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AN EXPLORATION OF CIVIL-MILITARY COORDINATION ARCHITECTURE IN DISASTER MANAGEMENT OF BANGLADESH: WAYS FORWARD

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Abstract: Bangladesh is a disaster-ravaged country. Since its independence, the country has experienced several deadliest disasters. Despite all such calamities, the country has established itself as a role model in disaster risk reduction and management in the world. Ministry of Disaster Management and Relief (MoDMR) along with other stakeholders has taken different efforts in this regard. The military as one of the important stakeholders has always stood beside the nation. A good number of regularity framework allows military participation in disaster management too. It has been observed that no agreeable coordination mechanism between civil and military exist at the functional level. Every disaster is managed with a makeshift arrangement between civil and military. Disaster management modality in a multi-stakeholder environment is not very clear in the regularity framework specially in Standing Order on Disaster (SOD). Disaster Incident Management Team (DIMT) is one of such concepts indicated in SOD without any details. Therefore, the broad objective of the research was to develop a common civil-military response coordination architecture during any mega-disaster in Bangladesh. It was exploratory research using both qualitative and quantitative methods. The non-probability sample size comprised both civil and military communities. Opinions of practitioners and scholars both from home and abroad were collected. International practices of Centre for Excellence in Disaster Management (CFE-DM) USA, ASEAN Coordinating Centre for Humanitarian Assistance on Disaster Management (AHA) Indonesia, Regional Humanitarian Assistance and Disaster Response Coordination Centre (RHCC) Singapore have also been studied. After analysing all survey data, detailed model of DIMT has been suggested in this dissertation. The model has been retained simply by keeping present practice in mind. The concept is likely to provide better effectiveness in the overall coordination framework between civil and military in disaster management of Bangladesh.

Keywords: *SOD; DIMT; Multi-stakeholders' Environment; Civil-Military Response Coordination Architecture; International Disaster Practices*

INTRODUCTION

Bangladesh stands as the seventh riskiest natural disaster-prone country in the world as per the World Risk Index calculated by the United Nations University Institute for Environment and Human Security. Environmental disasters like tropical cyclones, storm surges, floods, tornadoes, and droughts ravage the country almost every year. Since Independence, the country is devastated by severe cyclones of varying intensities. A strong earthquake affecting a major urban center like Dhaka, Chottogram, or Sylhet may result in damage and destructions of massive proportions and may have disastrous consequences for the entire nation *(Earthquake Contingency Plan for Dhaka City Corporation, 2009, p.10)*. MoDMR is the lead ministry of Government to manage any kind of disaster. Bangladesh Armed Forces like any other professional armed forces have always responded to the call of the nation during any disaster. Over the years, Bangladesh Armed Forces through Armed Forces Division (AFD) has developed a professional working environment with MoDMR and other ministries of the Government. AFD is the coordinating headquarters for all three services i.e., Army, Navy, and Air Force. It is observed that there are differences in the overall approach of civilian and military. Presently, every army formation maintains three different kinds of teams named Heavy, Medium, and Light Urban Search and Rescue (USAR) Team. Based on the severity of the disaster, the Formation considers which team from these three different categories will respond to the requirement. On the other hand, local government somehow conceptualizes DIMT in managing any kind of disaster. Therefore, the military will not be able to play a very effective role once they are called to operate within the DIMT concept. Such difficulties are observed during the annual disaster-related exercise in Bangladesh named Disaster Response Exercise and Exchange (DREE). Almost all the academics and practitioners in disaster management have opined during DREE for a common approach between civilian and military in disaster management. The researcher, being the organizer of three consecutive DREE from the year 2017 and also an organizer of the first ever international disaster-related exercise in a foreign country named Coordinated Response (COORES) 19, has developed workable knowledge and experience about the disaster response mechanism of Bangladesh. COORES 19 was held in Singapore where the researcher as focal point officer of AFD played a pivotal role in formulating the concept and conducting the exercise. As an ex-disaster focal point officer of AFD, the researcher had also experienced civil-military approaches in many other national and international forums. While performing his classical role in different appointments, the researcher has keenly observed varied approaches followed in disaster management by the civilian and military authority in Bangladesh. To bring synergy in the overall national disaster management effort of Bangladesh, it's imperative to synchronize the disaster management model of civilians and military. Therefore, the problem for the research is identified as 'An Exploration of Civil-Military Coordination Architecture in Disaster Management of Bangladesh: Ways Forward'. Existing variations in the overall approach by civil

and military as major argument of the research has suggested a common response mechanism for both civil and military in disaster management at functional level. The model is likely to bring synergy to the overall disaster management effort in Bangladesh.

