



# HANDBOOK

# DISABILITY & DISASTER RISK REDUCTION

PROJECT

Strengthening of Emergency Response  
Capabilities with Emphasis on Differently Abled People

PUBLISHED BY

State Emergency Operations Centre  
Kerala State Disaster Management Authority  
Government of Kerala



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## Disclaimer

This handbook has been prepared after a series of consultations with the experts in disaster risk reduction/disability and also after discussing with persons with disabilities. It has also gone through peer review before publishing. This document may be reproduced or translated, in part of whole, purely on non-profit basis. While so doing, kindly acknowledge the source. We welcome receiving suggestions on its adaptation or use which may be sent to seoc.gok@gmail.com. This document can be downloaded from [www.disasterlesskerala.org](http://www.disasterlesskerala.org)

# Handbook on Disability & Disaster Risk Reduction

## Project

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2016

'Towards a safer State'

# “Towards a Safer State for the differently abled”



**KERALA STATE DISASTER MANAGEMENT AUTHORITY  
GOVERNMENT OF KERALA**



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## ABBREVIATIONS

|        |   |
|--------|---|
| CBO    | Community Based Organization                            |
| CBRN   | Chemical Biological Radiological and Nuclear            |
| CBDRR  | Community Based Disaster Risk Reduction                 |
| CPR    | Cardiopulmonary Resuscitation                           |
| CSO    | Civil Society Organisation                              |
| CWC    | Central Water Commission                                |
| DM     | Disaster Management                                     |
| DRR    | Disaster Risk Reduction                                 |
| DDMA   | District Disaster Management Authority                  |
| ESCAP  | Economic and Social Commission for Asia and the Pacific |
| ESFP   | Emergency Support Functions Plan                        |
| EWS    | Early Warning System                                    |
| GDP    | Gross Domestic Product                                  |
| GSI    | Geological Survey of India                              |
| ILDM   | Institute of Land & Disaster Management                 |
| IMD    | India Meteorological Department                         |
| INCOIS | Indian National Centre for Ocean Information Services   |
| IPCC   | Inter Government Panel on Climate Change                |
| KSDMA  | Kerala State Disaster Management Authority              |
| KSDMPo | Kerala State Disaster Management Policy                 |
| KSDMR  | Kerala State Disaster Management Rules                  |
| LSG    | Local Self Government                                   |
| NCESS  | National Centre for Earth Science Studies               |

|        |  |
|--------|--|
| NEOC   | National Emergency Operations Centre                                 |
| NISH   | National Institute of Speech & Hearing                               |
| NGO    | Non Governmental Organisation  |
| NDRF   | National Disaster Response Force                                     |
| PFA    | Psychological First Aid  |
| PPT    | Power Point Presentation   |
| PRI    | Panchayat Raj Institution  |
| PWD    | Person(s)/People With Disabilities                                   |
| RRC    | Regional Response Centre   |
| SDMA   | State Disaster Management Authority                                  |
| SDG    | Sustainable Development Goals  |
| SDRF   | State Disaster Relief Force  |
| SEOC   | State Emergency Operations Centre                                    |
| UN     | United Nations   |
| UNDP   | United Nations Development Programme                                 |
| UNCRPD | United Nations Convention on the Rights of Persons with Disabilities |



## Introduction

India is highly vulnerable to natural disasters, almost every part of the country falls in at least one natural hazard zone or other which makes it difficult for the people to cope with the impact of these incidents. The matter gets worse when the people are more vulnerable like persons with disability. India has been actively pursuing a paradigm shift in disaster management from a relief centric approach in the past to the current holistic one, encompassing all facets of disaster management. India is one of the ten worst disaster prone countries of the world. The country is prone to disasters due to number of factors; both natural and human induced, including adverse geo climatic conditions, topographic features, environmental degradation, population growth, urbanization, industrialization, non-scientific development practices etc. The factors either in original or by accelerating the intensity and frequency of disasters are responsible for heavy toll of human lives and disrupting the life supporting system in the country. Disasters are not bound by political, social, economic or geographic boundaries; when it occurs, it impacts all. Globally, there has been an increase in the number of natural disasters over the past few years.

Disasters affect everybody, but vulnerable groups the most. Persons with disabilities are particularly vulnerable because they are poorly understood, marginalized and often invisible. Persons with disabilities make up 15 percent of the global population. They can be children, adults and older persons including men and women throughout all parts of the society. Disability is a cross-cutting issue. Access to the same opportunities and services as other community members is a fundamental right of persons with disabilities. This includes the right to be represented and included in Disaster Risk Reduction (DRR) activities. DRR is a process of considering hazards, vulnerabilities and capacities and identifying ways to prevent or limit the negative effects of the hazards that can cause disaster. Understanding disability is the starting point for developing disability-inclusive DRR and hence this handbook is prepared to have a better understanding on this subject. In the year 2013, the theme of International Day for Disaster Risk Reduction (13<sup>th</sup> October) was ‘living with disability & disasters’.

The official estimate of people with disabilities in India, obtained through the latest Population Census and National Sample Survey Organisation’s comprehensive surveys on disability, puts the figure as about 21 million (roughly around 2 percent of the population). However, estimates vary across sources and a new World Bank Report on disabled persons in India, has observed that, there is a growing evidence that people with disabilities comprise between 5 and 8 per cent of the Indian population (around 55 – 90 million individuals).

## About the Project

‘Strengthening of emergency response capabilities with emphasis on differently abled people’ is a project launched by Kerala State Disaster Management Authority (KSDMA). The motto of KSDMA is ‘towards a safer State’; to achieve this motto, KSDMA is ensuring safety of people in the State from various hazards which also include People With Disabilities (PWD). As PWDs are highly vulnerable to various kinds of disasters/emergencies, this project is designed to ensure the safety of those who are PWDs. The project envisions a safer state for PWDs by building their capacity towards disaster preparedness, risk reduction, response, rehabilitation etc.

KSDMA desires to disseminate this training module through DDMAAs by conducting trainings, workshops and consultation with stakeholders/PWDs and caregivers. However, to benefit the entire population of PWDs, likeminded agencies, institutions, NGOs, CSOs etc shall use this handbook to educate and empower those PWDs who are in their care. According to disability census 2015<sup>1</sup>, Kerala is home for 7,93,937 PWDs, which is 2.32% of the total population of the State. This includes 22 different types of disabilities.

## Objectives of the Project

1. To reduce the risks and enhance resilience of people with disabilities towards disasters.
2. To build the capacity of the people with disabilities and their caregivers to prepare and respond to any emergencies.
3. To reduce the vulnerability of people with disabilities to natural & anthropogenic hazards by enhancing their participation and inclusion in disaster management activities.
4. To enhance the capacity of the stakeholders engaged with disability and disaster risk management towards disability inclusive disaster risk reduction.

## Process followed

Kerala State Disaster Management Authority has entrusted State Emergency Operations Centre (SEOC) to implement the project and coordinate the trainings at the State level. Two state level consultations were held at Thiruvananthapuram, Kerala; one on 11<sup>th</sup> May 2016 and the follow up on 30<sup>th</sup> June 2016. These two consultations were represented by the officials from the government departments of the State as well as Non-Government Organisations and experts. Moreover, to identify the training needs and to understand the difficulties faced by the people with disabilities and their perception towards disasters, Focussed Group Discussions (FGD) were conducted with PWDs prior to designing this handbook.

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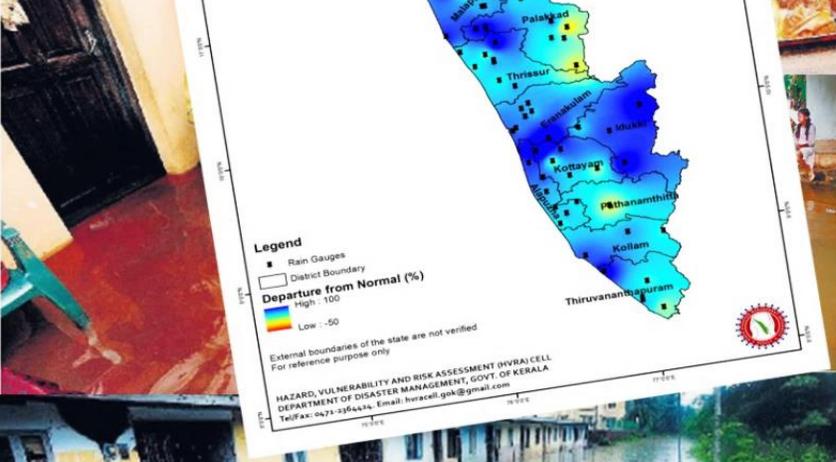
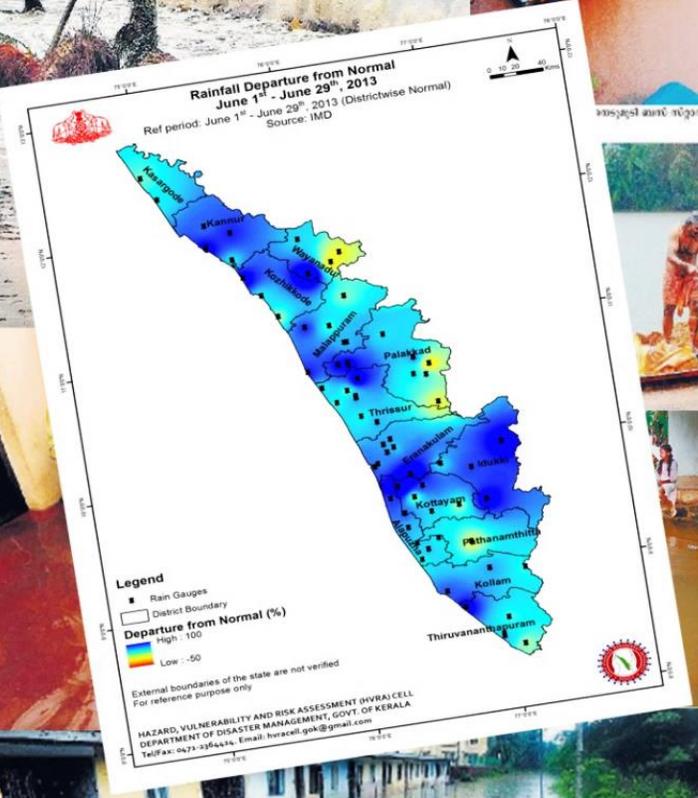
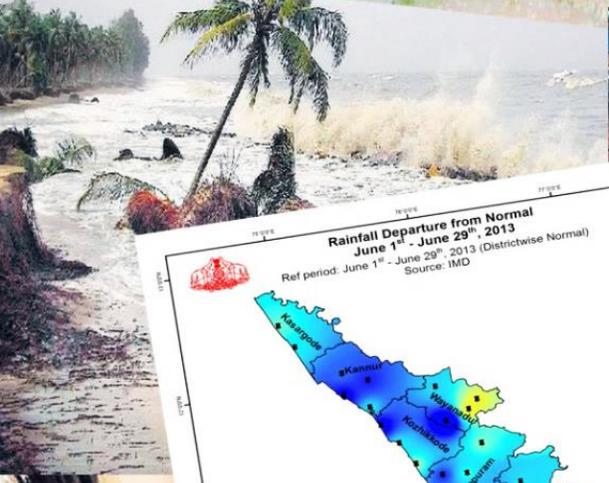
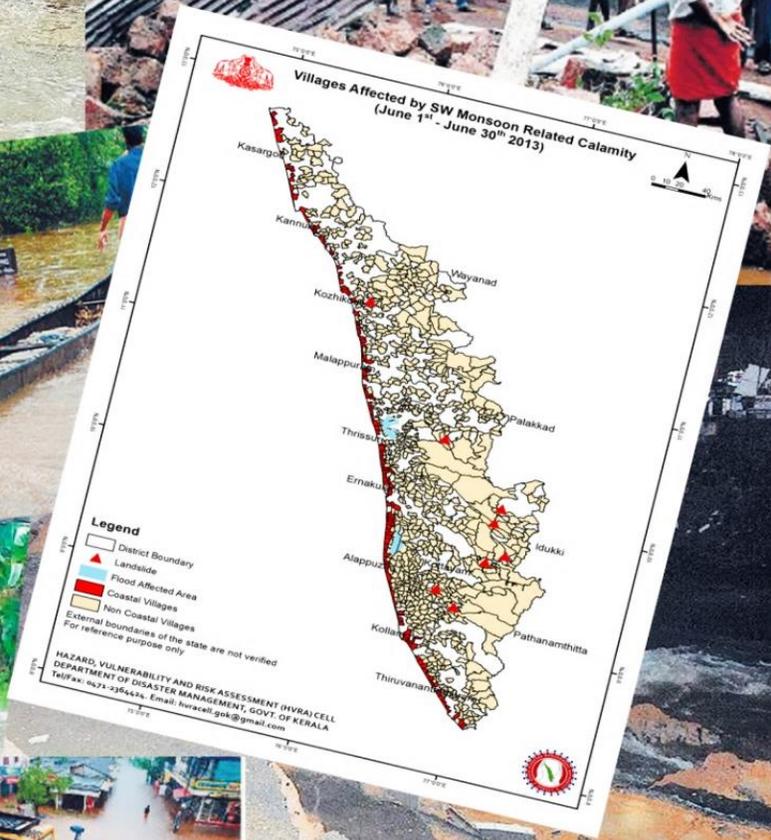
<sup>1</sup> House to House Disability Census was done by Social Justice Department, Government of Kerala in 2015. This census was first of its kind in India.

