

Report of the TNA on Disaster Management function of the State Assam

1. Introduction

This report is an outcome of a participative exercise undertaken to identify the training and non-training needs of the key functionaries across different Departments of the State Government that are involved in the Disaster Management function at the operational levels as envisaged in the DM Act 2005.

The Act widens the scope and meaning of disaster management by defining it as a 'continuous and integrated process of planning, organising, coordinating and implementing measures for

- (i) prevention of danger or threat of any disaster;*
- (ii) mitigation or reduction of risk of any disaster or its severity or consequences;*
- (iii) capacity-building;*
- (iv) preparedness to deal with any disaster;*
- (v) prompt response to any threatening disaster situation or disaster;*
- (vi) assessing the severity or magnitude of effects of any disaster;*
- (vii) evacuation, rescue and relief;*
- (viii) rehabilitation and reconstruction'*

This wide, comprehensive definition of the DM function compels a systemic change in the capability and capacity of the many different government functionaries involved who had hitherto performed with focus on rescue and relief aspects of DM mainly but **is** now also responsible for prevention, mitigation, preparedness and reconstruction measures. Hence, the need for such a needs assessment exercise arises.

2. Context

The DM Act, enacted by Parliament in 2005 in the backdrop of the devastating Bhuj Earthquake and the coastal Tsumani, ushered in a strategic shift in both the content and process of disaster management by mandating a holistic, integrated approach to the crucial Disaster Management function of the State and creating a distinct structure for delivering it.

The DM function of the State is now a continuous, integrated process of planning, organising, coordinating and implementing measures for Prevention, Mitigation, Preparedness, Response, Rehabilitation and Reconstruction. The crisis-oriented approach of rescue, relief and rehabilitation prescribed in the Assam Land Revenue Regulation, 1886 and the Assam Relief Manual, 1960 has been replaced by a more decentralised approach with equal focus on strategic risk reduction and recovery involving active participation of NGOs, community Volunteers and local bodies.

Further, the essential provision of integrating measures for prevention of disasters and mitigation in all development plans and projects now makes the strategic task of mainstreaming DM in development a statutory obligation.

The personnel involved in performing this new, integrated disaster management function, therefore, not only need to respond effectively to disaster situations for rescue and relief now but also have to engage themselves continuously on prevention, mitigation and reconstruction with equal emphasis.

3. Need

In the context of this changed structural-functional arrangement, the roles, tasks and activities of the different functionaries involved in DM has changed significantly, necessitating need-based training interventions to ensure effective performance of concerned functionaries in the changed circumstances. They now have to do 'new and better things.' It is therefore necessary to arrange for appropriate performance-based training interventions for the key government personnel involved in disaster management at the operational levels to cope with the changed circumstances.

The design, delivery and assessment of any appropriate training interventions for effective performance obviously need to be based on actual training needs of the target groups. It is impossible to design appropriate training without ascertaining the training needs. The first step in deciding appropriate training interventions is, therefore, the identification of their specific and/or generic training needs through a logical and systematic Training Needs Analysis [TNA] exercise; hence, the need for a TNA exercise.

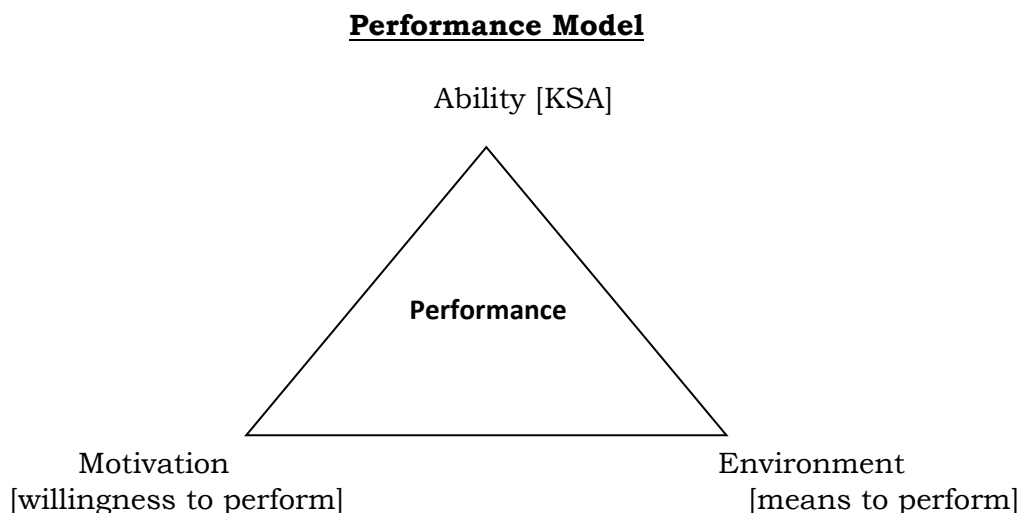
This exercise also needs to be fully participative, involving procedures for self assessment of learning needs since the target group consists of experienced adults.

