

# Capacity Development of Virtual Cadre Officials of Eight Departments of Government of Kerala Training Needs Assessment 30- Aug-2019



**Kerala State Disaster Management Authority**

**In association with**



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# 1. Project Background

Kerala is prone to natural disasters and the changing climatic dynamics given its location along the seacoast and with a steep gradient along the slopes of the Western Ghats. The floods and landslides destroyed public and private infrastructure, including houses, roads, bridges, schools, health facilities, and other utility services and seriously influenced the production sectors.

However, the recent floods in Kerala highlighted the need for a robust preparedness, response and recovery mechanism to mitigate impacts of disasters. Considering the vulnerability of the state to disasters, highlighted in the disaster management plan of the state, disaster preparedness assumes high priority. Building capacities of individuals and institutions goes a long way towards preparedness. There is a growing global consensus on the need to invest in disaster risk mitigation, with a focus on mainstreaming mitigation into sustainable development. Coastal states are particularly vulnerable to disasters due to growth of population in unsafe areas, climate change, environmental degradation and lack of local capacities.

The Section 38(2) (g) of the Disaster Management Act mandates the preparation of departmental Disaster Management Plans and Section 39 to integrate measures of disaster preparedness and mitigation in developmental plans in accordance with the NDMA and SDMA guidelines. However, the departments do not have the needed expertise to prepare Disaster Management Plans and the Disaster mitigation concerns are not integrated in the developmental plans. The Virtual Cadre once full capacitated will be able to support the departments in doing the above-mentioned tasks.

Keeping the above at forefront, UNDP is implementing the project titled “Capacity Development of Virtual Cadre Officials of Kerala.” The project is being implemented by SEEDS Technical Services Pvt. Ltd. The main objective is to build and strengthen the capacity of virtual cadre officials at state and district level for acting as champions in the area of disaster preparedness and management, eight departments of state government has been selected to provide training on different areas specific to their department in the context of any emergency. This study will involve both formative research to assess and identify training and capacity needs; and the creation of a framework, strategy and plan to effectively address those needs.

## 2. Role definition for Virtual Cadre Officials for Disaster Management in Kerala

### 2.1 Role definition aligned with Kerala SDMP 2016

The Kerala State Disaster management Plan (SDMP) 2016 recommends that the State Government shall ensure that there is a professionally trained virtual cadre of officers in all the departments of the State for disaster management. The virtual cadre will principally be 15 selected individuals (one each in each district and one in the State level) with at least 20 years more of service left. The

members of this virtual cadre shall be the departmental nodal officers for disaster management who shall be as individuals responsible for supporting the district and state disaster management authorities in disaster management. The KSDMA will ensure that these individuals are adequately trained in matters related to disaster management. These officers shall be trained in rapid damage assessment and certification in the respective sector. The disaster-specific nodal departments through this virtual cadre will ensure liaison and coordination with KSDMA and DDMA in the smooth implementation of the departmental disaster management plan and with SEOC and DEOCs for ensuring coordinated response to events.

## 2.2 Role definition aligned with NDMP 2016 and SFDRR

The role of virtual cadre officials are determined through SDMP keeping in mind the Sendai Framework (2015-2030), the Disaster Management Act 2005, the National Disaster Management Policy, 2009, the Kerala State Disaster Management Rules, 2007 and the Kerala State Disaster Management Policy, 2010 and the National Disaster Management Plan, 2016. The National Disaster Management Plan 2016 lays down an excellent planning framework for India by aligning with the Sendai Framework for Disaster Risk Reduction 2015-2030, to which India is a signatory.

The NDMP incorporates substantively the approach enunciated in the Sendai Framework and will help the country to meet the goals set in the framework. By 2030, the Sendai Framework aims to achieve substantial reduction of disaster risk and losses in lives, livelihoods, and health and in the economic, physical, social, cultural, and environmental assets of persons, businesses, communities, and countries. The NDMP has been aligned broadly with the goals and priorities set out in the Sendai Framework for DRR. The framework states that to realize this outcome, it is necessary to prevent new and reduce existing disaster risk through the implementation of integrated and inclusive measures that prevent and reduce hazard exposure and vulnerability to disaster, increase preparedness for response and recovery, and thus strengthen resilience. These measures must cover various sectors such as economic, structural, legal, social, health, cultural, educational, environmental, technological, political, and institutional. While the four cross-cutting Sendai priorities will be present explicitly or implicitly in every aspect of this plan, certain chapters will have specific priorities as the dominant theme. The plan includes measures that will be implemented over the short, medium, and long-term more or less over the time horizon of the Sendai Framework ending in 2030.

## 3. TNA Methodology

The methodology includes a strong process oriented and participatory approach involving major stakeholders at all levels as against an academic and technical approach. The following steps were taken for carrying out TNA:

**3.1** Desktop Review: The literature review was done for SDMP, NDMP, SFDRR, operational setting of the departments; government orders, policies and plans; cross-sectoral review and prevalent hazard in the state.