LITERATURE REVIEW

Literature purely dedicated to the subject is not much available. However, books, articles, and papers available on the regularity framework of Bangladesh have been explored. Existing documents related to different military policies on disaster management have also been studied. As such, the research gave the opportunity to collect more primary data and conduct exploratory research on the subject. Disaster Management Act provides the legal basis for the participation of the Armed Forces in disaster management efforts *(Bangladesh Gazette additional copy, 2012, p.1)*. National Disaster Management Policy allows forming separate disaster management units comprising all security and law enforcement agencies in order to respond to disaster management and emergency response (*Bangladesh Gazette additional copy, 2015, p.1*). National Disaster Management Plan gives out the strategic goals that need to be achieved within a specific time frame (*National Plan for Disaster Management 2016-2020, 2017, p.1*). Standing Order on Disaster (SOD) delineates the duties and responsibilities to be performed by each stakeholder including the armed forces *(SOD, 2019, p.1)*. National Emergency Operation Centre (NEOC) structure has been divided into three different levels i.e. Policy/Advisory Level, Operational Level, and Routine Functional Level. Like other wings and cells, a function-based approach has been adopted in Operation Wing (*NEOC Concept Note, Draft Version3, 2018*). Post Disaster Dead Body Management Instruction 2016 is prepared to find out appropriate modalities of burial procedures for dead bodies following any major disaster. (*Post Disaster Dead Body Management Instruction, 2016, p.1*). National Debris Management Guideline suggests debris response and recovery management at all levels (*National Debris Management Guideline of Bangladesh, 2015, p.1*). Comprehensive Guideline for Armed Forces in disaster management by AFD is an accumulation of both civil and military documents. Chapter 11 of the book has highlighted DIMT without any grouping (*Sobdoshoily, 2019, p.1*). Bangladesh Multinational Coordination Centre (MNCC) Standing Operating Procedure (SOP) of AFD is a premier document in the field of international disaster management (*Sobdoshoily, 2019, p.1*). Earthquake Contingency Plan for Armed Forces identified the intended actions to be taken by AFD in response to a damaging earthquake (*Earthquake Contingency Plan of Armed Forces, 2009, p.1)*. The earthquake contingency plan for AFD has divided Dhaka City into eight sectors (*Earthquake Contingency Plan of Dhaka City by Armed Forces, 2010, p.5*).

RESEARCH QUESTIONS

The research primarily focused to obtain the answer to the question "What are the differences which exist between civil and military disaster coordination

architecture in Bangladesh?" In doing so, it also sought the answer to the following secondary questions:

- What is the existing civil-military coordination system in the disaster response mechanism in Bangladesh?
- What are the disaster coordination architectures practiced by civil authorities?
- What is the disaster response mechanism prepared by the military at different levels?
- What are the gaps persisting between civil and military existing coordination architecture?
- What are the challenges of the existing civil-military coordination system in the disaster response mechanism in Bangladesh?
- How to coordinate both civil and military disaster response mechanisms in Bangladesh?

RESEARCH METHODOLOGY

Study Area and Target Population

Concerned civil and military disaster management stakeholders both at home and abroad were the target population of this research. SMEs of this research were from MoDMR, AFD, Military Headquarters, Dhaka University, Government Disaster-related organizations, NGOs, International NGOs, RHCC Singapore, AHA Centre Indonesia, and CFE-DM USA. Books and publications of these organizations were studied too.

Data Collection, Processes, and Presentation

Mixed methods were followed in the research. Both qualitative and quantitative data were collected. The sampling for the data collection was done using both probability and non-probability techniques. For collecting the view of general people 'Stratified Sampling' (probability sample) technique was used. For collecting the in-depth interview opinion, 'Judgemental Quota Sampling' was used. The sample size was 40. To collect primary data, in-depth interviews with different sets of questionnaires, face-to-face in-depth interviews with all respondents at home, and video conferences with overseas respondents were used. Total eight top subject matter experts i.e. the Minister and the Secretary of Ministry of Disaster Management and Relief, Principal Staff Officer of Armed Forces Division, , Engineer in Chief of Bangladesh Army, Professors of Dhaka University, Director General of Fire Service and Civil Defence, and UN Residential Coordinator Adviser in the disaster were interviewed. A questionnaire survey through email, courier services, and hard copies was conducted for quantitative data. Respondents from Government, Non-Government, NGOs, International NGOs and military were selected for questionnaire survey.

Secondary data was collected from different literature review both from civil and military. Regarding ethical approach in data collection, all respondents involved in the research have been notified in writing. The purpose of the study along with their opinions have been well endorsed by the researcher. However, all their opinions have not been presented in full in this paper. Important segments of their opinions have been referred to in the paper. Qualitative data was processed by taking paradoxical views on the same issue followed by the researcher's analysis where data presentation was done using quotations from note-taking points. Quantitative data were processed using MS Excel software where data presentation was done using statistical tools i.e. cross-tabulation, graphic representation, central tendency etc. Regarding the limitation of the research, much of the study on the subject was not available. There were many publications in the field of disaster management but not on the coordination architecture between civil and military. Both the sectors have made publications considering their classical role. Specific publication regarding the complementary role of the Armed Forces in disaster management is not very much available. Therefore, the research was carried out based on the primary data obtained during data collection both within civil and military environments. Academicians and practitioners were given special importance during the survey.

