

BANGLADESH URBAN RESILIENCE PROJECT (URP) – Component A5

Consultancy Services for Training Exercises and Drills (TED) Program for the Ministry of Disaster Management and Relief (MoDMR), Fire Service and Civil Defence (FSCD), Dhaka North City Corporation (DNCC), Dhaka South City Corporation (DSCC), Sylhet City Corporation (SCC) and related institutions of the Government of Bangladesh involved in the Disaster Risk Management of Dhaka and Sylhet

Terms of Reference

Acronyms

AFD	Armed Forces Division	IMDMCC	Inter-Ministerial Disaster Mgmt. Coord. Committee
BGAN	Broadband Global Area Network	IP	Internet Protocol
BMD	Bangladesh Meteorological Department	LTE	Long Term Evolution
BPATC	Bangladesh Public Administration Training Centre	MoI	Ministry of Information
BTCL	Bangladesh Telecommunications Limited Company	MoD	Ministry of Defence
BTRC	Bangladesh Telecom. Regulatory Commission	MoDMR	Ministry of Disaster Management and Relief
BTS	Base Transceiver Station	MoDMR	Ministry of Disaster Management and Relief
C3	Command, Control and Communications	MoE	Ministry of Education
CCDMC	City Corporation Disaster Management Committee	MoH&FW	Ministry of Health and Family Welfare
CCDRCG	City Corporation Disaster Response Coord. Group	MoHA	Ministry of Home Affairs
CCTV	Closed-Circuit Television	MoHPW	Ministry of Housing and Public Works
CPPIB	Cyclone Preparedness Program Implementation Board	MoLGRD	Ministry of Local Government and Rural Development
DCR	Disaster Control Room	MoPA	Ministry of Public Administration
DDM	Department of Disaster Management	MoPE&MR	Ministry of Power, Energy and Mineral Resources
DDMC	District Disaster Management Committee	MoPTIT	Ministry of Posts, Telecommunication and Inform. Tech.
DDRCG	District Disaster Response Coordination Group	NDMC	National Disaster Management Council
DESCO	Dhaka Electric Supply Company Limited	NDMCC	National Disaster Management Coordination Committee
DGHS	Directorate General of Health Services	NDMRTI	National Disaster Mgmt. Research and Training Institute
DNCC	Dhaka North City Corporation	NDRCG	National Disaster Response Coordination Group
DPDC	Dhaka Power Distribution Company Limited	NDRCG	National Disaster Response Coordination Group

DSCC	Dhaka South City Corporation	NFPA	National Fire Protection Association
DWASA	Dhaka Water Supply and Sewerage Authority	NPDRR	National Platform for Disaster Risk Reduction
ECT	Emergency Communications Technology	OS	Operating System
EED	Education Engineering Department	PABX	Private Automatic Branch Exchange
EMAP	Emergency Management Accreditation Program	PID	Press Information Department
EMIDS	Emergency Management Information and Data System	PMO	Prime Minister's Office
EOC	Emergency Operations Center	PWD	Public Works Department
EPAC	Earthquake Preparedness and Awareness Committee	RAJUK	RajdhaniUnnayanKartripakkha
ERCC	Emergency Response and Communication Center	RCR	Remote Control Rooms
FSCD	Fire Service and Civil Defense	SCC	Sylhet City Corporation
GIS	Geographic Information System	SoB	Survey of Bangladesh
GoB	Government of Bangladesh	SOD	Standing Orders on Disaster
GSB	Geological Survey of Bangladesh	SPARSSO	Space Research and Remote Sensing Organization
GSM	Global System for Mobile Communications	TMAS	Text Messaging Alert System
HED	Health Engineering Department	UDD	Urban Development Directorate
HFN	Hastily Formed Network	UHF	Ultra High Frequency
IAEM	International Association of Emergency Managers	URP	Urban Resilience Project
ICP	Incident Command Post	URU	Urban Resilience Unit
ICS	Incident Command System	VHF	Very High Frequency
ICT	Information and Communications Technology	VSAT	Very Small Aperture Terminal

Contents

1.0	Context.....	5
2.0	Rationale for Component A of the Bangladesh URP.....	6
3.0	Component A5: TED Program Objectives, Expected Outcomes and Results Monitoring	9
3.1	Objectives	9
3.2	Expected Outcomes and Results Monitoring	10
4.0	Requirements for the URP Training, Exercises and Drills (TED) Program.....	12
4.1	General Requirements.....	12
4.2	Requirements for Skills Training.....	15
4.3	Requirements for Exercises and Drills	16
4.4	Requirements for Coordinating Vendors’ Training	18
4.5	Requirements for the Development of Emergency Operations Plans	19
5.0	Scope of Work.....	21
5.1.1	Phase 1– Task List	22
5.1.2	Phase 1 – Outputs and Deliverables.....	25
5.2.1	Phase 2 – Task List	26
5.2.2	Phase 2 – Outputs and Deliverables.....	31
5.3.1	Phase 3 – Task List	32
5.3.2	Phase 3 – Outputs and Deliverables.....	33
6.0	Additional Considerations.....	33
7.0	Implementation Arrangements	35
8.0	Selection Procedure and Form of Contract	35
9.0	Duration of Assignment	36
10.0	Staffing Requirements	36
11.0	Appendices.....	43
	Appendix A: Bangladesh Disaster Risk Management (DRM) System	43
	Appendix B: List of Recommended Training Courses with Course Descriptions	47
	Appendix C: Description of Training Courses.....	62
	Appendix D. Training, Exercises, and Drills (TED) Program Schedule	71
	Appendix E. Proposed Organograms for the different facilities to be established under the Bangladesh Urban Resilience Project (URP).....	80
	Appendix F. Implementation Schedule for the TED Program.....	85

Figures and Tables

Figure 1. The Three Pillars of Urban Disaster Resilience	5
Figure 2. Schematic of the Proposed Integrated Emergency Management System Requiring Vertical Communications Capabilities.	8
Figure 3. Schematic of the Integrated Emergency Management System Showing the Levels of Command and the Information Flow.	34
Figure 4. Institutional Relationship of DRM Stakeholders in Dhaka.....	46
Figure 5. Indicative Organizational Chart of ERCC.....	80
Figure 6. Indicative Organizational Chart of NDMRTI.....	81
Figure 7. Indicative Organizational Chart of FSCD Dhaka Command and Control Facility.	82
Figure 8. Indicative Organizational Chart of DNCC Disaster Risk Management Office.	83
Figure 9. Indicative Organizational Chart of DSCC Disaster Risk Management Office and Emergency Operations Center.....	84

1.0 Context

The World Bank has provided a loan to improve the capacity of Disaster Risk Reduction (DRR) and Emergency Management (EM) systems in Bangladesh through the Urban Resilience Project (URP).

The URP seeks to create an enabling environment for centrally coordinated and locally managed Disaster Risk Management (DRM) in Bangladesh. There are three core pillars of disaster resilience in urban settings, as described in Figure 1 below, including: i) effective emergency management; ii) improving structural resilience through reduction of existing physical vulnerability; and iii) risk-sensitive land use planning and safe construction standards and practices to ensure sustainable growth.

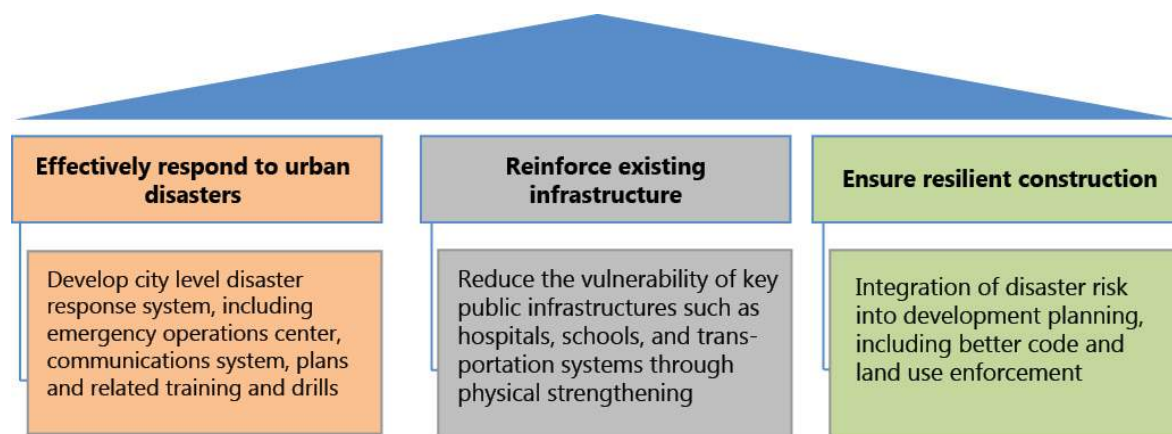


Figure 1. The Three Pillars of Urban Disaster Resilience. An important objective of the project is to put in place an emergency management (EM) system that would hire, train, and mobilize human resources at all levels, and assign roles and responsibilities more efficiently. The EM system and human resources will be guided by international standards and principles of emergency management¹. This TOR is aimed at designing, organizing, developing, implementing, and operationalizing the human resource component for the URP.

The URP would serve as the first in a series of investments, which will initially focus on Pillar 1, to improve the critical human capacity and infrastructure for emergency planning and response. The project will also lay the foundations for subsequent investments in Pillars 2 and 3 by identifying key risks in the to-be built environment and developing the practice of risk-sensitive urban development. Below are the four (4), A through D, main components of the project and their sub-components:

Component A – Reinforcing the Country’s Emergency Management Response Capacity. The overall goal of the Emergency Management component (Component A) is to design and operationalize an integrated emergency management system in Bangladesh that will enable the country to plan for and respond to both common, everyday emergencies, as well as major disasters in an organized and effective manner. Component A has five sub-components:

¹International standards and principles of emergency management include the following: International Association of Emergency Management, *Certification of Emergency Managers*; Emergency Management Accreditation Program (EMAP), *Accreditation of Government Programs and Agencies*; NFPA 1600-2010, Standards on disaster/emergency management and business continuity; ISO 22320-2011, *Requirements for Incident Response*; International Search and Rescue Advisory Group (INSARAG), *External Classification*.

- Component A1: Renovate and outfit national-level Disaster Risk Management (DRM) facilities;
- Component A2: Build, renovate and outfit local-level City Corporation and Fire Service and Civil Defense DRM facilities in Dhaka and Sylhet;
- Component A3: Supply, install and integrate specialized Emergency Management and Communications Technology (ECT) equipment for DRM and emergency response within national-level and local-level agencies;
- Component A4: Supply specialized search and rescue equipment to local-level agencies involved in DRM;
- Component A5: Provide Training, Exercises and Drills (TED) to national-level and local-level agencies involved in DRM

Component B – Program on Assessment of Vulnerability of Critical and Essential Facilities and Lifelines. Component B aims to develop the consensus-driven analytical foundation required for longer-term investments to reduce risk in the built environment of Dhaka. Component B has 2 sub-components:

- Component B1: Assessment of vulnerability of critical and essential facilities and lifelines;
- Component B2: Support for development of a Risk-sensitive Land Use Planning Practice in Dhaka

Component C – Improved Construction, Urban Planning and Development. Component C aims to put in place the institutional infrastructure and competency to reduce long-term disaster vulnerability in Dhaka. It consists of four sub-components:

- Component C1: Creating and operationalizing the Urban Resilience Unit (URU) in RAJUK;
- Component C2: Electronic construction permitting at RAJUK;
- Component C3: Professional Accreditation Program for engineers, architects and planners;
- Component C4: Building Code Enforcement within RAJUK

Component D – Project Implementation, Monitoring and Evaluation. The objective of Component D is to provide necessary institutional arrangements for implementation, monitoring and evaluation to ensure efficiency, transparency, and accountability in the implementation of project activities.

Note that this Terms of Reference (ToR) is for Component A5 of the Bangladesh URP.

2.0 Rationale for Component A of the Bangladesh URP

Component A objectives are to: (1) set up emergency operations centers (EOCs), localized disaster control rooms, emergency equipment warehouses and other response facilities, and a national training center that conform to international standards; (2) outfit these facilities with modern inter-operable emergency communications systems and response equipment; and (3) support the proposed emergency

management system with a robust and sustained capacity development program that establishes and trains a cadre of emergency management professionals for Bangladesh that are at par with their international peers.

The rationale for this project component is derived from an analysis conducted under the Bangladesh Urban Earthquake Resilience Project of the current emergency management operational capabilities and existing laws for Ministries and Dhaka City Corporations, North and South, which are relevant to DRM.

The current emergency response system is organized using the multiple committee approach and assumes that the international Command and Control (or Direction and Control) system specified in the Standing Orders on Disaster (SOD) is not operational. While the current government guidelines such as the SOD and national and local-level contingency plans indicate and assign the EM tasks and activities, they do not specify how these tasks and activities are implemented. As a result, the current emergency management system does not provide a common operating picture to effectively coordinate and manage a large-scale urban disaster response, such as a major earthquake that can cause widespread damage. Bangladesh also currently lacks a national Emergency Management training facility. Appendix A provides an overview of the current Bangladesh Disaster Risk Management system.

Component A of theURP aims to achieve a national integrated emergency operations system where national-level and city-level roles, responsibilities, resources and decision-making are optimized. The system will be guided by international standards and principles of emergency management², and in conformity with national laws and guidelines incorporated in the Disaster Management (DM) Act of 2012 and SOD, 2010 (see Appendix A. Bangladesh Disaster RiskManagement System).This emergency management operational structure is represented schematically in Figure 2 below. It depicts horizontally, from left to right, the emergency management organizational system for all levels of government and theircorresponding level of command, type of operations, and type of authority that would occur simultaneously during a major earthquake scenario for greater Dhaka.A unified command system with an integrated and inter-operable communications capability is required vertically to link each level of government and achieve a vertical level of command and coordination between operations centers and types of authorities.

²The following standards for emergency management are available from the following resources and organizations: International Association of Emergency Managers (IAEM), *Certification of Emergency Managers*; Emergency Management Accreditation Program (EMAP), *Accreditation of Government Programs and Agencies*;

NFPA 1600-2013, National Fire Protection Association.<http://www.nfpa.org/assets/files/AboutTheCodes/1600/1600-13-PDF.pdf>;

ISO 22320:2011, Societal security – Emergency management – Requirements for incident response.

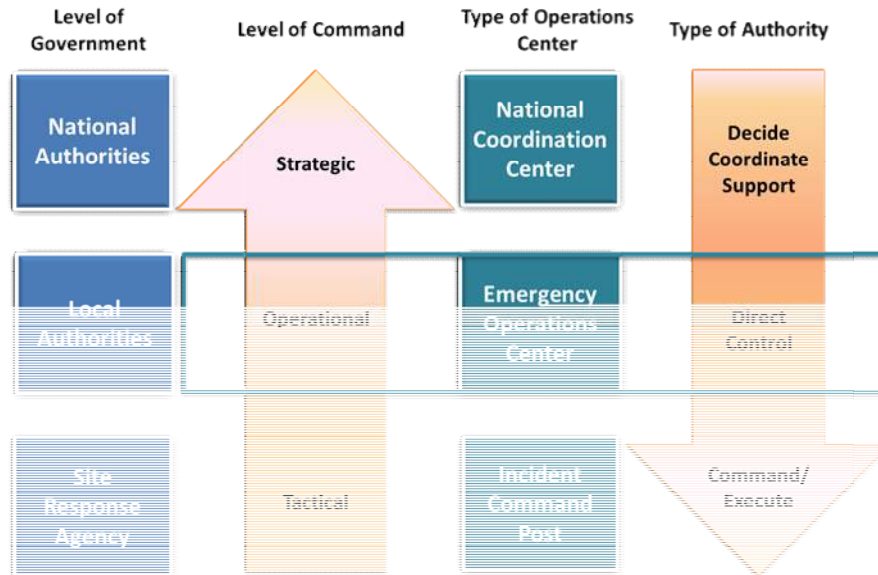


Figure 2. Schematic of the Proposed Integrated Emergency Management System Requiring Vertical Communications Capabilities. Figure 2 is further explained in the box below.

Explanation of Figure 2. The city-level emergency response operations are represented by the horizontal, rectangular box across the middle of the diagram – local authorities perform operational commands through the EOC, which enables direct control of the emergency response. The Integrated EM System proposed for Bangladesh is comprised of management nodes at different levels of governance (column 1 from left) requiring communications links between the site response agencies at the Incident Command Post with authorities located at the City EOC (columns 1 and 3). The City EOC requires communications to the National Authorities at the Emergency Response and Communication Center (columns 1 and 3). This communications capability allows for the required vertical levels of command (column 2) from tactical at the site of the emergency to operational at the City EOC to strategic at the National level. These required vertical communications linkages also allow for an integrated response at all levels of government authority, as depicted in column 4.

Under a separate contract, the URPCo mponent A1 and Component A2 will design, build or upgrade and outfit the following facilities, envisioned as a distributed network of response facilities and capabilities throughout the greater Dhaka City area:

- A dedicated facility that will house both the Emergency Response and Communication Center (ERCC) and a newly created National Disaster Management Research and Training Institute (NDMRTI). The ERCC and NDMRTI will be located in the building currently housing the Department of Disaster Management (DDM).
- A Disaster Command, Control and Communications Facility for FSCD Dhaka, ten (12) FSCD equipment warehouses in Dhaka and Sylhet, and 17 Remote Control Rooms (RCRs) for each of the FSCD Alpha Fire Stations in Dhaka.
- Disaster Risk Management Offices in Dhaka North City Corporation (DNCC), Dhaka South City Corporation (DSCC) and Sylhet City Corporation (SCC).

- Emergency Operations Center in Dhaka South City Corporation, integrated with its respective Disaster Risk Management office.
- Thirteen (13) Auxiliary Control Rooms (ACRs) for 13 key agencies engaged in the Emergency Support Function system for Dhaka City Corporations.
- Ten (10) Zonal Control Rooms (ZCRs) for five (5) Zonal Offices in DNCC and five (5) Zonal offices in DSCC.

For Component A5, the objective is to develop a robust and sustained capacity development program for the staff and personnel who will manage the facilities mentioned above. This is an integral part of the URP. An important objective Component A5 is to facilitate the capacity of the subject key agencies to hire, train, and mobilize human resources at all levels, and assign roles and responsibilities more efficiently.

3.0 Component A5: TED Program Objectives, Expected Outcomes and Results Monitoring

With respect to the TED Program, one goal of the URP is to create a professional emergency management training track for Bangladesh via the establishment of a national training center, a robust training curriculum, and an accreditation program that will provide personnel with various desired skill sets, as well as internationally recognized credentials. In line with that goal, this ToR aims to engage the services of a qualified Consulting Firm with proven expertise and background on similar projects to provide the full range of work and professional services to fulfill the detailed Scope of Work as described below. This ToR requires an understanding and close coordination with activities related to Component A of the URP.

3.1 Objectives

The URP recognizes that capacity building, skills development, training, and the conduct of exercises and drills to capacitate the human resources component are essential to the success of the project. Building a competent corps of DRM professionals and first responders will lead to an outcome that ensures sustainability, effective resource mobilization, and strong ownership for DRM across institutions, agencies, and organizations in Bangladesh. Component A5 recognizes that fundamental education and training over a long period of time will ultimately build the competencies and practices that will enable the full emergency management system to operate and effectively achieve its objectives. The scope of work for this assignment is two-fold: 1) The development, implementation, review, evaluation, and updating of a comprehensive, multi-track, and multi-agency program of training, exercises and drills to improve emergency response capabilities, preparedness and readiness of government institutions involved in disaster and emergency planning and response management and 2) The coordination and evaluation of all vendors' training and competency specifications and requirements to ensure that all equipment, software, hardware and other tools are used to their full capacity, and can be maintained and upgraded accordingly.

3.2 Expected Outcomes and Results Monitoring

The overall expected outcome of this project component is to operationalize the Integrated Emergency Management System (IEMS) by mobilizing resources and assigning roles and responsibilities more efficiently. Success will be measured along three performance criteria using their associated indicators and baseline values:

1. Accreditation of Key Personnel and Programs for Emergency Management: As the overall goal of the TED Program is to train existing and potential personnel as disaster risk and emergency management professionals, the TED Program should ultimately be able to produce at least three (3) IAEM associate members from each of the six target institutions within its 4-year implementation period. The TED Program should be comprehensive enough to adequately cover the nine (9) Mission Areas identified by the United States' Federal Emergency Management Agency (FEMA) that will prepare the target participants and qualify them for the IAEM Program for Associate Emergency Managers. These nine (9) Mission Areas are listed in Appendix B under Track 5 (IAEM Certification). In the later part of the TED Program, it is expected that the Dhaka and Sylhet City Corporations will also qualify for certification in at least five (5) components of the EMAP Emergency Management Standard.

- **Indicator 1.1** – Number of key personnel accredited as IAEM Associate Emergency Managers to manage and support disaster and emergency situations.
 - *Indicator 1.1 Baseline*– There is currently no personnel in any of the six targeted agencies that have accreditation within IAEM.
- **Indicator 1.2** – Number of EMAP Emergency Management Standard components for which Dhaka and Sylhet City Corporations could be certified.
 - *Indicator 1.2 Baseline* – There may currently be limited components of the Dhaka and Sylhet City Corporations program that would have a high probability of successful accreditation through the EMAP Emergency Management Standard. This baseline should be confirmed through completion of Task 1.1.

2. Disaster Response Readiness of Key Institutions and Organizations: Most disasters and emergencies require the effective functioning of more than one organization. Focusing on the six targeted institutions ability to collaboratively plan for and respond to disasters, this criterion will demonstrate the opportunities provided through the TED Program for coordination and efficient, effective response planning and operations. The TED Program should be able to deliver a minimum of twelve (12) multi-agency exercises and drills and provide a finalized Emergency Operations Plan for the national, Dhaka and Sylhet City levels.

- **Indicator 2.1** – Number of multi-agency exercises and drills completed as part of the TED program.
 - *Indicator 2.1 Baseline* – At project initiation the indicator baseline will be zero (0).
- **Indicator 2.2** – Completion percentage for the National, Dhaka and Sylhet City Emergency Operations Plans.
 - *Indicator 2.1 Baseline* – At project initiation the indicator baseline percentage will be zero (0).