**3.2** Consultations: Various consultation through meetings and telephonic conversation was done to take inputs from departments for doing the assessment.

**3.3** Inception Report preparation: Based on the consultations from departments, meetings, desktop review and project planning, an inception report was prepared to lay down the conceptual planning of the project activities.

**3.4** Data analysis: The data analysis was done based on the datasets and documents provided by UNDP and the consultation meetings done with the government departments.

**3.5** Culling out assessment findings: The data was assessed to understand what are the training gaps and needs of virtual cadre officials for disaster management planning.

**3.6** Strategy formulation: Based on the assessment findings, strategy and training needs were derived for eight different departments of government of Kerala.

**3.7** TNA Report preparation: After carrying out the above activities, TNA report was prepared to bring together all the pieces of activities done together for training needs assessment.

The activity flow which was adhered to for TNA is as follows:

### Desk Review

- Literature on DM planning
  - Existing SDMP, NDMP
  - Contingency Plans
  - Roles & responsibilities
  - Operational efficiency
- Government policies and plans review
- Cross-Sectoral Review
- Demographic & Socio-economic assessment
- Economic growth & Urbanization trends
- Hazard Mapping
- Review of international framework like SFDRR



Consultation & interview with govt.  
officials and UNDP



### Inception Report

- Literature Review
- Project Timeline
- Planning Stages



### Gap Analysis



Formulation of Strategy and Findings for  
training needs assessment



Training Needs Assessment  
Report



## 4. Departmental Training Needs Assessment for Disaster Management



The following eight department were selected for carrying out training needs assessment:

1. Agriculture
2. Animal husbandry
3. Geology & Mining
4. Minor Irrigation
5. Water Resources
6. Soil Conservation Department
7. Health
8. Land revenue

## 4.1 Agriculture

### Brief Profile of the Department

Around 52% of Kerala's geographical area is under cultivation. Being the spice capital of India, Kerala accounts for 89% of total small cardamom and 98% of total nutmeg production in the country. The state also accounts for 34% of total pepper production. Agriculture along with livestock and fisheries contributes to 11% of the Gross State Value Addition (GVSA) at current prices. In Kerala, 17.15% of the population depends on agriculture. The lowest regions of midland plains host paddy fields and the elevated land slopes has rubber and fruit trees along with black pepper, tapioca and other crops. The coastal belt of Kerala is flat with paddy fields, coconut trees and by a network of interconnected canals and rivers.

### Role of Department as given in SDMP

- Monitor the drought, floods and pest attack prone areas and monitor them during vulnerable season
- Map plant disease prone areas
- Ensure a proper mechanism for communicating early warning to farmers regarding rainfall, flood, droughts, cyclone, etc.
- Ensure popularity of various crop insurance schemes of Government of India amongst farmers
- Ensure speedy damage assessment through the members of the virtual cadre and fast release of funds
- To extend technical services & guidance to the farmers on implementation of new technologies

### Key Observations

- The mid-lands and low lands were characterized by massive flooding and inundation of fields, resulting in significant losses to farmers.
- Large area of agricultural land have been damaged due to silt deposition or soil erosion/soil being washed away due to landslides.
- Floods also resulted in damages to agricultural input stocks, farm equipment and machinery. In addition to these estimates, large-scale damages to farm bunds and pumping units were observed.

### Phase-wise Training Needs for Disaster Management

#### Preparedness:

- Establish warehouses for food grains
- Set up food banks at village levels
- Improved use of Climate and Weather Information and Forecasts
- Coordination with Departments and Agencies

#### Response:

- Carry out the detailed crop damage assessment.
- Close coordination with other line departments to ensure adequate relief is



provided to the farming community.

- Working out alternative cropping for drought as well as flood affected areas and organizing all the inputs required for the same

Recovery:

- Restore the agricultural lands
- Rebuild the livelihoods of farming communities
- developing sustainable, responsible, integrated, inclusive, eco-friendly, and resilient agriculture in line with the policies of state and central government.
- To increase economic activity and sector resilience to disaster events.
- Short-term activities will address immediate needs by restoring crop production through land clearance, preparing the land and sowing, bailing out water and planting, distribution of agro-inputs, clearing existing drainage systems, and restoring farm machinery and equipment.
- In the medium to long term, further resources would be required for restoring the crop economy, soil health, and plant protection monitoring.
- Financial support to the farmers in the event of crop failure as a result of drought, cyclone incidence of pest & diseases etc
- Agriculture Department will supplement in coordination with concerned Departments and agencies for reconstruction of damage infrastructure related to agriculture.
- Seeds, fertilizers and pesticides should be provided at subsidized rates. Ensure all relief measures, credit facilities and inputs are made available continuously to farmers till their next crop is harvested

Mitigation:

- Disaster Resistant crops
- Set up early warning system for disaster
- Promote risk transfer through crop insurance scheme
- Setting up farmers collectives for technology and credit support
- Setting up alternate farming techniques for continuation of agriculture during disasters
- To encourage the farmers to adopt progressive farming practices, high value inputs and higher technology in agriculture
- Adoption of inter cultivation
- Creation of Viable Farm Livelihoods by Promotion of Organic Farming & Natural Farming
- Intensive research work on stable agriculture in the context of disasters and climate change, in all its aspects

## 4.2 Animal husbandry

Brief Profile of the Department

Around 8.8 million households in Kerala are involved in animal husbandry and nearly 94% of the livestock population is concentrated in rural areas. In the subsector of animal husbandry and dairy development, Alappuzha, Kottayam, Pathanamthitta, Ernakulam, and Thrissur districts suffered the most in the 2018 floods. The share of livestock in Kerala's GSVA is 3.84%.

### Role of Department as given in SDMP

- Map animal and avian disease prone areas
- Identify sources for emergency procurement of fodder, feed, water and medicines prior to monsoon season and disease prone seasons
- Ensure rate contracts for fodder, feed, water and medicines prior to monsoon season and disease prone seasons
- Identify and map safe locations for cattle and poultry camps in flood prone areas
- Ensure proper administration of deworming and vaccinations for cattle, sheep and goats, pigs and other relevant measures for disease management in cattle camps
- Identify and map locations for burial of carcasses

### Key Observations

- The Department is having a major role in pre disaster healthcare activities including vaccination.
- There is a dedicated State Animal Disease Emergency Control Room
- All the districts have emergency response centres under the animal husbandry department
- The departmental DM Plan has been formulated (as per the interview data shared by UNDP)
- At present, no specific policies related to DRR and DM

### Phase-wise Training Needs for Disaster Management

#### Preparedness:

- Departmental DM Planning and training
- Basic DM Training
- Vaccination of animals.
- Separate sheds should be erected at identified shelter sites to accommodate the animals.
- Animal health check-up camps should be set up in villages to reduce probability of outbreaks.
- Stocks of medicines should be replenished and items like surgical packs should be kept in readiness.
- Stocks of medicines should be replenished and items like surgical packs should be kept in readiness.

#### Response:

- Incident Response System Training
- Training on search, rescue, relief camp management, damage assessment and disposal of animal bodies.
- During disasters animal husbandry department will take care of life saving work of sick and wounded animals and feeding of animals. Removal of infected and potentially infected animals.

- During disasters animals will be evacuated to relief camps and arrangement for food and water is made at the relief camps. In hazardous areas work is done on priority.

Recovery:

- After disaster monitoring for diseases will be done.
- In case of infections, infected animals will be segregated. They are kept in a location away from the wind direction. They will not be allowed to share food and water with other animals.

Mitigation:

- Training for Early recognition of Epidemic Diseases and Treatment
- Capacity Development Plan of Department
- Awareness generation

## 4.3 Geology & Mining

### Brief Profile of the Department

Kerala State is endowed with several occurrences/deposits of minerals. The contribution of mining and quarrying sector to Gross State Value Added (GSVA) of Kerala at constant prices is estimated at ₹3,658 crore in 2017-18.

### Role of Department as given in SDMP

Role not defined in SDMP

### Key Observations

- The major role is to identify hazard prone area (for landslides etc), Slope Management and similar studies
- No disaster management plan and control room specific to department.
- The departmental plans do not have any plans contributing to DRR.
- Basic knowledge about geological disasters were given.
- No contribution to IDRN
- Not aware about funding options relevant to DRR
- No virtual cadre officials were designated.

### Phase-wise Training Needs for Disaster Management

Preparedness:

- Basic training on DM
- National DM Plan, state DM plan, National and state DM policy
- District disaster management plan
- Knowledge and expertise to develop and update departmental plan
- Capacity Development and Training
- Preparation of onsite and offsite Emergency Plan

- Communication and Information Technology Support
- Mock Drills
- Check list
- Robust warning systems
- Availability of Safeguards at the site

Response:

- Relevant policies and plans related to DRR
- Impact of disaster specific to sector
- on-site emergency management such as for firefighting, communication, personal protection and trained emergency management personnel in the facility, their names, numbers and areas of specialization etc
- Specialized ambulances, various medical kits for pre-hospital care and adequate diagnostic and specialized treatment support for all the contaminated victims.

Recovery:

- Prompt address of dysfunctions/breakdowns in key infrastructure.

Mitigation:

- Arrangements for transportation in applied mining lease area, Proper loading points, proper fencing of roads, Proper Maintenance of Vehicles, Road signs should be provided.
- Proper Waste management.
- Dust masks, earplugs/muffs and other equipments should be provided and changed timely
- A statutory provision of the fence, constant education, training etc. will go along way in preventing the incidence of such accidents.