4. Rationale

The first step is therefore to identify the training and non-training Needs through a consultative needs analysis process where the 'gap' between the desired capacity level [*objectives*] and existing performance level needs [*entry behaviour*] to be ascertained in a systematic manner. The identified 'performance gap' is further examined to determine the complete set of the training as well as non-training interventions or needs that are required to fill it. Training recommendations follow from the set the training needs so identified.

However, training alone cannot ensure desired performance. Performance depends on the three essential factors of Ability, Motivation and Environment. While training enhances ability to perform, motivation ensures the willingness to perform and environment provides the means to perform. All the three factors need to be taken care of to ensure performance. The diagram below depicts this simple performance model.

The corresponding non-training needs emerging from the TNA process includes the requirements for proper motivation and environment. These also need to be fulfilled for ensuring the desired performance.



5. Aim of the Study

The aim of the study is to examine the role and activities of the key DM functionaries at the operational level as envisaged in the DM Act 2005 in respect of naturally caused hazards or disasters and to identify the training as well as the non-training needs arising thereof.

6. Objectives/TOR

The Objectives are set in the Terms of Reference [TOR] agreed upon with the SDMA for the TNA exercise which is noted below.

- a. To examine the existing situation of operational DM capacity at the field level
- b. To identify the training and non-training needs of key personnel involved in DM at the operational levels as envisaged in the DM Act,
- c. To recommend the necessary training interventions to be taken by key departments of government involved in disaster risk management for mitigation, preparedness and response
- d) To recommend the list the prioritised training interventions thereof.

7. The Team

The TNA exercise was planned, coordinated and executed by a team of MTs developed by the DOPT, Government of India and subject-matter experts.

8. The TNA Approach

Technically, TNA involves the five phases of Entry, Data Collection Analysis, Feedback and Withdrawal. The details of tools used during each phase are given at **Appendix I (a)**.

TNA for large systems interventions involving public administration structures needs to be fully participative, involving all stakeholders in the identification of their own learning needs throughout the five phases. Since it is practically impossible to involve all individuals, the representative sampling system has been followed in this study.

Representative samples of all stakeholders have been involved in arriving at findings throughout the process. This has been done through search conferences, workshops and focus groups using the *nominal group technique*.

9 Process adopted

With the TOR facilitating entry, data was collected mainly through wide 'searches' culminating in a complete situation review of the DM scenario in the State. While the subsequent *analysis* was carried out by nominal-groups, consisting of experienced representatives of the target departments, local bodies and active NGOs, *feedback* from the Client and departmental representatives was

obtained by the core team in pre-validation discussions. Appropriate tools were used at each stage.

The process followed involved the following steps:-

- a) Literature & Case Search
- b) Stakeholder analysis & Sampling
- c) Search Conferences
- d) Identification of best practices for benchmarking
- e) Situational Analysis Workshop
- f) Group activity for Problem Analysis
- g) Departmental Focus Group Analysis
- h) Integrated Focus group Analysis
- i) Writing Draft Findings
- j) Validation Workshop
- k) Finalisation of recommendations & Report

10. Tools & Techniques Used

The key tools used at different stages are listed below. A brief description of each tool is give at **Appendix I (b)**. Using the Delphi, a set of best field-practices in departments, districts, etc were enumerated by a small expert group and the consequent gaps therein measured in terms of deviation from it.

- Structured & unstructured Questionnaires
- Interview & group discussions
- Delphi technique among small expert group
- Nominal group technique
- Direct & Reverse Brainstorming
- Functional Analysis
- SWOT
- TOWS
- Problem Analysis
- Cause & Effect Analysis
- Performance Report

11. The Target Group

The target group consisted of key DM functionaries drawn from amalgamated DC establishment and the concerned district level officials of Police, APRO, Fire Service, Civil Defence, Transport, Health & Family Welfare, Social Welfare, PWD, PHE, Agriculture, Veterinary & Development Departments, local bodies, Electricity Board, and other personnel under DDMA.