For the convenience of training methodology, the entire PWDs are being divided into four broad categories in this project, viz.

- a) Visually Impaired
- b) Speech & Hearing Impaired
- c) Physically Impaired
- d) Intellectually Impaired

This handbook would be useful for persons with disabilities, facilitators, trainers, students, teachers, practitioners and academicians who work for the cause of persons with disability or disaster risk reduction. This handbook is not the last word on disability inclusive disaster management, rather, it is the stepping stone for a better and safer world for persons with disabilities.

This handbook was released by Hon'ble Minister for Revenue & Disaster Management, Government of Kerala on 7<sup>th</sup> December 2016.



# Introduction to Disaster Management

1

**"I am only one, but still I am one. I cannot do everything, but still I can do something; and because I cannot do everything, I will not refuse to do something that I can do"**

- Helen Keller

## Chapter 1 | Introduction to Disaster Management

- Definitions related to Disaster Management
- Types of Disasters
- Disaster Management in India, Kerala
- Vulnerability of the State of Kerala with regard to various hazards
- Institutional Mechanism for Disaster Management in Kerala
- Legal provisions under Disaster Management (DM Act, DM policy, International Frameworks – SENDAI, SDGs)

Over the past 20 years disasters have affected 4.4 billion people, caused \$2 trillion of damage and killed 1.3 million people in 2015. These losses have over stripped the total value of official development assistance in the same period. Natural disasters disproportionately affect people living in developing countries and the most vulnerable communities within those countries. Over 95 per cent of people killed by natural disasters are from developing countries, which includes India (Extreme Weather and Natural Disasters, 2012). In the year 2015 alone, there were 346 reported disasters worldwide in which 22773 people lost their lives and 98.6 mn. people were affected. In India, there were 19 reported disasters in which 16.56 mn. people were affected.<sup>2</sup>

India has been traditionally vulnerable to natural disasters on account of its unique geo-climatic conditions. Floods, droughts, cyclones, earthquakes and landslides have been recurrent phenomena. Recent years anthropogenic disasters too have increased across the country.

### 1.1) Familiarisation of terminologies related to Disaster Management

- A **‘Disaster’** means a catastrophe, mishap, calamity or grave occurrence in any area, arising from natural or manmade causes, or by accident or negligence which results in substantial loss of life or human suffering or damage to, and destruction of, property, or damage to, or degradation of, environment, and is of such a nature or magnitude as to be beyond the coping capacity of the community of the affected areas.<sup>3</sup>
- **‘Disaster risk’** is a function of the characteristics and frequency of hazards experienced in a specified location, the nature of the elements at risk, and their inherent degree of vulnerability or resilience. Simply put, risk is a calculation of the possible effects that a

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<sup>2</sup> UNISDR report 2015

<sup>3</sup> According to Disaster Management Act 2005

hazard might cause bearing in mind both the vulnerabilities and capacities of a community. The concept of risk is summarized in the equation presented here, i.e. Risk = Hazards X Vulnerability / Capacity.

- **‘Mitigation’** is any structural (physical) or non-structural (e.g., land use planning, public education) measure undertaken to minimize the adverse impact of potential natural hazard events.
- **‘Preparedness’** is activities and measures taken before hazard events occur to forecast and warn against them, evacuate people and property when they threaten and ensure effective response (e.g., stockpiling food supplies).
- **‘Relief, rehabilitation and reconstruction’** are any measures undertaken in the aftermath of a disaster to, respectively, save lives and address immediate humanitarian needs, restore normal activities and restore physical infrastructure and services.
- **‘Disaster risk reduction’** is the concept and practice of reducing disaster risks through systematic efforts to analyse and reduce the causal factors of disasters. Reducing exposure to hazards, lessening vulnerability of people and property, wise management of land and the environment, and improving preparedness and early warning for adverse events are all examples of disaster risk reduction.<sup>4</sup>
- **‘Hazard’** is a dangerous phenomenon, substance, human activity or condition that may cause loss of life, injury or other health impacts, property damage, loss of livelihoods and services, social and economic disruption or environmental damage.
- **‘Vulnerability’** is the extent to which a community, structure, services or geographic area is likely to be damaged or disrupted by the impact of particular hazard, on account of their nature, construction and proximity to hazardous terrains or a disaster prone area’.
- **‘Capacity’** is the resources, means and strengths which exist in households and communities and which enable them to cope with, withstand, prepare for, prevent, mitigate or quickly recover from a disaster.
- **‘Disaster Management’** involves a continuous and integrated process of planning, organizing, coordinating and implementing measures which are necessary for
  - Prevention of danger or threat of any disaster
  - Mitigation or reduction of risk of any disaster or its severity or consequences
  - Capacity building including research and knowledge management

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<sup>4</sup> According to UNISDR

- Preparedness to deal with any disaster
- Prompt response to any threatening disaster situation or disaster
- Assessing the severity or magnitude of effects of any disaster
- Evacuation, rescue and relief
- Rehabilitation, reconstruction & recovery.

## 1.2) Types of Disasters

Primarily disasters are triggered by natural hazards or human-induced, or result from a combination of both. In particular, human-induced factors can greatly aggravate the adverse impacts of a natural disaster. Even at a larger scale, globally, the UN Inter-Governmental Panel on Climate Change (IPCC) has shown that human-induced climate change has significantly increased both the frequency and intensity of extreme weather events. While heavy rains, cyclones or earthquakes are all natural, the impacts may, and are usually, worsened by many factors related to human activity. The extensive industrialization and urbanization increases both the probability of human-induced disasters, and the extent of potential damage to life and property from both natural and human-induced disasters. The human society is also vulnerable to Chemical, Biological, Radiological and Nuclear (CBRN) disasters.

The classification<sup>5</sup> of Natural & Anthropogenic<sup>6</sup> hazards are given below:

| Sl. No | Category        | Type   |
|--------|-----------------|--|
| 1      | Natural Hazards | Flood (Riverine, Urban and Flash Floods)   |
| 2      |                 | Landslides (includes debris flows, rock fall, rock avalanche, rock slide, landslips and mud slips)                                     |
| 3      |                 | Drought  |
| 4      |                 | Coastal hazards (High waves, Storm surges, <i>Kallakadal</i> , <i>Tsunami</i> , <i>Salt Water Intrusion</i> , <i>Coastal erosion</i> ) |
| 5      |                 | Wind (Cyclone, Gustnados, Gusty winds)   |
| 6      |                 | Lightning  |
| 7      |                 | Earthquakes  |
| 8      |                 | Human epidemics  |
| 9      |                 | Plant disease epidemics and pest attack on crops   |
| 10     |                 | Avian epidemics  |
| 11     |                 | Animal epidemics   |
| 12     |                 | Pest attack of human habitations   |
| 13     |                 | Forest Fire  |
| 14     |                 | Meteorite/asteroid impacts   |
| 15     |                 | Soil Piping  |
| 16     |                 | Heat wave/sunburn/sunstroke  |
| 17     |                 | Natural background radiation   |

<sup>5</sup> State Disaster Management Plan 2016

<sup>6</sup> Originating from human activity

|    |                                    |  |
|----|------------------------------------|--|
| 1  | Anthropogenic Hazards              | Stampedes  |
| 2  |                                    | Fire cracker accidents                               |
| 3  |                                    | Petro-chemical transportation accidents              |
| 3  |                                    | Industrial accidents                                 |
| 4  |                                    | Dam break  |
| 5  |                                    | Dam spillway operation related floods & accidents    |
| 6  |                                    | Oil spill  |
| 7  |                                    | Road accidents involving civilian transport vehicles |
| 8  |                                    | Human induced forest fire                            |
| 9  |                                    | Human-animal conflicts                               |
| 10 |                                    | Fire accidents in buildings and market places        |
| 11 |                                    | Boat capsizing                                       |
| 12 |                                    | Accidental drowning                                  |
| 13 |                                    | Building collapse                                    |
| 14 |                                    | Hooch accident                                       |
| 15 |                                    | Air accidents  |
| 16 |                                    | Rail accidents                                       |
| 17 |                                    | Terrorism, riots and Naxalite attacks                |
| 18 |                                    | Nuclear and radiological accidents                   |
| 19 |                                    | Space debris impacts                                 |
| 20 |                                    | Biological accidents                                 |
| 21 |                                    | Occupational hazards                                 |
| 22 | Accidents in Armed Forces premises |  |

### 1.3) Explanation on various Hazards

#### Earthquake

Earthquake is a sudden geological event below the surface of the earth, which results in generation of waves that travel far and wide and cause vertical and horizontal vibrations. The consequential motion causes destruction. The severity of the impact depends on the magnitude of the earthquake, which in turn depends on the amount of energy released at the spot where the event took place (epicentre). India is highly vulnerable to earthquakes and has witnessed some severe earthquakes in the past. Kerala, is in seismic zone III, where earthquakes can be expected in moderate level.

#### Landslides

Landslides are defined as the mass movement of rock debris or mud down a slope and have come to include a broad range of motions, whereby falling, sliding and flowing under the influence of gravity dislodges earth material. Landslides can be caused by poor ground conditions, geomorphic phenomena, heavy rainfall, earthquakes or undercutting of the base of slopes by rivers etc.

## Flood

Flood denotes inundation or accumulation of water in a particular geographical area. In other words, it results from an imbalance between inflow and outflow of water. Floods can occur through heavy rains, dam failures, rapid snow melts, river blockages etc.

## Drought

Drought is a temporary reduction in water availability in an area for unusually long period. Depending on the resulting water scarcity, a drought has disastrous and long term socio-economic impacts, which may last for months and in some cases years.

## Cyclones

Cyclones are strong winds that are formed over the oceans. The term 'cyclone' refers to all classes of storms with low atmospheric pressure at the centre, which are formed when an organized system of revolving winds, clockwise in the southern hemisphere, anti-clockwise in the northern hemisphere, develops over tropical waters.