## 4.4 Minor Irrigation

### Brief Profile of the Department

Minor Irrigation departments lifts the schemes, that having a Cultivable Command Area (CCA) up to 2,000 ha. Minor irrigation scheme comprises of surface water schemes like minor irrigation tanks and canal systems, diversion weirs, lift irrigation schemes and sub-surface schemes.

### Role of Department as given in SDMP

Role not defined in SDMP

### Key Observations

- Irrigation design and research board started preparation of DM plans. There are provisions to reduce disaster risk for flood DMP and funds are also available for the same



- Basic knowledge on disasters and its impacts specific to the department, a generic training is given to some of the officials and are trained at ILDM.
- There is no flood plain zoning given in the plans and policies
- State level fund is available for desilting ponds

## Phase-wise Training Needs for Disaster Management

### Preparedness:

- Basic disaster management course
- Training on departmental DM planning
- Plans related to DRR - DM Act 2005, National DM plan, State DM Plan, and national and state DM Policy
- Testing kits for water
- Adequate bleaching powder is available
- Preparedness planning concepts
- Documentation of arrangement

### Response:

- Activation of task teams
- Emergency Supply (installation of temporary water purification units and distribution through tankers/jerry cans)
- Provide water to temporary toilets in shelters camps
- Coordination with voluntary organizations for water distribution and hygiene promotion activities.
- Main response implementation concepts

### Recovery:

- Damage assessment
- Repair and restoration work
- Recovery and reconstruction

### Mitigation:

- There is no flood plain zoning and need to add the same in plans and policies
- Guidelines for sea and bank erosion related training.
- Training on mainstreaming DRR in the department
- River flooding, water logging, sea erosions, droughts, water scarcity, contamination of water bodies, cyclone, bursting of dams.
- Renovation of traditional water bodies, including de-silting of tanks.
- Water conservation and water harvesting
- Drought proofing, including forestation and tree plantation;
- Irrigation canals, including micro and minor irrigation works.
- Formulation of action plan for reducing risk

## 4.5 Water Resources

### Brief Profile of the Department

The Kerala Water Authority (KWA) is the primary institution for the development and regulation of water supply and wastewater collection and disposal in Kerala. There are 1081 schemes under Kerala Water Authority in total and have a total installed capacity of 3468 MLD. The per capita availability through the KWA schemes is 176 LPCD.

### Role of Department as given in SDMP

- Ensure proper early warning mechanism for flood by monitoring water level of surface water bodies
- Ensure proper and timely inspection of conditions of sea walls, bunds, embankments, inlet and outlets of lakes, drains, channels and pump houses and ensure adequate repair
- Ensure proper functioning of all equipment including dewatering pumps
- Prepare for arrangement of safe drinking water supply for community in the affected areas, relief camps and shelters
- Prepare for prompt repair of pipelines supplying potable water
- Ensure availability of adequate number of water tankers, drums, jerry cans or identify their private suppliers to prepare for supply of water, in scarcity period and in emergency
- Ensure availability of water supply/filling points for fire tenders, water cannons, hospitals and other necessary lifesaving infrastructure
- Ensure adequate sand filled gunny bags for immediate and temporary repair of sea walls, bunds and polder walls
- Ensure that ground water extracting industries reduce the extraction by at least 50% during the peak summer months of March, April and May
- Ensure that No Objection Certificate of Ground Water Department is obtained for landfilling, waste treatment plants and cemetery to ensure that ground water is not contaminated by such activities

### Key Observations

- The main purpose of the Department is to formulate water policies, the maintenance of the completed projects, prepare Irrigation projects and execute them in time within the prevailing rules and regulations for the benefit of the people of the state.
- The Department is having plan schemes and Non-plan schemes. Plan schemes are either centrally sponsored or externally aided schemes.
- The Water Resources Department is the agency that investigates, designs, constructs, operates and maintains, Minor, Medium and Major Irrigation Projects, Flood control works on riverbanks, coastal protection works, inland navigation, hydrological information system collection, drainage works, salinity extrusion and land reclamation work, engineering research, coastal engineering, field studies etc., based on suitable budget provisions.

### Phase-wise Training Needs for Disaster Management

Preparedness:

- Coordination with department and agencies to respond to potential damage zones in a prompt & coordinated manner
- Training on how to plan and equip the Distts. to have latest technologies to assess the continuation of water supply, with reference to probable disaster.
- Ensure that regular feedback is taken indicating seriousness of disaster, level of distress, condition of hand pumps & platforms.
- Create awareness among local people on various kinds of threats.

Response:

- Implementation of Incident Response System for Disaster response for organizing the human and material resource
- Facilitate in planning of the water supply related functions (such as provisioning of safe drinking water)

Recovery:

- Coordination with concerned depts and agencies for the reconstruction of damage infrastructure related to water supply functions and to restore provision of safe drinking water.
- Supervise and scrutinize the enumeration work and list of beneficiaries prepared by the village officials.