ASSESSMENT OF EXISTING DISASTER COORDINATION FRAMEWORK BETWEEN CIVIL AND MILITARY

SOD has focused more on the structural coordination aspect with emphasis on civil and military coordination architecture. As per SOD, out of 16 national committees, 11 committees have military representatives making a total of 69 percent. On the other hand, out of 18 local committees, 4 committees have military representatives making a total of 22 percent as shown in Figure 1.

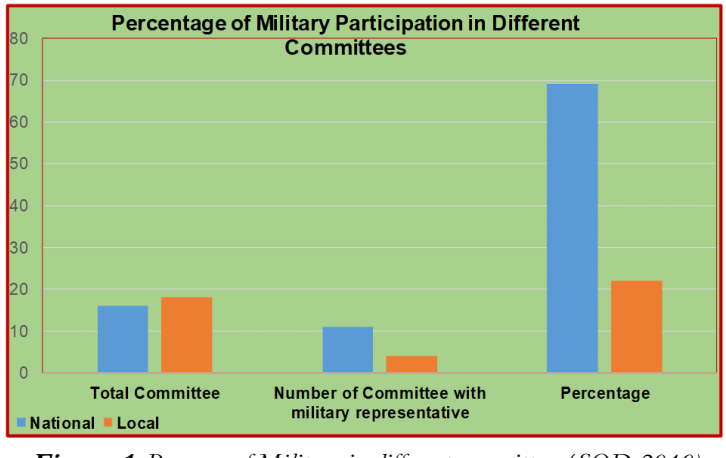

Figure 1: *Presence of Military in different committees (SOD 2019)*

An important concept indicated in SOD at the local level is DIMT as part of the Local Level Multi-Agency Incident Management System. The concept addresses the cluster-based or function-based approach where it will be formed taking stakeholders from different functional groups. If the military is an important stakeholder in disaster management at a functional level, DIMT needs to acknowledge military participation. There may be a situation where the military may have to take a lead role in entire disaster management like Rana Plaza. In such a situation, the military will not restrict only Search and Rescue Operations. The military will have to remain involved in medical, utility service, information sharing, debris management, and all other specialized fields of cooperation. Therefore, a well-thought-out common coordination platform will assist both civil and military to cooperate better during any disaster management.

Disaster practitioners on the ground feel that both civil and military have less knowledge of each other's core capabilities. Therefore, they fail to reap maximum benefit from one another. Due to the least possible interaction, they are always comfortable following their own model of managing any disaster. Military mostly conducts their training inside cantonment with self-understanding of disaster management. Irregular interactions with civilian counterparts keep them isolated from civil authority's management procedure of disaster. Importantly, the requirement of a common coordination framework is not felt by either of the groups during normal times. It results in a make-shift arrangement by both parties. As a result, the nonexistence of any agreed coordinating mechanism between civil and military is identified as the main gap in the literature review and primary data of the research. To address the gap, a well thought coordination platform for disaster management must exist with both civil and military authorities. There is a need to create a pipeline through which all the stakeholders' members will go through. It will pay a dividend during the time of real need, when coordination will be the prime requirement to act flawless, with the highest efficiency.

ISSUES AND CHALLENGES OF LIKELY COORDINATION ARCHITECTURE BETWEEN CIVIL AND MILITARY IN DISASTER MANAGEMENT

Ideally, the most effective disaster management would focus first on prevention, next on preparedness, and, lastly on relief (*Lal B. Suresh, K. Anitha & D. Vasavi, 2019, p.3).* An ad-hoc arrangement during any disaster may somehow serve the purpose but will remain invalid for any subsequent disaster due to the non-availability of any document. Therefore, such a model of cooperation needs to be thought of at the functional/operational level. It should be also supported by the policy issue for its sustenance and execution. Respondents including representatives from MoDMR have generated different ideas on civil-military coordination platforms that can be integrated into the existing concept of DIMT. It can be made functional following a cluster-based approach. Such an approach is present in

NEOC. The prerequisites of DIMT need to be analyzed in detail. Abiding by the existing law, the positive mindset of both civil and military are the two important prerequisites for formulating any coordination model. Both civil and military need to have a compromising attitude to come to a consensus regarding different roles to be played by each of the military and civil components in the model. The military should have knowledge of the civilian coordination mechanism of disaster management. Finally, both civil and military should feel the necessity of such kind of coordination model. Data collected on the prerequisite of DIMT is presented in Figure 2.