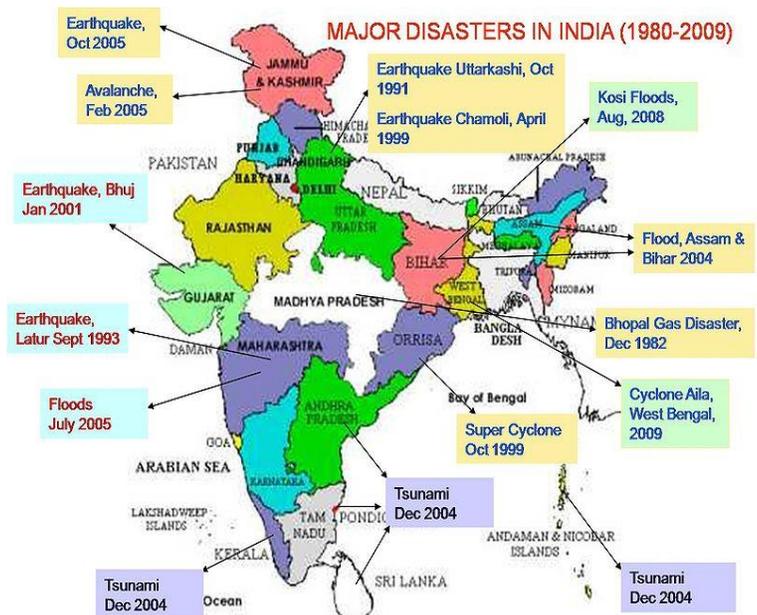
## Tsunami

The word Tsunami is derived from the Japanese word meaning "harbor wave", which is a series of waves in a water body caused by the displacement of a large volume of water, generally in an ocean. Earthquakes, volcanic eruptions and other underwater explosions (including detonations of underwater nuclear devices), landslides, glacier calving, meteorite impacts and other disturbances above or below water all have the potential to generate a Tsunami. Tsunami waves do not resemble normal sea waves, because their wavelength is far longer

### 1.4) Disaster Management in India

India is vulnerable to all types of disasters, both natural and anthropogenic. This inflict serious damage to life and property of the affected people, destroy the infrastructure, set-back the development process and upset the budgetary provisions. It is in this context that disaster management assumes considerable importance especially for a country like India, which is high on population density and short on infrastructural and financial resources.

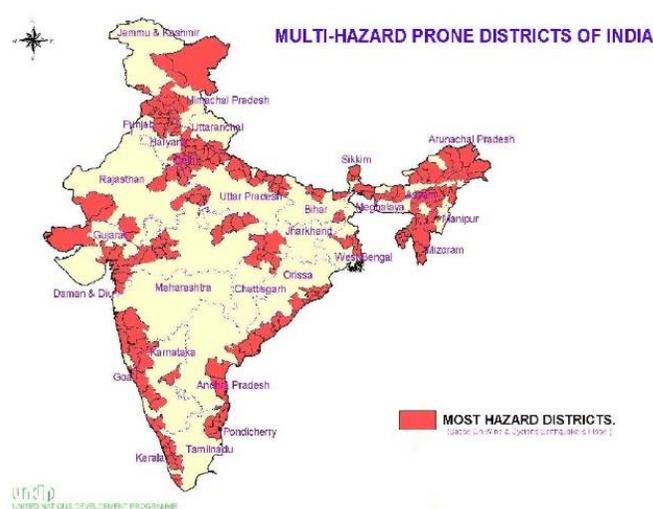
The Disaster Management Act, 2005 lays down institutional and coordination mechanism for effective Disaster



Management at the national, state, district and local levels. As mandated by this Act, the Government of India created a multi-tiered institutional system consisting of the National Disaster Management Authority (NDMA) headed by the Prime Minister, the State Disaster Management Authorities (SDMA) headed by the respective Chief Ministers and the District Disaster Management Authorities (DDMA) headed by the District Collectors and co-chaired by Chairpersons of the local bodies. These bodies have been set up to facilitate a paradigm shift from the hitherto relief-centric approach to a more proactive, holistic and integrated approach of strengthening disaster preparedness, mitigation, and emergency response.

### 1.5) Disaster Risk in India

- India’s vulnerability to disaster risk is considerable on account of its geo-physical location and socio-economic profile.
- Almost 85% of India lies in the probability zone of single or multiple disasters
- About 58.6% of its area falls in high seismic zones
- Approximately 40 mn hectares of its land area (comprising 12 % of land) prone to floods and river erosion
- Of the 7516 KM long coastline, close to 5,700 KM is prone to cyclones and tsunamis
- About 68% of its cultivable area is susceptible to drought; and of India’s 35 states and union territories, 27 are prone to one or more of these hazards



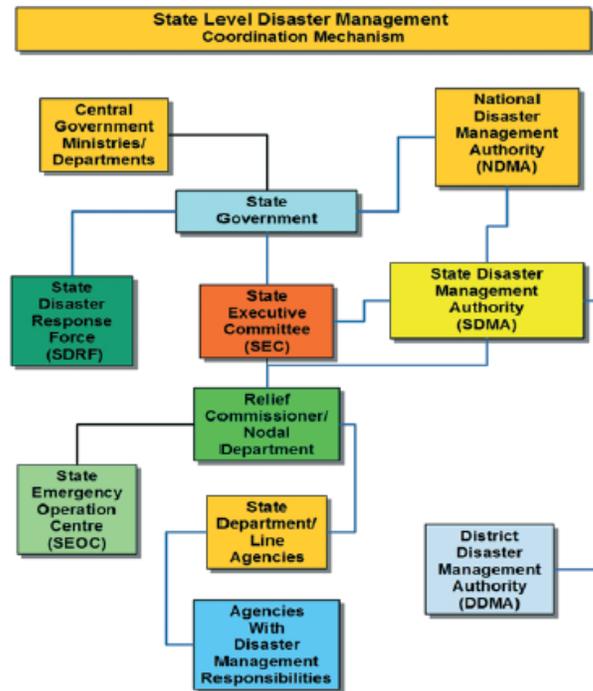
(Disaster Management in India, MHA, GoI, 2011)

### 1.6) Disaster Management in Kerala

In the last two decades, Kerala has experienced an increase in the frequency and intensity of disasters whose economic impact has proved to be devastating. The lessons learned from the lengthening trail of disasters, have led to a gradual realization that while hazards may be natural, disasters are largely ‘man-made’. They largely result from the failures of development policies and practices that distort the trajectories of sustainable development, affecting the poorest sections the most.

Kerala is a multi-hazard prone state. The state is frequently ravaged by the disastrous consequences of coastal erosion, lightning, landslides, floods, drought and petro-chemical transportation related accidents. Other relatively less frequent but significant phenomenon capable of causing disastrous consequences are windfall of trees, earthquakes, intense rainfall, pest attack, forest fire etc.

The State has a State Disaster Management Plan (SDMP) as well as district plans for all the 14 districts. The Department of Revenue & Disaster management acts as the nodal department for all types of natural disaster that include hydro-meteorological disasters and geological disasters. The scope of the Department of Revenue has been enhanced to include prevention, mitigation and preparedness aspects of disaster management apart from its traditional responsibility of relief and rehabilitation. The Principal Secretary to the Government (Revenue & Disaster Management) acts as the State Relief Commissioner.



### 1.6.a) Hazard Seasonality Matrix of Kerala<sup>7</sup>

Based on long period data of recurrence, the seasonality matrix of hazardous phenomena in Kerala is given below. This information will help the PWDs to be prepared against the following hazards.

| Hazard Type                | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|----------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Flood                      |        |        |        |        |        | Blue   | Blue   | Blue   | Blue   | Blue   | Blue   |        |
| Landslide                  |        |        |        |        |        |        | Brown  | Brown  | Brown  | Brown  |        |        |
| Drought                    |        | Orange | Orange | Orange | Orange |        |        |        |        |        |        |        |
| Heatwave/sunstroke/sunburn |        |        | Red    | Red    | Red    |        |        |        |        |        |        |        |
| Coastal Erosion            |        |        |        |        | Blue   | Blue   |        |        |        | Blue   | Blue   |        |
| Wind damages               |        |        |        |        | Brown  |        |        |        |        |        | Brown  | Brown  |
| Lightning                  |        |        |        | Pink   | Pink   |        |        |        |        | Pink   | Pink   |        |
| Epidemics                  |        |        |        |        |        | Green  |
| Earthquake                 | Grey   |
| Tsunami                    | Yellow |
| Anthropogenic hazards      | Grey   |

<sup>7</sup> Kerala State Disaster Management Plan

### 1.6.b) Disaster Risk of Kerala

- 8<sup>th</sup> most densely populated State in the country
- 14.5% of the State is flood prone
- 14.4% of the State is landslide prone
- 55.5% of the coastline prone to coastal hazards
- The State falls in **Zone 3** in the national seismic zonation map
- About **70 people** die of lightning every year
- **65** out of 10,000 vehicles prone to accidents in the state (National Average is 42.3/10,000)
- About **45%** of LPG used in the state is transported via roads
- Variability of weather patterns due to global warming is evident in the state

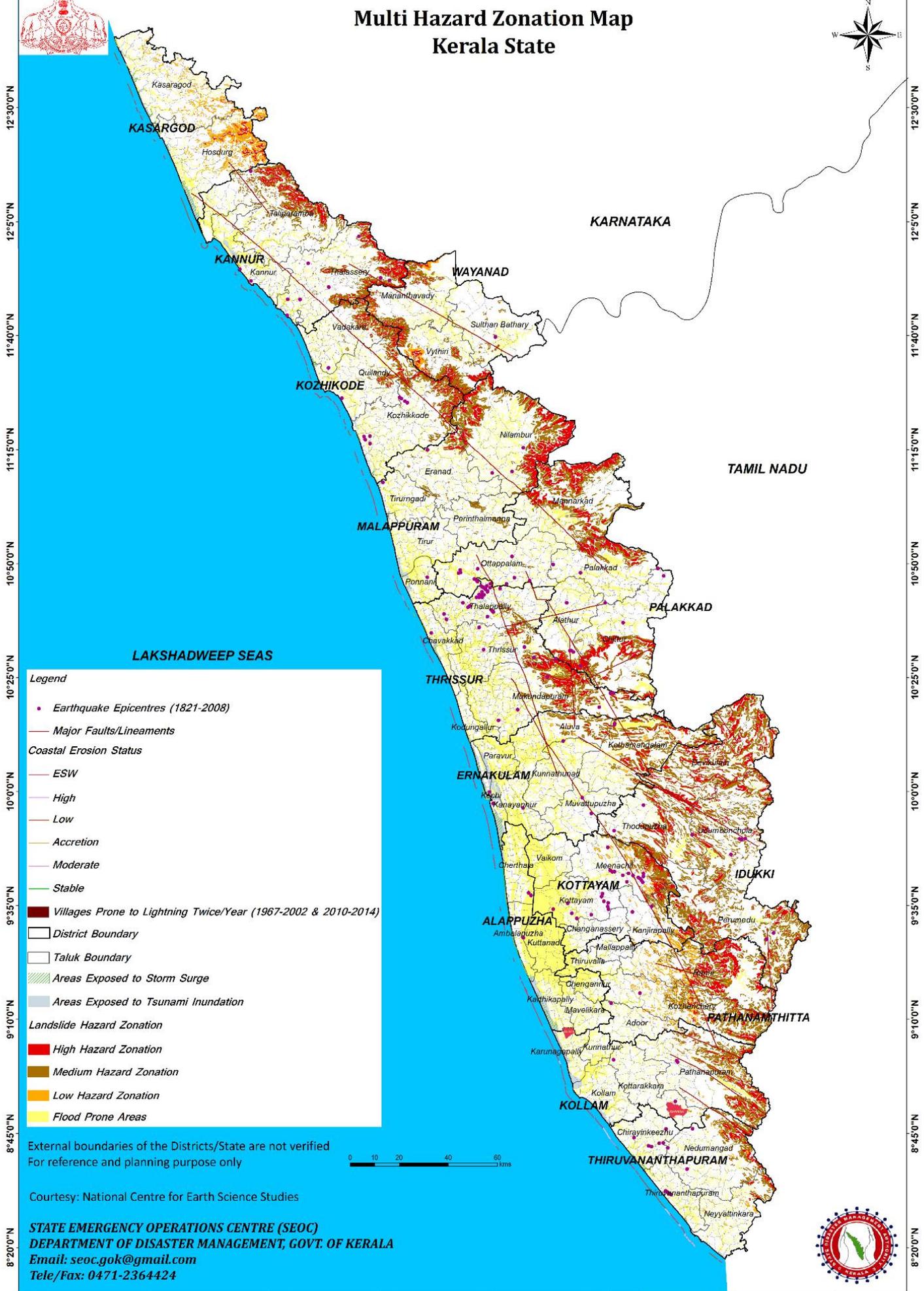
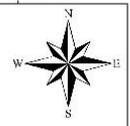
### 1.6.c) Institutional arrangements for Disaster Management in Kerala

- **The State Disaster Management Authority** ([sdma.kerala.gov.in](http://sdma.kerala.gov.in))

Vide Section 3 of the KSDMR, 2007 the authority is composed of ten (10) members, chaired by Hon'ble Chief Minister and convened by Principal Secretary, Revenue and Disaster Management. The Chief Secretary (*inter alia* Chairperson of the State Executive Committee) is the Chief Executive Officer of KSDMA vide Section 14 (4) of the DM Act, 2005. The KSDMA has three technically competent non-*ex-officio* members nominated by the Chairman of the Authority vide Section 3 (f) and (g) of KSDMR, 2007. Principal Secretary, Revenue and Disaster Management is the Head of the Department of KSDMA vide GO (Rt) No. 2181/2016/DMD dated 23-03-2016. The other ex-officio members are Hon'ble Minister for Home and Vigilance, Hon'ble Minister for Agriculture, Additional Chief Secretary, Home and Head of State Emergency Operations Centre. Head of State Emergency Operations Centre is vide Section 3 (4) of KSDMR, 2007 (amendment 2016) the Member Secretary of the Authority. The nominated non-*ex-officio* professional members are Director, Institute of Land and Disaster Management and Director, National Centre for Earth Science Studies.