Mitigation:

- Training on implementing key mitigation activities like transportation of drinking water through tankers, boats or silt removal from infiltration wells etc.
- Support government and other authorities in implementing water mitigation schemes
- Minimise disaster losses such as transfer the cost of loss doing insurance.
- Prepare a long-term action plan for meeting requirements of local people in vulnerable areas such as water etc.

## 4.6 Soil Conservation Department

### Brief Profile of the Department

This is one of the important departments, which plan, promote, coordinate and oversee the implementation of soil and water conservation programmes with an aim to conserve the valuable resource trinity of soil, water and biomass in a sustainable manner ensuring active participation of all stakeholders.

### Role of Department as given in SDMP

- Technically support and implement drought risk reduction measures in collaboration with DDMA's
- Ensure that farmers are not creating rainwater pits in slopes >20%

- Technically support and implement landslide risk reduction measures in collaboration with DDMAAs

### Key Observations

- No department specific plan on DM or control room facility
- Activities and initiatives are ongoing to reduce the impact of flood, drought and landslides by the department
- No departmental training calendars
- Major problems – water logging, flooding, poor water management in paddy areas, drought and water scarcity

### Phase-wise Training Needs for Disaster Management

#### Preparedness:

- Awareness on Geomorphological, Geological, Hydrological and other factors which trigger natural calamities.
- Awareness about latest software applications related to prediction of natural disasters.
- Awareness on the rulers/acts/ regulations and government orders regarding disaster management.
- Awareness regarding steps to mitigate the gravity of disaster.
- Imparting psychological preparedness training to the virtual cadre officers for facing the challenges and to cope up with the panic.
- Training on warning systems
- Stock piling of repair materials like sandbags, bamboo at vulnerable points etc.
- Implementation of projects for conservation of Soil and Water resources and utilization of land on a sustain basis for productive purpose

#### Response:

- Relevant policies and plans related to DRR
- Impact of disaster specific to sector
- Relief operation with the help of NGOs.
- Locating the most vulnerable areas & do rescue activities with the help of identified active volunteers.
- Preparing assessment and evaluation of the extent of damage.
- Standard set of rules/protocols to be followed
- Sequence of action to be taken in general for facing the calamity
- Rescue and relief operations
- Maintaining co-ordination with all agencies involved in disaster management

#### Recovery:

- Starting of Rehabilitation & Mitigation Process
- Scientific interventions for the restoration of the affected ecosystem
- Steps to be carried out for rehabilitation of affected community.

#### Mitigation:

- Analysis of the calamity and chalking out future course of action



- Awareness on the case studies carried out in similar cases across the world
- Capacity building for the officers to organize campaigns to prevent future disaster in the affected area

## 4.7 Health

### Brief Profile of the Department

Kerala has made significant gains in health indices such as high life expectancy, low infant mortality rate, birth rate, and death rate. The health status of the marginalised communities like adivasis and fishing workers is also poor compared to that of the general population. Also, 70% of Kerala's healthcare is privately provided, which is making it expensive. In addition, the number of disaster incidents are increasing causing loss of lives and affects many people.

### Role of Department as given in SDMP

- Develop plan for hospital preparedness and mass casualty management
- Prepare a database of registered private hospitals, clinics, diagnostic labs, blood banks, etc. along with their capacities and facilities provide
- Establish state-wide medical emergency access number
- Ensure authentic medical database enlisting public and private facilities available in the state. This includes details of manpower, logistics, medical equipment, medicines, antidotes, personal protective equipment, disinfectant, vaccines, etc.
- Standardize and license ambulance services
- Ensure availability of adequate supply of life saving equipment and drugs, portable supplies like portable oxygen cylinders, portable x-ray machines, triage tags, etc. and update IDRN with these details
- Formulate trained medical first responder, quick response medical team, stationary and mobile decontamination facilities, identification of poison centres, mobile hospital, antidotes plan and crisis management plan at hospitals chemical disaster preparedness
- Prepare trained psychological and psychosocial care teams
- Impart training to manpower for emergency services
- Ensure proper and safe management of medical waste
- Ensure that antidotes are available for all the chemicals used in the MAH units and small scale chemical industrial units in the respective district and taluk hospitals
- Ensure that anti-venom and anti-rabies vaccines are adequately available upto Taluk Hospitals of the State
- Ensure a quick response medical team in every district for handling Chemical, Biological, Radiological and Nuclear Disasters
- Ensure that vulnerable hospitals and clinics as identified in the vulnerability assessment annexures are made disaster resilient

### Key Observations

- One key observation in PDNA report was that the health workforce was not guided by standard operating protocols, including alerts for evacuation of health facilities. This resulted

- in damage to equipment and supplies and need for emergency evacuation of inpatients, doctors, and paramedics as water started flooding the health facilities.
- At present, the department mainly looks at epidemiological aspects during a disaster response
- The department is having an infection control rooms in case of infectious disease spreading or medical related emergency, but not for any other disasters