3. **Capacity of Officials and Emergency Management Response Personnel:** This performance criterion will be measured using a modified Kirkpatrick learning assessment model focused on participant reaction, demonstrated learning and behavior changes. The criteria will be assessed as an aggregate of three indicators with success being measured as percentage increases annually over the baseline established through Task 1.1. The TED Program should be able to demonstrate an 80% or more increase in the capacity of officials and emergency management response personnel over the baseline established by the Consultant.
- **Indicator 3.1** – Based on a scale of 1 to 10, with 10 being excellent, the combined average percentage of participants providing an 8 (or higher) rating across all training courses, exercises and drills. The Consultant will maintain a record of all training course, exercise and drill participant evaluations. This record will be made available to the PCMU and M&E Consultants upon request and will be transferred to the appropriate agency during Phase 3 of the project.
 - *Indicator 3.1 Baseline* – At project initiation the indicator baseline will be unknown. The Consultant will establish the baseline through the findings of the SWOC and CNA completed in Task 1.1.
 - **Indicator 3.2** – Based on a pre-TED program delivery survey established via the SWOC and CNA (Task 1.1), the percentage of participants that in post-training course, exercise and/or drill demonstrate increased knowledge, attitude or skill improvements in-line with the specific objectives of the associated training course, exercise and/or drill. The Consultant will maintain an anonymous record of all training course, exercise and drill participant learning results. This record will be made available to the PCMU and M&E Consultants upon request and will be transferred to the appropriate agency during Phase 3 of the project.
 - *Indicator 3.2 Baseline* – At project initiation the indicator baseline will be unknown. The Consultant will establish the baseline through the findings of the SWOC and CNA completed in Task 1.1.
 - **Indicator 3.3** – During exercises and drills, the percentage of participants that apply knowledge, attitude and/or skills learned through earlier undertakings in the TED program. The Consultant should ensure that exercise and drill objectives are informed by particular training course objectives and that exercise and drill evaluation and monitoring take this alignment into consideration. The Consultant will maintain a record linking exercises and drills objectives to particular training course objectives and the associated percentages outlined above. This record will be made available to the PCMU and M&E Consultants upon request and will be transferred to the appropriate agency during Phase 3 of the project.
 - *Indicator 3.3 Baseline* – At project initiation the indicator baseline will be unknown. The Consultant will establish the baseline through the findings of the SWOC and CNA completed in Task 1.1.

In addition to the above indicators, the Consultant may choose to develop additional specific performance indicators (both quantitative and qualitative) and associated establish associated benchmarks at the onset

of the project to further increase the comprehensive measurement of annual progress over the four-year project performance period.

4.0 Requirements for the URP Training, Exercises and Drills (TED) Program

4.1 General Requirements

1. The TED program will be implemented over four (4) years, with a project initiation and information gathering phase, an implementation phase, and finally a transition and project closeout phase. The final phase should include set of TED activities designed to be continued for the next decade by the lead organizations.
2. The TED program has three broad tasks:
 - a. Design, develop, operationalize and implementsix-track structured training program comprised of a series of basic job skills and training courses, with the objective of building competency in the field of disaster risk management (DRM) and particularly in the skills, procedures and standards of emergency management.
 - b. Design and conduct a series of exercises and drills aimed at operationalizing and testing the training provided and improving coordination and efficiency of operations among various institutions engaged in emergency management; and
 - c. Coordinate all vendors' and suppliers' trainings of the emergency communication equipment, search and rescue equipment, and related software response systems (i.e., EMIDS, GIS) to be procured under Component A of the URP. The TED Program should coordinate closely in the planning, coordination and delivery of the related vendors' training agenda.
3. The training will be conducted by the Consulting Firm and a combination of instructors and/or training institutions under the auspices of the Consulting Firm at various venues, including the NDMRTI (under construction) in Dhaka City. This program should be supported by a corps of professional local and international subject matter experts and trainers.
4. The Consulting Firm will work closely with six institutions which are the lead agencies for the development of this TED Program: 1) the Department of Disaster Management (DDM) under the Ministry of Disaster Management and Relief (MoDMR) for the disaster risk management competency building and ICT training; 2) the Fire Service and Civil Defense (FSCD) for the fire, search, and rescue skills, as well as ICT training; 3) the newly created NDMRTI, also under the MoDMR; 4) the Dhaka North City Corporation (DNCC); 5) the Dhaka South City Corporation (DSCC), and; 6) the Sylhet City Corporation (SCC)
5. The TED classes' audience will be targeted towards these particular institutions, but the Consultant will also coordinate with and train the focal points of the relevant national-level and city-level disaster management committees, including members of the National Disaster Response Coordination Group (NDRCG), the Dhaka Disaster Management Coordination Committee (DDMCC) and the Dhaka Disaster Management Response Group (DDMRG). In particular, the training for these committee

members will focus on disaster risk reduction as well as the role of senior officials during disaster response. The membership of these committees and their missions are indicated in the SOD 2010.

6. It is estimated that approximately 600 persons will ultimately be hired locally under the URP to serve disaster risk management and emergency management responsibilities at NDMRTI, DDM, FSCD, DNCC, DSCC and SCC. At minimum, at least 100 additional existing personnel from various institutions involved in the NDRCG, the NDMCC, DDMCC, and DDMRG have responsibilities under the SOD 2010 for managing response and recovery operations during and following disasters. Thus, these approximately 700 persons are the targeted audience for the TED Program.
7. The Consultant should design and deliver the TED program using in-person, e-learning and blended learning approaches. For each of the seven tracks, no more than 65% of the content should be delivered electronically. As well, all training content must be provided in both English and Bangla. The need for translators in face-to-face training, exercises and drills can be determined through discussion with the targeted agencies.
8. The Consultant must note that the hiring will be gradual and it will take several years for the full staff positions to be approved and funded by the Government. Thus, considerations should be allowed for a progressive scaling of the TED Training Program, especially for Years 3 and 4 of the program.
9. It is anticipated that the hiring rate may vary between the aforementioned agencies. Regardless, the Consultant should ensure that training is delivered at the pace required for each agency and that particular courses are delivered multiple times during the project timeframe to ensure opportunity for each agency.
10. The TED program should be structured in such a way that it will be guided by particular milestones, including achieving international standards of emergency management. The recognized international standards include: a) International Association of Emergency Managers³ (IAEM), *Certification of Emergency Managers*; b) Emergency Management Accreditation Program (EMAP), *Accreditation of Government Programs and Agencies*⁴; c) NFPA 1600-2010, *Standards on Disaster/Emergency Management and Business Continuity Programs*⁵; d) ISO 22320-2011, *Requirements for Incident*

³ With more than 9,000 members worldwide, IAEM is the leading international non-profit organization for emergency management professionals. IAEM administers an internationally recognized program that confers the Certified Emergency Manager and Associate Emergency Manager certifications. More information on IAEM can be found at <http://www.iaem.com/>.

⁴EMAP is an independent non-profit organization that promotes excellence and accountability in emergency management programs through the use of the Emergency Management Standard in a voluntary accreditation process. The Emergency Management Standard covers 17 key areas of local-level emergency management operations. More information about EMAP can be found at <http://www.emaponline.org/>.

⁵ NFPA 1600 is the U.S. National Preparedness Standard. It establishes a set of common criteria for all-hazards disaster/emergency management and business continuity programs, and is widely used by public, not-for-profit, nongovernmental, and private entities on a local, regional, national, international and global basis. More information on NFPA 1600 can be found at <http://www.nfpa.org/codes-and-standards/document-information-pages?mode=code&code=1600>.

*Response*6, and e) the International Search and Rescue Advisory Group (INSARAG) standards for urban search and rescue. The Consulting Firm must be familiar with the above standards and must tailor the TED program partially based on these available standards.

11. The Consulting Firm shall develop a monitoring and evaluation (M&E) team and an objective M&E approach as part of the program. The M&E team should be a complete part of the courses, exercises and drills development and delivery. Each course/exercise/drill delivery should be evaluated and the results assessed to improve all aspects of the course, including delivery methods, pedagogy, content, knowledge checks, tests and reports. The M&E findings will serve to improve the whole TED program. The M&E team should also gather quantitative and qualitative opinions from the trainees (e.g., through evaluation surveys in the local language) to gain constructive feedback from all trainees. The results of these questionnaires shall be analyzed and documented and provided as part of the deliverables. Monitoring reports should include progressive improvements to course deliveries based on feedback gathered.
12. Years 2through4 should include the preparation and execution of the exercises and drills (requirements defined below) for the identified professional and support personnel.
13. In developing the TED curriculum, the Consultant will need to determine which courses already exist and can be supplied by third-party providers on a partnership or subcontract basis, and those courses that will need to be developed by the Consulting Firm and its subject matter experts. Many of the suggested courses are already provided by various organizations globally. Some customization and adaptation will however be needed.
14. Fundamental mandatory training modules should be conducted multiple times to reach each staff person on a professional development track. Other courses should be provided at regular intervals during the year following initiation of the courses. Additionally, the core curriculum should be readily available to identified staff on an ongoing basis.
15. The training program should be transferred to the NDMRTI and the FSCD, according to their areas of competency, at the close of the project. These areas of competency should be noted at the outset of the project such that the NDMRTI and FSCD can appropriately prepare for this transfer.
16. In addition to working closely with the six aforementioned agencies to develop the TED program, the Consulting Firm must work with the two Project Implementation Units (PIUs), namely DDM under the MoDMR at national level, and DNCC under MoLGRDat the local levelto seek agreement on the final Training Program structure, as well as developing the appropriate monitoring and evaluation mechanisms that will enable control and monitoring of progress with agreed upon outputs and milestones by the end of the contract.

6 ISO 22320 provides guidance on global best practice for establishing command and control organizational structures and procedures, decision support, traceability and information management. Interoperability amongst involved organizations is essential for successful incident response. The standard also specifies processes, systems of work, data capture and management that help ensure timely, relevant and accurate operational information. It also establishes a foundation for coordination and cooperation, ensuring that all relevant parties have a common operating picture during a disaster, minimizing the risk of misunderstandings and ensuring a more effective use of the combined resources. More information on this standard can be found at http://www.iso.org/iso/catalogue_detail?csnumber=53347.

4.2 Requirements for Skills Training

- The Skills Training Program should establish “required training” for personnel having a relevant role in emergency response planning and operations, namely staff and managers assigned to operate new disaster risk management facilities built at the NDMRTI, ERCC, FSCD, DNCC, DSCC and SCC including disaster risk management offices, emergency operations centers and disaster command and control centers.
- The required training must include courses along the following tracks:

Track 1. **Emergency Information and Communications**, which will include two categories of courses: a) Vendors’ training, which will cover the use of the hardware and software provided under this project, as well as training on the inter-operability of all the ICT systems to be deployed for the project; and b) Intensive formal courses on the Fundamentals of Communication Technology and Emergency Communications Training and Protocols.

Track 2. **Emergency Management Planning and Operations**, which will cover topics related to National and City Emergency Operations, Emergency Support Functions and the UN-OCHA disaster relief Cluster Approach, Incident Command System, Evacuation Procedures and Shelter/Camp Management, Disaster Safety Regulations and Procedures, Post-disaster Recovery, Sustained Operations, Damage and Needs Assessment, and Health in Emergencies.

Track 3. **Disaster Risk Management and Urban Resilience**, which will include five categories of courses: a) Basics of Urban Resiliency, DRM and habitat improvement; b) Legal and Institutional Arrangements for DRM; c) Hazard, Vulnerabilities and Risk Assessment; d) Risk-sensitive Land Use Planning; e) Geographic Information Systems and Remote Sensing for DRM.

Track 4. **INSARAG Guidelines for National Urban Search and Rescue (USAR) Teams**, which will build capacity in both basic first responder skills and specialist rescue training. The basic skills training will include courses on Introduction to First Response, The Disaster Environment, Scene Management, Search Techniques and Operations, Principles and Sequence of Rescue Operations, Rescue Tools, Basic Medical Rescue, and USAR Simulation. The specialist courses will cover Technical Search, Specialized Communications, Medical Team Training, Canine Search, Task Force Leadership, Planning Team Training, Task Force Safety, Incident Support Team Training, and Structural Collapse.

Track 5. **IAEM Certification**, which will cover additional topics not included in the other tracks related to nine key areas of emergency management such as Incident Management, Operational Planning, Disaster Logistics, Emergency Communications, Service to Disaster Victims, Continuity Programs, Public Disaster Communications, Integrated Preparedness, and Hazard Mitigation.

Track 6. **Executive-level Courses for National and Local Officials**, such as the following core training: Introduction to the Incident Command System, National-level Incident Management, Response Framework, and Fundamentals of Emergency Management; as well as these advanced courses: Foundations of Emergency Management, Disaster Science, Media Relations during Disasters, Emergency Executive Leadership, and Public Information and Warning.

Track 7. **Training Officers Hands On Job Development.** This program will identify persons for the 18 job positions in the four key agency organograms related to training programs (See Appendix E). These persons will perform in shadow roles to the Consultant Training Liaisons (8) so that they will establish the required Training Officer cadre to hand off the program at the end of Year 4 to the local governments.

- The consultant will identify the staff from the targeted institutions that will undergo professional development and assign them to the particular training tracks depending on their positions and responsibilities within these institutions.
- The Track 4 courses should be specifically geared towards the FSCD, to assist them in acquiring specialized urban search and rescue training, as well as making significant advances towards qualifications for INSARAG classification.
- All training courses and methods should be independently peer reviewed and tested under a rigorous quality control program that is developed as part of this contract. A coordination process between the concerned agencies should be designed by the Consulting Firm to ensure sharing of data and knowledge and to reach optimum effectiveness of the program.
- **Appendix B** provides a matrix of the required courses for each track, together with the course descriptions and details on whether these are basic or advanced classes. **Appendix C** lists the number of hours for each course, the recommended format (face to face/online/blended), and the target audience. **Appendix D** includes an indicative timetable and schedule for the delivery of all the identified courses, table top exercises, and drills. The Consultant should validate the details in these appendices and also exercise due diligence in identifying which courses are already available locally and which needs to be customized for the target agencies as part of its scope of work.

4.3 Requirements for Exercises and Drills

- In addition to the skills training indicated and described in the appendices B and C, the Consulting Firm will be responsible for designing, planning, managing, conducting, evaluating and documenting all aspects of up to a total of five tabletop exercises to take place during Year Two (two exercises) Three (two exercises) and Year Four (one exercise) of the project.
- The objective of these tabletop exercises is to improve plans, policies, and operational procedures. The length of these tabletop exercises will be approximately four (4) hours each and will include up to 50 targeted personnel that have received previous training on the topics of the tabletop exercises as part of this program.
- The specific topics for these five tabletop exercises will be determined between the Consultant and the respective key targeted agencies at the end of 24 months, in order to allow at least six months preparation time for all parties for each exercise. Typical suggested topics for tabletop exercises include, but are not limited to: Discussing planning procedures and protocols for evacuations (including shelter and camp management), preliminary damage assessment and situation reporting, delivery of disaster social services, mass casualty management, and internal/external multi-agency coordination.

- The Consultant shall generate After Action Reports from these exercises that will define agreed-upon follow-up actions with timelines for agency personnel that are recognized by the participants for further actions.
- In addition, the Consulting Firm will be responsible for designing, planning, managing, conducting, evaluating and documenting five emergency drills to take place during Years Two (one drill), Three (two drills) and Four (two drills)⁷. The drills are intended to test various components of response, including communications tests, emergency operations center procedures, alert and warning procedures (including media simulations with senior officials), evacuation protocols and procedures, as well as more specialized procedures such as search and rescue operations, firefighting response and disaster debris management. The final consulting firm drill topic list will be concurred upon by the Project Management Unit (PMU) and the concerned agencies such as FSCD.
- A drill differs from a Table Top Exercise in that the drill tests specific learned procedures or methods that have been practiced, such as a firefighter, or group of firefighters, practicing a learned procedure to visibly, physically, and psychologically analyze the level of shock to an injured person that was just extricated from a burning building and from this analysis performing procedures to stabilize the injured person prior to transporting the person to the hospital. On the other hand, a tabletop exercise is a low level exercise where a group of decision makers or authorities gather “around a table (or table top)” to discuss a topic, such as a policy or a process for achieving an efficient emergency procedure. Related to the drill conducted to stabilize the extricated victim from a burning building, the table top exercise participants (decision makers) would be given the task to look at all the plans, procedures and protocols in place and currently practiced by emergency managers to communicate with the incident commander and to gain the resources required to move the victim to the closest operating hospital where the compatible medical care is available. This table top exercise provides the discussion amongst key agency personnel that defines the coordination amongst organizations mandated to provide resources as required under standing authorities.
- Each of these drills will be documented in an after action report with input from all key participants. The after action report will include any identified improvement actions that are required, including the assignment of those actions to appropriate government agencies to ensure accountability. These after action reports will also provide an effectiveness evaluation of the drills and describe how future functional exercises can be improved to take into consideration the local conditions and lessons learned during the planning and delivery of the drills.
- The length of these emergency drills will be approximately 4 to 8 hours each and will include up-to-100 targeted personnel that have received previous training as part of this program. A larger number of participants can attend from multiple institutions for drills that are of concern to all agencies such as communication tests and practice.
- Drill preparation time by the Consultant with the targeted participants will begin a minimum of three months prior to the drill.
- In addition to the tabletop exercises and drills, a functional exercise will be conducted in Year four.

⁷ Drill: A drill is a coordinated, supervised activity usually employed to test a single, specific operation or function within a single entity (e.g., a fire department conducts a decontamination drill).

A functional exercise is as close to a real hazard event as possible without actually requiring the movement of personnel or equipment on the ground.⁸ It is a lengthier exercise that typically utilizes EOCs, Control Rooms, etc. to allow simulated problem solving and decision-making in real time using personnel that would be called upon in a real event. A functional exercise differs from a tabletop exercise in scope and complexity but does not employ actual “boots on the ground”. This exercise should be a multi-agency, multi-jurisdictional, multi-discipline exercise to test the decision-making and communication processes identified in existing response plans, procedures and protocols. This exercise may be coordinated with other ongoing disaster exercise initiatives such as the 2015 Disaster Response Exercise and Exchange and should recognize DDM and DNCC/DSCC disaster response leadership roles as identified in the Standing Orders on Disasters.

- A functional exercise is most effective when conducted for an extended period. A key measure of preparedness is the ability to perform emergency management and disaster response over an extended period, as this is what will be required during a real, complex disaster. It could also include shift changes to test performance as an operational period ends and a new one begins. In addition, an extended functional exercise can test the response sustainment capacity.
- The consultant shall work with the respective key targeted agencies to determine goals and objectives to be tested during the functional exercise. This determination should be conducted as early as possible, but no later than the beginning of Year Two.
- The consultant will coordinate to secure external, objective, experienced exercise evaluators in order that the Bangladesh response resources can focus on the event rather than having to observe and evaluate.
- The functional exercise will be documented in an after action report with input from all key participants. The after action reports will include any identified improvement actions that are required, including the assignment of those actions to appropriate government agencies to ensure accountability. The after action report will also provide an evaluation of the effectiveness of the exercise and how future functional exercises can be improved to take into consideration the local conditions and lessons learned during the planning and delivery of the exercise.
- The Consulting Firm should base their assessment on developing specific scenarios that will guide the exercise participants in their discussions and responses. These should include at the minimum the following two scenarios: 1) a major earthquake in Dhaka and 2) a major flood in Dhaka.

4.4 Requirements for Coordinating Vendors’ Training

1. **The Consulting Firm is not in charge of vendors’ training, only the coordination and reporting of the training.** With respect to the vendors’ trainings, the Consulting firm’s obligations include:

- Coordinating with all vendors for equipment procured under Component A of the URP, and

⁸“Unit 7, The functional Exercise”, FEMA, <https://www.training.fema.gov/emiweb/downloads>

- developing an overall schedule collating all vendors' trainings;
- Undertaking monthly coordination meetings among vendors and consultants to ensure Vendor's training is coordinated and delivered;
- Monthly updating of the vendors' training schedule;
- Serving as point of contact with all key agency Training Officers or their authorized representatives regarding issues related to the vendors' training;
- Submitting Quarterly Vendor Training Reports to PMU, summarizing information from vendor companies providing training and Training Officers that provides status, issues, and potential impacts;
- Evaluating the effectiveness of the Vendors' Training
- Resolve issues via actions identified in the Quarterly Vendor Training Report.

4.5 Requirements for the Development of Emergency Operations Plans

Situation Assessment and Gaps for Emergency Operations Plan

Bangladesh and the Dhaka City Corporations (North and South) and Sylhet City Corporation do not have recognized Emergency Operations Plans (EOPs) in place. To effectively and efficiently respond to urban disasters, dedicated National Government Level and City Corporation Emergency Response Operations Plans are required as the basis as part of the Integrated Emergency Management System. Two disaster management plans exist: a) the Bangladesh Earthquake Contingency Plan and the b) Dhaka City Earthquake Contingency Plan. Both plans were written as outputs of the Comprehensive Disaster Management Program. However, these contingency plans did not include a required planning process to develop them, nor have these plans been trained or institutionalized. No response organizations have written, institutionalized, drilled, or practiced specific emergency operation plans for response.

The Revised Standing Orders on Disasters (SOD), 2010 is not an EOP that structured according to international standards or international practice. The SOD is a vital document that identifies concerned agencies and assigns their organizational roles and responsibilities before, during, and following emergencies. The SOD should serve as the foundation to develop the EOPs. Further, they should be guided by international standards (Reference list previously provided.)

The Emergency Support Function (ESF) structure is recognized and described in the Bangladesh Contingency Plan and the Dhaka City Contingency Plan, Annex 2. However, the ESF structure has not been adopted nor is there any planning process in place to develop the ESF structure. It is critical that use of the ESF structure and UN-OCHA Cluster Approach be integrated to ensure a common operating picture for all government bodies and external organizations. This will help to promote appropriate inter-agency contacts prior to and during disasters, thereby expediting and improving response effectiveness.

EOP References

The EOPs must be stand-alone documents, dedicated to emergency response operations that define common operating procedures for all responders as well as define specific roles and responsibilities to manage up to 15 unique emergency support functions requiring coordinated resource management.