74°35'0"E 75°0'0"E 75°25'0"E 75°50'0"E 76°15'0"E 76°40'0"E 77°5'0"E 77°30'0"E

# Multi Hazard Zonation Map Kerala State



12°30'0"N  
12°50'0"N  
11°40'0"N  
11°15'0"N  
10°50'0"N  
10°25'0"N  
10°0'0"N  
9°35'0"N  
9°10'0"N  
8°45'0"N  
8°20'0"N

12°30'0"N  
12°50'0"N  
11°40'0"N  
11°15'0"N  
10°50'0"N  
10°25'0"N  
10°0'0"N  
9°35'0"N  
9°10'0"N  
8°45'0"N  
8°20'0"N

**Legend**

- Earthquake Epicentres (1821-2008)
- Major Faults/Lineaments

**Coastal Erosion Status**

- ESW
- High
- Low
- Accretion
- Moderate
- Stable

- Villages Prone to Lightning Twice/Year (1967-2002 & 2010-2014)
- District Boundary
- Taluk Boundary
- ▨ Areas Exposed to Storm Surge
- ▨ Areas Exposed to Tsunami Inundation

**Landslide Hazard Zonation**

- High Hazard Zonation
- Medium Hazard Zonation
- Low Hazard Zonation
- Flood Prone Areas

External boundaries of the Districts/State are not verified for reference and planning purpose only



Courtesy: National Centre for Earth Science Studies  
**STATE EMERGENCY OPERATIONS CENTRE (SEOC)**  
DEPARTMENT OF DISASTER MANAGEMENT, GOVT. OF KERALA  
Email: seoc.gok@gmail.com  
Tele/Fax: 0471-2364424



74°35'0"E 75°0'0"E 75°25'0"E 75°50'0"E 76°15'0"E 76°40'0"E 77°5'0"E 77°30'0"E

- **State Executive Committee of KSDMA**

Established as per Section 20 (1) of DM Act, 2005 and Section 11 (2) of KSDMR 2007. The SEC shall meeting at least once in 3 months. Chief Secretary functions as the Chairman and Principal Secretary (Revenue & DM) acts as the convener, whereas Additional Chief Secretary of Home&Vigilance, Finance & Health are members of the SEC.

- **State Emergency Operations Centre ([disasterlesskerala.org](http://disasterlesskerala.org))**

Established vide Section 6.8 of KSDMPo, 2010 and as provided in the *National Disaster Management Guidelines - National Disaster Management Information and Communication System, 2012* based on direction vide Letter No. 05-03/2013/NDMA/CBT (Pt) dated 7<sup>th</sup> October 2013 by National Disaster Management Authority as determined by the State Executive Committee and the Government vide powers vested on it under Section 69 and Section 16 of DM Act, 2005, respectively.

The SEOC is also the research and technology laboratory of the SDMA and directly functions under the Principal Secretary, Revenue & Disaster Management. All administrative matters related to the SEOC are made by the State Executive Committee of KSDMA. Its day-to-day affairs are managed by Head, State Emergency Operations Centre. The SEOC implements a number of research and data collection projects and is also entrusted with the preparation of the State and District Disaster Management Plans. It also manages the GoI - UNDP project on Enhancing Institutional and Community Resilience to Disasters and Climate Change (2013–2017), Kerala.

The SEOC presently functions in the Institute of Land and Disaster Management, PTP Nagar, Thiruvananthapuram, Kerala. SEOC is the ‘state nodal office for the collection, compilation and analysis of any data necessary for disaster risk assessment from all government departments and institutions on a no cost basis’.

- **Institute of Land and Disaster Management ([ildmkerala.in](http://ildmkerala.in))**

Institute of Land and Disaster Management (ILDM) is an autonomous body constituted in 1996 under the Dept. of Revenue and Disaster Management, Govt. of Kerala to impart professional induction training, in-service training and refresher training to personnel of the Land Revenue and Survey Department of the State. The DM Centre of ILDM is the focal point at the State level for imparting training in the field of disaster prevention, mitigation, preparedness, response, relief, rehabilitation and organizing State level/Regional Conferences/Workshops.

- **Regional Response Centre of National Disaster Response Force**

Vide GO (Ms) No. 368/2016/RD dated 24-06-2016 the State Government has allotted 5 acres of land to National Disaster Response Force (NDRF) in Thiruvankulam Village, Kanayannur Taluk of Ernakulam District. This land is for establishing the Regional Response Centre (RRC) for NDRF. The RRC will house a team of NDRF in Kerala for reducing the response time substantially. Presently, the premises of the Civil Defense Institute, Thrissur houses a team of NDRF (47 men) and functions as the RRC until permanent facilities are established in the land allotted in Ernakulam.

- **State Disaster Response Force**

Established as per GO (Ms) No. 262/2012/Home dated 17-10-2012, the SDRF is stationed at Pandikkad, Malappuram district, the total strength of the force is 100. This force is under the Additional Chief Secretary, Home as Member to KSDMA. The members of the force are deployed in Thiruvananthapuram, Ernakulam, Thrissur and Kannur. The members of the force are trained by National Disaster Response Force

Address: Commandant RRRF, Kodaparambu, Pandikkadu, Malappuram

Email: cmdtsraf.pol@kerala.gov.in

Tel: +91 (0) 483 – 2783396, 2783397

- **Civil Defence Institute**

Established vide GO (Ms) 214/2011/DMD dated 09-06-2011 in Viyoor Village of Thrissur. The Institute has one training faculty appointed vide GO (Rt) No. 1857/2016/DMD dated 02-03-2016. The Institute presently houses the Regional Response Centre of National Disaster Response Force (NDRF). The NDRF is engaged in providing training to various stakeholder departments and functions with the training facility of the Institute.

- **District Disaster Management Authorities**

Established as per Section 25 of DM Act, 2005 and Section 14 of KSDMR, 2007 vide Kerala Extraordinary Gazette S.R.O No. 264/2016 dated 5<sup>th</sup> March 2016. The DDMA is a seven member body chaired by the District Collector and co-chaired by the District Panchayath President. In Thiruvananthapuram, Pathanamthitta, Alappuzha, Ernakulam, Thrissur, Malappuram, Kozhikode and Kannur the Chief Executive Officer of DDMA is Deputy Collector, Disaster Management; whereas in Kollam, Kottayam, Idukki, Palakkad, Wayanad and Kasaragod the Chief Executive Officer of DDMA is Additional District Magistrate (ADM)/Deputy Collector (General).

- **District Emergency Operations Centre**

Vide Ltr. No. 24121/K1/2014/DMD dated 22-05-2014 all District Disaster Management Authorities were directed to create District Emergency Operations Centres (DEOC) with 24 X 7 staff of Revenue, Police (with Police VHF access) and Fire & Rescue Services. The DEOCs functions in a 100 m<sup>2</sup> floor area in close proximity to the Office of the District Collector in the respective collectorates. Telephone numbers of the DEOCs are given below:

| District           | Telephone Number      | Email                           |
|--------------------|-----------------------|---------------------------------|
| Thiruvananthapuram | +91 (0) 471 – 2730045 | deputycollectordmtvpm@gmail.com |
| Kollam             | +91 (0) 474 – 2794004 | dmdkollam@gmail.com             |
| Pathanamthitta     | +91 (0) 468 – 2322515 | dmpta03@gmail.com               |
| Alappuzha          | +91 (0) 477 – 2238630 | ddmaalp@gmail.com               |
| Kottayam           | +91 (0) 481 – 2562201 | dmdktm@gmail.com                |
| Idukki             | +91 (0) 486 – 2232242 | e6clerk@gmail.com               |
| Ernakulam          | +91 (0) 484 – 2423513 | ddmaekm@gmail.com               |
| Thrissur           | +91 (0) 487 – 2362424 | tsrcoll.ker@nic.in              |
| Palakkad           | +91 (0) 491 – 2512607 | pkd-colt.msg@kerala.gov.in      |
| Malappuram         | +91 (0) 483 – 2736320 | mlpmdmd@gmail.com               |
| Kozhikode          | +91 (0) 495 – 2371002 | dmcellkozhikode@gmail.com       |
| Wayanad            | +91 (0) 4936 – 204151 | deocwyd@gmail.com               |
| Kannur             | +91 (0) 497 – 2713266 | dcknr.ker@nic.in                |
| Kasargode          | +91 (0) 499 – 4257700 | kascoll.ker@nic.in              |

The DEOCs of Wayanad, Ernakulam and Idukki are linked to SEOC vide VSAT terminals funded under the National Disaster Management Services Project of NDMA. All 14 DEOCs are equipped with VHF network.

### 1.7) Legislations on Disaster Management in India

The institutional and policy mechanisms for carrying out response, relief and rehabilitation have been well established in the country. In the recent past, the orientation for handling disaster situations has been changed from a relief-centric to a holistic, multi-dimensional and multi-disciplinary approach involving diverse scientific, engineering, social and financial processes. The new approach encompasses the entire gamut of disaster management activities, i.e. prevention, mitigation, preparedness, response, relief and rehabilitation. This approach stems from the conviction that development is not sustainable unless disaster mitigation and response are mainstreamed and inbuilt into the development process.

Keeping in view the vision articulated under the Disaster Management Act, 2005 is for building a safe and disaster resilient India, the Disaster Management Policy was announced in 2009.

In Kerala, a State policy on Disaster Management was formulated in the year 2010 and State Disaster Management Rules in 2007. The state has District Disaster Management Plans for all the 14 districts and a State Disaster Management Plan approved in 2016.

### SENDAI Framework for Action

Sendai Framework for Action is a non-binding agreement, which the signatory nations, including India, will attempt to comply with on a voluntary basis. The Sendai framework for action 2015-2030 was adopted at the Third UN world conference in Sendai, Japan on March 18, 2015.

The four priorities for action under the Sendai Framework are:

1. Understanding disaster risk
2. Strengthening disaster risk governance to manage disaster risk
3. Investing in disaster risk reduction for resilience
4. Enhancing disaster preparedness for effective response and to “Build Back Better” in recovery, rehabilitation and reconstruction

The steady growth of disaster risk, including the increase of people and assets exposure, combined with the lessons learned from past disasters, indicates the need to further strengthen disaster preparedness for response, take action in anticipation of events, integrate disaster risk reduction in response preparedness and that ensure capacities are in place for effective response and recovery at all levels. Empowering women and **persons with disabilities** to publicly lead and promote gender equitable and universally accessible response, recovery rehabilitation and reconstruction approaches are key. Disasters have demonstrated that the recovery, rehabilitation and reconstruction phase, which needs to be prepared ahead of the disaster, is a critical opportunity to build back better, including through integrating disaster risk reduction into development measures, making nations and communities resilient to disasters.

### 1.8) Key Phases in Disaster Management

There are three key phases in disaster management, which are as follows:

#### Pre – Disaster

Before a disaster to reduce the potential for human, material or environmental losses caused by hazards and to ensure that these losses are minimized when the disaster actually strikes.