13. Vulnerability of Assam

The vulnerability description of Assam is beyond the scope of the study. However, some facts are captioned below to indicate the magnitude of the problem.

- Assam is placed in the highest rainfall intensity zone of the country
- Average annual rainfall ranges from 1750 mm in the plains to 6400 mm in the hills
- About 4.3 million ha. of land in the entire northeast region are flood prone and fury of the floods impedes development.

- Destabilization of hill slopes.....Landslides
- Riverbank erosion- 7% of the land has been lost in the last 50 years
- Falls under Zone V – the most vulnerable seismic zone
- Severe thunder storms, landslides, flash floods and medium-intensity tremors occurs frequently causing destruction to property, livelihoods and even lives.

14. The Structural-functional scenario

The existing functional matrix of the DM structures indicating the key operational roles at the district and sub–district levels is at **Appendix – II**.

Though the district level structure is well-organised, linkage with adequate, free-flowing structures at the grass-root level is not permanently available for ensuring all-time preparedness, continuous updating of plans and instantaneous response that is essential for securing lives. especially in the event of earthquakes. This also results in delayed response initiatives at the distant village levels where the most vulnerable citizenry reside, often resulting in avoidable public grievances.

While responding to disaster situations, the district /subdivision level functionaries of the concerned departments usually operate in teams under the direct control of the DC or SDO (C) and overall supervision of the respective sub divisional Relief Committee [SDRC] chaired by either of them. The DDMA is now been notified and has therefore replaced the sadar SDRC. The planning exercise is completed by March every year and finalised in the SDRC [now DDMA in districts]. Plans for annual flood hazard management are developed at the Revenue Circle level by the Circle officer and then incorporated into a sub-divisional plan in March.

The real time operational command chain in the sadar sub division, however, flows through the DM branch [erstwhile Relief Branch] of the DC Establishment that is headed by an ADC and assisted by a Branch Officer in the rank of an EAC. A Relief Control Room is set up by the DM Branch during the flood season, which functions 24x7 during actual DM Operations and are winded up in the lean-water season. The DM Branch has the entire district administration at its disposal for deployment and can requisition any resources in the district for the purpose.

The Revenue Circle Officer is also the chief Relief officer of the Circle. A number of sub-circle and village level officials called SKs and LMs respectively operate under the Circle officer completing the DM structure. In crisis situations, local officials, teachers, GP staff are assigned at sub-circle levels also called ‘Zones’ and ‘Sectors’. The ‘gaonburas’ and grazing ‘sardars’ contribute significantly to operations at the village levels.

In outlying subdivisions, the Civil SDO remains in charge of operations with a separate SDRC. There is no provision for a separate sub-divisional Authority or even a sub sub-divisional committee of the DDMA, which appears to be a distortion or gap in the structural organisation.

Further, the Block - GP territorial division for development purposes is not co-terminus with the Circle –sub-circle –village organisation administrative division of the district, which raises structural-functional concerns regarding bottom-up DM planning for a district and, therefore, coordination & implementation thereof. Integrating Blocks into the DM structure would also assist mainstreaming it into development and therefore lead to vulnerability reduction. Block offices are the most visited places in rural Assam and not the Revenue circle offices.

15. State– specific requirement

The disaster threat perception in Assam includes flood hazards, cyclones, landslides, fire, explosions, rioting, communal violence, accidents, pest related disasters [and earthquakes. The possibility of chemical disaster was felt to be remote by the group.

While the State has been regularly responding to recurrent floods or storms, managing earthquake situations is a new area for the present set of officials and non-officials. Earthquakes of moderate intensity have been regularly rocking the State with epicentres around the NE region including Myanmar. Among natural disasters, special emphasis is therefore needed to focus on earthquake due to its extreme devastation capability and unpredictability as well as the recurrently damaging flood hazard due to the general havoc it causes every year.

The integrated disaster management function primarily rests with the state as a whole. However, community participation in a significant way, which is essential for the successful discharge of this function, is yet to be systematically organised. This leaves room for powerful local stakes to enter and, maybe unwittingly, disrupt responses leading to wastages of effort or resource. Operations of in inter-departmental and intra-departmental teams of personnel drawn from a number of line departments therefore need to be coordinated and conducted in collaboration with volunteers, NGOs and community workers.

Managerial and soft skills like team working, communication, coordination, decision-making, etc are inevitable generic training needs for State functionaries. Some functional skills and attitudes like vulnerability assessment, planning, gender sensitivity, group-stress diffusion, resource management, etc are also essential for all functionaries. This constitutes the generic skill clusters.