International standards for emergency operations and management planning (e.g., EMAP, *Accreditation of Government Programs and Agencies*; NFPA 1600-2010; d) ISO 22320-2011) have been developed and are available to guide the planning process for the development of an EOP. The *Disaster Management Act of 2012* requires plan development at the national and local level. The *National Plan for Disaster Management 2010-2015* requires City Corporation Disaster Management Committees to produce a Disaster Management Plan to be reviewed annually. The *National Plan for Disaster Management 2010-2015* also defines the Disaster Management Planning Framework (Figure 18, page 47 and section 11.5, page 52).

EOP Process

No such required plans have been produced by the Dhaka or Sylhet City Corporations, nor is a planning process in place to produce these required plans. Through a collaborative and participatory process, the Consulting Firm is responsible to develop two EOPs: The first for the national level EOP Department of Disaster Management (DDM) involving the members of the National Disaster Management Response Group and the National Disaster Management Council; and the second for the Dhaka City Corporations involving the Dhaka Disaster Management Response Group. As required under the Revised Standing Orders on Disasters, 2010, the Consulting Firm will develop the planning guidelines for the development of the plans following International Standards in order to augment the existing planning processes. It is recognized that EOPs can only be developed, institutionalized, activated, and practiced as part of a continuous planning process. “The Planning Process is as important as the Plan Itself.”

The Consulting Firm will modify and augment the existing content in the recently developed *National Earthquake Contingency Plan* and the *Dhaka City Earthquake Contingency Plan* as the basis for the Emergency Operations Plan development process. Both of these documents can be improved to International Standards by involving all key agencies identified in the Standing Orders on Disasters, 2010. The National Earthquake Contingency Plan and the Dhaka City Earthquake Contingency Plan Dhaka both have some similarity with the Emergency Operations Plan and begin to follow International standards. A similar plan based on the same template should be developed for Sylhet. These Contingency Plans are close to valid Emergency Operations Plans. Bangladesh uses the term “Contingency Plan” for “Emergency Operations Plan”.

The EOP should compile in the “Basic Plan” component, all common operational procedures in the EOPs including: a) existing legal and institutional arrangements, b) known hazards and demographics, and c) associated risk assessments, d) hazard scenario planning assumptions, e) emergency management policies, f) operational procedures, and g) financial and administrative procedures. The above formatted plan structure is indicative and will become a template at each government level that will include the above seven (7) key elements, a through g. These EOPs should ensure that specific positions in the SOD identified ministries have clarity on what to do should a disaster occur, where decision-making authority rests, and how communication is to be established and maintained.

Clarifying Disaster Management Accountabilities

Providing clarity on disaster management accountabilities is one of the most relevant aspects of EOP development. Defining an accountability structure for all functions of disaster response is an international bestpractice in disaster and emergency management. The accountability structure aligns existing government organization with known disaster response organizational needs; in essence, it allows government to rapidly and effectively respond to the complex requirements of a disaster by assigning leadership to the most appropriate ministry/agency/department in advance of an incident.

In Years Two and Three, as part of the planning process, the Consulting Firm will assist DDM and Dhaka City Corporations and Sylhet City Corporation to translate the ministry/agency specific tasks in the Revised Standing Orders on Disasters (2010) into clear disaster management accountabilities with assignment to particular senior leadership. These accountabilities should also consider the emergency support functions noted in the Incident Command System and, more generally, indicate alignment with specific UN-OCHA disaster relief clusters where appropriate. The Consulting Firm is responsible to integrate this accountability structure into the Bangladesh and Dhaka City and Sylhet Emergency Operations Plan as part of the command and control structure by developing activation procedures for each accountable lead ministry, agency or department. The Consulting Firm should develop ministry/department/agency level guidelines for use by the appropriate standing committees to accomplish this translation.

5.0 Scope of Work

The Scope of Work provides the critical activities and the sequencing of activities, and the expected deliverables of each activity. The scope of work consists of the following three phases with related tasks, to be delivered in a sequential phased approach. The Consultant should manage development of all three phases for the entire four-year program period. The first year of the project, Phase 1, begins at the time of hire and will focus on project initiation, information gathering and establishing the project roadmap. Phase 2, will last years 2 through 4 and will see the majority of project work. The final phase, Phase 3, will take place in Year 4 once all Phase 2 deliverable have been achieved. It will focus on TED program transition and project close-out. All deliverables are due to the PIU and PCMU and should be provided in both English and Bangla. As well, all training content must be provided in both English and Bangla. The need for translators in face-to-face training, exercises and drills can be determined through discussion

with the targeted agencies. A representative timeline of the phases, tasks and their associated outputs and deliverables can be found in Appendix F.

5.1.1 Phase 1– Task List

The following tasks are required:

Task 1.1: Complete both aSWOC Analysis and aCNA for the six targeted institutions⁹.

These analyses are aimed at a) understanding the current capacity for emergency management and disaster risk management of the target institutions; and b) defining the training needs. The broad fields of assessment should include: 1) Fundamental knowledge in disaster risk management and 2) emergency management topics (e.g., response planning, response, incident command/management system, emergency operations; and emergency communication); 3) fundamental knowledge in hazard, vulnerability and risk assessment; 4) geographical information systems; 5) disaster preparedness; and 6) fundamentals of disaster risk mitigation. The methodology should include both desk research on available city and country profiles, plus engagement with stakeholders through interviews, surveys, and workshops. The Consulting Firm will complete the CNA and SWOC to support Task 2 below.

Task 1.2: Develop and complete an Organizational Analysis defining the final staffing patterns, organograms, and job descriptions for new hires and existing positions required under the URP.

From the SWOC Analysis and CNA in Task 1, and referencing international standards indicated herein, the Consultant will review and finalize the proposed disaster risk and emergency management staffing patterns and organograms for the NDMRTI, ERCC, and those for the FSCD (Command and Control Facility and Equipment Warehouses), DNCC (DRM Office), DSCC (DRM Office and EOC) and SCC (DRM Office) which are relevant to the URP (See Appendix E). Note that these job positions and organograms included with the ToR are based on international standards and are meant to be indicative only. The Consultant must modify and improve upon the organograms to meet the needs of GoB and the six lead institutions. The Consultant is responsible for finalizing and delivering each of the organograms and job positions (including a job description per job position) as part of this ToR. The Organizational Analysis will serve as a basis for determining which course tracks the relevant professional staff from the six lead institutions will be assigned to.

Task 1.3: Develop and Deliver an initial training course, “About the Bangladesh Urban Resilience Project”.

During the first quarter of the project, engage a team to read and review all of the ToRs pertaining to the URP training program under Component A, as well as ToRs for Components B and C. Interview key government officials from the six key recipient agencies to gain their perspectives on the URP, as well as to gain further program buy-in and understanding. The Consulting Firm should then develop a three-hour training class about the project as an initial outreach and education product that can educate key stakeholders, all other Consulting Firm personnel responsible for the various ToRs, and government officials about the project to provide a common basis and understanding for collectively moving forward

⁹NDMRTI is one of the five key institutions of Component A of the Bangladesh URP. The NDMRTI analysis should be incorporated at the time it is officially created and has assigned staff.

with implementing the project ToRs. The 3-hour training class will be a blend of presentations, slides, videos, and written handouts that will be packaged professionally in a three ring binder format, as well as delivered digitally to all key stakeholders.

The Consulting Firm will deliver this class at least quarterly during the next first three years of the project starting with the third quarter of the project, and bi-annually during the remaining two years of the project in order to reach all key stakeholders. This training class will serve as the initial project orientation for all new stakeholders, including key Consulting Firm personnel. To supplement the orientation classes, the Consultant will also develop fact sheets about each of the Project Components, so that all stakeholders become educated about the multiple components of the URP contained in the ToRs.

In developing the classes and fact sheets, the Consulting Firm should solicit suggested edits and inputs from all available Consulting Firms involved with the URP, as well as from local Bangladesh counterparts. The objective of soliciting inputs from each of these project resources is to improve the outreach product and the class deliverable for all stakeholders.

Task 1.4: Develop and Deliver a Training Participation Tracking Tool.

The Consulting Firm will design and deliver a Microsoft Excel-based tool for tracking participation in all training, exercise and drill offerings. This tool should be straightforward to use and intuitive to query. The minimum information captured in the tracking tool should include the participants name and contact information (email and office phone), their job title and ministry /department (particularly noting the six targeted institutions), the course / exercise / drill name and date, participant role, delivery style, e.g. face-to-face, e-delivery, blended, etc. Participation tracking reports should be reported twice annually for each year of the project; once at the end of each GoB fiscal year and once at the halfway point of the GoB fiscal year.

Task 1.5: Develop and Deliver a Roadmap Report for the TED Program.

Based on the findings from the CNA, the SWOC analysis, and the Organizational Analysis, the Consulting Firm will elaborate a road map providing the final structure of the implementing parameters of the TED Program. An important component of the TED program that needs to be established is the identification of training courses that are already available, the third party institutions that deliver these courses as well as the requirements and modalities for delivering such courses. This will define the gap in terms of the courses that are not currently available and which will need to be designed and developed. In relation to the latter, potential partners specializing in training and education should be identified to develop and eventually deliver such courses under the supervision of the Consultant. It is expected that an optimum number of courses may be out-sourced to third party organizations that are already in the mission of training and capacity building in these subject matter areas so long as course content is revised appropriately to the Bangladesh context.

The project's implementation must be designed to ensure that training, exercises and drills proceed on schedule regardless of hiring challenges or administrative delays at any of the six targeted institutions. The Consulting Firm should reference Appendices B, C, D, and F, appended herein that are relative to finalizing this task.

The TED Program Roadmap is expected to be a living document which is updated at least annually,

presented and discussed with the PIU and PCMU. The TED Program Roadmap Report should at the minimum contain the following details:

- Training needs and goals for each institution;
- Review of the training schedule proposed in the ToRs, with the goal of developing a final three-year schedule of the training courses (Years Two through four);
- Target length, target audience, expected number of trainees, and expected outcomes of each course and the program as a whole;
- Program requirements in terms of subject matter experts, coordinators, and administrators;
- Potential third party institutions which can deliver particular courses, their qualifications and their requirements;
- Technologies and the educational tools that would be incorporated to facilitate knowledge delivery and assimilation, including how any technology infrastructure gaps would be bridged to ensure delivery;
- Initial targets for certification or credentials by institution related to the international standards;
- Challenges and the actions that the GoB should take in order to facilitate improving the implementation of the TED program;
- Sustainability and transition mechanism for the TED program's objectives, including: Training of trainers (ToT) and the establishment of a viable NDMRTI institution, with core staff and training capabilities that will become the leading national research and training institute for emergency management and disaster risk management in Bangladesh.
- The approach for coordination with vendors and other consultants of the URP for the vendors' training program and an initial schedule that is developed with input and concurrence from the Team Leaders of the other components of URP.

Task 1.6: Establish a Planning Process to Develop Emergency Operations Plans.

Beginning in Year One, the Consulting Firm will develop a planning process for development and implementation of the necessary Emergency Operations Plans at the National and Dhaka City levels. These Emergency Operations Plans include the design and structuring of each Emergency Support Function (including clearly identifying the primary agency) and should provide appropriate linkages with the UN-OCHA Disaster Relief Clusters to ensure clarity prior to and during a disaster response. The objective of this Year One task is to mainstream a planning process during Years Two through Four at the City Corporation level and the DDM level in order to complete, train, and exercise required Emergency Operations Plans. Through this planning process, members of the National and Dhaka City Disaster Response Groups will be engaged on a regular basis in order to write the plans, and attend training, exercises and drills to further define and finally practice the EOP. The planning activities include:

- A planning process to complete the two prescribed plans within four years and will involve all key members of the National and Dhaka City Disaster Response Groups in the plan development process;

- Develop a unified Concept of Operations for response;
- Write Emergency Operations Plans for response to augment the content in the recently developed *National Earthquake Contingency Plan* and the *Dhaka City Earthquake Contingency Plan*;
- Based on a final *National and Dhaka City Emergency Operations Plans*, organize the related Emergency Support Function and ensure integrated linkages to the UN-OCHA Disaster Relief Clusters.
- Develop the National Planning Guideline that reflects the process for the development of the EOPs, including disaster management accountabilities for ministries / departments/agencies;
- Proposed updates to the National Plan for Disaster Management 2010-2015 and the Standing Orders on Disasters, 2010 to reflect requirements for Emergency Operations Plans.

5.1.2 Phase 1 – Outputs and Deliverables

The following outputs and deliverables are required:

Deliverable 1.1: TED Program Inception Report.

The report shall describe the understanding of the objectives and tasks, the approach, schedule, staffing, project management approach, and the control process to ensure the project reaches its goals. This is due within three (3) months of project initiation.

Deliverable 1.2: Strengths-Weaknesses-Opportunities-Challenges (SWOC) Analysis and Capacity Needs Assessment (CNA) Report.

The report shall include similar details for the six targeted institutions¹⁰ and demonstrate the Consulting Firm's efforts to understand and build relationships with the six targeted institutions. A draft report is due within nine (9) months of project initiation and the final report due within 12 months of project initiation.

Deliverable 1.3: Organizational Analysis Report.

The report shall include staffing patterns, organograms, and job descriptions, for approval by GoB, for all new hires and existing positions, under the URP, for the NDMRTI, ERCC, FSCD, DNCC, DSCC and SCC. This is due within nine (9) months of project initiation.

Deliverable 1.4: Bangladesh URP Orientation and Training Course.

The course shall be titled "About the Bangladesh Urban Resilience Project", or similar, and include training course notebook, reading materials, education and outreach materials, and knowledge check. Target number of participants should be between 60 and 80, ideally with balanced representation from all six targeted institutions. This is due within six (6) months of project initiation.

Deliverable 1.5: Training Participation Tracking Tool Initial Report.

The Consulting Firm will design and deliver a Microsoft Excel-based tool for tracking participation in all

¹⁰ The NDMRTI should be incorporated at the time it is officially created and has assigned staff.

training, exercise and drill offerings. The initial report, due within nine (9) months of project initiation, should minimally list the participants who have completed the Bangladesh URP Orientation and Training Course noted in Deliverable 1.4. Participant tracking reports should be reported twice annually for each year of the project; once at the end of each GoB fiscal year and once at the halfway point of the GoB fiscal year.

Deliverable 1.6: TED Program Road Map Report.

The report shall be due at the end of twelve (12) months after project initiation. The roadmap report shall include a project critical path and shall be subsequently updated at least twice annually for each year of the project; once at the end of the each GoB fiscal year and once at the halfway point of the GoB fiscal year. The report shall be presented to and discussed with the PIU and PCMU. The project critical path must be designed to ensure that training, exercises and drills proceed on schedule regardless of hiring challenges or administrative delays at any of the six targeted institutions.

Deliverable 1.7: EOP Planning Process Report.

The report shall define the planning process to develop, train, exercise and institutionalize the National and Dhaka City Emergency Operations Plans. The report should provide a unified concept of operations for disaster response. The report must also address how the strategic, tactical and operational supports provided by those agencies and ministries with specific responsibilities during disaster response will be included in EOP development. The report is due within twelve (12) months of project initiation.

5.2.1 Phase 2 – Task List

The following tasks are required:

Task 2.1: Develop the Detailed TED Program Implementation Report.

Following the parameters of TED Program Roadmap Report (Task 1.4) and the EOP planning process (Task 1.5), and using the information acquired in Tasks 1.1 and 1.2, the consultant will further detail the specific TED Training Programs for each of the six institutions. The report should identify measureable outputs with specific reference to Annex B.

This program implementation report will focus on four aspects as described below: 1) schedule; 2) curriculum; 3) technology; and 4) professional staff training requirements. The implementation report should complete details documentation on the following topics, which can be organized in Appendices for easy reference:

- **Schedule:** The Consultant is required to further refine and finalize the training schedule and must identify target groups for different training tracks. The schedule is highly dependent on the identification of all trainees for the TED Program. As indicated in the previous section, the hiring will be gradual and it will take several years for the full staff positions to be approved and funded by the Government. Thus, considerations should be allowed for a progressive scaling of the Training Program by focusing first on government staff that is already in positions of responsibility over disaster management such as the point persons of the NDMRG, DDMRG and the DDM and MoDMR staff. The consultant must develop the Training Program to target, as a

minimum number, training 100 stakeholders in core courses by the end of Year One, 200 stakeholders by the end of Year Two, 400 stakeholders by the end of Year Three and 500 stakeholders by the end of Year Four (Refer to Appendix D). While balanced participation from each of the six target institutions is preferred, hiring challenges or administrative delays within any particular institution should not cause delay in training delivery.

- **Curriculum:** There should be curriculum requirements specified for each of the six institutions, and a common core course program to be delivered to personnel from all the six targeted institutions along the seven track specified in this document. For example, staff at FSCD should have a different training track than the newly hired staff to fill positions at the EOC or DRM offices in the city corporations. Yet, some fundamental courses (e.g., Bangladesh URP Program Basics, and Risk & Vulnerability Analysis) will apply to both.

The final training program should indicate core and advanced skills training course lists with respective course topic outlines. The length of these courses is envisioned to range from 4 to 40 hours total per topic, depending on the topic and audience, such as shorter courses for executives and more in-depth courses for key staff with major response operations responsibilities (Refer to the appendices – particularly Appendices B and C - for more details on the requirements).

- **Technology:** Technology-based learning (TBL) or E-Learning¹¹ is learning via electronic technology, including the Internet, intranets, satellite broadcasts, audio and video conferencing, internet bulletin boards, chat rooms, webcasts, and CD-ROM. Face-to-face (F2F) learning¹², on the other hand, is a method of learning in which participants, instructors, and facilitators meet together in the same place and at the same time. Both approaches are important to consider for course instruction, especially when used together as a blended learning experience. For each of the seven training tracks, no more than 65% of the training should be conducted electronically, with the exception of the USAR track that should be conducted 100% through face-to-face learning. An indicative list of opportunities for using e-learning is provided in Appendix B and should be considered within the 65% maximum for use of e-learning. The Consultant will need to validate the practicality of using the proposed formats for the indicated classes and note how any technology infrastructure and/or resource gaps will be bridged to ensure effective E-Learning delivery.
- **Professional Training Staff Requirements.** As part of the detailed TED Training Program, the consultant will develop a report projecting the organization of professional trainers and staff required to fully implement the TED Program. These trainers and staffing projections will include subject matter experts, training facilitators, coordinators, and administrators.

Within the report, the Consulting Firm will identify potential institutions that have experience and expertise in training and capacity building. The Consulting Firm should undertake all due diligence to establish the qualifications and competencies of these institutions, the adequacy of the courses, staff,

¹¹Social Policy Research Associates. *Technology-Based Learning Strategies*. http://www.doleta.gov/reports/papers/tbl_paper_final.pdf.

¹²The World Bank, 2011. *Definition Face-to-Face*. <http://web.worldbank.org>.

logistical capabilities and reputation. Following this in-depth due diligence, the Consulting Firm shall undertake all initial negotiations to define the terms of references of each institution and the assigned courses. The Consulting Firm must reach final agreements on training assignments with each firm. These agreements should be referenced in the detailed TED Training Program. The Consultant Firm remains accountable for the performance of any third party training providers.

For the defined classes that are not available through third party training vendors, the Consulting Firm should identify partners or internal resources to complete these courses within the stated schedule and under the same rigorous curriculum development approach including an independent peer review of the course content.

The Detailed TED Training Program must elaborate how proposed curriculums are aligned with international standards for certification and accreditation. The training program must include specific targets to reach particular requirements of international standards on disaster risk and emergency management that can be reasonably obtained during the length of the TED Program that match the capacities and expectations of GoB. In addition to the guidance on the relevant international standards (Section 4.1, item 10), the details for tracking the results indicators noted in Section 3.2 should be fully described.

Task 2.2: Conduct of the Trainings

Consulting Firm is responsible for the conduct of all training according to the schedule developed in the previous task and the stated performance criteria. The Consulting Firm is responsible for all the staffing (either through its own resources or third party institutions), coordination, supervision and evaluation. Each course should have an evaluation including one from the trainees. Consulting Firm is responsible for the performance of all third party institutions engaged to either deliver curriculum or conduct the training.

Task 2.3: Coordinating Vendors and Suppliers Trainings

Under Component A of the URP, the target agencies and stakeholders will be provided with extensive emergency communication equipment, emergency management information and data system software and hardware, Geographic Information System software and hardware, and specialized firefighting and search and rescue equipment. These equipment, systems and tools will be supplied under different contracts. However, they will involve various vendors and suppliers who will provide their own skills trainings for operating and maintaining these tools and systems. This task consists of compiling a schedule for all the relevant training skills from the vendors and the parameters of these trainings, including their schedules. The responsibility of the Consultant under this task is to coordinate the various training schedules among vendors and to ensure performance. The goal is to ensure that the staff from all six institutions acquires the adequate competencies to use, operate, maintain and potentially update the equipment as necessary. If necessary, the Consultant should propose additional supplementary skill trainings to complement gaps in related competencies, such as basic remedial computer applications, the use, installation, and maintenance of the various emergency communications equipment as well as data management and GIS.

Task 2.4: Design and Delivery of Tabletop and Functional Exercises

Design, plan, manage, conduct, evaluate and document a total of five(5) tabletop exercises intended to improve plans, policies, and operational procedures. (Refer to Section 4.3 for Exercises and Drills requirements). The exercises will take place during Year Two (two exercises), Year Three (two exercises) and Year Four (one exercise) of the project. The final consulting firm tabletop exercise list will be concurred upon by the Project Management Unit (PMU) and the concerned agencies.

Additionally, one multi-agency, multi-jurisdictional, multi-discipline functional exercise shall be delivered in Year Four to test the decision-making and communication processes identified in existing response plans. This functional exercise may be coordinated with other GoB disaster exercises such as the Disaster Response Exercise and Exchange (2015) but will still require an independent objectives list and After Action Report that highlights the objectives of Component A of the URP.

The Consultant shall generate After Action Reports from all project exercises that will define the follow-up actions noted through exercise evaluation. The exercise evaluation process should allow for input from all key participants. These reports shall include specific timelines and assign accountability for specific follow-up actions to the appropriate senior leadership within the GoB as informed by the Revised Standing Orders on Disaster (2010).