(Prevention – Mitigation – Preparedness - Early Warning)

### During Disaster

It is to ensure that the needs and provisions of victims are met to alleviate and minimize suffering.

(Response – Rescue - Relief)

### Post Disaster

After a disaster to achieve rapid and durable recovery which does not reproduce the original vulnerable conditions

(Recovery - Rehabilitation – Reconstruction – Development)

Traditionally people think of disaster management only in terms of the emergency relief period and post disaster rehabilitation, instead of allocating funds before an event to ensure prevention and preparedness. A successful disaster management planning must encompass the situation that occurs before, during and after disasters.

### PRE – Disaster Phase

**Prevention:** Reducing the risk of disasters involves activities, which either reduce or modify the scale and intensity of the threat faced or by improving the conditions of elements at risk. Although the term “prevention” is often used to embrace the wide diversity of measures to protect persons and property, its use is not recommended since it is misleading in its implicit suggestion that natural disasters are preventable. The use of the term reduction to describe protective or preventive actions that lessen the scale of impact is therefore preferred.

**Mitigation** embraces all measures taken to reduce both the effects of the hazard itself and the vulnerable conditions to it in order to reduce the scale of a future disaster. In addition to these physical measures, mitigation should also be aimed at reducing the physical, economic and social vulnerability to threats and the underlying causes for this vulnerability. Therefore, mitigation may incorporate addressing issues such as land ownership, tenancy rights, wealth distribution, implementation of earthquake resistant building codes, etc.

**Preparedness** This brings to the all-important issue of disaster preparedness. The process embraces measures that enables governments, communities and individuals to respond rapidly to disaster situations to cope with them effectively. Preparedness includes for example, the formulation of viable emergency plans,

#### Spread the word

A disaster resilient State means everyone must be part of the solution.

Decisions and policies to reduce disaster risks must reflect the needs of persons living with disabilities.

Investment in disaster risk reduction must provide for the needs of persons living with disabilities

the development of warning systems, the maintenance of inventories, public awareness and education and the training of personnel. It may also embrace search and rescue measures as well as evacuation plans for areas that may be at risk from a recurring disaster. All preparedness planning needs to be supported by appropriate rules and regulations with clear allocation of responsibilities and budgetary provision.

**Early Warning** This is the process of monitoring the situation in communities or areas known to be vulnerable to slow onset hazards, and passing the information to the communities concerned. To be effective, warnings must be related to mass education and training of the population who know what actions they must take when warned.

### DURING disaster Phase

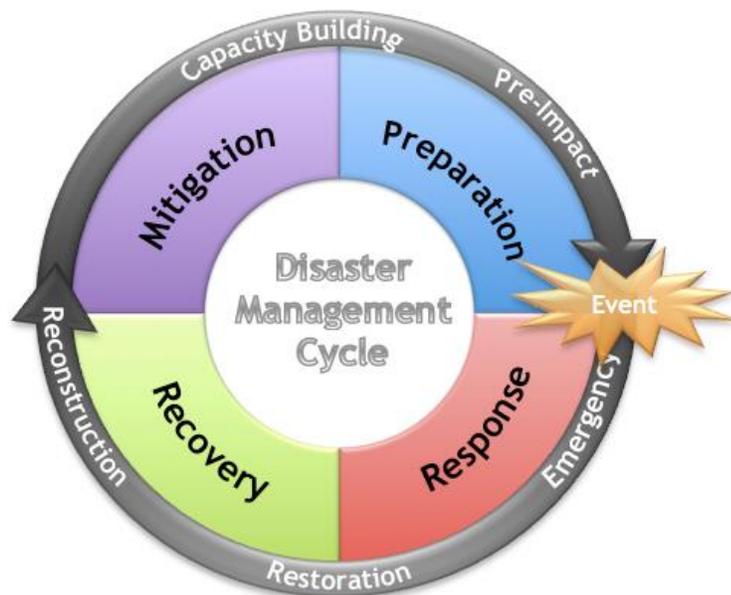
**Response, Rescue & Relief** : This refers to the first stage response to any calamity, which include for examples such as setting up control rooms, putting the contingency plan in action, issue warning, action for evacuation, taking people to safer areas, rendering medical aid to the needy etc., simultaneously rendering relief to the homeless, food, drinking water, clothing etc. to the needy, restoration of communication, disbursement of assistance in cash or kind. The emergency relief activities undertaken during and immediately following a disaster, which includes immediate relief, rescue, and the damage needs assessment and debris clearance.

### POST disaster Phase

**Recovery**: Recovery is used to describe the activities that encompass the three overlapping phases of emergency relief, rehabilitation and reconstruction.

**Rehabilitation**: Rehabilitation includes the provision of temporary public utilities and housing as interim measures to assist long-term recovery.

**Reconstruction**: Reconstruction attempts to return communities to improved pre-disaster functioning. It includes such as the replacement of buildings; infrastructure and lifeline facilities so that long-term development prospects are enhanced rather than reproducing the same conditions, which made an area or population vulnerable in the first place.



**Development:** In an evolving economy, the development process is an ongoing activity. Long-term prevention/disaster reduction measures for examples like construction of embankments against flooding, irrigation facilities as drought proofing measures, increasing plant cover to reduce the occurrences of landslides, land use planning, construction of houses capable of withstanding the onslaught of heavy rain/wind speed and shocks of earthquakes are some of the activities that can be taken up as part of the development plan.

### Nodal Departments for various Hazards

- |  |  |
|--|--|
| • Revenue & Disaster Management                                | Hydro-meteorological & geological disasters            |
| • Home   | Road & rail accidents                                  |
| • Health & Family Welfare                                      | Chemical, biological, radiological & nuclear disasters |
| • Agriculture  | Pest attacks   |
| • Animal Husbandry   | Cattle epidemics                                       |
| • Water resources  | Dam break  |
| • Public Works   | Building collapse                                      |
| • Forests  | Forest Fire  |
| • Airport  | Air accidents  |
| • Factories & Boilers Dept.,<br>Dept. of Industries & Industry | Industrial accidents                                   |

### Levels of Disasters

- **L0: Normal times; focus on preparedness activities**
- **L1: Disasters that can be managed at the district level; state and centre in ready state**
- **L2: Disasters that require mobilization of resources at the state level**
- **L3: Disasters that require mobilization of resources at the national level**

(NDMA, 2007)

### 1.9) Responsibility of Persons with Disability & other stakeholders in PRE-DURING-POST disaster phases.

| Responsibility  | PRE Disaster  | DURING Disaster  | POST Disaster   |
|---|---|--|---|
| To be ensured by Persons with Disabilities                    | <ul style="list-style-type: none"> <li>- Prepare emergency kits.</li> <li>- Have a disaster preparedness plan at Home</li> <li>- Ensure appropriate evacuation routes</li> <li>- Keep ready assistive devices in case of an emergency</li> <li>- Know telephone numbers of first responders</li> <li>- Follow warnings from authorities and take appropriate actions</li> </ul> | <ul style="list-style-type: none"> <li>- Seek &amp; Receive help from others</li> <li>- If evacuation is required, ensure that assistive devices are carried along</li> <li>- Carry your emergency kit and medicines (if any)</li> </ul>                                     | <ul style="list-style-type: none"> <li>- Unless threat is passed, do not get back to the houses/place of residence</li> <li>- Do not hesitate to take help from others</li> </ul>   |
| To be ensured by Caregivers/ PRIs/ Schools/ Local authorities | <ul style="list-style-type: none"> <li>- Equip PWDs with trainings, capacity building programmes, etc</li> <li>- Conduct mock drills in frequent intervals</li> <li>- Create awareness among PWDs as well as others</li> <li>- First responders may be given training on PWDs and specific skills in identifying them and communicating with them.</li> </ul>                   | <ul style="list-style-type: none"> <li>- Arranging emergency communication through available resources.</li> <li>- PWDs should be given preference while evacuation</li> <li>- All assistive devices should be taken along with PWD, including medicines (if any)</li> </ul> | <ul style="list-style-type: none"> <li>- Ensure that PWDs get adequate facilities in the shelter homes</li> <li>- Shelter homes should be accessible by the PWDs, and all associated facilities like food, drinking water &amp; toilets</li> <li>- PWDs may require additional needs like privacy, medicines, interpreter, signage etc. This shall be provided</li> <li>- Provide Psycho-social support.</li> </ul> |

## Psycho-Social Support

It has been recognized that most of the disaster affected persons experience stress and emotional reactions after disaster as a ‘normal response to an abnormal situation’, and are able to cope well with a little psychosocial support. Psychosocial support in the context of disasters refers to comprehensive interventions aimed to address a wide range of psychosocial problems arising in the aftermath of a disaster. These interventions help individuals, families and groups to restore social cohesion along with maintaining their independence and dignity. Psychosocial support helps in reducing the level of actual and perceived stress that may prevent adverse psychological and social consequences among disaster affected people, especially persons with disabilities.

Psychosocial care is a part of the holistic care services model. Provision of holistic care is most crucial for fast and appropriate rehabilitation and recovery of the disaster survivors. The most important step in psychosocial care and recovery process is to recognize that psychosocial care is essential for the entire population experiencing a disaster. People differ only in terms of the degree of support needed. After any disaster there is a need for a multi-pronged approach to relief and care, of which psychological support forms an integral part but is not the only help that people require. It is important to note that even if it is not the only help, it is an essential and necessary element of the relief work for quicker and more effective rehabilitation of the survivors of any disaster, which is relevant in the case of persons with disabilities. Psycho-social support helps in reducing the level of actual and perceived stress and in preventing adverse psychological and social consequences amongst disaster-affected community.

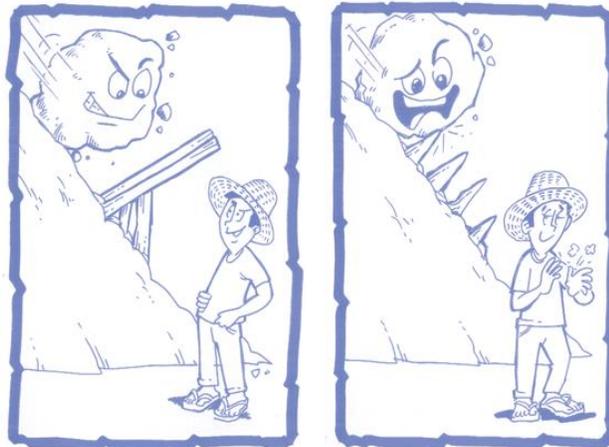
### Few techniques in psycho-social care

- a) **Ventilation** - ventilation is a process to help the disaster survivors in expressing their thoughts, feelings and emotions related to the disaster and the resulting living conditions. Helping the survivors to ventilate out or to release these emotions is extremely important.
- b) **Empathy** - The terms like ‘sympathy’ and ‘empathy’ are often used interchangeably, while the context, meaning and the feeling and emotions associated with each term are different. While sympathy broadly means ‘feeling sorry about what wrong happened to some body and looking at the event from your own perspective’, ‘empathy’ necessarily means ‘looking at the event from the other person’s perspective and trying to realise the trauma of the other person by keeping himself/herself in that situation’.
- c) **Active listening** - Active listening is an important skill to facilitate ventilation and develop empathy, which in turn facilitate the whole process of providing emotional support.
- d) **Social support** - Everyone feels very comfortable with a certain level of emotional and social support that comes from others around him or her. Social support networks are extremely important for feeling comfortable and secure. In a disaster situation all the support systems get disrupted, hence the need to rebuild and restore.

The above mentioned are just few of the techniques in psycho-social care.

**Basic Disaster Risk Reduction measures explained through pictures.**

**Pic 1 | Understanding Hazards and Mitigation measures**



**Pic 2 | Addressing vulnerability through community preparedness and support system that helps the individual to survive**



**Pic 3 | Addressing vulnerability through enhancing individual survival skills**



## Concept of Hazard, Vulnerability & Disaster Explained



### Hazard v/s Disaster

Explanation: A hazard is a situation where there is a threat to life, health, environment or property. eg: earthquakes, floods, landslides etc. Any hazard has the potential to cause widespread destruction, whereas, a disaster is the result of a hazard. In that sense, one cannot prevent hazards from happening but can prevent disasters, if necessary measures are adopted. This handbook deals more with that.