## Phase-wise Training Needs for Disaster Management

### Preparedness:

- Knowledge and expertise to develop and update DM Plan
- SOPS for emergency response
- Implementing public health measures to avoid spread of vector borne diseases
- Developing IEC material and advisories for the public health to act in times of crisis
- Maintain inventory of essential medicines.
- TOT to equip on how to manage mass casualty and triage
- Strengthening of disease surveillance system
- Mockdrills on disaster management at the site of an event

### Response:

- Need for training on responding to nutritional needs of children and women during emergencies
- Need for training of health workers on emergency preparedness and response
- Need of training of doctors on mass casualty management, trauma care and emergency medicine.
- Provide psychosocial care
- Disease surveillance and allied activities

### Recovery:

- Create inventory of the assets including beds, equipment
- Assessment of structural damage
- Renovations and improvements on the buildings and assets
- Immunization and prophylactic measures
- Management of disease control and hygiene and treatment protocols to follow

### Mitigation:

- Training on Hazard, vulnerability and Risk Assessment
- Retrofitting of critical hospitals
- Ensure hospitals and health facilities are not located in hazard prone areas
- Training to analyse the internal and external vulnerabilities of existing health care facilities during emergencies.
- Implementing public health measures avoid the spread of vector borne diseases
- Nonstructural mitigation of the health centres and hospitals

## 4.8 Land revenue

## Brief Profile of the Department

The largest department under the Government, with more than 19000 employees, also known as the “Mother of All Departments”. Some of the major functions of the department are collection of basic tax, plantation tax, building tax, etc., land/mineral conservancy, census, election, natural calamity operations, redressing grievances of citizens, law and order, distribution of social welfare pensions etc. Although this is also getting affected from the disasters occurred in the state. A total of 342 landslides occurred in the Revenue Department marked land extents.

## Role of Department as given in SDMP

- Land Revenue Department is specifically the nodal department for handling natural disasters. Hence the departmental disaster management plan of Land Revenue Department should have natural disaster preparedness, response, recovery and mitigation plans
- It is the nodal department for controlling, monitoring and directing measures for organizing rescue, relief and rehabilitation
- It is the lead department in running the District Emergency Operations Centres and hence the department has to ensure that the DEOCs are manned 24 x 7 by personnel of the department
- Ensure that the disaster management VHF network of the districts are functional
- At the district level the District Incident Commander is the District Collector, at the Taluk Level the Responsible Officer will be a Deputy Collector assigned by the District Collector and at the Village Level the Responsible Officer will be the Village Officer
- Land Revenue Department handles relief assistance to calamity victims since time immemorial. Hence it is the Land Revenue Department which must develop the minimum relief code of the State. Technical Assistance of SDMA will be made available to Land Revenue Department for undertaking and constantly updating the minimum relief code
- Ensure updating of IDRN platform at least once in 3 months with information regarding the status of resources of the department
- Identify and map locations of mass burial of dead bodies in each Taluk

## Key Observations

- Revenue department is having a department specific disaster control room
- No DM plan at the state level but involved in preparing DDMP
- No systematic plan in relation to DRR
- Virtual Cadre officials are appointed in the department and received training
- Pre-planning exists with revenue department
- Institute of Land and Disaster Management (ILDm) Thiruvananthapuram sends training calendar and trains the department

## Phase-wise Training Needs for Disaster Management

### Preparedness:

- Basic and Mainstreaming course with other key departments
- Training on departmental DM Plans
- Basic knowledge on DRR and DM – Act 2005, National DM Plan, and national and state DM policy.
- Disaster preparedness and response plans empowered by law targeted to the individual needs of vulnerable communities.

- Utilise and develop Hazard and vulnerability maps
- Up-to-date emergency preparedness and response plans developed, disseminated to the community, and practiced.
- Previous disaster events and responses analysed, and lessons learnt incorporated into disaster management plans.
- Training on emergency response
- Training on Hazards, Vulnerability and Risk Assessment (Hazards and sector specific)

Response:

- Felicitating relief camps during serious coastal erosion time

Recovery:

- Restoration of the infrastructure, facilitates the recovery of systems and applications
- Coordination for disaster grant assistance for debris removal and disposal; emergency protective measures; and the repair, replacement, or restoration of disaster-damaged public facilities.
- Strengthen the ability of communities to respond to natural disasters through enhanced education

Mitigation:

- Facilitate disaster management and disaster operations in the area;
- Accurate and timely warning system
- Trained personnel at all safe shelters
- Identification and registration of risk groups
- First evacuate the risk & vulnerable groups
- Developing operational and tactical public safety and security plans, conducting technical security and/or vulnerability assessments.