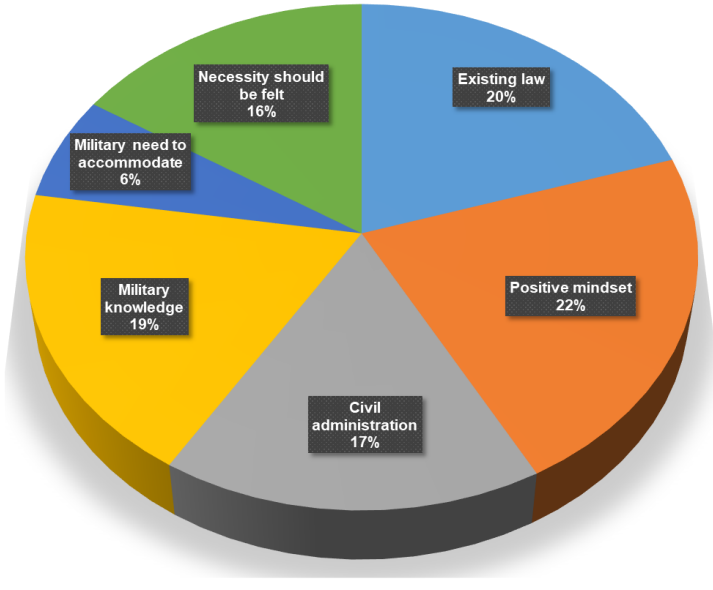

Figure 2: *Prerequisite of DIMT (Questionnaire Survey)*

Elements of DIMT are important aspects to look for. Out of many fields of cooperation, command and coordination arrangement needs to be well thought out. As per Iran Red Crescent Medical Journal 2020, " After Katrina Hurricane, the single command headquarter was posited due to the emergence of a large number of challenges regarding the civil and military forces' collaborations. To resolve the command problems in disasters, there are two solutions: (1) the existence of two civil and military commanders and coordination between them and (2) the existence of a single commander" (*Araghizadeh H, Peyravi M, Sharififar S, Ahmadi Marzaleh M, 2020, p.21*). While designing any new form of disaster coordination model for both civil and military, the easy orientation of the model should be kept in mind. It should not surface as an absolutely new pattern of cooperation framework. Over the years, disaster management practices as developed on the ground should melt easily in the new proposed model.

Diameter and level of DIMT are two important issues that need to be studied in detail. City Corporations operating DIMT need coordination with district administration. How many DIMTs will be established in one area will depend on the total area of the City Corporation. Military Brigade (*Brigade is less than division size force where almost 3 brigades make division-size force*) size force may look after one DIMT. Respondents mostly opined on City Corporation and Brigade Headquarters level as the most appropriate level of DIMT as shown in Figure 3.

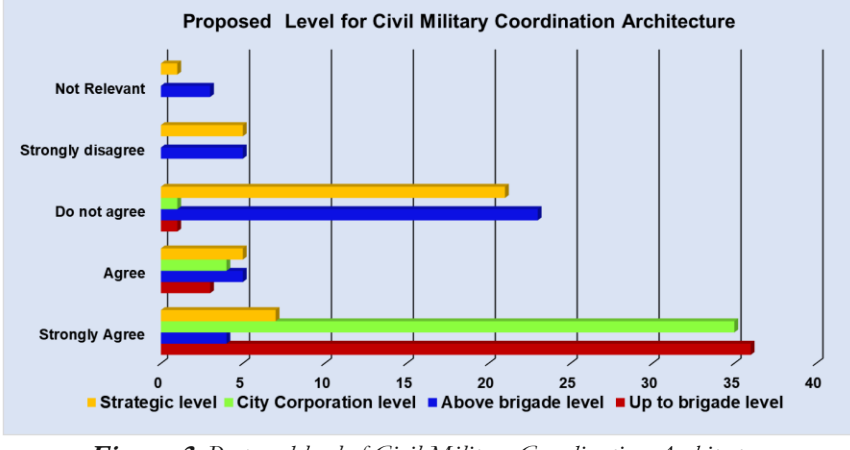

Figure 3: *Proposed level of Civil-Military Coordination Architecture (Questionnaire Survey)*

While working on the likely approaches of DIMT, mitigation measures against challenges need to be thought of. The regular exercise, publication, seminar, and periodic revision were identified by the respondents. Annual exercises and seminars, and symposiums were mostly preferred by the respondents as shown in Figure 4.