Task 2.5: Design and Delivery of Drills

Design, plan, manage, conduct, evaluate and document a total of five(5) emergency management drills intended to test various components of response, including communications protocols, emergency operations center procedures, alert and warning protocols, evacuation protocols and procedures, as well as other specialized procedures such as search and rescue procedures, and fire procedural response (Refer to Section 4.3 for Exercises and Drills Requirements). The drills should take place during Year Two (one drill), Year Three (two drills) and Year Four (two drills). The final consulting firm drill list will be concurred upon by the Project Management Unit (PMU) and the concerned agencies.

The Consultant shall generate after Action Reports from all project drills that will define the follow-up actions noted through exercise evaluation. The exercise evaluation process should allow for input from all key participants. These reports shall include specific timelines and assign accountability for specific follow-up actions to the appropriate senior leadership within the GoB as informed by the Revised Standing Orders on Disaster (2010).

Task 2.6: Design, deliver, and train Emergency Operations Plans

Beginning in Year Two, the Consulting Firm will institutionalize a two-year planning process based on the Planning Process deliverable (Task 1.7), at the Ministerial (i.e., DDM) level and at Dhaka City Corporation level. Under the guidance and management of the Consulting Firm, DDM will lead the Emergency Operations Plan development at the ministerial level and the Dhaka City Corporation will lead the Emergency Operations Plan development at the City Corporation level. The Consulting Firm will institute a planning process that will serve as a capacity development program for Emergency Operations Plan development by building the EOP with the participants who will execute the EOP. The Planning Process will include all key members of the Disaster Management Response Groups at National and city levels of government in order to build required capacity in the understanding and execution of the Emergency Operations Plans.

The Consulting Firm is responsible to develop a set of Common Operating Procedures within an Emergency Operations Plan that will be understood and followed for all response personnel at DDM (i.e., ERCC for the National EOP) and at the City Corporation Level (i.e., Dhaka EOC for the Dhaka EOP).

As part of the planning process, the Consulting Firm will translate the ministry/agency specific tasks in the Revised Standing Orders on Disasters (2010) into clear disaster management accountabilities. These accountabilities should be aligned with the emergency support functions noted in the Incident Command System and more generally with the appropriate UN-OCHA disaster relief clusters. The Consulting Firm is responsible to integrate this accountability structure into the Bangladesh and Dhaka City Emergency Operations Plan by developing full and partial activation procedures for each accountable lead ministry, agency or department. At least one of the aforementioned tabletop exercises should be conducted to confirm these disaster management accountabilities are understood prior to testing as part of the Year Four functional exercise.

The Consulting Firm is to develop the process and provide training for disaster management accountability planning, including ESF roles and appropriate linkages to the UN-OCHA disaster relief clusters.

The Consulting Firm is responsible to develop a National Planning Guideline Document as identified under the Revised Standing Orders on Disasters, 2010. Under this ToR, develop each of these guideline documents as templates to be used by the national government agencies and City Corporations to develop key plans for operations during disasters.

The Consulting Firm will propose relevant updates of the *National Plan for Disaster Management 2010-2015* to reflect requirements for Emergency Response Operations Plans to international standards as well as propose updates of the Revised Standing Orders on Disasters, 2010 to reflect changes in agency's missions and authorities and to further align the SOD with international standards for Emergency Response Operations.

Task 2.7: Institute a Training of Trainers (ToT) Program.

With respect to the organograms of Appendix G, develop a ToT Program of all personnel deemed required to institute the respective Training Divisions for the DSCC DRMO (4 positions), DNCC DRMO (4 positions), FSCD Command and Control Center (5 positions), and MoDMR (NDMRTI staff, 5 positions) within 24 months of project initiation. Establish a ToT Program for the training division cadres in their respective job descriptions, roles, and responsibilities as the training positions are filled by the various institutions. This training cadre is intended to take over the training activities in their respective institutions, such as develop curriculum, advertise, schedule, facilitate, coordinate, and document all aspects of training and capacity building at the end of the consultancy contract. Thus, the hired training cadre will work and interact directly with the assigned consulting firm to become familiar with the TED program and be prepared to transfer the knowledge and program facilitation to the respective institutions for sustainability purposes.

5.2.2 Phase 2 – Outputs and Deliverables

The following outputs and deliverables are required:

Deliverable 2.1: TED Program Implementation Report

Due within eighteen (18) months of project initiation, the report shall detail the TED program requirements as described in Task 2.1. It should include the following material: course schedule, course outlines, responsible institutions, projected milestones, peer review and quality control mechanisms, performance objectives, monitoring and evaluation process, targeted objective achievements – in particular in terms of helping institutions reaching international standards – delivery methods, personnel and staffing requirements (for trainers), technology requirements for training, and administrative and institutional requirements for training. The report will discuss the TED implementation plan towards achieving elements of an emergency management systems professional accreditation program.

Deliverable 2.2: TED Program Curriculum and Syllabus Report

Due within eighteen (18) months after project initiation, the report shall provide a compilation and documentation of the full curricula of the TED program for each of the six institutions as well as the core common curriculum. This report could be an annex to the TED Program Implementation Report. After the initial report submission, modifications (as necessary) and updates should be submitted annually for the duration of the project.

Deliverable 2.3: TED Program Progress Report

Due eighteen (18) months after project initiation, this report shall provide status, completed activities, scheduled activities for the following semester, issues, process towards resolving issues, and identify any actions needed from PIU or PCMU. After the initial report submission, the report shall be updated semi-annually.

Deliverable 2.4: TED Exercises and Drill Report

Due at the end of eighteen (18) months after project initiation, the report shall define the structure and the details of the exercises and drills, their delivery process and evaluation criteria. It will explain the organizations that will be involved in each case and procedures for how exercise and drill mobilization will take place. The report will also detail the process for monitoring and evaluating the exercises and drills, including how objective monitors are to be used and how participant feedback will be obtained. A common template for After Action Reports will be included as well as a tracking table that consolidates all improvement actions noted in After Action Reports. This table should minimally include the exercise / drill title, date, lead evaluator, specific improvement actions and their associated timelines and completion status as well as the name, job title and contact information for the individual assigned accountability for each specific improvement action. After the initial report submission, updates should be submitted annually for the duration of the project.

Deliverable 2.5: TED Program Sustainability Report

Due twenty-four (24) months after project initiation, the report shall provide details on the mechanisms for insuring the sustainability of the TED Program, its achievements and accomplishments, its sustainability measures (particularly those noted in Task 2.7), its maintenance and improvement

requirements, and its staffing needs. It will also provide the details and the schedule of the transfer of the program to the NDMRTI and the FSCD at the project's completion at the end of Year 4. After the initial report submission, updates should be submitted annually for the duration of the project.

Deliverable 2.6: TED Training of Trainers Program Report

Due twenty-four (24) months after project initiation, the report shall provide a program overview and strategy, with details on respective job descriptions, roles, and responsibilities per position. The report will also provide details on the appropriate training programs, job shadowing opportunities, mentoring and courses that will be used to train the designated Training Officer positions as referenced in Task 2.7 above and in the Appendix G Organograms. After the initial report submission, updates should be submitted annually for the duration of the project.

Deliverable 2.7: TED Program Performance, Monitoring and Evaluation Report

Due thirty-six (36) months after project initiation, the report shall summarize all the reviews, evaluations and recommendations for improvements by course, exercise, drill, as well as by institution. The report should include specific details on the performance measures and the monitoring and evaluation process for each training course as well as the Vendors training. The report will document progress achieved towards IAEM Certification, INSARAG requirements, and EMAP accreditation program. After the initial report submission, updates shall be submitted annually for the duration of the project. The final update will also identify the necessary future steps and investments to complete these certifications and accreditations for DDM, FSCD, DNCC, DSCC and SCC.

Deliverable 2.8: National and City level Emergency Operations Plans

Due thirty-six (36) months after project initiation, these finalized Emergency Operations Plans, with formalized disaster management accountabilities, will be available and functional. These plans shall also be tested and improved through the various exercises and drills delivered through this project.

Deliverable 2.9: National EOP Planning Guideline

Due thirty-six (36) months after project initiation, the Consultant shall deliver the finalized Guideline and propose updates to the National Plan for Disaster Management 2010-2015 and the Standing Orders on Disasters, 2010 to reflect requirements for Emergency Operations Plans.

5.3.1 Phase 3 – Task List

The following tasks are required:

Task 3.1: Review, Update, and Transfer TED Program to NDMRTI and FSCD.

Year 4 of the program will include all improvements and updates to the TED program including curriculum, delivery method, pedagogy, content and schedule. At the end of Year 4, it is expected that the full transfer of the TED program to the NDMRTI and FSCD, depending on their competency areas, will be complete. The transition will be complete once the transferred program is operationalized, fully equipped and has a sustainability plan for ten years. An ongoing schedule of upgrade and review should be part of the program, to be documented in writing on an annual basis, at the end of each year.

5.3.2 Phase 3 – Outputs and Deliverables

The following outputs and deliverables are required:

Deliverable 3.1: TED Program Transfer to the NDMRTI and FSCD

Due forty-eight(48) months after project initiation,the program transfer should be complete. At that time, the program should be fullyoperationalized and equipped within the receiving agencies (NDMRTI and FSCD). The transfer should include a sustainability plan for ten years.The Consulting Firm should also provide a Management Transition Plan for NDMRTIand FSCD based on the TED Program Performance, Monitoring and Evaluation Reports (Phase 2) and the TED Program Final Reportdescribed below in Deliverable 3.2.

Deliverable 3.2: TED Program Final Report

Due forty-eight (48) months after project initiation, the report shall provide details on the execution of the TED Program, its achievements and accomplishments, its sustainability, its maintenance and improvement plan, and its final staffing accomplishments. The final report should include an overall decade-long schedule for execution of future trainings, exercises and drills and the institutions responsible for each one of these TED Program components. As well, the report should highlight collaborative opportunities with both internal and external agencies for training, exercises, drills, and if possible, mutual aid agreements with other jurisdictions.

6.0 Additional Considerations

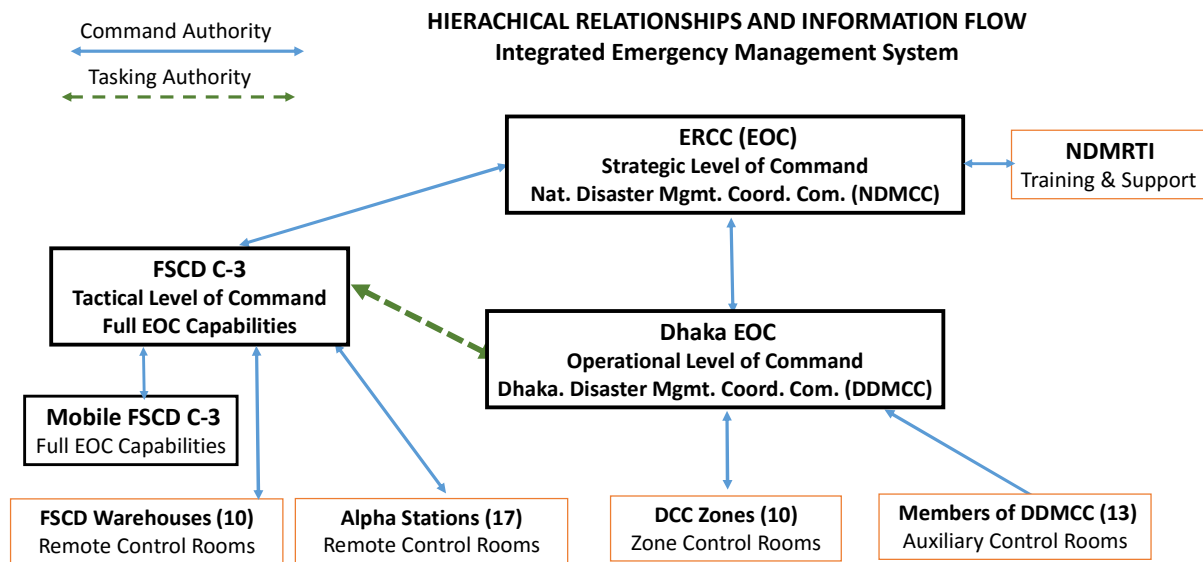
The purpose of this section is to provide informationto bidding Consulting Firmabout the interconnection of different agencies as part of the objective of the URP to establish an Integrated Emergency Management System and a well-coordinated disaster/emergency response strategy at all levels of government authority. An illustration of this concept is provided below. Note that as part of the ToR, the Consultant should consider these relationships and linkages as indicated in the Standing Orders on Disaster 2010 and the Disaster Management Act of 2012 in building the TED Program for the Bangladesh Urban Resilience Project.

There will be several ICT packages to setup a redundant, reliable and available communications between the relevant public agencies. Trunked Digital Mobile Radio (DMR) system will be established within Dhaka and Sylhet City and possibly covering the surrounding of the city. All disaster related agencies will use this network for daily and emergency time communications. Apart from this, there will be enough number of HF/SSB radios in all the operational vehicles, C4s, warehouses and related office buildings to be used in disaster times. Microwave links will be established for DMR network and surveillance cameras for facility security and remote monitoring as well as providing redundant backup lines for F/O lines that are expected to be out of service during a major disaster. Video conferencing equipment, IT networks, display walls, etc. will be used to furnish C4s for providing a proper infrastructure during a disaster for disaster managers. Fly away kits containing battery packs, satellite technology, DMR radio technology, cellular phone network technology, etc. are planned for flexible operations' preparedness and response.

Bulk SMS sending and remote public announcement systems for citizens' warning will also be a part of the IP network described above. Common Operational Picture SW, Training, Drill and Exercise SW, E-Learning SW platforms are the main SW platforms to be used in all phases of the disaster management cycle.

Communications Flow Diagram between all ICT Nodes

The Bangladesh Integrated Emergency Management System will physically establish and operationalize 55 locations with fully redundant (wired and satellite/terrestrial wireless data linkages and multiple independent power systems) communications and information nodes in Dhaka and Sylhet that must be linked by Information & Communications Technology systems, as conceptually illustrated in Figure 5 below. Four EOCs (Including Mobile FSCD C-3) have overall responsibility and authority over the management of an event/incident (i.e., Strategic, Operational, and Tactical). These EOCs are supported by remote control rooms (a total of 51) that are under their direct authority. All the 55 nodes must remain in constant communication (wired and satellite/terrestrial wireless data linkages and multiple independent power systems). The web-enabled Emergency Management Information and Data System (EMIDS) software will provide capabilities for sharing data and information between the four EOCs and the Control Rooms, to develop the same situational awareness of the incident at any time.



A total of 55 sites must maintain communication at anytime under the hierarchy and information flow shown in the figure. (Note: SUVs are not indicated and belong to each of the EOCs/C-3s)

Figure 3. Schematic of the Integrated Emergency Management System Showing the Levels of Command and the Information Flow.

The Consulting Firm is responsible for managing the training programs associated with all the institutions involved in the IEMS as well as training the relevant personal from these agencies.

7.0 Implementation Arrangements

The Consulting Firm will work closely with the two Project Implementation Units (PIUs), namely DDM under the MoDMR at national level and DNCC at the local level. The Consulting Firm should coordinate closely with FSCD for its related TED component. The FSCD has significant experience and particular targeted goals from the TED program. The Consulting Firm should also coordinate to validate key assumptions, findings and results with the PIUs in charge of related ToRs under Component A. The Consulting Firm should constitute a Project Working Group (PWG) composed of the two implementation agencies (DDM and DNCC) plus representatives of FSCD, Dhaka South City Corporation (DSCC) and Sylhet City Corporation (SCC) to coordinate the design and implementation of the respective training programs for each institution. The Consulting Firm shall also coordinate with third party vendors responsible for the procurement of ICT and training equipment as well as consulting firms in charge of other components of the URP.

After the inception stage, the Consulting Firm shall prepare a detailed schedule and task-flow diagram, as described in the TED Program Road Map (Task 1.5) above, which depicts the interrelationship of various tasks in the assignment which lead to the completion of training programs and creation of a mechanism for coordination with the key targeted agencies and other related entities. This will be kept and updated throughout the project's duration.

A focal point will be identified at inception that would be the lead representative of the Consulting Firm responsible for coordination and all interfaces with the Consulting Firm. The Team Leader of the Consulting Firm will be the principal contact and will be expected to be readily available during project implementation. The Consulting Firm shall be responsible for all aspects of performance of services as set forth in the preceding sections of this ToR.

8.0 Selection Procedure and Form of Contract

The firm will be selected following the World Bank's Guidelines: Selection and Use of Consulting Firm by the World Bank for Operational Purposes and form of contract would be Complex Lump Sum Contract.

Minimum qualifications of the firm to be selected for the required assignment include:

- More than 15 years of experience in the field, including experience with governments in developing countries, including at least 10 years of experience in training and capacity building.
- Demonstrated competency in conceptualization, formulation, and execution of large-scale institutional capacity development programs of similar nature as the one specified here.
- Consulting firm should bring among its team demonstrated expertise in the following fields: training and capacity building, training delivery methods, pedagogy and educational methodology, disaster risk management, emergency management, emergency response planning and operations, emergency communications and data management systems, urban development, and earthquake engineering.
- Competency in organizational analysis, business administration, management consulting or equivalent.

- Transparent and audible procurement and documentation tracking system.
- Internal competency (or commitment to acquire competency) for provision of all materials in English and Bangla. The need for the Consulting Firm to provide translators during face-to-face training and other TED related activities will be determined through discussion with the six agency leads.

The Consultant Firm must be familiar with the international standards for disaster risk management and emergency response planning and operations and must tailor the TED based on these standards. The recognized international standards include: a) the International Association of Emergency Managers (IAEM), *Certification of Emergency Managers*; b) Emergency Management Accreditation Program (EMAP), *Accreditation of Government Programs and Agencies*; c) NFPA 1600-2010, Standards on Disaster/Emergency Management and Business Continuity Programs; d) ISO 22320-2011, *Requirements for Incident Response*, and e) the INSARAG standards for search and rescue.

The Consultant Firm must have similar past experience in developing a personnel management system that will be measured along three indicators:

- The number of key personnel accredited to operate and support emergency management situations;
- Readiness of institutions and organizations and their ability to plan, coordinate and conduct drills and exercises; and
- The competency of the staff and managers to operate and maintain all emergency management equipment, software, hardware and other devices provided by the project under Component A

The Consultant Firm shall have experience with developing and obtaining specific performance data (both quantitative and qualitative) to establish benchmarks at the onset of the project and to measure progress.

The Consulting Firm shall demonstrate full awareness of scope of all ToRs under Component A

9.0 Duration of Assignment

Duration of the contract is four (4) years from mobilization. The first year will involve the conceptualization of the TED program including the identification of fundamental TED courses and the appropriate participants for each course. Final organograms must be developed, with defined and approved positions within 18 months. The second year will involve the finalization of TED program curriculum as well as the instructional materials to be used in the program. The third and fourth years will be fully dedicated to capacity building program and the execution of trainings, exercises and drills for the identified participants. The fourth year will also involve review and evaluation and transfer to national institutions. The phased approach, as outlined in the defined tasks, above, will be followed.

10.0 Staffing Requirements

The Consulting Firms are encouraged to use the expertise available in Bangladesh to the extent possible. However, international experience is necessary to carry out the assignment. The Consulting Firm is free to propose a staffing plan and skill mix necessary to meet the objectives and scope of the services. However, a strong competency in project management applications is expected. If all the required skills are not available within the consulting firm, you are encouraged to make joint ventures with other firms.

Below is an indicative list of posts where the firms will propose their required person-months/position numbers but not limited to carrying out the assignment.

As part of the consultant proposal, Consulting Firms should identify the following members of the TED Program Implementation Consulting Team: 1) TED Program Team Leader, 2) TED Program Project Manager, 3) Curriculum and Exercise Development Leader, 4) Curriculum and Exercise Development Subject Matter Experts, 7) Training and Technology Specialist, 8) Consulting TED Officers, and 9) Consulting TED Liaisons (6) for six targeted agencies: DDM; NDMRTI; FSCD; Dhaka South City Corporation, Dhaka North City Corporation and Sylhet City Corporation. Consulting firms should also provide the qualifications of the TED Program Implementation Consulting Team. An indicative list of qualifications and main responsibilities for these identified positions is provided below.

TED Program Team Leader

Qualifications:

- Master's degree (or higher) in Emergency Management, Social Sciences, Education or other related fields.
- Twenty (20) years of experience in disaster risk management and emergency management, with a demonstrated focus on training, where a multi-disciplinary team of training practice leaders and subject matter experts is undertaking the project.
- Global understanding of education and training practices, principally in developing countries in Asia is required. Experience in Bangladesh is a plus.
- Proven ability to operate effectively in complex bureaucratic environment, where strategic planning, problem-solving and ability to optimize resources drive progress and success.
- Detailed organizational skills and in-depth management abilities and discipline are expected.
- Proven ability to work in cooperation with military disaster response components.
- Leadership qualities that foster teamwork and collective problem solving, but impose rigor are recognized skills for the position.
- Clear and effective communication skills including written and oral communication.

Major responsibilities shall include but not necessarily be limited to the following:

- Build, manage, and lead a team of experts and specialists with full competency to undertake the tasks of the project;
- Take the lead in the development, implementation, review and evaluation, and improvement of the TED program to improve emergency response capabilities, preparedness and readiness of government institutions and other key stakeholders involved in disaster risk management and emergency response.
- Manage strategic relationships with the Bangladesh Urban Resilience Project PCMU (Project Coordination and Monitoring Unit), Project Implementation Committee, Project Implementation Unit and related ministries, agencies and organizations represented in these institutions. Respond to all requests and queries from these agencies with prompt responsiveness, accuracy and transparency. Attend meetings of these institutions if called upon and be prepared for constructive interaction.
- Maintain a constructive and collaborative working environment with the Implementing Agencies, other concerned government agencies, and other stakeholders involved in the project;
- Ensure all major decisions and assumptions are reviewed, discussed, understood and supported by the Implementing Agencies and other relevant stakeholders;

- Facilitate the monitoring and evaluation process by the PCMU.
- Ensure performance of team personnel, adherence to work plans and schedules, project finances and accounting, procurement procedures for hiring of project Consulting Firm and advisors;
- Undertake all internal review and quality control findings, assumptions and recommendations for the team; ensure seamless integration of all components and ultimate performance considering the wide range of expertise that is required in the project.
- Identify study tours, ensure all preparations including meetings, visits, presentations and consultations are planned and all learning experiences are captured and transferred.
- Lead the preparation of project work plans, schedules, control processes, monitoring and evaluation, and reporting process; communicate and validate these plans effectively with the team, and relevant officials and stakeholders.
- Establish a transparent project monitoring and reporting process focused on accuracy, target completions and on team problem-solving; be aware that members of the team come from different backgrounds where terminology and concept mean different things to different people. Ensure proper and effective communication within the team, where linkages are understood.
- Ensure the project management control is geared towards proactively solve issues, adapt to new situations, shift resources, and communicate effectively
- Supervise the preparations of the missions to Dhaka, including team composition, agenda, preliminary consultations, preparation of documentation; etc.