The training corresponding to generic skill clusters are required by all DM functionaries across departments. In addition, training for acquiring the key functional skills specific to line departments is required to be taken up simultaneously by each Department..

16. The Gap: Key concerns and problem areas

The 12 most significant problem areas or concerns that were identified mainly related to preparedness, response and reconstruction. These are:-

- Low level of preparedness
- Delay in efficient village-block level response
- Weak information management and programme planning
- Inadequate village & Block preparedness plans
- Slow restoration of communication and power structures
- Absence of modern communication systems
- Need for improved coordination among departments
- Little reach in Chars [sandbars] and Hill areas
- Lack of public awareness and community-based disaster preparedness plans
- Lack of trained man-power; no mock drills or rehearsals
- Inadequate resources and poverty of the community
- No livelihood-restoration or reconstruction strategy

17. Situation Review & Onward Strategy

The existing situation was reviewed by each departmental detailed SWOT reports prepared by them. Thereafter, a common, integrated SWOT covering all areas was constructed and validated with all groups, which is at **Appendix III (a)**.

This was followed up TOWS matrix to decide the possible strategies for achieving the required functional improvements with reference to the DM Act and the **best practices** and feedback obtained thereon. A maxi-maxi strategy identified in TOWS was emphasised along with the maxi-mini option. Cause and Effect analysis (Fishbone) for each identified problem area were then done and probable solutions listed by mixed groups. The best possible solution was then selected after considering solution-effects of each to arrive at specific findings.

The validated TOWS strategy identification is at **Appendix III (b)** while a sample Fishbone has been included as **Appendix III (c)**.

18. Meeting the Gap – Training & Non Training Recommendations

The draft findings consisting of the training and non-training recommendations were presented in detail in a validation workshop of key stakeholders and finalised after incorporating the feedback. The recommendations cover preparedness, mitigation, response, rehabilitation and reconstruction. Preparedness and mitigation is seen to take precedence. It was found that if these two functions were adequately covered, the response would automatically be adequate. The recommendations on reconstruction are primarily based on secondary data, as the State is yet to experience the activities of the function.

The detailed recommendations for each function are listed at **Appendix IV** with the priority recommendations at **Appendix IV (a)**.

The prioritised training and non-training recommendations are indicated below:-

Training Recommendations

- Training on disaster-sensitive scheme/ project formulation for all major development departments /PRIs/ULBs
- Training for all senior and middle level officials of key Departments on preparation of DM plan focussed on preparedness, mitigation and response for use of administrators, engineers, doctors, vets, sanitary-experts, etc.
- Training on information management-collection, collation and dissemination
- Training of School Teachers on Disaster Management with special emphasis on risk management and response
- Capacity Building of Engineers and Architects of development authorities for Earthquake Risk Mitigation
- Training of engineers on latest techniques on retrofitting of buildings –
 - hospitals, schools, water & power supply units, telecommunication buildings, airports/airport control towers, railway stations, bus stands and important administrative buildings
- Training for JEs masons & contractors//builders on multi-hazard resistant construction & retrofitting
- Training on mass casualty management for Medical, Para Medical Staff and also police, home guard, fire services, CD personnel, etc
- Training on rescue, for casualty prevention and first medical response for Police, Home guard, Fire Service, Para Medical Staff, Vets, CD volunteers,
- Training on trauma management for doctors and trauma counselling for social welfare personnel
- DM related Gender sensitisation for all functionaries

- Basic management skills on team working, negotiation and collaboration for all field functionaries
- Media management skills for district and sub-divisional functionaries
- Mock drills for district-to-village level functionaries for effective for upgrading coordination capabilities, etc

Non training Recommendations

The following need to be put in place for mitigation, preparedness and efficient response and

- Disaster type wise Vulnerability Maps
- Department –wise Resource Database and placement of critical equipment
- Bottom- up subdivision /District Plans
- Hospital-wise Casualty anticipation & management plans
- Remote areas supply & transportation plans
- School/ College DM plans
- Village-Block/Circle Disaster Volunteer Organisation
- Community Awareness, Organisation and rehearsals
- Immediate Mobilisation procedures for Village/Zone level functional units
- Full Coverage & Strengthening of Civil Defence organisational structures
- Advanced Communication equipment and Alternative Communication System
- Department / Unit wise Disaster Manuals & checklists
- Disaster type Community Early Warning Systems & designated Authorities
- Coordination structures with internal suppliers/agencies
- Offence/Crime Prevention Plan
- Underground Power transmission system in Zone I [selective]
- Construction guidelines for Municipalities/PRI
- Prevention of degradation of Hillsides & Selective Afforestation
- Flood- sensitive cropping pattern
- Strengthening & upgrading of Raised Platforms with shelter facilities
- Preventive measures for communicable diseases
- Retrofitting of weak buildings
- Ensuring structurally sound construction through strict supervision
- Fire Regulations enforcement
- Drainage & Embankment management –WR Deptt
- Coordination network reviews