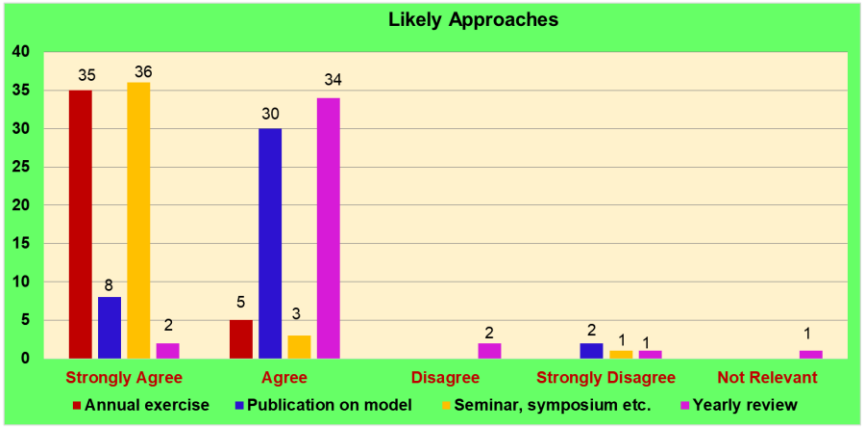

Figure 4: *Likely approaches for introducing any new model (Questionnaire Survey)*

International organizations recommend a function-based approach for such coordination architecture as shown in Figure 5. They have categorically explained two trends in disaster management where one is with the country's military and the other one is with the assistance of a foreign military. In every case, they suggest the participation of both civil and military as per their core capabilities. A clear avenue needs to be created where both civil and military can exhibit their capabilities while participating in disaster management. It is apparent that working out such a platform does not need to make new acts or regulations to operate. Existing acts and policies should be sufficient to support such kind of platform.

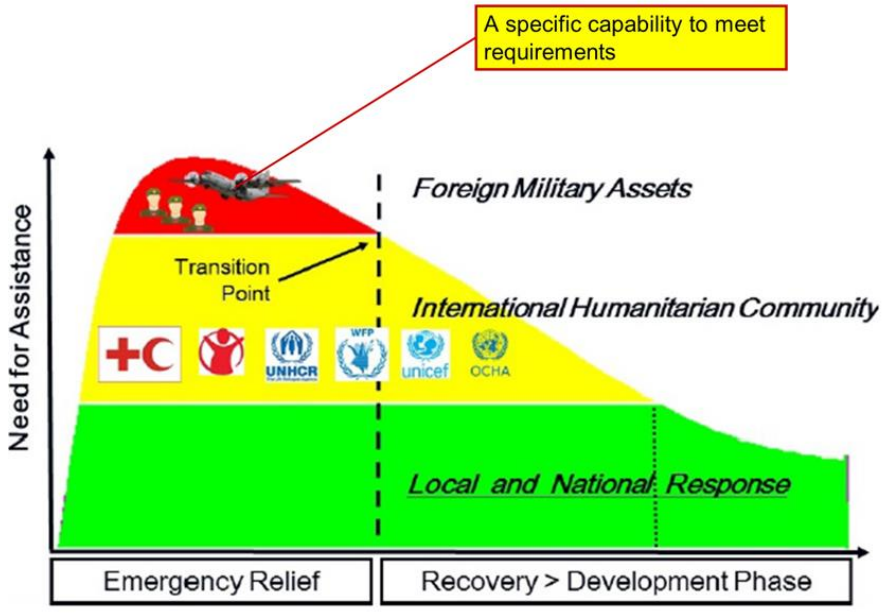

Figure 5: *Philosophy of Foreign Assistance in Disaster Management (RHCC presentation slide)*

PHILOSOPHICAL APPROACH CONSIDERING RESEARCH GAP OF THE STUDY

The followings are derived as part of the research gap based on questionnaire survey, in-depth interview, and study of different national and international practices along with a philosophical approach towards a solution:

- A well-accepted unique model/structure is absent in the coordination mechanism between civil and military.
- Existing DIMT is very scanty and interpreted in isolation by both civil and military.
- Absolute new model won't be accepted by either civil or military.
- Detailed modalities of present DIMT will assist both civil and military to coordinate further amongst each other.
- Command and control of DIMT need careful consideration to avert any egoistic issue while operating on the ground.
- The integration procedure of the revised DIMT is important to achieve the acceptance of both civil and military.

PROPOSED COORDINATION ARCHITECTURE BETWEEN CIVIL AND MILITARY IN DISASTER MANAGEMENT

The Mission of Proposed DIMT in Disaster Management

The mission of the proposed DIMT will be to allow the optimum utilization of both civil and military resources at functional level during any major disaster management.

Objectives of Proposed DIMT in Disaster Management

- Functioning as a centre point of the managerial functions at the operational level during and post-disaster situations.
- Establishing an effective coordination mechanism amongst all responsible stakeholders and avoiding duplication of resources.
- Assigning responsibility based on the core competency of any organization.
- Collecting and sharing information related to the impacts of disaster.
- Providing an opportunity for participation of different major stakeholders in disaster management.
- Ensuring easy adaptation of the model by both civil and military.
- Provisioning available resources including international aid during disaster management.