TED Program Project Manager:

Qualifications:

- Master’s degree (or higher) in Emergency Management, Social Sciences, Education or other related fields.
- Fifteen (15)years professional experience in ‘hands-on’ emergency management field, including at least 5 years professional experience indesigning and implementing disaster risk management and emergency management training and capacity development programs.
- Experience in managing major projects of similar scope is an advantage;
- Excellent organizational, planning, communication, and conflict resolution skills;
- Proficiency in project management tools and techniques;
- Global instructional experience, principally in developing countries in Asia. Experience in Bangladesh is a plus;
- With demonstrated leadership qualities.

Major responsibilities shall include but not necessarily be limited to the following:

1. Assist Team Leader in all his task and duties;
2. Plan and lead the day-to-day activities of the project;
3. Plan and coordinate all contractual obligations, internal and external coordination, preparation of tasks, monitoring, communication and reporting;
4. Develop and supervise a systematic and auditable technical documentation system for the entire documentation of the project including all collected data, meetings minutes, project planning and monitoring documentation, financial reports, and other project relevant documentation;
5. Manage meetings with PIU and other government agencies including development of the agenda and follow-ups;
6. Problem-solve potential issues; manage resources effectively;
7. Review and manage expenditures and financial statements;
8. Review Consulting Firm’ reports; ensure satisfactory participation from all team members;
9. Assume responsibility of schedule, project coordination meeting; document preparation, and

- reporting;
10. Lead in the preparation of deliverables and reports; and
 11. Promote a constructive and productive environment within the project team.

Curriculum and Exercise Development Leader:

Qualifications

- Master's degree (or higher) in Emergency Management, Social Sciences, Education or other related fields.
- 10 years professional experience in 'hands-on' emergency management field, including at least 5 years professional experience in designing and implementing disaster risk management and emergency management training and capacity development curriculum assignments.

Major responsibilities shall include but necessarily be limited to the following:

1. Role is to manage curriculum development staff of Subject Matter Experts that are employed on a part time to full time basis to develop specific training classes, drills and exercises.
2. Develop and manage a Curriculum Development Master Plan that meets international standards and all training requirements of the BURP.
3. Develop and standardize various training and presentation formats.
4. Modify all curriculum to meet requirements as understood and defined by Consultant TED Officers and their Consultant TED Liaison team associated with specific target agencies.
5. Manage funds to seek and incorporate existing training courses available in the region to be delivered on site by outside experts.
6. Manage development of Country site visits to understand training programs and standards delivered on an international scale.

Curriculum and Exercise Development Subject Matter Experts

A group of subject matter experts is required as part of the team first, to provide analysis of the practice in Bangladesh regarding specific related topics of expertise, as listed below and to second, develop courses, drills, and exercises of various durations, typically 4 to 16 hours in course length. Drills and exercises can be longer in duration. The following minimum number of subject matter experts is required to support the Curriculum and Exercise Development Manager:

- Subject Matter Training Expert: Legal and Institutional Arrangements
- Subject Matter Training Expert (2): Emergency Response Operations including EOC Management, Disaster Social Services and Mass Fatality Management
- Subject Matter Training Expert: Emergency Communications
- Subject Matter Training Expert: Geographic Information Systems
- Subject Matter Training Expert: Land Use Planning
- Subject Matter Training Expert: Disaster Risk Management including Hazards and Vulnerability Analysis
- Subject Matter Training Expert: Building Sciences
- Subject Matter Training Expert (2): INSARAG Certification and Search and Rescue Operations
- Additional Subject Matter Experts are expected to be sought and hired by the Curriculum and Exercise Development Leader to fill knowledge and curriculum gaps during the project duration.

Qualifications:

1. Master's degree (or higher) in Emergency Management, Social Sciences, Earth Science, Hazards Science, Education or other related fields. A Bachelor's degree with at least 5 years relevant work experience may be substituted for the Master's degree requirement.
2. 5 years professional experience in 'hands-on' emergency management field with leadership experience is a plus, including at least 3 years' experience in designing and implementing disaster risk management and emergency management training and capacity building programs, and executing major projects of similar scope;
3. Knowledge of International Standards in Emergency Management, as applicable;
4. Demonstrated organizational, planning, communication, and conflict resolution skills;
5. Proven instructional experience with developing countries in Asia is required. Experience in Bangladesh is a plus;
6. Demonstrated ability to review and gain an understanding of the appropriate laws, institutional authorities and policies, and cultural context of intended training audience.
7. Demonstrated strong leadership qualities.

Major responsibilities shall include but not necessarily be limited to the following:

- Work under the Direction of the Curriculum and Exercise Development Leader;
- Lead the development of existing coursework review, new coursework design and outlines development, module design and development, and coursework presentations and student handouts;
- Conduct training coursework demos to local authorities to validate local conditions and gain input;
- Closely communicate and support the Team Leader and the Project Manager in their tasks;
- Provide inputs in the preparation of all reports and deliverables and a systematic and auditable technical documentation for the entire development of the project;
- Prepare and demonstrate proposed coursework to ensure appropriateness and content;
- Support the timely completion of project goals and documents;
- Conduct train the trainer courses to initiate the project;
- Develop post-training evaluation tools. Develop indicative work flows;
- Develop indicative job descriptions;
- Assist the Team Leader in the preparations and conduct of the consultations, meetings and workshops;
- Support the preparation of various reports and deliverables for continuing education and the outreach campaign;
- Take the lead in the development of the evaluation and monitoring criteria for the TED program; and
- Support the overall project management.

Training and Technology Specialist (2)

Qualifications:

1. Master's degree (or higher) in Emergency Management, Education, Instructional Technology, or other related fields.
2. 10 years of experience in using educational technologies, with at least 5 years' experience in teaching/training.
3. Must be a proficient planner, problem solver and researcher.
4. Must have advanced internet skills and computer knowledge to effectively carry out tasks and responsibilities.

5. Knowledge in instructional design, techniques and learning theories to be able to assess and determine the most appropriate instructional strategy for the courses and the participants
6. Proficient in integrating technology into the curricula in ways that enhance the learning process
7. Ability to customize trainings to suit the needs of participants
8. Global understanding of education and training practices, principally in developing countries in Asia is required. Experience in Bangladesh is a plus.
9. Proven ability to operate effectively in complex bureaucratic environment, where strategic planning, problem solving and ability to optimize resources drive progress and success.
10. Clear and effective communication skills including written and oral communication in a variety of situations.

Major responsibilities shall include but not necessarily be limited to the following:

1. Together with the subject matter experts and other team members, lead in the planning, development and evaluation of instructional technologies and support solutions to effectively deliver each of the training courses.
2. Lead the training design and development and prepare instructional strategies and guidelines for face-to-face, online, and blended training.
3. Identify resources needed, develop learning objectives, organize sequencing of activities, assist in choosing learning strategies, and delivery formats.
4. Responsible in researching the best online learning platform for the effective delivery of online courses.
5. Assist in the programming of interactive content to allow online applications, reading materials, discussions, file sharing, database management, etc.
6. Responsible in programming, testing, evaluating, and implementing new computer applications for improved teaching and learning.
7. Evaluate, modify and maintain existing course management systems/programs, if there are any.
8. Conduct research to keep updated of the latest advances in information technology and assess the feasibility of incorporating them into program plans and specifications.
9. Provide technical support for the Curriculum Development Leader, the Subject Matter Experts, the participants, and other team members.
10. Perform other administrative tasks as may be assigned.

Consulting TED Officer (2)

Qualifications:

1. Bachelor's Degree and five years' documented interagency experience in delivering government programs and or training programs to clients.
2. Requires organizational and management skills.
3. Competency in Microsoft Office Suite.
4. Excellent communications skills.
5. Requires understanding of clients' needs or ability to gain the understanding as well as the ability to translate these needs to course developers.

Major responsibilities shall include but not necessarily be limited to the following:

- Manage the TED Training Program for full implementation, evaluation, and monitoring. One officer position is required for the Dhaka City area and another for Sylhet.
- Responsibility is to coordinate all the training schedules for all targeted agencies.
- Manage team of Consulting TED Liaisons who are responsible for liaison to each agency.

- Ensure Curriculum and Exercise Development Leader is aware of specific training requirements as determined by the Consulting TED Liaisons.
- Manage all final delivery formats for each training class utilizing presentations and graphics skills of the Consulting TED Liaison team.

Consulting TED Liaison (6)

Atleast one position is required for each of the six targeted agencies: NDMRTI, ERCC, FSCD, Dhaka North City Corporation, Dhaka South City Corporation and Sylhet City Corporation.

The role of these liaisons is to provide direct liaison between the individual designated agency and the TED Consulting Firm on a fulltime basis to ensure that all key agency personnel are trained in designated courses offered under the URP. Each liaison will provide back up to other liaisons to ensure redundancy in coverage. The liaisons will be assigned full time to each of the six target agencies and will be available to service target agencies regarding the TED Program on a continuous basis for the project's duration.

Qualifications:

1. Bachelor's Degree and three years' documented interagency experience in delivering government programs and or training programs to clients.
2. Excellent organizational and management skills.
3. Competency in Microsoft Office Suite.
4. Working knowledge of graphic software program capabilities associated with professional presentations.
5. Excellent communications skills.
6. Requires understanding of clients' needs or ability to gain the understanding as well as the ability to translate these needs course developers and the Consulting TED Officer.

Major responsibilities shall include but not necessarily be limited to the following:

- Manage all training schedules for key personnel associated with each agency.
- Become intimately knowledgeable about the assigned agency and the personnel within each agency.
- Track and maintain all training progress per agency.
- Assist in logistics for each training session and manage all the details required for each training session.
- Serve as members of the monitoring (and evaluation) team in combination with counterparts from each of the six target agencies.
- Provide education and outreach about the project and available training to target agency.

11.0 Appendices

Appendix A: Bangladesh Disaster Risk Management (DRM) System

Policy, legal and institutional framework for DRM in Bangladesh

- **International DRM agreements and regional initiatives**
- Bangladesh showed commitment to implementing the Hyogo Framework for Action (HFA) and is a signatory of the Sendai Framework for Action (SFA).
- Bangladesh is an active member state of the South Asian Association for Regional Cooperation (SAARC).
- Bangladesh contributed to the formulation and adoption of the Comprehensive Framework on Early Warning, Disaster Management and Disaster Prevention in 2007.

- **Existing national laws and policies relevant to DRM**
- Disaster Management Act of 2012, Standing Orders on Disaster (SOD), and other DRM-related laws and codes constitute the core of Bangladesh national disaster management regulatory framework.
- Disaster Management Act of 2012 provides the legal basis for DRM mandates of government agencies and non-government actors.
- SOD and related Guidelines facilitate monitoring of disaster management activities and guide individual officials and institutions at the national and sub-national levels on their responsibilities in disaster management.
- There are 67 DRM-related which are significant legislation relevant to disaster risk reduction and emergency management.
- The draft National Disaster Management Policy includes identification of likely disaster impacts, assessment of available resources to cope with disasters, enhancement of existing institutional capacity for disaster response and recovery, addresses socioeconomic aspects contributing to exposure to disaster threats, and reduction of risk to acceptable levels.

- **Organizational Structure of Disaster Management**

The Bangladesh Urban Resilience Project (Phase 1) completed an organizational network analysis to understand the inter-relationships among the identified DRM stakeholders in Bangladesh. The outcome is represented in Figure 7 below. It reveals key nodal agencies which play a key role in the case of a major disaster in Dhaka. These include: The Prime Minister's Office (PMO), AFD (Armed Forces Division), Fire Service and Civil Defense (FSCD), Ministry of Disaster Management and Relief (MoDMR), Department of Disaster Management (DDM), Ministry of Local Government, Rural Development and Cooperatives (MoLGRD), Dhaka City Corporations (DCCs), District Administration, Rajdhani Unnayan Karttripakkha (RAJUK), Metropolitan Police, and core services such water and gas agencies. The figure shows the nature of the relationship between the various stakeholders, and classifies the relationships as hierarchical and/or coordinative, and information flows as formal or informal. Horizontally, the chart is divided into three parts: national, district, and local level. Although not shown in the figure, each entity is placed vertically under its corresponding ministry. Hierarchical ties in the network are represented by red arrows and coordination ties are shown in blue arrows.

- **National-level DRM institutional framework and coordination mechanisms**

The figure shows that the Prime Minister's Office (PMO) is the head office of the ministries. The Armed Forces Division (AFD) is under the authority of the PMO, and thus has hierarchical ties to most core agencies. In times of major disaster, it has been customary for the Prime Minister to call in the AFD to play a major role of control and command with the Fire Services and Civil Defence (FSCD) being the responder by the nature of its mandate. The AFD has served as the ultimate command and control because of its experience and resources, and the current weakness in Incident Command System in the country that is expected to give a greater decision making capability to the various committees including the Inter-Ministerial Disaster Management Coordination Committee (IMDMCC) or the National Disaster Response Coordination Group (NDRCG). It should be noted however, that the SOD 2010 expects such command and control responsibility to be in the hands of the various disaster management and response coordination groups established at all levels of government.

The Ministry of Disaster Management and Relief (MoDMR) is the main national agency for disaster risk management. It is also under the PMO and is in charge of managing various key committees including the IMDMCC, the NDRCG, and the EPAC (Earthquake Preparedness and Awareness Committee) and coordinating among the various ministries (and the National Disaster Management Council (NDMC)).

The Department of Disaster Management (DDM) serves as an executive body charged with various preparedness and coordination functions. DDM was established to implement the objectives of the Disaster Management Act of 2012. DDM works with local government bodies through the city corporations, districts, and disaster management committees.

Under the Ministry of Housing and Public Works is RAJUK which is the development planning and control authority. RAJUK shows coordination ties with AFD, DDM, FSCD, NGOs, Dhaka Metropolitan Police, DCCs, DWASA, Public Works Department (PWD), and professional organizations such as the Institute of Engineers Bangladesh (IEB), Institute of Architects Bangladesh (IAB), Bangladesh Earthquake Society (BES), Real Estate & Housing Association of Bangladesh (REHAB).

- **City-level DRM systems**

- The City Corporation Disaster Management Committee (CCDMC) is responsible for risk reduction, emergency management, and recovery activities, such as:
 - Hazard, vulnerability and risk analysis
 - Contingency plan preparation
 - Coordination with utilities and other service providers
 - Identification of high risk communities
 - Capacity building and vulnerability reduction
 - Warning, rescue and relief
 - Allocation of resources for rehabilitation.
- The Local Disaster Response Coordination Group (LDRCG) is responsible for establishing a Local Emergency Operation Centre and liaising with higher authorities.
- Local Disaster Incident Managers in each local government body are responsible for organizing Disaster Incident Management Teams and leading the development of emergency operations plans.

During crisis situations, they also establish Disaster Incident Management points and assess the situation in order to coordinate appropriate local-level actions.

It must be noted however that at this time the Dhaka and Sylhet City Corporations do not have emergency operation centers and incident management teams. Further, the local committees are not active and have played a very limited role in disaster risk management or in the response planning and management. Figure 5, below, shows an indicative relational diagram for DRM stakeholders using Dhaka City Corporations as an example. Refer to the table of acronyms at the beginning of this ToR for reference.

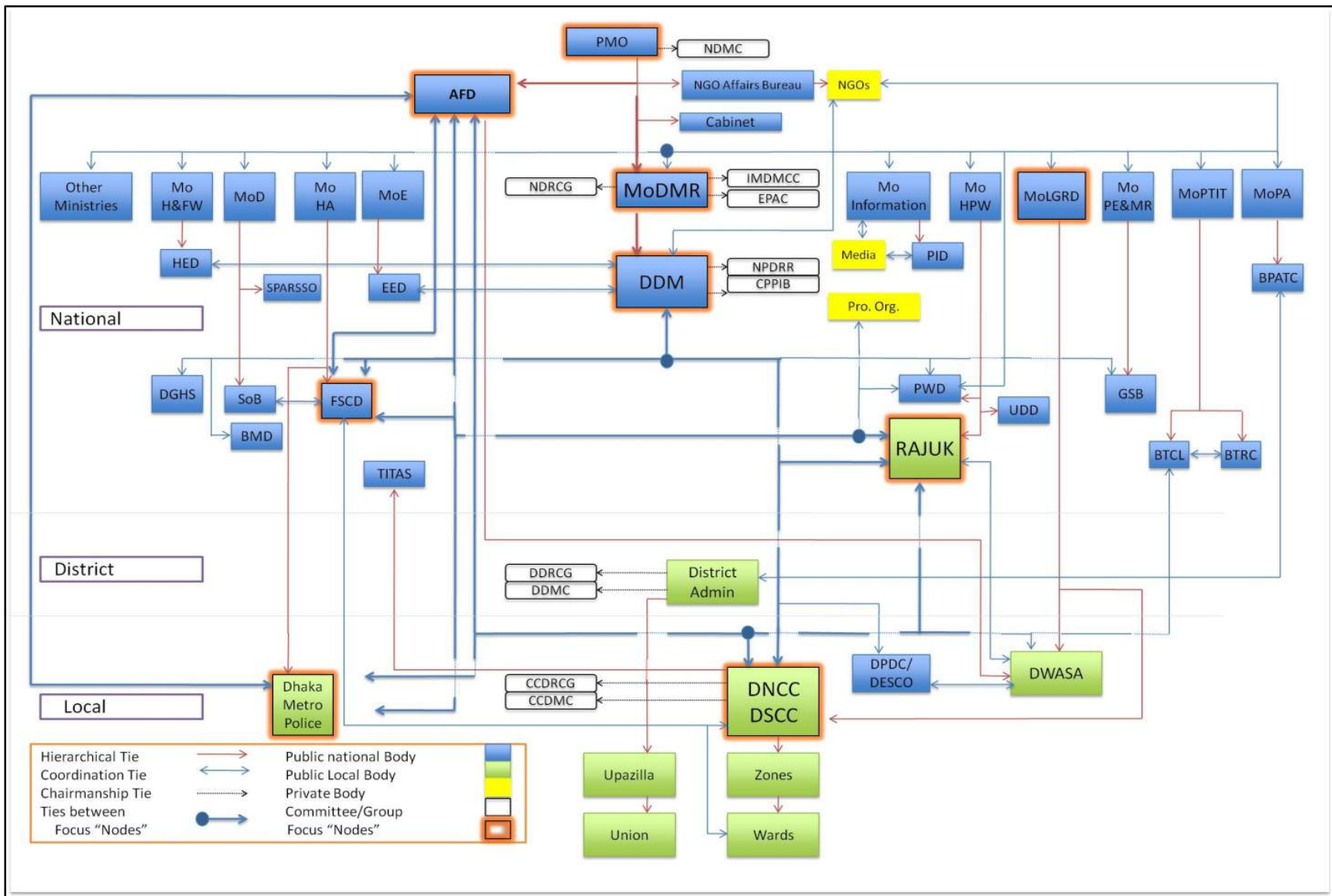


Figure 4. Institutional Relationship of DRM Stakeholders in Dhaka.

Appendix B: List of Recommended Training Courses with Course Descriptions

This Appendix provides a list of the recommended training courses that will be provided under this ToR. The courses are grouped into six (6) different tracks and identified as either a core/basic class or an advanced class. Tracks 1 to 3 are focused on job-relevant courses which include 1) Emergency Information and Communications Technology, 2) Emergency Management Planning and Operations, and 3) Disaster Risk Management and Urban Resilience. Tracks 4 and 5 include courses that are focus on developing the required skills to help prepare key personnel and agencies for the INSARAG and IAEM Certification respectively. Lastly, Track 6 consists of executive-level or advanced courses intended for personnel at the Director or Commander-level. The table also provides a brief course description, where available.