19. Strategic Interventions

The elaborate list of non-training and training needs to be met presents a daunting task that will require considerable time. Sustaining the gains and facilitating continuous improvements would be an even more daunting task. Establishing a lead body with the required authority and a dedicated response force for immediate deployment in locally affected areas could make this task easier.

Most of the training as well as the non-training needs can be taken care of by there ***three strategic interventions***. Hence, it is recommended that-

- 1) A dedicated Resource Management & Training Centre for Disaster Management in the state be established in a central location with all facilities required to meet the needs assigned, and
- 2) A state disaster response force drawn from the forces and sectoral departments be raised, trained and equipped for immediate deployment in critical areas when needed
- 3) Local Communities be organised and local Volunteer Organisations be trained and put in place in all villages/panchayats for the first response as well as for local support and assistance to deployed teams thereafter. This will also reduce panic, allow greater transparency and close information gaps apart from mobilising community support and cooperation and improved media management.

19. Conclusion

There is no other option but to live with the reality that disasters may occur any time. While some disasters are predictable and provide clear early warnings, some do not. The solution lies in being fully prepared to face it.

Preparedness for coping with eventualities is in the best interests of the entire civil society. In being so prepared adequate attention must be given to the more vulnerable like women, children, the old and the and infirm and their special needs taken care of. And time is to be the main constraints.

20. Acknowledgements

We acknowledge the support and cooperation provided by the line departments involved as well as the departmental experts who participated in the focus groups. Also, this report would not have been possible without the support and help of the CEO and other officials of the SDMA as well as each of the DM functionaries of the DDMAAs

Appendix II (b)

Key Tools used in 5 phases of the TNA

Phase	Tools used
1. Entry and Contracting	Terms of Reference (TOR)
2. Data Collection	-Searches including literature search - Stake-holders Search Conference -Problem analysis of environmental, motivational & behavioural Factors - Interviews -Questionnaires - Group discussions
3. Analysis & Diagnosis	Functional Analysis
	SWOT Analysis in Focus groups
	-Cause and effect analysis -Solution-effect analysis
	TOWS strategy analysis
4. Feedback	Draft report Presentation to client Priority list Validation seminar
5. Withdrawal	TNA report

Appendix II (b)

Description of the Tools used in TNA

Tools used	Description o the tool
Terms of Reference (TOR)	Indicate the objectives of the TNA study. TOR help the organisation to define why the TNA is being done and the authority and support needed from all concerned.
Searches	This can be of various types including comprehensive literature searches and wide Search Conferences of stakeholders, experts, etc. Is a very useful tool obtaining and processing data in agreement with stakeholders and experts and with reference to entry behavior of target groups The technique is now used widely
SWOT Analysis	Provides an overall view of the organization, its business and the people being employed. Focused on different areas of the organization and done with the people concerned, especially the stakeholders. SWOT Analysis enables to analyse a variety of issues concerned with performance focusing on Strength, Weakness, Opportunity and Threat of the organization/area under study.
Environmental, Motivational Or Behavioural Factors	Complexity of some performance problems may hinder the identification of training needs. Although training area is important yet it is vital to recognize that most performance problems require training and non-training action. This tool is used to distinguish those performance factors directly linked to training needs and other non-training factors that also require attention.
Functional Analysis	Organizations provide a range of products and services for their customers and beneficiaries. To achieve this, an organization has a ' <i>key purpose</i> ' focusing the attention of its management and employees on the products and services they provide or offer to customers. From the ' <i>key purpose</i> ' organizations develop ' <i>functions</i> ' or work areas, such as administration, manufacturing, marketing, sales, finance, customer services, research and development. ' <i>Functional analysis</i> ' is the study of the activities or tasks people do in order for them to make an effective contribution to the achievement of the key purpose.
Focus Groups & Focus- vari	Examination or analysis of issue, problem or solution by small involved dedicated groups of experts and people who own the issue, problem, etc and are interested in the best acceptable outcomes. The technique uses