Operational Concept of DIMT

The establishment of DIMT belongs to the domain of local administration. City Corporation or district administration will be in charge of DIMT. The following points may be kept in mind while establishing DIMT on ground:

- Prior to the activation of DIMT, the host community of Bangladesh is likely to engage themselves in managing any disaster.
- Different types of stakeholders are also likely to reach the disaster sites prior to/during/after the engagement of local administration.
- Military is likely to augment overall disaster effort.
- Considering the overall size of the affected area, there may be a number of DIMTs required to manage any disaster.
- Considering the number of DIMTs, one coordinating headquarters will be required.
- Command and control of DIMT will lean against the size of different forces involved in disaster management.
- International assistance may need to be integrated into the overall management of disaster.

Organizational Structure of DIMT

Organizational Structure of DIMT is at Figure 6. Number of DIMT will vary basing on the size of disaster area.

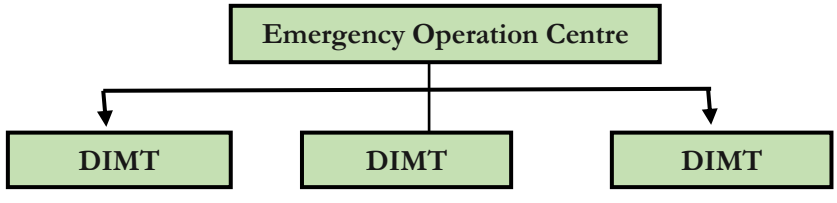

Figure 6: *Organizational Structure of DIMT (Researcher)*

EOC

EOC will be in charge of all DIMTs. Considering the size of the area, the number of DIMTs will be established on ground. DIMTs will be managing mostly challenges on ground where EOC will be managing additional issues like financing and interaction with foreign assistance if required. EOC's main task will be to direct the resources joining in the disaster management operation. DIMT will regroup the resources as per structure at Figure 7.

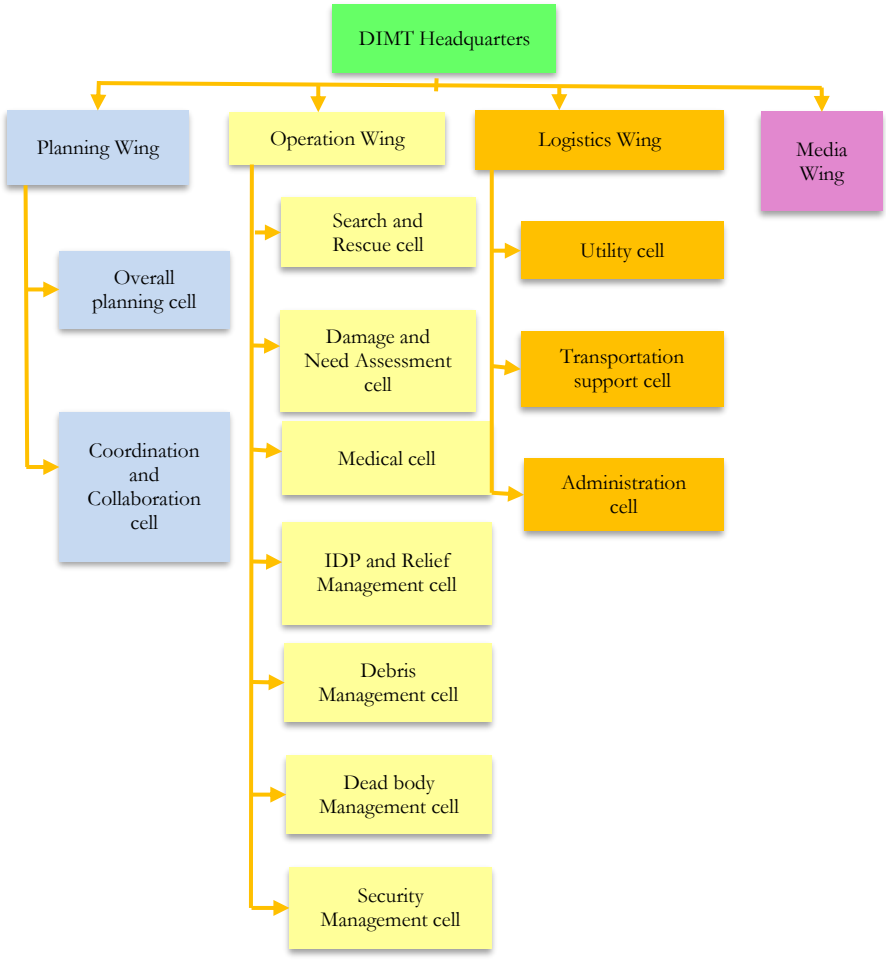

Figure 7: *Detailed Organizational Structure of DIMT (Researcher)*

DIMT Headquarters

DIMT Headquarters will act as the executive of DIMT. It will be led by appropriate authority from the civil sector. A military brigade-size force will be appropriate for one DIMT. It may have required staff to coordinate the activities of all the cells. It will focus on the following activities:

- Ensure quick distribution of resources amongst different cells after receiving from EOC.
- Synchronize all available efforts with the host community effort.
- Allow military efforts in coordination with other existing efforts.