Track No.	Course	Type	Course Description
1	Emergency Information and Communications Technology		
a.	Vendors' Trainings (note: other classes may be offered by specific vendors)		
i.	End user Trainings	Core	This course will build the competency of end users in operating and maintaining the different emergency information and communications technology (ECT) that will be provided under this project (refer to other Component A ToRs). It covers all software, hardware, as well as all related IT peripherals and machinery. The topics under this course include introduction on functionalities, the process of installation, configuration, updating and basic troubleshooting. By the end of this course, the end users should have acquired a high level of confidence in using emergency ECT and should be able to integrate the use of these technologies to perform their job effectively.
ii.	All-ECT Inter-operability Training	Core	This course will provide an understanding of how the ECT system components will work together. The ECT system is comprised of different systems and products that should work smoothly together in order to achieve its optimum function in emergency management. This course includes basic concepts and principles in interoperability, issues in interoperability, and approaches to achieve system interoperability. Note: This course has a direct reference to Component A3 of the URP (Refer to ToR A3.)
b.	Intensive Formal Courses		

Track No.	Course	Type	Course Description
i.	Fundamentals of Emergency Information and Communications Technology (ECT)	Core	<p>This course will deliver the basic concepts in Information and Communication Technology (ICT). ICT is an umbrella term that includes any communication device or application, encompassing: radio, television, cellular phones, computer and network hardware and software, satellite systems and related technologies, as well as the various services and applications associated with them, such as videoconferencing and distance learning. ICTs are often spoken of in a particular context, such as ICTs in education, health care, or libraries. In our case we deal with ICT in humanitarian assistance and emergency/disaster response and relief. There is also a follow-on more advanced course in ICT for Emergency Communications and Training Protocols. Specific topics in this Fundamentals of ICT include:</p> <ul style="list-style-type: none"> - Broadcast (one way) mediums <ul style="list-style-type: none"> - Television - FM radio - Bulk Simple Messaging Service (SMS) - PAS (Public Announcement Systems) - Terrestrial infrastructure <ul style="list-style-type: none"> - Voice (Radio and cellular telephony) - HF/VHF/UHF Analog and digital communications - Radio fundamentals (Radio Frequency (RF) and concepts); - Antenna types and characteristics - IT network operations (Hub, router, switch, APs, storage, servers, client computers, etc.) - Celestial infrastructure <ul style="list-style-type: none"> - Satellite communications - Low/High Orbit Satellites - Satellite phones - Satellite broadband systems (stationary/mobile VSAT) - Mobile satellite radio modems <p>-Audio and Video (A/V) (streaming and stored)</p>

Track No.	Course	Type	Course Description
ii.	Emergency Communications Tactics, Techniques and Procedures (TTPs)	Advanced	<p>- Teleconference/Videoconference Equipment - Applications (Email, web, social media, A/V teleconferencing, DMR dispatch SW, DMR monitoring and maintenance SW, e-learning SW, Common Operational Picture SW, Training, Exercise and Drill SW, etc.)</p> <p>This course builds on the "Fundamentals of ECT" course but with a focus on hands on operation of wireless ECT equipment and systems in support of HA/DR and in implementing temporary rapidly deployed ECT solutions. The students should master using push-to-talk radios (HF/UHF/VHF), setting up and maintaining wireless broadband infrastructure (802.11/WIFI, 802.16/WIMAX and LTE, satellite broadband VSAT and BGAN setup and operation, setup and operation of temporary cellular infrastructure), setup and operation of alternate power systems (fossil fuel generators, solar, wind, fuel cell), basic use and operation of satellite phones, as well as use of social media applications (Twitter, Facebook, Skype and similar technologies) in disaster response mode. Interoperability between systems will also be covered.</p> <p>At the end of this course, the students will be able to rapidly create IP connected "communicationclouds" in austere environments using commercial off the shelf hardware and software applications and technologies, and will be completely familiar with the "flyaway kits" for communications that will be in the government early response equipment inventory.</p>
2	Emergency Management Planning and Operations		
i.	Key Elements of the Emergency Operations Plan including Policies and Concepts of Operations for National and City Emergency Operations Center (EOC) and Emergency Operations Plan (EOP)	Core	<p>This course covers the fundamental concepts in Emergency Management such as the "Concept of Operations", the Emergency Operations Plan (EOP) and the Emergency Operations Center (EOC). Topics under this course include EOC organizational concepts, key functions and job descriptions, EOC design and purpose and the Emergency Support Functions as well as EOP Plan development. Topics to cover all major sections of the Emergency Operations Plan to include: a) existing legal and institutional arrangements, b) known hazards and demographics, and c) associated risk assessments. Common operational procedures include: d)</p>

Track No.	Course	Type	Course Description
			hazard scenario planning assumptions, e) emergency management policies, f) operational procedures, and g) financial and administrative procedures.
ii.	Media Protocols: Emergency Public Information/Crisis Communications	Core	This course is about communicating risk and managing the flow of incident information. It covers topics such as the key functions of a Public Information Officer, policies and protocols for information dissemination during disasters, understanding the media, tools for effective risk communication as well as the concepts of Joint Information System and Joint Information Center.
iii.	Alert & Warning and Activation Procedures for Emergency Operations Center& Emergency Support Functions; Calamity Declaration Protocols	Advanced	This course discusses the principles of an integrated Public Alert and Warning System (PAWS). Topics in this course include the advantages of using PAWS in providing effective public warnings, guidelines in message composition, as well as the protocols in Calamity Declaration. This course is intended for relevant emergency management personnel who are involved in delivery of public alert and warning as well as for all response personnel requiring activation protocols to respond to an emergency.
iv.	Evacuation Procedures and Shelter/Camp Management	Core	The purpose of this course is to guide students in developing evacuation plans and process. It discusses the considerations in deciding when to evacuate, the stages of evacuation, the guidelines in choosing evacuation sites and the type shelter and the essential elements in evacuation centers among others.
v.	Disaster Safety Regulations and Procedures	Core	This course is about safety and health standards at incident sites and the required skills and competencies from early responders and support staff. It is intended for early responders and all personnel involved in response operations.
vi.	Recovery after a Disaster	Advanced	This course covers the key concepts, United Nations guidelines, and practices of disaster recovery. It discusses guidelines in preparing local disaster recovery plans as well as the sound practices in disaster recovery and reconstruction. This course is designed for professionals involved in emergency management, city administration, urban planning, building inspection, and public works.
vii.	Sustained Operations	Advanced	This course is about the prevention and management of stress and other physical and psychological impacts to volunteers and responders during extended response operations. It covers the different techniques in stress-reduction and in managing

Track No.	Course	Type	Course Description
			responders in distress.
viii.	Training on Emergency Support Function (ESF) System and UN-OCHA Cluster Approach	Core	<p>The Emergency Support Functions (ESFs) are the clustering of government agencies, City key agencies and other relevant stakeholders such as NGOs, Private Corporations and Utilities along specific sectors to provide added capabilities and resources during emergency operations specific to any one of approximately 15 different functions required during a functional disaster. Similarly, the UN-OCHA Cluster Approach is the primary means by which international aid is organized and delivered after a disaster strikes.</p> <p>This course will provide guidance in developing plans for each of the ESF by defining the organizational structure, the different roles of each ESF in the overall emergency management operations and the appropriate linkages to each of the UN-OCHA disaster relief clusters. This course is primary geared towards the staff of the ERCC and the Dhaka EOC. It also requires the participation of the National Disaster Management Disaster Coordination Group and the Dhaka Disaster Response Group.</p>
ix.	ESF personnel training on ESF Standard Operating Procedures	Core	<p>Besides understanding the Emergency Support Function system, each ESF group, of which there are upwards of 15, must develop and practice its own individual standard operating procedures, including how to link with the appropriate UN-OCHA disaster relief clusters. This training is intended for the representatives the different agencies that are involve in response and are part of the 15 Emergency Support Functions. These agencies will come from the members of the National Disaster Response and Coordination Group (NDRCG) and Dhaka Disaster Management Response Coordination Group (DDMRCG). These agencies will act as “response partners” during operations. This course will guide the response partners in developing their plans and procedures to achieve a unified and coordinated</p>

Track No.	Course	Type	Course Description
			emergency response plan for the different types and level of emergencies or disasters, including those requiring international support.
x.	Field Operations Incident Command System for first responders, Search & Rescue & Fire Fighting, and Water Rescue	Core	This course is intended to guide first responders in implementing the Incident Command System (ICS) for the field operations at the emergency incident. It discusses the principles and features of ICS, the five (5) functional areas of ICS (i.e., command, operations, planning, logistics and administration/finance) and the Incident Action Plan. By the end of the course, the first responders should have a clear understanding of their roles in operations as well as in the overall command and coordination structure of the ICS.
xi.	Emergency Operations Plan development for the EOC (per operational period)	Core	This course will guide students in developing the Emergency Operations Plan (EOP). The EOP plan is developed through the use of planning process that structures the process for the stakeholders. It defines a set of specific roles and responsibilities to effectively execute response operation. By the end of the course, the students must be able to identify which information are useful in an EOP, what positions are responsible in every incident operation as well as a strategy for the successful implementation of the EOP.
xii.	Incident Command System (ICS) Advanced Courses for EOC personnel & ESF personnel	Advanced	These courses will be available to EOC staff to further organize and operate the EOC according to the Incident Command System. These specific additional course offerings will be determined. These ICS classes are available online on the web for advanced students.
xiii.	Damage and Needs Assessment and formal damage reporting process to the EOC	Advanced	This course introduces the fundamentals, principles and methods in conducting preliminary damage and needs assessment following an emergency or disaster. It will guide students on the standard format for data collection and reporting process to support the decision-making. This course is intended for emergency management professionals who will be involved in post-disaster damage assessment and inspections.
xiv.	Basic Training on Health Emergency and Mass Fatality Management	Core	This course will guide the emergency responders and medical practitioners in identifying the health needs and the techniques in healthcare provision to become effective in performing medical disaster roles. It will provide basic life-saving skills

Track No.	Course	Type	Course Description
			as well as organizational skills to manage the process of delivering emergency health services to affected populations, including mass fatality management. It involves topics indisaster medical policies and procedures, responder safety, medical surge, mass care, fatality management, and medical supplies management and distribution.
3	Disaster Risk Management and Urban Resilience		
a.	Basic Disaster Risk Management Course		
i.	Fundamental Concepts and Terminologies of DRM	Core	This module introduces fundamental concepts and terminologies that are used in DRM. The fundamental concepts include understanding of hazards and vulnerabilities, and aspects of disaster management such theme approach (i.e., disaster cycle) versus sectoral approach via various illustrations and case studies. Concept of mainstreaming with examples should be provided. Major international initiatives such as HFA (2005-2014)and SFA (2015-2024) and their agendas and accomplishments should be covered, as well as an introduction to the “Ten Essentials” and other relevant UN initiatives.
ii.	The Key Actors and their Roles in DRM	Core	This module identifies the different key players in DRM at the national down to the locallevel. The module also highlights the roles of each key player and the inter-dynamics between the various levels of government as well as the divisions of roles and responsibilities. Various models from different countries will be discussed to contrast approaches related to different governance models including Bangladesh. The module should discuss community based approaches, versus institutional-based versus participatory processes.
iii.	Developing and Implementing DRM Policies, Programs and Plans	Advanced	This module will introduce the participants to the different planning and implementation processes that underpin DRM policies and programs, from analysis of legal and institutional arrangements, integrating analysis of hazards, vulnerabilities and exposures, identification and mobilization of resources, involvement of community players and other aspects of DRM. It would discuss in details the concept of main-streaming, provide examples from various sectors such

Track No.	Course	Type	Course Description
			as infrastructure, land use planning, health and social services.
iv.	About the Bangladesh Urban Resilience Project (training on core components of the Project)	Core	All participants will take this course that provides basic orientation on the structure of the BURP Project and its core components. It covers the program approaches taken by the Government of Bangladesh to implement the three pillars of Urban Disaster Resilience in Bangladesh.
b.	Legal and Institutional Arrangements		
i.	Disaster Management Legal and Institutional Arrangements	Core	In this module, the participants will gain an understanding on the importance of legal and institutional arrangements for DRM. The module will include a review of relevant DRM laws (such as the Disaster Management Act 2012 and Standing Orders on Disaster 2010) and the existing DRM arrangements before, during, and after a disaster. A discussion will also be conducted to identify existing issues and gaps in the current DRM system (competencies, resources, capacity, funding, coordination, etc.).
ii.	Disaster Financial Management Procedures	Advanced	The core course covers financial, legal and management requirements for developing and financing DRM projects. It would elaborate on micro-credit, insurance, budgetary allocations, special funds and allocations, Cat bonds and other source of funding. It would provide examples from various countries (e.g., TCIP in Turkey, Fonden in Mexico, DRRM Law in Philippines, and others).
c.	Hazard, Vulnerabilities and Risk Assessment (HVRA)		
i.	The HVRA: Flood, Earthquake, and Typhoon Hazards and Expected Impacts	Core	The core course on hazard, vulnerability and risk assessment provides trainees with the basics for characterizing and quantifying hazards, defining exposure and progression of vulnerabilities and quantifying and qualifying risks. It covers various approaches for risk assessment and interpretation of results for emergency planning

Track No.	Course	Type	Course Description
			and risk reduction. It should be thoroughly illustrated with examples and case studies.
ii.	Hazard Hotspots for Vulnerable Populations and At-risk Communities, their lifelines, essential and critical infrastructure for consequence analysis	Advanced	The core course focuses on the concepts of exposure of various elements (e.g. social, housing and shelter, lifelines, critical infrastructures) to hazards and their relationships that combine to define the severity of impact. It provides examples on how so-called “Hotspots” are identified depending on various hazard scenarios. It introduces the notion of “indicators” and how indicators can be used to define hotspots. It illustrates how hotspot can be essential in the allocation of resources for emergency management, and urban planning and management.
iii.	Strategic Land Use Management for DRM: Engineering-based and Land Use-based solutions for supporting DRM and Emergency Management	Advanced	The advanced course provides for risk management options through land use management. These covers land use based solutions and engineering solutions (building strengthening, permitting, construction standards, regulatory and non-regulatory measures).
d.	Risk Sensitive Land Use Planning		
i.	Building Urban Resilience: Mainstreaming of Disaster Risk Management in Land Use Planning and Implementation Process	Core	The basic course provides the planning system in general and its practice in Dhaka and other Asian cities as case studies. It covers theories, tools and approach of traditional planning and risk sensitive planning. It introduces mainstreaming of DRM in national and local governance, planning and implementation, in particular, into land use and zoning.
ii.	Land Use Plan Preparation 1 : The Basic Process and Guide to Land Use and Zoning in Bangladesh	Core	This basic course provides for the basic process and guide to land use planning. It shows the general steps of the process and how these are being implemented in Bangladesh.
iii.	Land Use Plan Preparation 2: Planning Tools for Situational Analysis (Methods)	Advanced	This advanced course provides hands-on exercises utilizing various planning tools for resource mapping, sectoral studies and special areas such as heritage sites and urban development

Track No.	Course	Type	Course Description
iv.	Land Use Plan Preparation 3: On Model Zoning Ordinance and Its Implications to Emergency Management (Methods)	Advanced	This advanced course provides the theories and process of drafting zoning ordinance. It shall cover discussions and class exercises on zoning requirements for emergency planning, hazards mitigation and avoidance concerns.
v.	Urban rejuvenation, urban renewal, specific land use plans, site planning and design	Advanced	The advance course is used as a fieldwork exercise as a culminating activity to utilize what the student has learned in the one to one and a half year coursework. Field studies can focus on, but not limited to, urban rejuvenation, urban renewal, specific land use plans, site planning, building construction and management.
e.	GIS-ICT Classes		
i.	GIS and Remote Sensing Technology for spatial and network analysis of at-risk neighborhood(Theory and Hands-on Training)	Core	The core course provides hands-on exercises on thematic mapping, spatial and network analysis of At-risk neighborhoodsfor patterns and prioritization.
4	INSARAG Training¹³		
i.	Introduction to First Response	Core	The module provides an understanding of the nature of urban search and rescue and appreciation of importance of first responders in saving lives. The participants will also be able to examine what effect an incident would have on their own country and to consider gaps in response capability.
ii.	The Disaster Environment	Core	The module will provide participants overview of the disaster environment and tools with which they can manage a sequence of responses to a structural collapse. The participants will understand that there are information requirements during rescue

13 These courses will be taken from INSARAG’s First Responders Training Packages provided by instructors associated with the United Nations International Search and Rescue Advisory Group (INSARAG).

Track No.	Course	Type	Course Description
			operations and show them how to gather and present such information. The module will also allow participants to participate in a simulated reconnaissance operation, to practice information-gathering skills and suggest priorities.
iii.	Scene Management	Core	The module will provide an overview of the hazards, risks, and control measures necessary to ensure safe rescue operations. It will also provide participants a greater understanding of the dangers and hazards associated with the disaster environment, as well as the capability to formulate a plan for scene management.
iv.	Search Module	Core	The module will allow participants to recognise the need for structured search techniques, to be able to lead and manage search operations, and to participate in a simulated search operation and understand how such searches are coordinated.
v.	Rescue Module	Core	The module will provide an overview of the principles and sequence of rescue operations, the range and type of tools uses in rescue operations, and the safe and simple techniques for first responders to use, in order to shore and support damaged structures, providing a safer environment in which to conduct rescue operations.
vi.	Basic Medical Rescue	Core	The module will introduce participants to the Basic Medical Rescue (BMR) module and to provide basic knowledge to handle a situation until help arrives. The module will also enable the participants to perform a scene assessment, as well as patient assessment and treatment. The participants will also be aware of the procedures for the recovery of the deceased from the hazard-impacted areas in a manner safe to all persons involved in this activity.
vii.	Consolidation Exercise	Core	The module will provide an opportunity to practice and develop the skills and knowledge acquired during the First Responders Course, in a realistic environment. The exercise will simulate a number of realistic learning scenarios that will require: <ul style="list-style-type: none"> • Scene assessment • Search planning and search techniques • Rescue operations • Patient assessment and patient treatment • Patient packaging and evacuation

Track No.	Course	Type	Course Description	
5	International Association of Emergency Managers Certification			
	i.	Emergency Manager: An Orientation to the Position	Core	The course will acquaint new personnel with the position of emergency manager, including history and underlying principles of emergency management, key areas of emphasis, the emergency manager's roles and responsibilities, and tips for getting started.
	ii.	An Introduction to Exercises	Core	The course introduces the basics of emergency management exercises. It also builds a foundation for subsequent exercise courses, which provide the specifics of the United States Homeland Security Exercise and Evaluation Program (HSEEP) and the National Standard Exercise Curriculum (NSEC).
	iii.	Exercise Evaluation and Improvement Planning	Core	The course introduces the basics of emergency management exercise evaluation and improvement planning. It also builds a foundation for exercise evaluation concepts as identified in the Homeland Security Exercise and Evaluation Program (HSEEP).
	iv.	Earthquake Basics: Science, Risk, and Mitigation	Core	The course presents basic information on earthquake science, risk, and mitigation. It also discusses techniques for structural and non-structural earthquake mitigation.
	v.	Introduction to Hazard Mitigation	Core	This course provides an introduction for those who are new to emergency management and/or hazard mitigation.
	vi.	Continuity of Operations Awareness Course	Core	This course introduces the concept of continuity planning. The course provides a brief overview of continuity, including its definition, the legal basis for continuity planning, the Continuity Program Management Cycle, and essential elements of a viable continuity program.
	vii.	Introduction to Continuity of Operations	Core	The course describes the Continuity Management Cycle and how it should be used to develop sound continuity of operations plans.
	viii.	Introduction to Debris Management Operations	Core	This course covers basic information about debris operations under US Federal Emergency Management Agency. The goal for this course is to familiarize the students with general debris removal operations and identify critical debris operations issues.
	ix.	Emergency Management for Senior Officials	Core	The course will introduce senior officials to the important role they play in emergency management. The responsibility for preparing for, responding to, and recovering from incidents, both natural and manmade, begins at the local level – with individuals and public officials in the county, city, or town affected by the

Track No.	Course	Type	Course Description
			incident.
x.	Community Preparedness: Implementing Simple Activities for Everyone	Core	The course will present a model program for community preparedness. In addition, resources materials will be available to help organizations conduct simple preparedness activities for everyone.
xi.	Emergency Management Preparedness Fundamentals	Core	The course will provide an introduction and overview of basic preparedness concepts and present basic strategies for improving community preparedness.
xii.	Social Media in Emergency Management	Core	The course will provide participants with best practices including tools, techniques and a basic roadmap to build capabilities in the use of social media technologies in their own emergency management organizations in order to further their emergency response missions.
xiii.	Including People With Disabilities & Others With Access & Functional Needs in Disaster Operations	Core	The course will provide awareness and understanding of the need for full inclusion of disaster survivors and staff who are people with disabilities, and people with access and functional needs. The course provides an overview of disabilities and access and functional needs and explains how disaster staff can apply inclusive practices in their disaster assignments.
xiv.	Emergency Responder Health Monitoring and Surveillance (ERHMS) System: Leadership Training	Core	The course introduces the Emergency Responder Health Monitoring and Surveillance (ERHMS) system to leaders in organizations responsible for planning and executing an incident response that optimizes the health and safety of response, remediation, recovery, and volunteer workers.
xv.	The Role of Voluntary Organizations in Emergency Management	Core	This course provides a basic understanding of the history, roles and services of disaster relief voluntary agencies in providing disaster assistance. It is appropriate for both the general public and those involved in emergency management operations.
6	Executive Track		
i.	Introduction to the Incident Command System	Core	The course introduces the Incident Command System (ICS) and provides the foundation for higher-level ICS training. It describes the history, features and principles, and organizational structure of the Incident Command System. It also explains the relationship between ICS and the National Incident Management System (NIMS).
ii.	Fundamentals of Emergency	Advanced	This course includes advanced concepts in Emergency Management (EM) such as

Track No.	Course	Type	Course Description
	Management and Emergency Operations Plans for Bangladesh and Dhaka City.		concepts and issues in EM organization, integrating science into EM policies and decisions, intergovernmental and interagency collaboration, exercising EM executive policy and ethical decision-making, preparedness, prevention and protection, and recovery, rehabilitation and technology. Includes all common operational procedures in the Emergency Operations Plan that will be based on: a) existing legal and institutional arrangements, b) known hazards and demographics, and c) associated risk assessments. Common operational procedures include: d) hazard scenario planning assumptions, e) emergency management policies, f) operational procedures, and g) financial and administrative procedures.
iii.	Disaster Science	Advanced	This course is a combination of Earth Science, natural hazards and Emergency Management. It provides an overview of scientific principles and concepts of disasters as well as the implications of disasters and physical science to Emergency Management (preparedness, mitigation, management, and response). It will also include discussion in anthropogenic threats such as biological, chemical, industrial, radiological and nuclear.
iv.	Planning Emergency Operations	Advanced	This course discusses the issues and challenges in the Emergency Management discipline and how Emergency Managers can develop skills to overcome those challenges. The topics under this course include process of emergency management planning, maintaining government plans (national and city level), trainings on emergency planning and preparedness.
v.	Exercise Design	Advanced	This course focuses on the fundamentals of exercise design. It includes topics related to preparation of emergency exercises and simulation in all mission areas, i.e., preparedness, prevention, response, recovery and mitigation, concepts in exercise program management, steps in designing and implementing exercises (workshops, tabletop, functional, full-scale), as well as preparing exercise documents.
vi.	Public Information and Warning	Core	This course covers the fundamentals and importance of Public Information in Emergency Management. It introduces basic information on the Integrated Public Information Alert and Warning System and covers topics such as the roles and responsibilities of the Public Information Officer (PIO), the different

Track No.	Course	Type	Course Description
			communication tools and resource, the role of social media, guidelines in preparing alert and warning messages, effective communication, and guidelines in communicating in an incident.

Appendix C: Description of Training Courses

Appendix C provides additional information on the recommended training courses listed in Appendix B to guide potential bidders/trainers in developing the course materials. This Section specifies the course format consideration (to be balanced as indicated in Section 4.1.7), estimated number of hours or course length, and the identified target audience from the five institutions (MoDMR, DDM, FSCD, DNCC and DSCC). The different course tracks were described in Section 4.2.