# Introduction to Disability

# 2

**“When one’s expectations are reduced to zero, one really appreciates everything one does have”**

- Stephen Hawking

## Chapter 2 | Introduction to Disability

- Definition of terminologies
- Disability and its types
- Legal provisions for persons with disabilities
- Incheon strategy & Sustainable Development Goals
- Disability Census of Kerala 2015

According to the world disability report 2011, about 15% of the population in the world has disability and among them 2 – 4 % is suffering from severe disabilities. In India, as per the National Census 2011 the disabled population is 2.1%, which is 2,68,10557 of the total population. The planning commission of India in the 11<sup>th</sup> Five year plan estimates that 5-6% of the population have disabilities.

In Kerala, according to the census 2011, the people with disability is around 7,61,843 (Male – 51.81% & Female – 48.19%). Government of Kerala as per G.O (Rt) No. 44/2014; dated 16<sup>th</sup> January 2014 declared state wide disability census as a special project of the Social Security Mission; and according to this census there are around 7,93,937 people living with some form of disability.

### 2.1) Definitions

**Impairment:** Impairments are problems in body function or structure such as a significant deviation or loss.

Examples of body functions: mental functions. Sensory functions and pain. Voice and speech functions. Cardiovascular functions. Examples of body structures: nervous system. Musculoskeletal system. Cardiovascular system. Examples of impairments: amputation. Club foot. Paraplegia. Cerebral palsy.

**Disability:** Disability results from the interaction between persons with impairments and attitudinal and environmental barriers that hinders their full and effective participation in society on an equal basis with others.

**Handicap:** The term ‘handicap’ is not being used widely. It restricts of participation in daily life activities. Environmental or attitudinal barriers (such as no ramps or elevator, information not available in Braille, discrimination) that prevent a person from participation no longer lead to a “handicap” but to a “disabling situation”.

The first school for the hearing impaired was established in 1895 in Kolkata and the first school for the visually impaired in 1836 in Amritsar, India. These are the humble beginnings of ensuring welfare of the persons with disabilities in India.

**Persons with Disabilities:** Persons with Disabilities include those who have long-term physical, mental, intellectual or sensory impairments which in interaction with various barriers may hinder their full and effective participation in society on an equal basis with others<sup>8</sup>

**Rehabilitation:** It refers to a process aimed at enabling persons with disabilities to reach and maintain their optimal physical, sensory, intellectual, psychiatric or social functional levels.

**Universal Design:** Design of products, environment, programmes and services to be used by all people, to the greatest extent possible, without the need for adaptation or specialized design. It shall not exclude assistive devices for particular groups of persons with disabilities where this is needed. (Universal design shall be ensured mainly in temporary shelters/homes)

**Types of Impairment** (According to UNCRPD)

|              |                                       |
|--------------|---------------------------------------|
| Physical     | Mobility and physical Function        |
| Sensory      | Vision, Hearing, Taste, Touch & Smell |
| Intellectual | Learning & Cognition                  |
| Mental       | Psychological, Psycho-social          |

**2.2) Appropriate terminology in Disability**

The terminologies in disability is continually evolving. Terminologies differ between countries, regions, cultures etc. Certain expressions are inappropriate and humiliating and should be avoided. As language also influences attitudes and practices, some precautions should be taken while talking about persons with disabilities, especially in trainings.

‘Person first’ – Refer to the person first, not the disability. A person should not be addressed by his/her disability. Eg: Blind person. Following are some suggestions in this regard.

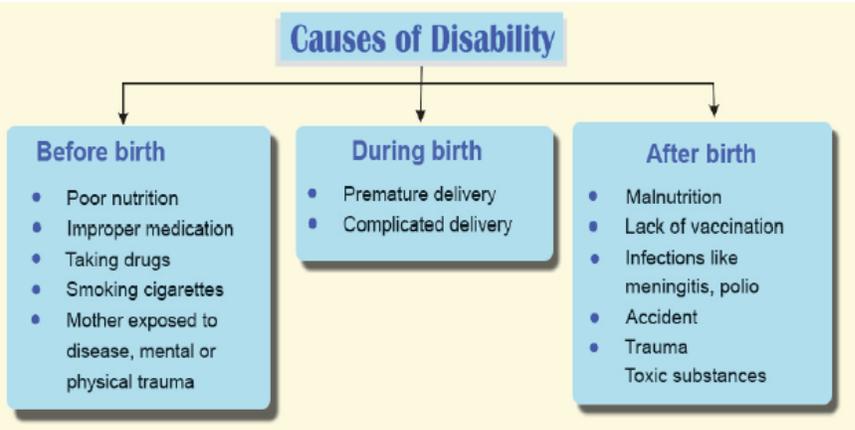
| Avoid using these terms  | Use   |
|--|---|
| The disabled, the handicapped, the crippled                      | Persons with disabilities                           |
| Crippled by, afflicted with, suffering from, victim of, deformed | Person who has or persons with (name of disability) |
| Lame   | Persons with a mobility impairment                  |
| Confined, bound, restricted to or dependent on a wheelchair      | Persons who uses a wheelchair                       |
| Deaf and dumb  | Persons who is hard of hearing, hearing impaired    |

<sup>8</sup> Definition by UNCRPD

|  |  |
|--|--|
| Idiot, moron, cretin, mentally retarded or mentally abnormal | Persons with intellectual disabilities or persons with learning disabilities |
| Spastic  | Persons with cerebral palsy  |
| Blind  | Persons who are blind or visually impaired                                   |

**2.3 Disability and Disasters**

Persons with disabilities are amongst the most vulnerable of groups in a society. An estimated 15% of the world’s population lives with some form of disability. A survey<sup>9</sup> in 2013 among 5450 respondents with disabilities from 126 countries illustrates why persons with disabilities are injured or lose their lives at disproportionately high rates, as they are rarely consulted about their needs, preparedness, relief and recovery efforts. The survey further states that only 20% of respondents were able to evacuate their place of residence without much difficulty, whereas the majority would have some level of difficulty or not able to evacuate at all. If sufficient time was given to evacuate, 38% say they could evacuate without difficulty. This presses the need for well informed and timely Early Warning System (EWS). The survey also shows that 71% of respondents have no personal preparedness plan. Only 31% have someone to assist them to evacuate. Only 17% of respondents were aware of a disaster management plan of their community. 50% of them wish to participate in disaster risk management programmes.



**Disability as a cross-cutting issue**

Disability is not simply a health concern, it is a cross-sectoral issue including social welfare, education, health, employment and income generation, accessibility issues relating to transport, infrastructure and built environment and access to water and sanitation.

**2.4 Legal Provisions for Persons with Disabilities & International Frameworks**

**a) The Persons with Disabilities (Equal Opportunities, Protection of Rights & Full Participation) Act, 1995**

This act was passed by the Parliament on December 12, 1995 and notified on February 7, 1996. The Act elaborates the responsibility of the Central and State governments, local bodies to provide services, facilities and equal opportunities to people with disabilities for participating as productive

<sup>9</sup> See UNISDR’s global survey of Persons with Disabilities (2013), <http://www.unisdr.org>

citizens of the country. The Act enlists the rights and facilities persons with disabilities would be entitled to and what are enforceable. The act provides for both preventive and promotional aspects of rehabilitation.

The Act has 14 chapters which are as follows:-

- I. Preliminary
- II. The central co-ordination committee and executive committee
- III. The State co-ordination & executive committee
- IV. Prevention and early detection of disabilities
- V. Education
- VI. Employment
- VII. Affirmative Action
- VIII. Non – discrimination
- IX. Research and Manpower development
- X. Recognition of institutions for persons with disabilities
- XI. Institution for persons with severe disabilities
- XII. The chief commissioner & commissioners for persons with disabilities
- XIII. Social security
- XIV. Miscellaneous

According to this Act, disability means

- I. Blindness
- II. Low vision
- III. Leprosy – cured
- IV. Hearing impairment
- V. Locomotor disability
- VI. Mental retardation
- VII. Mental illness

#### **b) United Nations Convention on the Rights of Persons with Disabilities 2007**

The convention on the rights of persons with disabilities and its optional protocol was adopted on 13<sup>th</sup> December 2006, India has signed this convention on the first day of its opening and ratified it on 1<sup>st</sup> October 2007. The UNCRPD identifies 6 civil and political rights, and 12 economic, social and cultural rights to be enjoyed by all persons with disabilities without discrimination of gender, socio-economic or rural-urban status. The convention has primarily 32 articles followed by 50 articles which are concerned with implementation, reports and monitoring. The UNCRPD is the only international legal instrument for PWDs. The UNCRPD is being implemented through the Incheon strategy across the world, which is given below: In India, the UNCRPD has been harmonized into a new Disability Bill, which is awaiting Parliament's discussion and passage. The new Disability bill will replace the existing PWD Act of 1995, with 18 disabilities to be mandated by law, and several new civil and political rights added.

### c) Incheon Strategy to ‘make the right real’ for persons with disabilities in Asia and the Pacific.

Governments of the ESCAP<sup>10</sup> region gathered in Incheon, Korea from 29<sup>th</sup> October to 2<sup>nd</sup> November 2012 to chart the course of the new Asian and Pacific decade of PWDs for the period 2013 to 2022. The strategy provides the Asia & the Pacific with the first set of regionally agreed disability inclusive development goals, which are as follows:-

- 1) Reduce poverty and enhance work and employment prospects
- 2) Promote participation in political processes and in decision – making
- 3) Enhance access to the physical environment, public transportation, knowledge, information and communication
- 4) Strengthen social protection
- 5) Expand early intervention and education of children with disabilities
- 6) Ensure gender equality and women’s empowerment
- 7) **Ensure disability inclusive disaster risk reduction and management**
- 8) Improve the reliability and comparability of disability data
- 9) Accelerate the ratification and implementation of the convention on the rights of persons with disabilities and harmonization of national legislation with the convention
- 10) Advance sub-regional, regional and interregional cooperation

The 7<sup>th</sup> goal of the strategy specifically talks about ensuring disability inclusive disaster risk reduction and management. The Asia-pacific region is the most adversely affected region by disaster. Public service announcements are often issued in formats and language that are not accessible by persons with disabilities. In addition, emergency exits, shelters etc are not barrier free. Regular participation of persons with disabilities in emergency preparedness drills and other DRR measures at the local and district levels could prevent or minimize risk and damage when disasters occur. Under this goal, there are two targets, which are

Target 1) Strengthen disability inclusive DRR planning

Target 2) Strengthen implementation of measures on providing timely and appropriate support to persons with disabilities in responding to disasters.

### d) National policy for Persons with Disability, 2006

The National Policy recognizes that Persons with Disabilities are valuable human resources for the country and seeks to create an environment that provides them equal opportunities, protection of their rights and full participation in society. It is in consonance with the basic principles of equality, freedom, justice and dignity of all individuals that are enshrined in the Constitution of India and implicitly mandate an inclusive society for all, including persons with disabilities. The National

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<sup>10</sup> Economic and Social Commission for Asia and the Pacific

Policy recognizes the fact that a majority of persons with disabilities can lead a better quality of life if they have equal opportunities and effective access to rehabilitation measures.

The salient features of the National Policy are:

- i) Physical Rehabilitation, which includes early detection and intervention, counselling and medical interventions and provision of aids and appliances. It also includes the development of rehabilitation professionals;
- ii) Educational Rehabilitation which includes vocational training; and
- iii) Economic Rehabilitation, for a dignified life in society

#### **e) Kerala State Policy for Persons with Disability, 2014**

Kerala State Policy for PWDs recognizes responsibility, necessity, inevitability and commitment of including disability dimensions in all development agenda, programs, and action plans in the State of Kerala and recognize and respect for inherent dignity, individual autonomy including the freedom to make one's own choices, and independence of persons. Kerala State Policy also recognizes and respect for difference and acceptance of PWDs as part of human diversity and humanity. State will ensure barrier free, full and effective participation and inclusion in society through non - discrimination, equality of opportunity, gender equality and opportunity, and protection of rights of PWDs, equal with all persons in the society irrespective of age, caste, creed, language and cultural diversities, differences and variations.