## 4.9 Common and Sector Specific Training Needs

The matrix of sectoral training needs is as follows:

Level	Subject of Training Needs	Agriculture	Animal husbandry	Geology & Mining	Minor Irrigation	Water Resources	Soil Conservation	Health	Land revenue
Common Training Needs									
Sector Specific Training Needs									

## 4.10 Departmental interlinkages

The following matrix shows the interlinkages of departments for Disaster Management:

Departments	Agriculture	Animal husbandry	Geology & Mining	Minor Irrigation	Water Resources	Soil Conservation	Health	Land revenue
Agriculture								
Animal husbandry								
Geology & Mining								
Minor Irrigation								
Water Resources								
Soil Conservation Department								
Health & Family Welfare								
Land revenue								

For capacity building and preparing departmental disaster management plan, these interlinkages has to be kept in mind and plan to roles and responsibilities accordingly.

## 5. Overview of Training Module

Based on the training needs assessment for eight departments, the training module will be structured in two parts:

1. Base Module: This will cover the common training needs
2. Sector Specific Module: This will include the sector specific training needs

### 5.1 Base Module

Topics to be covered

- Introduction to Disaster Management
- Definition of Key Terms
- History of Disaster Management
- International Frameworks
- Phases of Disaster Management
- Legal and Policy Framework for Disaster Management in state level for Kerala and national level for India
- Integration of disaster risk reduction and climate change

### 5.2 Sector Specific Module

Topics to be covered

- Departmental Resource mapping
- Listing of Assets of the Department
- Departmental HRVCA
- Development of department specific information layers on GIS
- Departmental Risk Reduction Strategy
- Developing people centred and inclusive plans
- Early warning
- Emergency Operations and Response
  - Standard Operating Procedures – Pre, During, Post
  - Incident Command System
- Hazard Specific Actions Plans
- Disaster Recovery and Reconstruction
  - Departmental PDNA
  - Strategy for recovery and reconstruction
- Capacity Building
- Integration of disaster management in departmental development plans
- Business continuity planning
- Risk Sensitive Budgeting and Financing
- Monitoring and Evaluation
- Departmental Action Plan for Disaster Management (Short Term, Medium Term, Long Term)

## 6. Pedagogy potential

There is a need to use a wide range of training methods and approaches in order to optimise the resultant learning of virtual cadre officials in varied contexts across hazards, sectors and levels. Methods and approaches will be based on principles of adult learning aimed at eliciting active involvement and contribution of the participants involved. The guiding principle will be to treat participants as resource persons, and resource persons as participants in the training and learning process.

Currently, there is a predominance of cognitive methods with increased emphasis on imparting theoretical training. This includes a higher proportion of the following methods aimed at improving knowledge by sharing information, ideas and insights for stimulating learning:

- Reading Material
- Lecture sessions
- Demonstrations
- Discussions
- Online training

There is a need to promote greater hands on practical training aimed at enhancing behavioural skills related to the assigned roles and responsibilities of the functionaries and personnel being trained.

Methods related to this would include:

- Observation and study tours (OSTs)
- Games and simulation exercises
- Drills including mock drills
- Field Assignments
- Case studies
- Role plays
- Scenario building
- Audio visual
- Strategy development for field and on-ground problems

Improving the context specific management skills of the functionaries is also of critical significance from the point of view of helping them perform better at work. Management development trainings will include the following two broad types:

- On the job training: this kind of training will be organised at the workplace in order to train people in real work environment by helping them accomplish various tasks and challenges at work and learn from them to sharpen their skills. Learning by doing and learning by observing under expert coaching and mentoring are the most common methods for this kind of training
- Off- the-job training: These are the kinds of trainings that take place away from the immediate workplace. Most of the training programs being currently designed and delivered fall in this category. These kinds of trainings develop more of general skills and knowledge useful for work, as well as include job-specific trainings.

The National HR and CD Plan 2013 propose the following approach and methodologies, which include most of these methods.

Training approach and methodologies may include the following:

- Probationers/Induction Training (at Central/State Civil Services – Administrative, Forests, Revenue, Economic, Statistical, Medical, Railway, etc.)
- Practical Training (training to standard job performance – S&R, police, medical, laboratory and analysis, survey, mapping, etc.)
- Refreshers (in-service) or Orientation Training (mid-career training, promotional training)
- On-line (web-enabled) Training
- Blended Learning (Online + face-to-face)
- Educational Training (professional advancement courses – B.Tech. / Diploma, Masters, Research degrees)
- On-job Training (training in the form of learning by doing at work/practice)
- Interactive Training (Mutual learning peer-to-peer in a working group)

Source: HR and CD Plan for Disaster Management and Risk Reduction in India, Government of India, 2013

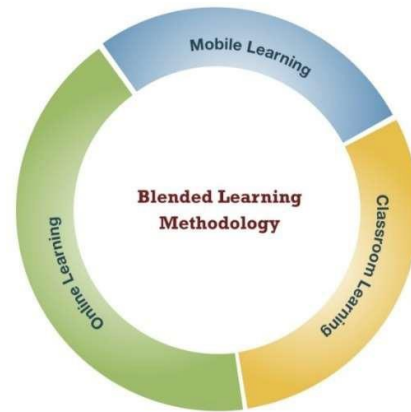
The suggested approaches and methods have to be judiciously used in view of the concerned context regarding the nature and theme of the training intervention, level of participants, their identified and felt needs and emerging learning requirements. These factors are likely to vary across hazards, sectors and levels. Hence, the approaches and methods have to be tailored to specific role contexts and related learning requirements.