- Provision of employing foreign resources if accepted by the Government.

Planning Wing

Planning Wing will focus more on future activities of DIMT. They will continuously evaluate the overall activities of DIMT and demand additional resources as required on the ground. It will also coordinate the activities of different cells. Detailed activities of the Planning Cell, Coordination, and Collaboration Cell of this wing may be as under:

Overall Planning Cell

Activities of the Overall Planning Cell may be as under:

- Assess the activities of different wings specially Operations Wing.
- Plan future activities that DIMT needs to carry out as part of any ongoing disaster management.
- Distinguish activities from one stage to another in overall disaster management operation.
- Identify the assembly area of DIMT where all the resources will be redistributed amongst different wings.

Coordination and Collaboration Cell

Activities of the Coordination and Collaboration Cell may be as under:

- Operate assembly area of Planning Wing.
- Coordinate and collaborate functions of different emergency management teams according to the severity and needs of the affected community.
- Receive all kinds of assistance including foreign assistance and distribute it amongst the cells as per the need of the cells.
- Collect the requirements of different cells and forward them to DIMT Headquarters.

Operations Wing

Operations wing will be the core of DIMT. The major part of DIMT will be played by different cells of the Operations Wing. Employment of operational assets will be the sole authority of the Operations Wing. The Chief of Operations Wing will be responsible for the operational activities of DIMT. He will ensure total operational activities of DIMT through different cells Operations Wing. Specific tasks of different teams of Operations Wing may be as under:

Search and Rescue Cell

Activities of the Search and Rescue Cell may be as under:

- Plan an integrated search and rescue operation plan immediately after any disaster in coordination with damage and need assessment cell.
- Ensure all stakeholders of the search and rescue cell are aware of the overall plan.
- Coordinate available efforts of the host community with the DIMT effort.
- Provide opportunities to all available stakeholders for optimum utilization of their own resources.
- Coordinate amongst different cells of Operations Wing.

Damage and Need Assessment Cell

Activities of Damage and Need Assessment Cell may be as under:

- Assess the damage to infrastructures, and lifeline services.
- Assess the death tolls/injured state due to disasters in coordination with the respective cell.
- Carry out need assessment continuously and send updated information to Operations Wing.

Medical Cell

Activities of Medical Cell may be as under:

- Prepare a medical plan for DIMT.
- Ensure available medicines and first aid kits to provide immediate treatment.
- Provide counseling and psychosocial services for the affected and vulnerable women, children, elderly, and others living in the affected site.
- Arrange a special treatment for pregnant mothers, and children.
- Provide special support and treatment for people with disabilities.
- Take measures against outbreaks of diseases (communicable and non-communicable diseases) and collect data regarding health hazards during and post-disasters.
- Establish mobile hospital and clinical support for affected people.
- Arrange a hygiene management system for the affected people.

IDP and Relief Management Cell

Activities of the IDP and Relief management cell may be as under:

- Provide immediate emergency relief and IDP management supports in cooperation with other organizations.
- Collect the relief materials from the donor agencies.
- Arrange temporary shelter for the displaced people with food and water.
- Establish a water distribution management system during and post-disaster.
- Identify traumatized children, women, disabled and elderly people for necessary support.

Debris Management Cell

Activities of Debris management cell may be as under:

- Arrange transports like bulldozers, excavators, forklifts, trucks, operators, materials, and related supplies in coordination with the transportation support cell of the logistic wing.
- Select a suitable place for dumping debris.
- Monitor emergency disposal of debris materials so that new hazards can be avoided.
- Coordinate all available civil resources for debris clearance.

Dead Body Management Cell

Activities of Dead body management cell may be as under:

- Coordinate management of dead body in coordination with other concerned organizations like Anjuman Mofidul, Bangladesh Red Crescent Society, etc.
- Provide legal issues with the help of medical cells about identification and death certification.
- Provide technical support for the identification and documentation of dead bodies.
- Abide by the Government procedure for dead body management.

Security Management Cell

Activities of Security management Cell may be as under:

- Ensure security for people and properties during post-disaster situations.
- Ensure security during relief operations.
- Ensure quick mobilization of law enforcement agencies.
- Ensure security of IDP shelter so that the evacuated people can stay in a safe manner.
- Protect children and women from trafficking and other forms of sexual exploitation.
- Supervise work of law enforcement agencies on regular basis.
- Arrange security of Government property, institutions, and basic facilities related to life line services damaged in the disaster.
- Assist the local administration to stop theft and misuse of relief materials.