Other legal instruments are

#### **f) Rehabilitation Council of India Act, 1992**

which emphasizes on

- Standardization and regulation of human resource development in rehabilitation
- Accreditation to training centres
- Registration of professionals/personnel

#### **g) National Trust for the welfare of person with autism, cerebral palsy, mental retardation and multiple disabilities Act 1999**

which

- Enables person with these 4 disabilities and organizations for / of them
- Strengthens families in crisis
- Provides for legal guardianship

### **2.5 Sustainable Development Goals and Disability**

On 25 September 2015, the 193 countries of the UN General Assembly adopted the 2030 Development Agenda titled *Transforming our world: the 2030 Agenda for Sustainable Development*. Out of the seventeen sustainable development goals, the following address disability

#### Goal 4

Guaranteeing equal and accessible education by building inclusive learning environments and providing the needed assistance for persons with disabilities

#### Goal 8

Promoting inclusive economic growth, full and productive employment allowing persons with disabilities to fully access the job market

#### Goal 10

Emphasizing the social, economic and political inclusion of persons with disabilities

#### Goal 11

Creating accessible cities and water resources, affordable, accessible and sustainable transport systems, providing universal access to safe, inclusive accessible and green public spaces

#### Goal 17

Underlining the importance of data collection and monitoring of the SDGs, emphasis on disability disaggregated data



‘Persons with disabilities’ or ‘disability’ are specifically mentioned in the 2030 agenda for Sustainable Development 11 times

## 2.6) Institutional Arrangements for the Persons with Disabilities in the State

### a) Directorate of Social Justice

The Social Justice Directorate is the nodal agency for implementing various schemes of the Ministry of Women and Child Development and the Ministry of Social Justice and Empowerment of Govt. of India for Women & Children, Differently Abled and Senior Citizens.

The Directorate is the main body for implementing various social legislations pertaining to the weaker sections of the society.

## Contact details of district social justice offices

|                    |              |
|--------------------|--------------|
| Thiruvananthapuram | 0471-2343241 |
| Kollam             | 0474-2790971 |
| Pathanamthitta     | 0468-2325168 |
| Alappuzha          | 0477-2253870 |
| Kottayam           | 0481-2563980 |
| Idukki             | 04862-228160 |
| Ernakulam          | 0484-2425377 |
| Thrissur           | 0487-2321702 |
| Malappuram         | 0483-2735324 |
| Palaghat           | 0491-2505791 |
| Kozhikode          | 0495-2371911 |
| Wayanad            | 0493-6205307 |
| Kannur             | 0497-2712255 |
| Kasaragode         | 0499-4255074 |

(More Details - [www.swd.kerala.gov.in](http://www.swd.kerala.gov.in))

### b) Kerala Social Security Mission

The Kerala Social Security Mission, a charitable society sponsored by the Social Welfare Department, was set up on 14<sup>th</sup> October 2008. Kerala Social Security Mission (KSSM), organized under Social Justice Department, has a mission to extend service and support to the destitute, poor, aged, children, women, chronically ill cancer patients and other weaker sections of population. Kerala Social security mission identifies, undertakes and implements social security projects for the weaker sections. KSSM strives to revamp institutions under the Social Justice Department to make them more comfortable to the inmates. KSSM creates facilities for centralised food processing and food supplementation to poor patients undergoing treatment in government hospitals and rehabilitate patients discharged from hospitals who have nowhere to go. KSSM is deeply dedicated to differently abled persons, destitute and those who demand care and deserve protection in our society. The State has started a new initiative christened ‘State initiative on disability – Prevention, Detection, Early Intervention, Education, Employment, and Rehabilitation’.

(More Details - [www.socialsecuritymission.gov.in](http://www.socialsecuritymission.gov.in))

### c) State Commissionerate for Persons with Disabilities

State Commissionerate for Persons with Disabilities started function with effect from 01.07.1999 in the State. State Commissionerate for Persons with Disabilities is a statutory body constituted under the central Act of Persons with Disabilities 1995. The main function of the Commissionerate is monitoring the implementation of the Persons with Disabilities Act in the state. The Commissionerate is a semi judicial body that can exercise the power of a Civil Court under Section 63 of the Act for the redressal of the grievances of the Persons with Disabilities.

The organisation structure of the State Commissionerate for Persons with Disabilities is a single tier, functioning only at the State level. The area of operations extended to the whole State of Kerala. No sub offices are in the district/regional level in the State. The Commissionerate undertake to convene medical camps for issuing disability certificates to Persons with Disabilities. Seminars, Workshops etc. are convened to make awareness on the rights and privileges of the Persons of Disabilities to the public as well as elected member of the Local Self Government bodies.

(More Details - <https://kerala.gov.in/state-commissionerate-for-persons-with-disabilities>)

#### **d) The Kerala State Handicapped Persons' Welfare Corporation**

The Kerala State handicapped persons' welfare corporation is a public sector undertaking under the State Government established in 1979 with its Head Office at Poojappura, Thiruvananthapuram. The main aims and objectives of the company are to formulate, to promote and implement many schemes aimed at the rehabilitation or improvement of the living conditions of the visually impaired, the deaf and dumb, the orthopaedically handicapped and mentally retarded persons and to provide financial/technical assistance to physically disabled persons, group of such persons and organizations engaged in activities on the rehabilitation and welfare of handicapped persons.

(More details - [www.hpwc.kerala.gov.in](http://www.hpwc.kerala.gov.in))

#### **e) National Institute of Speech & Hearing**

NISH is an autonomous body under the Department of Social Justice, Government of Kerala which has been accredited as “excellent” institute by the Rehabilitation Council of India. NISH is a comprehensive multi-purpose institute focusing on the identification, rehabilitation, education of the individuals with communication disorders. Since its inception back in 1997, NISH has made significant contributions for improving the quality of life of individuals with communication disorders and has taken pioneering effort in implementing various programs for the disabled population.

The activities of NISH include

- Multi-disciplinary assessment and intervention for various communication disabilities including a team of audiologists, speech language pathologists, physiotherapists, psychologists, ENT surgeon and Neurologist.
- Early intervention programs for young hearing impaired children.
- Counselling and parent guidance.
- Academic programs including degree courses for Hearing Impaired students and Professional rehabilitation course.
- Camps and outreach program.
- Research in the field of disability.
- Seminars, workshops, CRE programs.

(More Details – [www.nish.ac.in](http://www.nish.ac.in))

## 2.6 Disability Census Kerala, 2015 - Highlights

Kerala is the first state in India to conduct household census of disabled population. The disability census of Kerala collected detailed information of persons having one or more disabilities mentioned in the list as given below:-

- 1) **Loco motor Disabilities** - *a person's inability to execute distinctive activities associated with movement of self and objects resulting from affliction of musculoskeletal or nervous system or both.*
- 2) **Muscular Dystrophy** - *a group of hereditary genetic muscle disease that weakens the muscles that move the human body and persons with multiple dystrophy have incorrect or missing information in their genes, which prevents them from making the proteins they need for healthy muscles. It is characterised by progressive skeletal muscle weakness, defects in muscle proteins, and the death of muscle cells and tissue.*
- 3) **Chronic Neurological Disorders** - *a condition that has its origin in some part of person's nervous system lasting for a long period of time or marked by frequent recurrence.*
- 4) **Multiple Sclerosis** - *means an inflammatory, nervous system disease in which the myelin sheaths around the axons of nerve cells of the brain and spinal cord are damaged, leading to demyelination and affecting the ability of nerve cells in the brain and spinal cord to communicate with each other.*
- 5) **Kyphosis** - *abnormally excessive convex kyphotic curvature of the spine as it occurs in the thoracic and sacral regions. (Inward concave curving of the cervical and lumbar regions of the spine is called lordosis.) Kyphosis can be called roundback or Kelso's hunchback.*
- 6) **Short Stature/Dwarfism** - *is typically defined as an adult height that is more than two standard deviations below the mean for age and gender, which corresponds to the shortest 2.3% of individuals. In developed countries, this typically includes adult men who are shorter than 163 centimetres (5 ft 4 in) tall and adult women who are shorter than 150 centimetres (4 ft 1 in)*
- 7) **Blindness** - *a condition where a person has any of the following conditions, after best correction,—*
  - (i) Total absence of sight; or
  - (ii) Visual acuity not exceeding 3/60 or 10/200 (Snellen) in the better eye; or
  - (iii) Limitation of the field of vision subtending an angle of 10 degree or worse

|  |
|--|
| Disability Census, Kerala 2015                                   |
| 7,93,937 suffer from Disabilities (2.32 % of States' population) |
| 7.12 lakh households have disabled people (8.66% of households)  |

- 8) **Low-Vision** - a condition where a person has any of the following conditions, namely:—  
(i) Visual acuity not exceeding 6/18 or 20/60 and less than 6/60 or 20/200 (Snellen) in the better eye with correcting lenses; or (ii) Limitation of the field of vision subtending an angle of more than 10 and up to 40 degree.
- 9) **Specific Learning Disabilities** - a heterogeneous group of conditions wherein there is a deficit in processing language, spoken or written, that may manifest itself as a difficulty to comprehend, speak, read, write, spell, or to do mathematical calculations and includes such conditions as perceptual disabilities, dyslexia, dysgraphia, dyscalculia, dyspraxia and developmental aphasia.
- 10) **Speech And Language Disability** means a permanent disability arising out of conditions such as laryngectomy or aphasia affecting one or more components of speech and language due to organic or neurological causes.
- 11) **Intellectual Disability** - a condition characterised by significant limitations both in intellectual functioning (reasoning, learning, problem solving) and in adaptive behaviour, which covers a range of everyday social and practical skills.
- 12) **Mental Illness** - a substantial disorder of thinking, mood, perception, orientation or memory that grossly impairs judgment, behaviour, capacity to recognise reality or ability to meet the ordinary demands of life, but does not include mental retardation which is a condition of arrested or incomplete development of mind of a person, specially characterised by subnormality of intelligence.
- 13) **Autism Spectrum Disorder** - a neuro-psychological condition typically appearing in the first three years of life that significantly affects a person's ability to communicate, understand relationships and relate to others, and is frequently associated with unusual or stereotypical rituals or behaviours.
- 14) **Hearing Impairment** - loss of sixty decibels hearing level or more in the better ear in the conversational range of frequencies.
- 15) **Leprosy Cured Person** - a person who has been cured of leprosy but is suffering from—  
(i) loss of sensation in hands or feet as well as loss of sensation and paresis in the eye and eye-lid but with no manifests deformity; (ii) manifest deformity and paresis but having sufficient mobility in their hands and feet to enable them to engage in normal economic activity; (iii) extreme physical deformity as well as advanced age which prevents him or

*her from undertaking any gainful occupation, and the expression “leprosy cured” shall be construed accordingly.*

**16) Haemophilia** - *an inheritable disease, usually affecting only male but transmitted by women to their male children, characterised by loss or impairment of the normal clotting ability of blood so that a minor wound may result in fatal bleeding.*

**17) Thalassemia** - *a group of inherited disorders characterised by reduced or absent amounts of haemoglobin*

**18) Sickle Cell Disease** - *a haemolytic disorder characterised by chronic anaemia, painful events, and various complications due to associated tissue and organ damage; “haemolytic” refers to the destruction of the cell membrane of red blood cells resulting in the release of haemoglobin*

**19) Cerebral Palsy** - *a group of non-progressive neurological condition of a person affecting body movements and muscle co-ordination caused by damage to one or more specific areas of the brain, usually occurring before, during or shortly after birth.*

**20) Epilepsy** - *a central nervous system disorder (neurological disorder) in which nerve cell activity in the brain becomes disrupted, causing seizures or periods of unusual behaviour, sensations and sometimes loss of consciousness. A surge of excessive electrical activity happening at the same time causes involuntary movements, sensations, emotions, and behaviours and the temporary disturbance of normal neuronal activity may cause a loss of awareness.*

**21) Deaf blindness** - *a condition in which a person may have a combination of hearing and visual impairments causing severe communication, developmental, and educational problems and include,—*

*(i) moderate to profound hearing and significant visual impairments;*

*(ii) moderate to profound hearing and significant visual impairments and other significant disabilities;*

On the morning of January 26, 2001, a massive earthquake measuring 7.9 on the Richter scale hit the district of Kutch, Gujarat killing 20,000 people and injuring an estimated 160000 others. Hundreds of people lost limbs, thousands broke their bones and many more were left paralysed. Due to the huge loss of human life and the destruction of infrastructure, the possible long-term consequences of the earthquake were physical, emotional, economic and social. For those particularly vulnerable, notably persons with disabilities, the path was longer and tougher.