	different analytical, etc tools including brainstorming and is conducted by a process expert. Variations are possible
Cause and effect analysis	Enables to analyse a particular performance problem in more detail. Cause effect analysis for the purpose of TNA, is a systematic way of looking at effects and the causes that create or contribute to the specific performance problems.
Reverse brainstorming	First, brainstorming all factors that can create a problem situation and make it worse. Then identifying what is required to be done and what should not be done to eliminate the problem.
Solution Effect Analysis	Enables to choose the most appropriate solution on the basis of lon-term effects of all the possible solutions listed after. It looks at the possible long-term effects of each solution on the impacts and provides a 360 degrees perception
Delphi	A process for refining initial findings by obtaining consensus opinion of different experts separately through consecutive rounds of feedback on agreements and disagreements at each previous level
TOWS	This tool helps to decide the strategy to be adopted in respect to Strength, Weakness, Opportunity and Threat (SWOT). The main objective of this tool is to maximum the use of Strengths and Opportunities and minimise the Weaknesses and Threats.
Draft Presentations	This is a tool to get the views of Client/Competent Authority on the findings and draft recommendations. Presentation is made before the Client/ Competent Authority and major stake holders. Their feedback is incorporated and their agreement forms the basis for preparing the final TNA report.
Priority list	Prioritising the Training recommendations based on importance.
TNA report	Written report for planning action to implement recommendations in a variety of initiatives – both training and non-training.

Appendix IV (a)

GENERIC TRAINING RECOMMENDED FOR DM FUNCTIONARIES OF ALL DEPARTMENTS

The following training corresponding to generic skill clusters are recommended for all DM functionaries -

1. Procedure for assessing vulnerability of each hazard types
2. Preparation of sub-division-specific Hazards-Vulnerability Maps
3. Gender sensitisation for DM of all field level functionaries
4. Formulation of department-specific and gender-aware DM Plans
5. Formulation, use and updating of Standard Operating Procedures/Manuals
6. Training on Community Based Disaster Preparedness (CBDP)
7. Basic management skills in team-working, negotiation, conflict management, collaboration
8. Periodic Mock-exercises for effective communication and improved coordination
9. Procedure for Use of Updating of MIS [after installation of MIS]
10. Comprehensive Disaster Risk Management training
11. Climate & Disaster Management
12. Emergency Response practice
13. Handling public grievances and media management fundamentals
14. Emergency procurement procedures for goods and services
15. Disaster sensitive Project formulation, and Appraisal – including Using the Logiframe, Gender Analysis Matrix and simple Environment Impact Assessment tools
16. Flood Risk Mitigation

Appendix IV (b)

DEPARTMENT WISE TRAINING RECOMMENDED:

Sl. No	DEPARTMENT	Recommended Training
1	Health	Physical Trauma Management Hospital Preparedness & Mass Casualty Management
		Public Health in Emergencies
		Medical Supply Management
		Emergency Management for Paramedics
		Training for ASHA Workers on Disaster Situation
2	PWD /P & RD /SSA/NRHM	Earthquake Risk Management
		Earthquake Resistance Technology (Engineer/ Masons)
		Retrofitting
		Assessment of Seismic Resistance Building
		Building Regulation as per BIS Code
		Sensitization on Earthquake Risk Mitigation for – Builders/ Registered Contractors
3	Public Health Engineering	Public Health in Emergencies (Safe Drinking Water-Sanitation, Drinking water Supply Management)
4	Social Welfare	Trauma Counselling Skill
		Social Mapping
		Training of Anganwadi Workers/ Supervisor for Women & Child Care in Disaster situation
5	PRI &ULBs including GDD	Role of PRIs/ ULBs in DM Mainstreaming Disaster Risk Reduction in development planning.
6	Water Resource	Embankment Management Technologies, Erosion protection measures
7	Police/ Fire/ Civil Defence	Collapsed Search & rescue in Medical First response
	Fire Service	Search & Rescue for high rise buildings, landslide
	Civil Defence	Search & Rescue for high rise building, flood & water rescue, Training of CD volunteers on diving Community level search & rescue & first aid
8	Education	Training of teachers on School safety
		Training on preparation of School DM Plan for teachers
		Conducting School level Mock Drill
		Sensitization of Management Committee on disaster issue relating to School & College.
9	District Revenue Officials and BDOs	Management of Relief & Rescue teams
		Shelter & Camp Management
		Plan for Recovery & Rehabilitation

	Revenue officials & BDOs [Contd]	Reporting & Record Keeping
		Damage & re-construction need assessment
		Techniques for dealing with group instincts