Logistics Wing

Logistics Wing will primarily look after resource sharing and management through its different teams. The prime focus of the wing will be to ensure an uninterrupted supply of resources with appropriate storage facilities. Specific tasks of different teams of Logistics Wing may be as under:

Utility Cell

Activities of Utility Cell may be as under:

- Coordinate activities of utility services.
- Ensure quick recovery of lifeline services.
- Prioritize services required in the affected site.
- Integrate available civil resources with Govt. services.

Transportation Support Cell

Activities of the Transportation Support Cell may be as under:

- Provide required transports to different wings.
- Maintain available transports of DIMT.
- Establish required workshop for transports of DIMT.
- Provision of fuel arrangement for available transports.

Administration Cell

Activities of the Administration Cell may be as under:

- Looks after the administration of DIMT personnel and resources.
- Ensure required manpower of different wings and cells.

- Supply food and local hospitality to all members of DIMT.

Media Wing

Media is one of the vital aspects of any post-disaster management. Lack of information leads to inappropriate information and rumor. It should be able to present information concerning both civil and military. Specific tasks of the media wing may be as under:

- Maintain close coordination with both civil and military teams to present updates on disaster management.
- Verify information before giving it out to the media.
- Hold press briefing followed by press release after a certain period of interval.
- Monitor other media both national and international regarding any ongoing disaster management activities of respective DIMT.
- Provide timely update information to guard against any rumor.

Benefits of Proposed DIMT

The above model of DIMT is likely to have the following benefits:

- The proposed DIMT has similarities with the concept of NEOC.
- It will bring synergy to the overall activities on the ground due to commonality with the strategic structure of the Government.
- All participating organizations will be able to perform better due to the involvement of their higher headquarters in a similar kind of field at the strategic level.
- It will act as a guideline for both civil and military to prepare prior to any disaster.
- Civil and military will be able to identify their areas of preparation for future disaster management.
- The proposed DIMT will enhance local administration in managing any disaster on the ground.
- It has got similarities with the existing concept of DIMT practiced at AFD.
- Proposed DIMT will allow both civil and military to exert their optimum capability.

Ways to Integrate Proposed DIMT in National Arrangement

Based on the survey findings and the type of proposed model, the followings may be considered for effective integration of the model in the system:

- DIMT may be explained in the regularity framework of disaster management in Bangladesh. More need to be discussed in SOD, specially, the structure of DIMT and coordination modalities between civil and military forces.
- Different committees as per SOD may regularly discuss the proposed model so that they can implement the structure during the time of disaster.
- AFD may review their existing model of DIMT and adapt to the proposed model of DIMT for better coordination of disaster management.
- Military needs to study further the proposed model and prepare their manpower for effective utilization of resources.
- Regular workshops, seminars, and tabletop discussions on the proposed model may be arranged with concerned stakeholders so that better awareness is created.
- Annual exercises may be held with the concerned stakeholders.
- The resistive mind of both military and civilians need to be taken into consideration and required motivation may be arranged accordingly.
- A separate publication explaining the total concept of the proposed DIMT will provide a textbook approach for new model implementation at the functional level.

CONCLUSION

Bangladesh holds commendable civil-military coordination in disaster management. The country's lead ministry MoDMR in coordination with AFD is managing different disasters very successfully. However, Bangladesh is yet to experience any catastrophic disaster in recent times. One Rana Plaza incident is exemplary to understand the strength of existing functional modalities. Through the research, the proposed model has been worked out to better manage any major disaster in the future. Respondents have appreciated the overall effort endorsing the nature of the present humanitarian coordination framework between civil and military. Almost everyone has opined not to bring out completely new modalities to manage disaster by civil and military. They have opted for some design that is supported by the existing regularity framework. Modification of DIMT has surfaced as one of the plausible options in the research. An attempt has been made to reorganize the present DIMT concept so that effective civil-military coordination can take place including foreign assistance in future days.

RECOMMENDATIONS

- Initiatives may be taken by both civil and military to explain the necessity of a new coordination structure at the functional level.
- Seminars, tabletop discussions, and exercises like DREE may be arranged focusing on the concept of the proposed DIMT. It will allow the participants to be educated more on the concept and be confident while operating on the ground as per the structure.
- The textbook approach may be followed while presenting suggested DIMT. There may be dedicated publications on the proposed DIMT at the Government level. Such publication will act as a reference for others including foreign nationals who will operate with the consent of the Government. It may be reviewed periodically so that any new suggestion can be incorporated into the concept and make it more resourceful for all stakeholders.

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