Track No.	Course	Format	No. of Hours	Target Audience
1	Emergency Information and Communications Technology			
a.	Vendors Trainings			
i.	End user Trainings	Face-to-Face or Blended Learning	As-Needed	Selected personnel (ICT) from: MoDMR, DDM, FSCD Dhaka, DNCC, DSCC, SCC
ii.	All-ICT Inter-operability Training	Face-to-Face	15	Selected personnel (ICT) from: MoDMR, DDM, FSCD Dhaka, DNCC, DSCC, SCC, RAJUK, DDMRG
b.	Intensive Formal Courses			
i.	Fundamentals of Information and Communications Technology (ICT)	Blended Learning Or Face-to-Face	8	All uniformed and non-uniformed early responders from MoDMR, DDM, FSCD, DNCC, DSCC, , SCC, RAJUK. Also personnel from ESFs and Disaster Management Committees under SOD 2010.
ii.	Emergency Communications Tactics, Techniques and Procedures (TTPs)	Blended Learning	15	Relevant IT disaster response professionals from MoDMR, DDM, FSCD, DNCC, DSCC, SCC; Members of the NDRG and DDMC; other ICT consumers in humanitarian assistance/disaster relief
2	Emergency Management Planning and Operations			
i.	Policies and Concepts of Operations for National and City Emergency Operations	Face-to-Face	16	Director and Commander-level personnel from MoDMR, DDM, FSCD, DNCC, DSCC, SCC

Track No.	Course	Format	No. of Hours	Target Audience
	Center (EOC) and Emergency Operations Plan (EOP)			,RAJUK.All uniformed early responders from MoDMR, DDM, FSCD, DNCC, SCCand DSCC. Also personnel from ESFs and Disaster Management Committees under SOD 2010.
ii.	Media Protocols: Emergency Public Information/Crisis Communications	Blended Learning	8	All uniformed early responders from MoDMR, DDM, FSCD, DNCC, SCC and DSCC. Also personnel from ESFs and Disaster Management Committees under SOD 2010.
iii.	Alert & Warning and Activation Procedures for Emergency Operations Center& Emergency Support Functions;Calamity Declaration Protocols	Blended Learning	10	All uniformed early responders from MoDMR, DDM, FSCD, DNCC, SCCand DSCC. Also personnel from ESFs and Disaster Management Committees under SOD 2010.
iv.	Evacuation Procedures and Shelter/Camp Management	Face-to-Face	10	All uniformed and non-uniformed personnel from MoDMR, DDM, FSCD, DNCC, SCC and DSCC. Also personnel from ESFs and Disaster Management Committees under SOD 2010.
v.	Disaster Safety Regulations and Procedures	Blended Learning	5	All uniformed and non-uniformed personnel from MoDMR, DDM, FSCD, DNCC, SCC and DSCC. Also personnel from ESFs and Disaster Management Committees under SOD 2010.
vi.	Recovery after a Disaster	Blended Learning	10	All uniformed early responders from MoDMR, DDM, FSCD, DNCC, SCC and DSCC. Also personnel from ESFs and Disaster Management Committees under SOD 2010.
vii.	Sustained Operations	Blended Learning	5	All uniformed early responders from MoDMR, DDM, FSCD, DNCC, SCC and DSCC. Also personnel from ESFs and Disaster Management Committees under SOD 2010.
viii.	Training on Emergency Support Function (ESF) System	Face-to-Face	16	All uniformed early responders from MoDMR, DDM, FSCD, DNCC, DSCC, SCC; members of

Track No.	Course	Format	No. of Hours	Target Audience
				the National Disaster Response and Coordination Group (NDRCG) and Dhaka Disaster Management Committee (DDMC)
ix.	ESF personnel training on ESF Plans and Procedures	Face-to-Face	8	All uniformed early responders from MoDMR, DDM, FSCD, DNCC, DSCC, SCC; members of the National Disaster Response and Coordination Group (NDRCG) and Dhaka Disaster Management Committee (DDMC) and Response Group.
x.	Field Operations Incident Command System for first responders, Search & Rescue & Fire Fighting, and Water Rescue	Blended Learning	8	All uniformed early responders from MoDMR, DDM, FSCD, DNCC, SCC and DSCC
xi.	Incident Action Plan development for the EOC (per operational period)	E-Learning	12	All uniformed and non-uniformed personnel from MoDMR, DDM, FSCD, DNCC, SCC and DSCC
xii.	Incident Command System (ICS) Advanced Courses for EOC personnel & ESF personnel	Blended Learning	10	All uniformed early responders from MoDMR, DDM, FSCD, DNCC, SCC and DSCC; members of the National Disaster Response and Coordination Group (NDRCG) and Dhaka Disaster Management Committee (DDMC).
xiii.	Damage and Needs Assessment and formal damage reporting process to the EOC	E-Learning	12	All uniformed early responders and Director and Commander-level personnel from MoDMR, DDM, RAJUK, FSCD, DNCC, SCC and DSCC;
xiv.	Basic Training on Health Emergency and Mass Fatality Management	Blended Learning	10	All uniformed early responders from MoDMR, DDM, FSCD, DNCC, SCC and DSCC
3	Disaster Risk Management and Urban Resilience			
a.	Basic Disaster Risk Management Course			
i.	Fundamental Concepts and Terminologies of DRM	Face-to-Face	16	All uniformed and non-uniformed personnel from MoDMR, DDM, RAJUK, FSCD, SCC, DNCC, and DSCC

Track No.	Course	Format	No. of Hours	Target Audience
ii.	The Key Actors and their Roles in DRM	E-Learning	10	All uniformed and non-uniformed personnel from MoDMR, DDM, RAJUK, FSCD, SCC, DNCC, and DSCC
iii.	Developing and Implementing DRM Policies, Programs and Plans	E-Learning	10	All uniformed and non-uniformed personnel from MoDMR, DDM, FSCD, RAJUK, SCC, DNCC, DSCC,
iv.	About the Bangladesh Urban Resilience Project (training on core components of the Project)	Face-to-Face Or e-learning	10	All uniformed and non-uniformed personnel and Director and Commander-level personnel from MoDMR, DDM, FSCD, SCC, DNCC, DSCC, RAJUK
b.	Legal and Institutional Arrangements			
i.	Disaster Management Legal and Institutional Arrangements	E-Learning	10	All uniformed and non-uniformed personnel and Director and Commander-level personnel from MoDMR, DDM, FSCD, SCC, DNCC, DSCC, RAJUK
ii.	Disaster Financial Management Procedures	E-Learning	8	All uniformed and non-uniformed personnel from MoDMR, DDM, FSCD, SCC, DNCC, DSCC, RAJUK
c.	Hazard, Vulnerabilities and Risk Assessment (HVRA)			
i.	The HVRA: Flood, Earthquake, and Typhoon Hazards and Expected Impacts	E-Learning	10	Relevant personnel from MoDMR, DDM, FSCD, RAJUK, SCC, DNCC, DSCC involved in Planning and Civil Engineering
ii.	Hazard Hotspots for Vulnerable Populations and At-risk populations, their lifelines, essential and critical infrastructures for Consequence Analysis	E-Learning	10	All uniformed and non-uniformed personnel from MoDMR, DDM, RAJUK, FSCD, SCC, DNCC, and DSCC

Track No.	Course	Format	No. of Hours	Target Audience
iii.	Strategic Land Use Management for DRM: Engineering-based and Land Use-based solutions for supporting DRM and Emergency Management	E-Learning	10	Relevant personnel from RAJUK, MoDMR, SCC, DNCC, DSCC involved in Planning and Civil Engineering
d.	Risk Sensitive Land Use Planning			
i.	Building Urban Resilience: Mainstreaming of Disaster Risk Management in Land Use Planning and Implementation Process	Blended Training	10	Relevant personnel from MoDMR, DDM, RAJUK, SCC, DNCC, DSCC involved in Planning and Civil Engineering
ii.	Land Use Plan Preparation 1 : The Basic Process and Guide to Land Use and Zoning in Bangladesh	E-Learning	8	Relevant personnel from MoDMR, DDM, RAJUK, SCC, DNCC, DSCC involved in Planning and Civil Engineering
iii.	Land Use Plan Preparation 2: Planning Tools for Situational Analysis (Methods)	Blended Learning	10	Relevant personnel from RAJUK, SCC, DNCC, DSCC involved in Planning and Civil Engineering
iv.	Land Use Plan Preparation 3: On Model Zoning Ordinance and Its Implications to Emergency Management (Methods)	Blended Learning	10	Relevant personnel from RAJUK, SCC, DNCC, DSCC involved in Planning and Civil Engineering
v.	Urban rejuvenation, urban renewal, specific land use plans, site planning and design	E-Learning	8	Relevant personnel from RAJUK, SCC, DNCC, DSCC involved in Planning and Civil Engineering
e.	GIS-ICT Classes			
i.	GIS and Remote Sensing Technology for spatial and network analysis of at-risk Zones(Theory and Hands-on Training)	Face-to-Face	10	Selected personnel (ICT) from: MoDMR, DDM, RAJUK, FSCD Dhaka, SCC, DNCC, DSCC

Track No.	Course	Format	No. of Hours	Target Audience
4	INSARAG Training¹⁴			
i.	Introduction to First Response	Face-to-Face	2	Fire fighters and rescue personnel from FSCD and all other personnel designated as part of the Search and Rescue teams by FSCD. Response personal from DDM, SCC, DSCC and DNCC.
ii.	The Disaster Environment	Face-to-Face	3	Fire fighters and rescue personnel from FSCD and all other personnel designated as part of the Search and Rescue teams by FSCD. Response personal from DDM, SCC, DSCC and DNCC.
iii.	Scene Management	Face-to-Face	1	Fire fighters and rescue personnel from FSCD and all other personnel designated as part of the Search and Rescue teams by FSCD. Response personal from DDM, SCC, DSCC and DNCC.
iv.	Search Module	Face-to-Face	2	Fire fighters and rescue personnel from FSCD and all other personnel designated as part of the Search and Rescue teams by FSCD. Response personal from DDM, SCC, DSCC and DNCC.
v.	Rescue Module	Face-to-Face	6	Fire fighters and rescue personnel from FSCD and all other personnel designated as part of the Search and Rescue teams by FSCD. Response personal from DDM, SCC, DSCC and DNCC.
vi.	Basic Medical Rescue	Face-to-Face	4	Fire fighters and rescue personnel from FSCD and all other personnel designated as part of the Search and Rescue teams by FSCD. Response personal from DDM, SCC, DSCC and DNCC.

¹⁴ These courses will be taken from INSARAG's First Responders Training Packages provided by instructors associated with the United Nations International Search and Rescue Advisory Group (INSARAG).

Track No.	Course	Format	No. of Hours	Target Audience
vii.	Consolidation Exercise	Face-to-Face	3	Fire fighters and rescue personnel from FSCD and all other personnel designated as part of the Search and Rescue teams by FSCD. Response personal from DDM, SCC, DSCC and DNCC.
5	International Association of Emergency Managers Certification			
i.	Emergency Manager: An Orientation to the Position	E-Learning	6	Selected uniform personnel and Commander and Director-level personnel from MoDMR, DDM, RAJUK, FSCD, DNCC, DSCC, SCC
ii.	An Introduction to Exercises	E-Learning	5	Selected uniform personnel and Commander and Director-level personnel from MoDMR, DDM, FSCD, DNCC, DSCC, SCC
iii.	Exercise Evaluation and Improvement Planning	E-Learning	5	Selected uniform personnel and Commander and Director-level personnel from MoDMR, DDM, FSCD, DNCC, DSCC, SCC
iv.	Earthquake Basics: Science, Risk, and Mitigation	E-Learning	0.5	Selected uniform personnel and Commander and Director-level personnel from MoDMR, DDM, FSCD, DNCC, DSCC, SCC
v.	Introduction to Hazard Mitigation	E-Learning	10	Selected uniform personnel and Commander and Director-level personnel from MoDMR, DDM, FSCD, DNCC, DSCC, SCC
vi.	Continuity of Operations Awareness Course	E-Learning	1	Selected uniform personnel and Commander and Director-level personnel from MoDMR, DDM, FSCD, DNCC, DSCC, SCC
vii.	Introduction to Continuity of Operations	E-Learning	2	Selected uniform personnel and Commander and Director-level personnel from MoDMR, DDM, FSCD, DNCC, DSCC, SCC
viii.	Introduction to Debris Management Operations	E-Learning	2	Selected uniform personnel and Commander and Director-level personnel from MoDMR, DDM, FSCD, DNCC, DSCC, SCC
ix.	Emergency Management for Senior Officials	E-Learning	1	Selected uniform personnel and Commander and

Track No.	Course	Format	No. of Hours	Target Audience
				Director-level personnel from MoDMR, DDM, FSCD, DNCC, DSCC, SCC
x.	Community Preparedness: Implementing Simple Activities for Everyone	E-Learning	1	Selected uniform personnel and Commander and Director-level personnel from MoDMR, DDM, FSCD, DNCC, DSCC, SCC
xi.	Emergency Management Preparedness Fundamentals	E-Learning	3	Selected uniform personnel and Commander and Director-level personnel from MoDMR, DDM, FSCD, DNCC, DSCC, SCC
xii.	Social Media in Emergency Management	E-Learning	3	Selected uniform personnel and Commander and Director-level personnel from MoDMR, DDM, FSCD, DNCC, DSCC, SCC
xiii.	Including People With Disabilities & Others With Access & Functional Needs in Disaster Operations	E-Learning	2	Selected uniform personnel and Commander and Director-level personnel from MoDMR, DDM, FSCD, DNCC, DSCC, SCC
xiv.	Emergency Responder Health Monitoring and Surveillance (ERHMS) System: Leadership Training	E-Learning	1	Selected uniform personnel and Commander and Director-level personnel from MoDMR, DDM, FSCD, DNCC, DSCC, SCC
xv.	The Role of Voluntary Organizations in Emergency Management	E-Learning	10	Selected uniform personnel and Commander and Director-level personnel from MoDMR, DDM, FSCD, DNCC, DSCC, SCC
6	Executive Track			
i.	Introduction to the Incident Command System	E-Learning	6	Commander and Director-level personnel from MoDMR, DDM, FSCD, DNCC, DSCC, SCC, RAJUK.
ii.	Fundamentals of Emergency Management	E-Learning	6	Commander and Director-level personnel from MoDMR, DDM, FSCD, DNCC, DSCC, SCC, RAJUK
iii.	Disaster Science	E-Learning	8	Commander and Director-level personnel from MoDMR, DDM, FSCD, DNCC, DSCC, SCC

Track No.	Course	Format	No. of Hours	Target Audience
iv.	Planning Emergency Operations	E-Learning	8	Commander and Director-level personnel from MoDMR, DDM, FSCD, DNCC, DSCC, SCC
v.	Exercise Design	E-Learning	8	Commander and Director-level personnel from MoDMR, DDM, FSCD, DNCC, DSCC, SCC
vi.	Public Information and Warning	E-Learning	4	Commander and Director-level personnel from MoDMR, DDM, FSCD, DNCC, DSCC, SCC

Appendix D. Training, Exercises, and Drills (TED) Program Schedule

The table below shows an indicative timeline on when the training courses as well as the drills and exercises may best be implemented over a 5-year TED Program. This Program timeline can be adjusted by the Consultant Firm in agreement with the Project Management Unit.

I. Training Courses

No.	COURSE	TYPE	Year 1				Year 2				Year 3				Year 4			
			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
1	Emergency Information and Communications Technology																	
a.	Vendors' Trainings																	
i.	End User Trainings	Core					■	■	■	■		■		■				■
ii.	All-ECT Inter-operability Training	Core					■	■	■	■		■		■				■
b.	Intensive Formal Courses																	
i.	Fundamentals of Emergency Information and Communications Technology (ECT)	Core					■		■			■		■				■
ii.	Emergency Communications Tactics, Techniques and Procedures (TTPs)	Core					■		■			■		■				■
2	Emergency Management Planning and Operations																	
i.	Policies and Concepts of Operations for National and City Emergency Operations Center (EOC) and Emergency Operations Plan (EOP)	Core									■	■	■	■	■	■	■	■

No.	COURSE	TYPE	Year 1				Year 2				Year 3				Year 4			
			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
ii.	Media Protocols: Emergency Public Information/Crisis Communications	Core									■	■		■		■		■
iii.	Alert & Warning and Activation Procedures for Emergency Operations Center & Emergency Support Functions; Calamity Declaration Protocols	Advanced									■	■	■	■	■	■	■	■
iv.	Evacuation Procedures and Shelter/Camp Management	Core							■	■				■				■
v.	Disaster Safety Regulations and Procedures	Core								■		■		■				■
vi.	Recovery after a Disaster	Core								■		■		■				■
vii.	Sustained Operations	Core												■				■
viii.	Training on Emergency Support Function (ESF) System (planning process)	Core					■	■		■		■		■		■		■
ix.	ESF personnel training on ESF Plans and Procedures	Core									■	■	■	■	■	■	■	■
x.	Field Operations Incident Command System for first responders, Search & Rescue & Fire Fighting, Water Rescue	Core						■		■		■		■		■		■
xi.	Incident Action Plan development for the EOC (per operational period)	Core						■		■		■		■		■		■
xii.	Incident Command System (ICS) Advanced Courses for EOC personnel & ESF personnel	Advanced						■	■		■		■		■		■	

No.	COURSE	TYPE	Year 1				Year 2				Year 3				Year 4			
			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
xiii.	Damage and Needs Assessment and formal damage reporting process to the EOC	Advanced																
xiv.	Basic Training on Health Emergency and Mass Fatality Management	Core																
3	Disaster Risk Management and Urban Resilience																	
a.	Basic Disaster Risk Management Course																	
i.	Fundamental Concepts and Terminologies of DRM	Core																
ii.	The Key Actors and their Roles in DRM	Core																
iii.	Developing and Implementing DRM Policies, Programs and Plans	Advanced																
iv.	About the Bangladesh Urban Resilience Project (training on core components of the Project)	Core																
b.	Legal and Institutional Arrangements																	
i.	Disaster Management Legal and Institutional Arrangements	Core																
ii.	Disaster Financial Management Procedures	Core																
c.	Hazard, Vulnerabilities and Risk Assessment																	
i.	The HVRA: Flood, Earthquake, and Typhoon Hazards and Expected Impacts	Core																

No.	COURSE	TYPE	Year 1				Year 2				Year 3				Year 4			
			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
ii.	Hazard Hotspots for Vulnerable Populations and At-risk Locations, their lifelines, essential and critical infrastructures for Consequence Analysis	Core																
iii.	Strategic Land Use Management for DRM: Engineering-based and Land Use-based solutions for supporting DRM and Emergency Management	Advanced																
d.	Risk Sensitive Land Use Planning																	
i.	Building Urban Resilience: Mainstreaming of Disaster Risk Management in Land Use Planning and Implementation Process	Core																
ii.	Land Use Plan Preparation 1 : The Basic Process and Guide to Land Use and Zoning in Bangladesh	Core																
iii.	Land Use Plan Preparation 2: Planning Tools for Situational Analysis (Methods)	Core																
iv.	Land Use Plan Preparation 3: On Model Zoning Ordinance and Its Implications to Emergency Management (Methods)	Advanced																
v.	Urban rejuvenation, urban renewal, specific land use plans, site planning and design	Advanced																
e.	GIS-ICT Classes																	
i.	GIS and Remote Sensing Technology for spatial and network analysis of at-risk locations (Theory and Hands-on	Advanced																

No.	COURSE	TYPE	Year 1				Year 2				Year 3				Year 4			
			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
	Training)																	
4	INSARAG Certification¹⁵																	
i.	Introduction to First Response	Core																
ii.	The Disaster Environment	Core																
iii.	Scene Management	Core																
iv.	Search Module	Core																
v.	Rescue Module	Core																
vi.	Basic Medical Rescue	Core																
vii.	Consolidation Exercise	Core																
5	IAEM Certification																	
i.	Emergency Manager: An Orientation to the Position	Core																
ii.	An Introduction to Exercises	Core																
iii.	Exercise Evaluation and Improvement Planning	Core																
iv.	Earthquake Basics: Science, Risk, and Mitigation	Core																
v.	Introduction to Hazard Mitigation	Core																

¹⁵ These courses were taken from INSARAG's First Responders Training Packages. International Search and Rescue Advisory Group (INSARAG).

No.	COURSE	TYPE	Year 1				Year 2				Year 3				Year 4			
			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
vi.	Continuity of Operations Awareness Course	Core																
vii.	Introduction to Continuity of Operations	Core																
viii.	Introduction to Debris Operations	Core																
ix.	Emergency Management for Senior Officials	Core																
x.	Community Preparedness: Implementing Simple Activities for Everyone	Core																
xi.	Emergency Management Preparedness Fundamentals	Core																
xii.	Social Media in Emergency Management	Core																
xiii.	Including People With Disabilities & Others With Access & Functional Needs in Disaster Operations	Core																
xiv.	Emergency Responder Health Monitoring and Surveillance (ERHMS) System: Leadership Training	Core																
xv.	The Role of Voluntary Organizations in Emergency Management	Core																
6	Executive Track																	
i.	Introduction to the Incident Command System	Core																
ii.	Fundamentals of Emergency Management	Advanced																
iii.	Disaster Science	Advanced																

No.	COURSE	TYPE	Year 1				Year 2				Year 3				Year 4			
			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
iv.	Planning Emergency Operations	Advanced																
v.	Exercise Design	Advanced																
vi.	Public Information and Warning	Advanced																

II. Drills and Exercises. During Years 3, 4, and 5, five drills and five exercises will be scheduled and conducted, spaced out on a quarterly basis, with one functional exercise to be conducted in Year 5, as indicated below.