## **6.1 Blended learning- Training in a hybrid learning environment for mass learning of state-wide government officials**

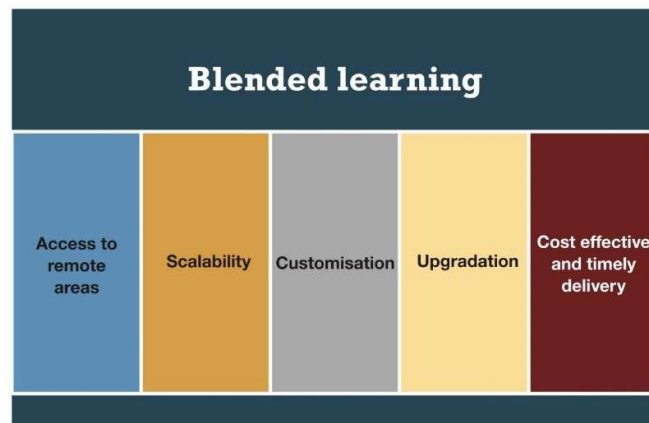
It was assessed during the training assessment that capacity build of one nodal person will not improve the capacity of the whole department. It should rather be done for all the officials of the department in all the districts. But one of the major challenges in implementing and sustaining capacity building efforts for all officials is the ability to reach out to stakeholders, particularly those in the most vulnerable areas, would be critical to the success of capacity building efforts – making the difference between better planned risk reduction efforts in the state and the status quo.

Catering to the capacity building needs of this diverse group of stakeholders, by conventional means, would call for the development and maintenance of a vast and complex training infrastructure. This might not be administratively and financially viable in the short or long term and may result in outcomes that fall short of desired quality standards. Another aspect that would need to be taken care of would be to customise training material for target groups in terms of language and content. It would also be essential to ensure that training materials are upgradeable, relevant, offer opportunities for peer learning, allow flexibility for trainees to learn at their own pace and offer opportunities to refresh or continue the learning process as per need and convenience without compromising on commitments to work. It is therefore proposed to leverage the potential offered by alternative learning methods which could be sustained and modified as per need.

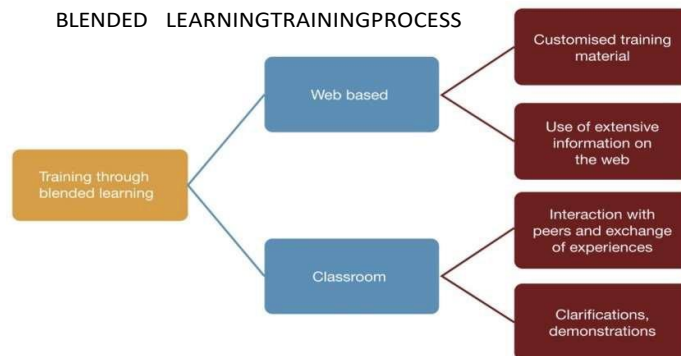
Web based learning, enabled by the extensive communication network and internet penetration in the state and access to computer systems and internet, provides an ideal solution. It will allow the development and dissemination of customised training materials cheaply and efficiently to the remotest parts of the state and meet the training needs of a large number of stakeholders. The additional ability of the medium to deliver content in real time is sought to be harnessed to enable learning from high-quality national and international content and experiences in DM across the world. However, keeping in mind limitations in the familiarity of handling electronic media across stakeholder groups, a balance would need to be struck between the proposed web-based and conventional face-to-face learning processes. Hence it is proposed to utilise the opportunities offered by both techniques in a “Blended Learning” approach for the requisite capacity building efforts. The technique would offer the much needed flexibility in training of stakeholders without compromising their ongoing commitments and would also offer better opportunities for customisation of training material to suit the needs of stakeholders at various levels.



ADVANTAGES OF THE BLENDED LEARNING APPROACH



The proposed blended learning approach would be complementary to training efforts of institutes implementing training programmes. Internet would only serve as a delivery medium for training materials, to be developed and delivered by experts with expertise in various aspects of disaster risk reduction. Thus, it would be possible to deliver focused content to large target groups of stakeholders using the services of a limited number of experts.



The training material would be developed in modules with graduated levels of complexity to address varied learning needs. Each module would be accompanied by tests and quizzes to help the learners assess their progress. Provision of contact programmes will be built in at various stages. These would be held at the training institutes and would essentially be opportunities for learners to interact with their peers and with the instructors for learning through exchanging experiences.

Storage of the training content in electronic form could help in the conduct of refresher courses, thus making the process more sustainable.



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