specially those Improve Disaster Response

Develop and Implement Financial  
Incentive for Reducing Vulnerabilities,  
and DR Finance and Insurance.

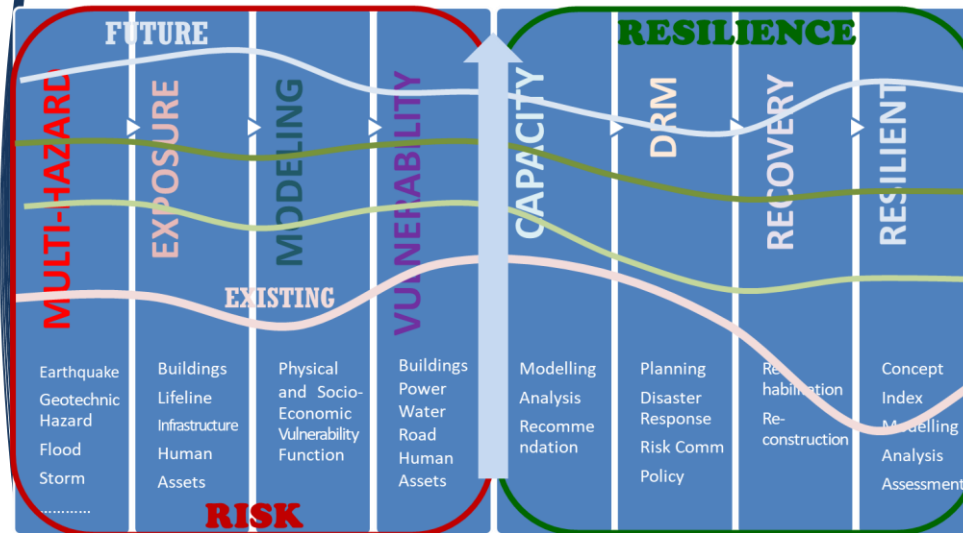
Updating and Adjusting the Risk Governance,  
and Avoiding and Reducing Risk

Urban Risk and Resilience Monitoring

Achieving: Sustainable Bangladesh, SFDRR and SDG

## Recommendation 2

# IIEES Integrated and Comprehensive Risk and Resilience Model

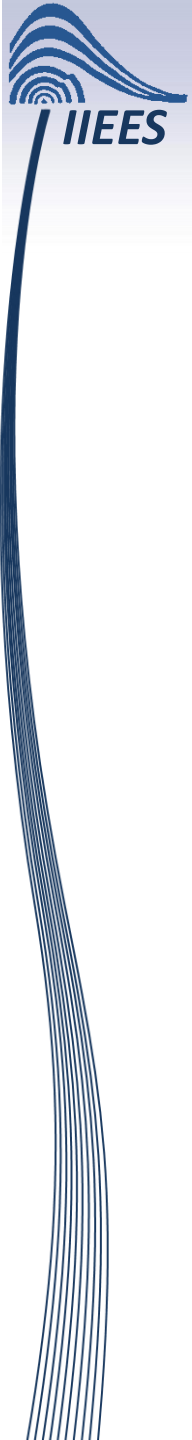


## Expected Products/Use:

1. Integrated Resilience
2. Risk Management
3. Define Accepted Risk
4. Define Resilient Target
5. Risk Communication
6. Risk Reduction
7. Risk Programming