No.	Drills and Exercises	TYPE	Year 1				Year 2				Year 3				Year 4			
			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
1.	Bi-Annual Drill for Alert & Warning and EOC & ESF Activation Call-Down Procedures with testing of Calamity Declaration Protocols. Deploy ESF personnel to the EOC. Test communications equipment.	Core Drill 1																
2.	Bi-annual Table Top Exercises (2) to discuss draft Dhaka City Emergency Response Operations Plan and each of the ESF Plans. First exercise to be conducted in Quarter 2 and second in Quarter 4 of Year 3.	Table Top Exercise 1																

No.	Drills and Exercises	TYPE	Year 1				Year 2				Year 3				Year 4			
			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
3.	Bi-annual Drill (2) to test formal damage reporting process to the EOC for selected groups of Disaster Control Rooms. To be conducted with different groups of localities. Add search and rescue drills per locality as demonstrations. Third drill to be conducted in Quarter 1 and fourth in Quarter 3 of Year 4.	Advanced Drill 1 and 2																
4.	Bi-annual Table Top Exercises (2) based on one disaster scenario for Dhaka City and focused to test specific sections or issues in the EOP, e. g. Plan Activation Procedures, Partial Activation of ESFs, Mass Care and Shelter Group only, etc. Third exercise to be conducted in Quarter 2 and fourth in Quarter 4 of Year 4.	Table Top Exercise 3 and 4																
5.	Bi-Annual Dhaka City evacuation and shelter drills (2), for Location Hot Spot and vulnerable populations, associated with annual testing of EOC and EOP activation above. Deployment of resources to Local Incident for limited ESFs. Add Camp Management elements. Fifth drill to be conducted in Quarter 1 of Year 5.	Advanced Drill 2																
6.	Annual Table Top Exercise training (1) at EOC with Media groups, via EOC activation and mock press conferences	Advanced Exercise 5																

No.	Drills and Exercises	TYPE	Year 1				Year 2				Year 3				Year 4				
			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	
	with Mayor, Action Officer, ESFs, and Dhaka City. Fifth exercise to be conducted in Quarter 2 of Year 5.																		
7.	Culminating Functional Exercise based on complex disaster (earthquake with subsequent building collapse), utilizing the ERCC and all Command and Control Rooms, all six targeted agencies and major partners, etc.. Exercise duration should cover two operational periods to test staff changeover and personnel and logistics sustainment.																		

Appendix E. Proposed Organograms for the different facilities to be established under the Bangladesh Urban Resilience Project (URP)

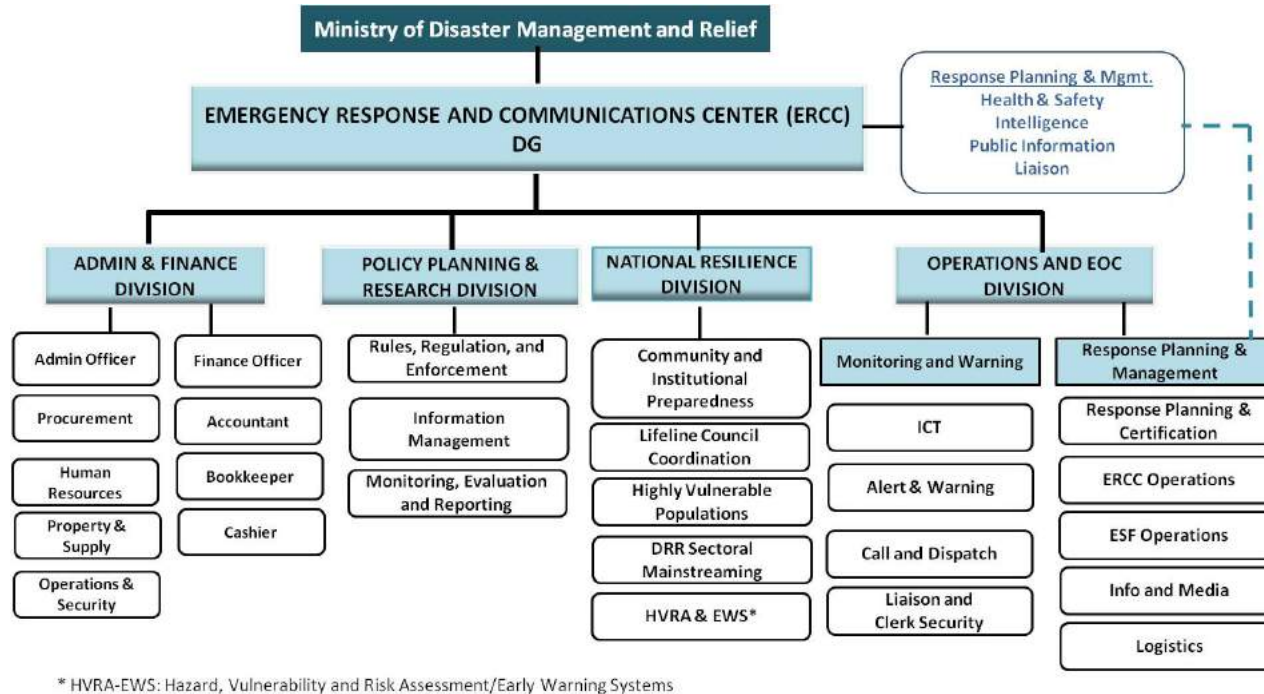


Figure 5. Indicative Organizational Chart of ERCC

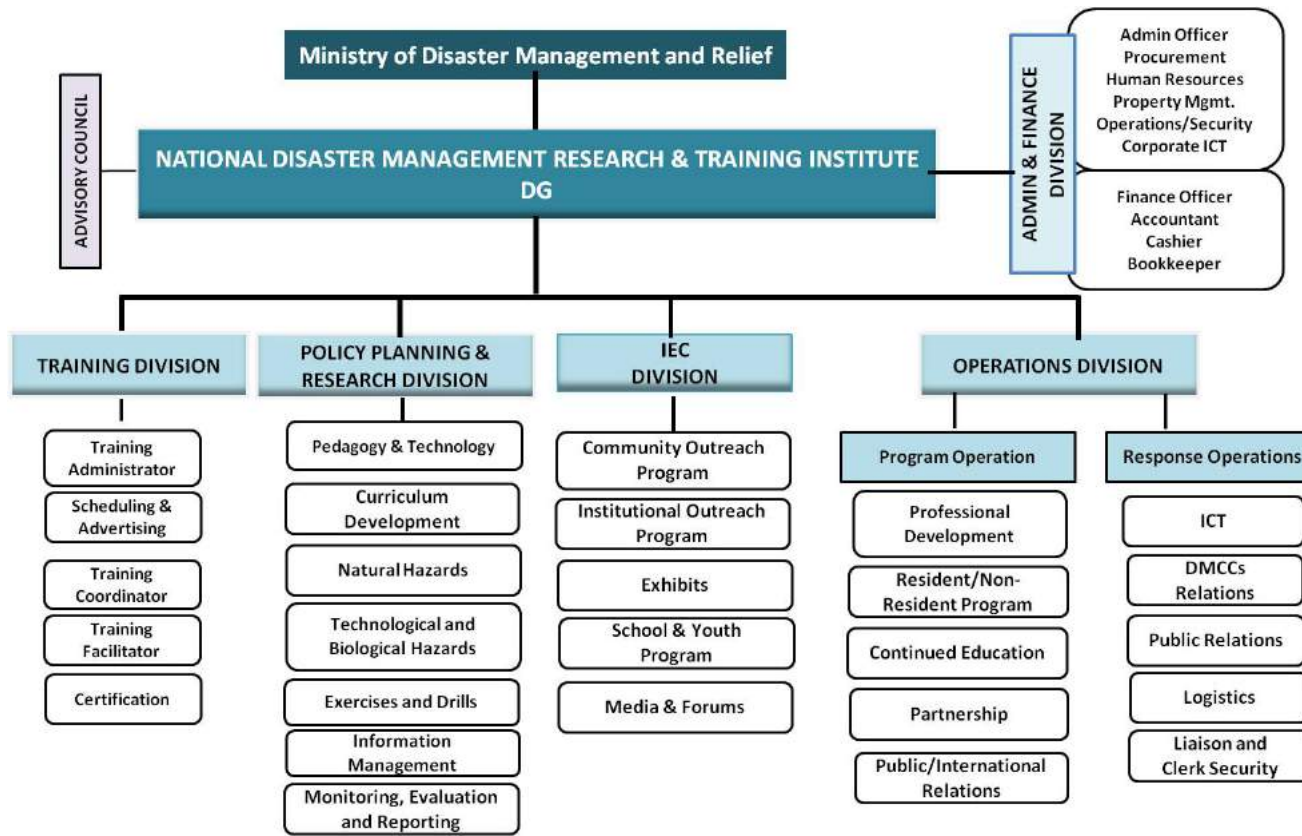


Figure 6. Indicative Organizational Chart of NDMRTI.

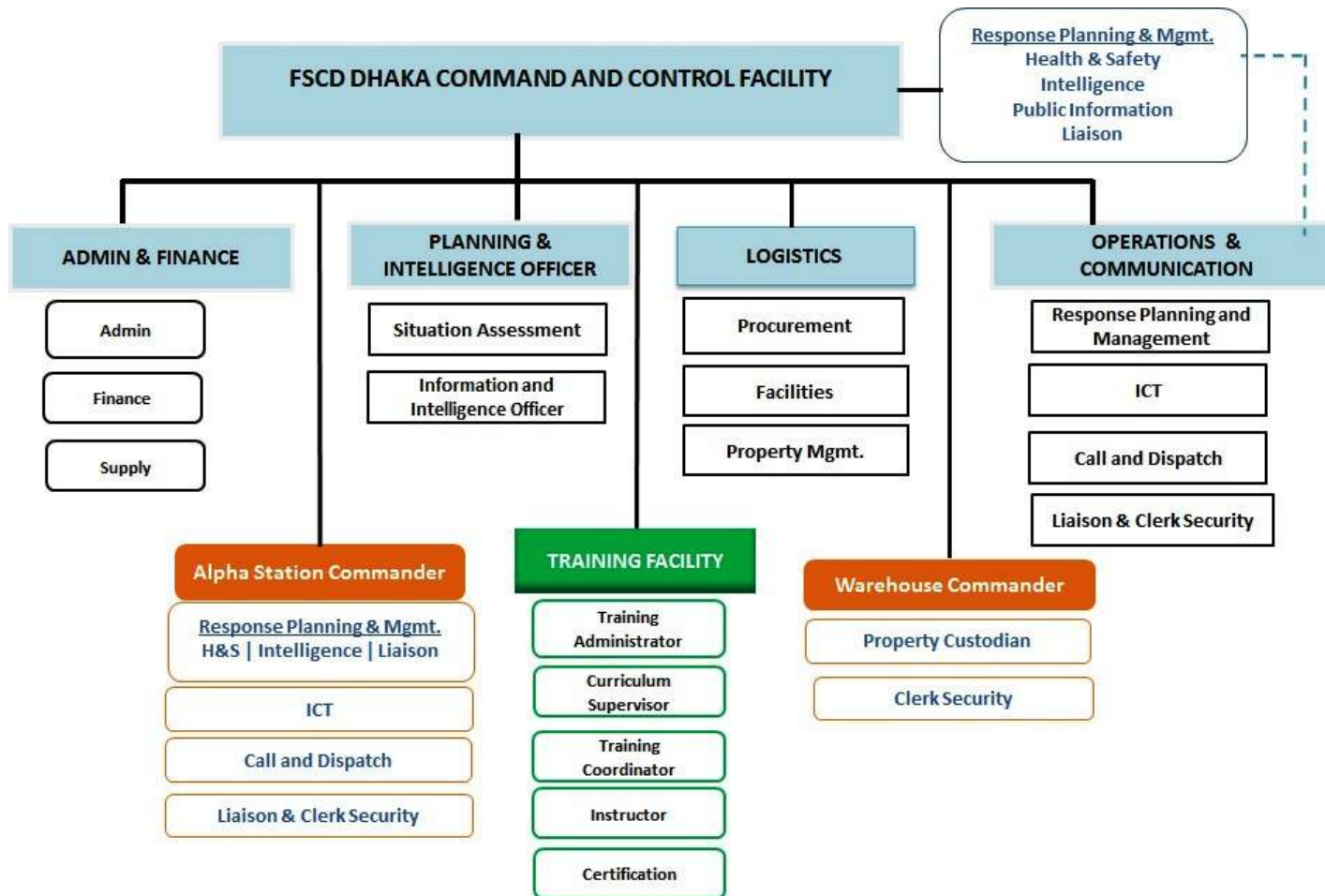


Figure 7. Indicative Organizational Chart of FSCD Dhaka Command and Control Facility.

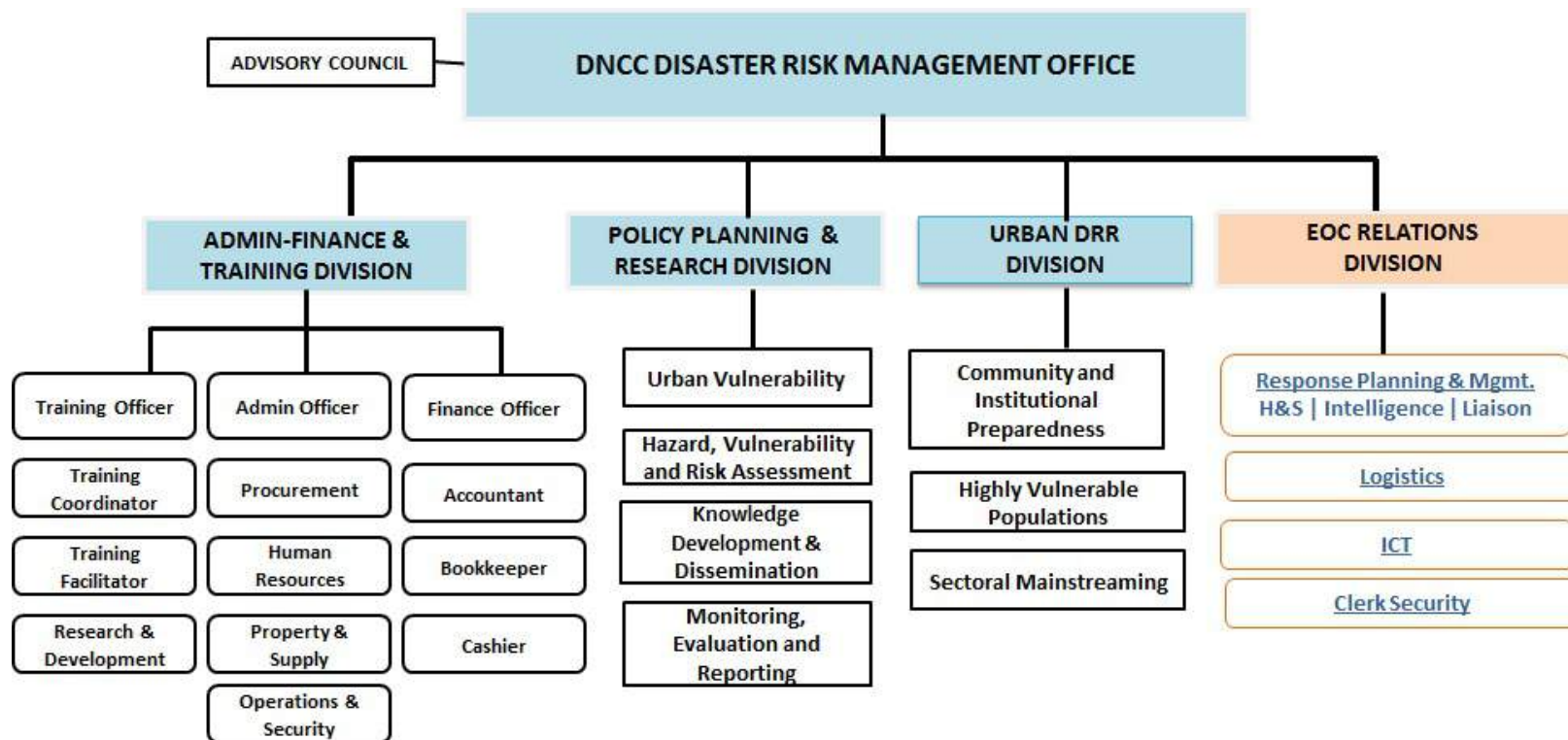
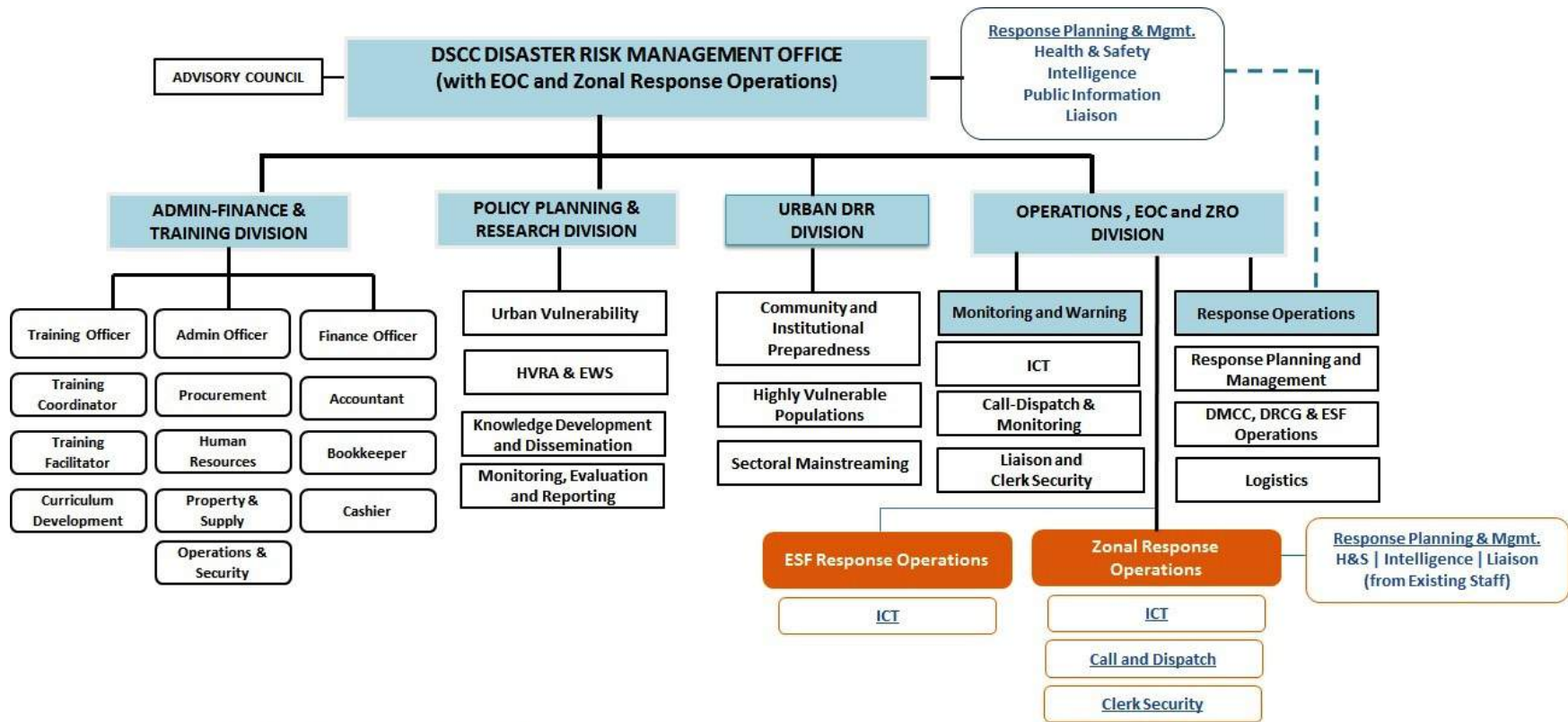


Figure 8. Indicative Organizational Chart of DNCC Disaster Risk Management Office.



* HVRA-EWS: Hazard, Vulnerability and Risk Assessment/Early Warning Systems

Figure 9. Indicative Organizational Chart of DSCC Disaster Risk Management Office and Emergency Operations Center.

Appendix F. Implementation Schedule for the TED Program

PHASE	ACTIVITY	Year 1				Year 2				Year 3				Year 4			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Phase 1	Task List																
1.1	Complete both a SWOC Analysis and a CNA for the five targeted institutions.																
1.2	Develop and complete an Organizational Analysis defining the final staffing patterns, organograms, and job descriptions for new hires and existing positions required under the URP.																
1.3	Develop and Deliver an initial training course, “About the Bangladesh Urban Resilience Project”.																
1.4	Develop and Deliver a Training Participation Tracking Tool																
1.5	Develop and Deliver a Roadmap Report for the TED Program.																
1.6	Establish a Planning Process to Develop Emergency Operations Plans.																

PHASE	ACTIVITY	Year 1				Year 2				Year 3				Year 4			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Phase 1	Outputs and Deliverables																
1.1	TED Program Inception Report																
1.2	Strengths-Weaknesses-Opportunities-Challenges (SWOC) Analysis and Capacity Needs Assessment (CNA) Report																
1.3	Organizational Analysis Report																
1.4	Bangladesh URP Orientation and Training Course																
1.5	Training Participation Tracking Tool Initial Report																
1.6	TED Program Road Map Report																
1.7	EOP Planning Process Report																
Phase 2	Task List																
2.1	Develop the Detailed TED Program Implementation Report																
2.2	Conduct of the Trainings																
2.3	Coordinating Vendors and																

PHASE	ACTIVITY	Year 1				Year 2				Year 3				Year 4			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
	Suppliers Trainings																
2.4	Design and Delivery of Tabletop and Functional Exercises																
2.5	Design and Delivery of Drills																
2.6	Design, deliver, and train Emergency Operations Plans.																
2.7	Institute a Training of Trainers (ToT) Program																
Phase 2	Outputs and Deliverables																
2.1	TED Program Implementation Report																
2.2	TED Program Curriculum and Syllabus Report																
2.3	TED Program Progress Report																
2.4	TED Exercises and Drills Report																
2.5	TED Program Sustainability Report																
2.6	TED Training of Trainers Program Report																
2.7	TED Program Performance, Monitoring and Evaluation Report																

PHASE	ACTIVITY	Year 1				Year 2				Year 3				Year 4			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
2.8	National and City level Emergency Operations Plans																
2.9	National EOP Planning Guideline (final)																
Phase 3	Task List																
3.1	Review, Update and Transfer TED Program to NDMRTI and FSCD																
Phase 3	Outputs and Deliverables																
3.1	Complete TED Program Transfer to NDMRTI and FSCD																
3.2	TED Program Final Report																