## Key Guiding Principles:

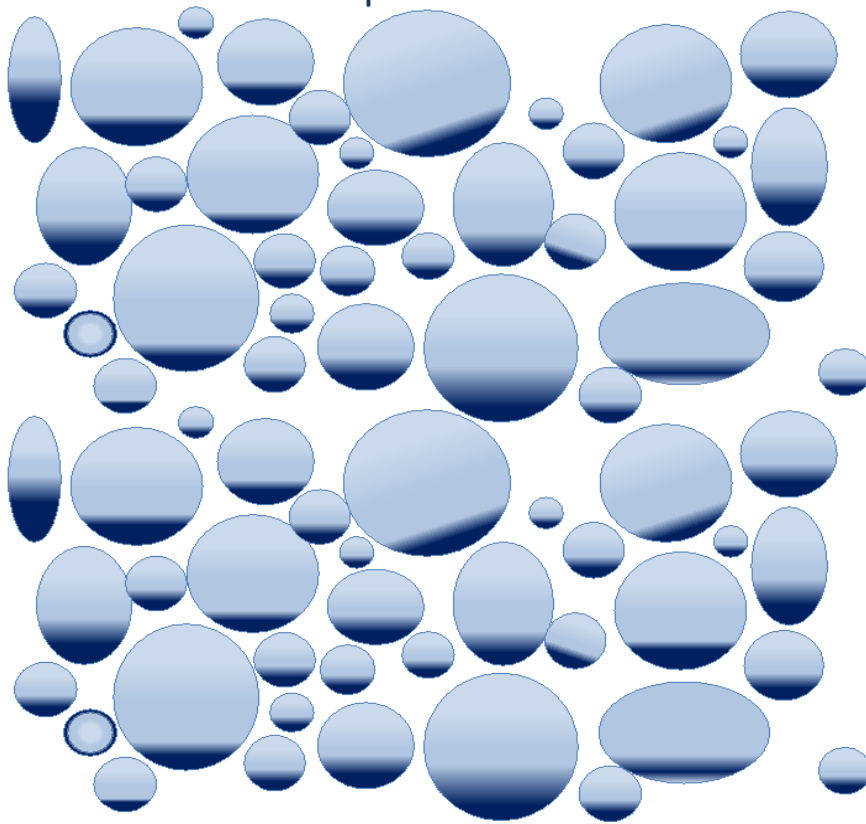
1. Integrated and Comprehensive Resilience Approach
2. Multi-Hazard Approach
3. Consider Urban Interdependency
4. Tangible, Implementable and Doable Actions
5. Joint Collaboration and Partnership
6. Create Added Values and Incentive for All Partners
7. Avoid Duplication by Starting Gap Analysis



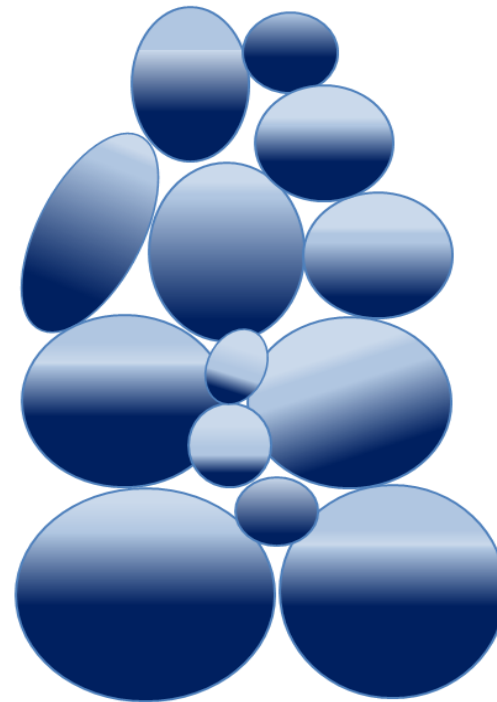
# Recommendation 3

## Optimized DRM and Resiliency Objectives

Too Many Objective  
Low Implementation



Optimized Objective  
High Implementation





## Recommendation 6

# Risk-Based Disaster Response, Recovery & Reconstruction



**Disaster Management  
and Relief**

**?  
=**

**Risk and Resilience  
Management**

**Post Disaster Actions:**  
Search, Rescue  
and Relief  
of Affected People

**Management and Actions Process for:**

- ✓ Improving Safety and Comfort
- ✓ Saving Human Lives and Resources
- ✓ Reduction of Physical Losses
- ✓ Fast Restoration and Recovery
- ✓ Sustainable Development
- ✓ Economic Growth

**Effective DM, Relief and RM should be based on  
Reliable Risk Modeling and Information  
Bangladesh-based Risk Model is Needed (Recomm. 2)**