- (iii) central processing problems of vision and hearing;
- (iv) progressive sensory impairments or significant visual impairment; and
- (v) possible loss of auditory processing mechanisms (associated with severe physical disability or severe cognitive disability) and severe communication delay.

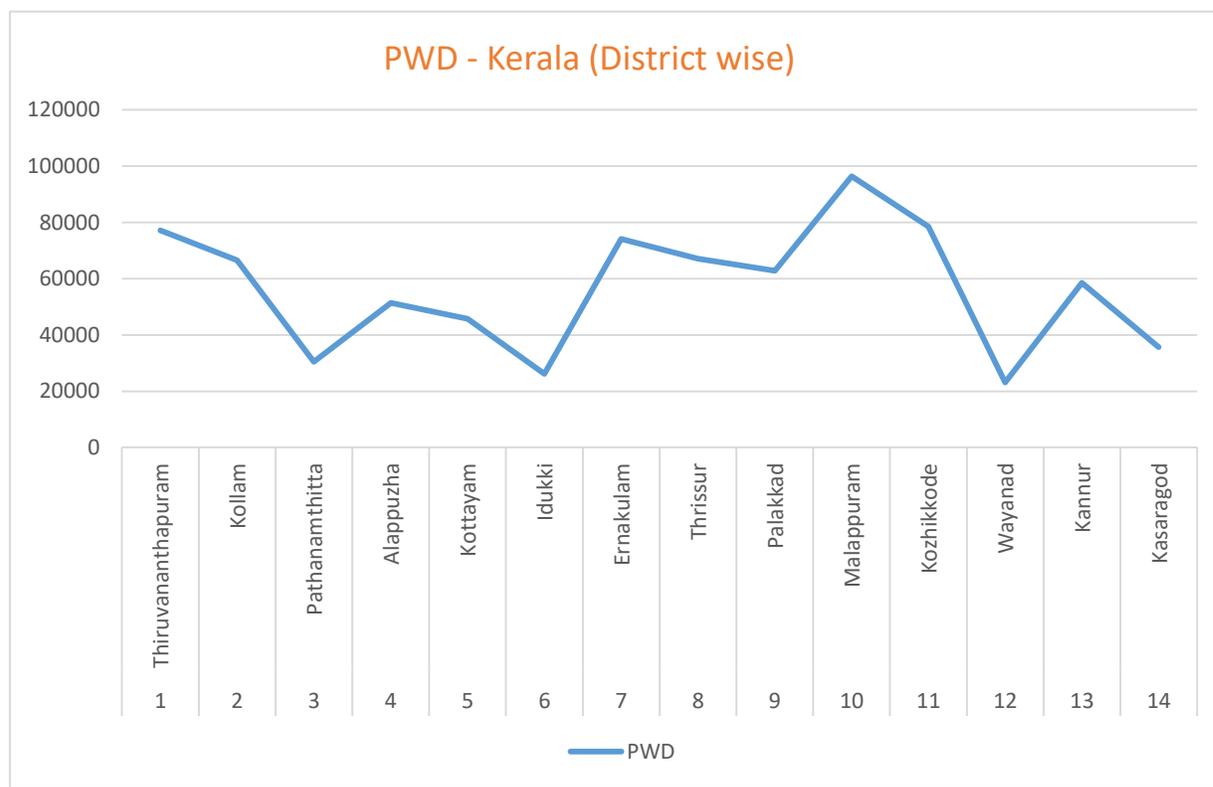
22) **Multiple Disability** means two or more of the specified disabilities mentioned at serial numbers 1 to 18, occurring in a person at the same time.

### Number of Persons with Type of disability (Disability Census 2015)

| Sl.No | Type of disability             | No: of PWDs   | Per cent (%) |
|-------|--------------------------------|---------------|--------------|
| 1     | Locomotor Disability           | 261087        | 32.89        |
| 2     | Muscular Dystrophy             | 2280          | 0.29         |
| 3     | Chronic Neurological Disorder  | 3633          | 0.46         |
| 4     | Multiple Sclerosis             | 515           | 0.06         |
| 5     | Kyphosis                       | 4887          | 0.62         |
| 6     | Short Stature/Dwarfism         | 6079          | 0.77         |
| 7     | Blindness                      | 20477         | 2.58         |
| 8     | Low Vision                     | 61900         | 7.8          |
| 9     | Learning Disability            | 8074          | 1.01         |
| 10    | Speech and Language Disability | 22648         | 2.86         |
| 11    | Intellectual Disability        | 68934         | 8.69         |
| 12    | Mental Illness                 | 100983        | 12.71        |
| 13    | Autism                         | 3135          | 0.39         |
| 14    | Hearing Impaired               | 60925         | 7.67         |
| 15    | Leprosy Cured                  | 1175          | 0.15         |
| 16    | Haemophilia                    | 1445          | 0.18         |
| 17    | Thalassemia                    | 569           | 0.06         |
| 18    | Sickle Cell Anaemia            | 1006          | 0.13         |
| 19    | Cerebral Palsy                 | 6385          | 0.8          |
| 20    | Epilepsy                       | 19512         | 2.46         |
| 21    | Deaf blindness                 | 842           | 0.11         |
| 22    | Multiple Disabilities          | 137446        | 17.31        |
|       | <b>TOTAL</b>                   | <b>793937</b> | <b>100</b>   |

## District wise data of PWDs<sup>11</sup>

| Sl.No | District           | PWD   | Per Cent (%) |
|-------|--------------------|-------|--------------|
| 1     | Thiruvananthapuram | 77164 | 9.73         |
| 2     | Kollam             | 66519 | 8.38         |
| 3     | Pathanamthitta     | 30447 | 3.83         |
| 4     | Alappuzha          | 51403 | 6.47         |
| 5     | Kottayam           | 45781 | 5.77         |
| 6     | Idukki             | 26226 | 3.3          |
| 7     | Ernakulam          | 74127 | 9.34         |
| 8     | Thrissur           | 67133 | 8.46         |
| 9     | Palakkad           | 62814 | 7.91         |
| 10    | Malappuram         | 96447 | 12.15        |
| 11    | Kozhikkode         | 78548 | 9.89         |
| 12    | Wayanad            | 23122 | 2.91         |
| 13    | Kannur             | 58535 | 7.37         |
| 14    | Kasaragod          | 35671 | 4.49         |



<sup>11</sup> Disability Census Kerala 2015



# Disability Inclusive Disaster Risk Reduction

# 3

**“Disability is not a brave struggle or courage in the face of adversity. Disability is an art. It’s an ingenious way to live”**

- Neil Marcus

## Chapter 3 | Disability inclusive Disaster Risk Reduction

- What is Inclusion?
- Steps for Inclusion
- Indicators of disability inclusive DRR
- Disability inclusive disaster risk reduction
- Process of Inclusion
- Emergency Contact Card for PWDs.

One of the seven guiding principles of the UNCRPD is the full and effective inclusion of PWDs in the society. Inclusion is a broader social justice issue and not merely a disability issue. Inclusion means exercising the human rights of all persons, acknowledging diversity and ensuring that everyone can actively participate in development processes and activities, including disaster management programmes. Inclusion is not just about ‘involvement’ or ‘integration’ but about upholding rights, recognizing specific needs and barriers to inclusion and taking steps to address these issues.

Persons with disabilities and other vulnerable groups are at high risk of death, injury and additional impairments, as a result of exclusion from disaster risk reduction policies, plans and programmes. Public services/early warning systems are, many a times, in a language that are not followed by PWDs. In addition, emergency exits, shelters and facilities tend not to be barrier free. Regular participation of persons with disabilities in emergency preparedness drills and other DRR measures at the local and district levels could prevent or minimize risk and damage when disaster strikes. Physical and information infrastructure that incorporates universal design principles would improve the chances of safety and survival.

### 3.1) Following steps are to be taken to ensure inclusion of PWDs

#### a) Participation of the PWDs in disaster preparedness

The Disaster Management Act 2005 urges the Local State Government (LSG) bodies to prepare disaster mitigation plans according to the hazard profile of the respective locations. When such plans are being formulated in the village, district and state levels, participation of PWDs need to be ensured by the authorities. Active participation promotes commitment to the decisions made mutually, it ensures that all alternatives are reviewed so that the local problem is addressed by the most appropriate and cost-effective solution, it ensures that activities are coordinated with each other and with other community goals and activities, it prevents conflicts and reduces the costs of implementation. Participation of PWDs also educates communities on the needs of the PWDs and the measures to be adopted to

*“Inclusion is not a strategy to help people fit into the systems and structures which exist in our societies, it is about transforming those systems and structures to make it better for everyone. Inclusion is about creating a better world for everyone”*

- Diane Richler  
President, Inclusion  
International

mitigate the risks associated with them. Participation also enhances the coping capacity of PWDs towards disasters.

Persons with disabilities cannot participate effectively in disaster risk management efforts unless they are given the support they need in advance as well as during decision-making processes. Without active and effective participation of persons with disabilities, DRR efforts are not inclusive. Participation therefore is the cornerstone of inclusive disaster risk management. It is both an end in itself as well as a means to an end, that is, reduced disaster risk for all.

Key stakeholders to ensure participation of PWDs.

- a. Local government bodies – like Panchayat, Municipalities, Corporations
- b. Government Departments – like Revenue & disaster management, Education, Health, Water resources, Public Works Department etc
- c. Private Sector – Builders, contractors, hospitals, schools, institutions, shopkeepers etc
- d. Others – NGOs, CBOs, CSOs, Corporates

## b) Enhancing Accessibility

Accessibility refers to the design of products, devices, services, or environment for people with disabilities. The concept of accessibility ensures both "direct access" (i.e. unassisted) and "indirect access" meaning compatibility with a person's assistive technology (for example, computer screen readers). Accessibility is strongly related to universal design which is the process of creating products that are usable by people with the widest possible range of abilities, operating within the widest possible range of situations.

Accessibility is a potentially relevant and powerful tool that can translate the provisions made in various Acts, Strategies and Frameworks in to reality.

Accessible India campaign was launched by the Hon'ble Prime Minister in December 2015, which kindles a new hope for a targeted vision of accessible India which includes all.



## c) Capacity Development of PWDs

Capacity development covers strengthening of PWDs, associated institutions, mechanisms, and capacities of all stakeholders at all levels. This project recognizes the need for a strategic approach to capacity development and the need for enthusiastic participation of various stakeholders to make it effective. It also addresses the challenge of putting in place appropriate institutional framework, management systems and allocation of resources for efficient prevention and handling of disasters.

The planning needs of capacity development are described for all the four aspects of disaster management:

- a) Prevention or mitigation to reduce risk from hazards
- b) Preparedness for response
- c) Effective response when disaster occurs
- d) Ability to recover and build back better



#### **d) Inclusive Early Warning System (EWS)**

Early Warning System refers to the set of capacities, skills and information needed to generate and disseminate timely and meaningful warning information to enable individuals, communities and organizations threatened by a hazard to prepare and to act appropriately to reduce the possibility of harm or loss. EWS plays an important role in disaster management. A well informed warning system should be inclusive to cater to the needs of the persons with disability, which means, the mode of communication regarding the EWS should be friendly to all types of disability. Ideally, a disability inclusive EWS should provide information in both auditory and visual forms and include other community driven/owned mechanism to cover the entire PWDs.



### 3.2) Suggestions on disability inclusive EWS are as follows

| Impairment  | Suggested Early Warning System (medium of dissemination)   |
|---|--|
| <br>Visual           | Audio signals like alarms, sirens, radio, drums, warning in Braille, messages in big fonts, flashy/bright colours, spot lights turned on/off frequently etc. Messages in DAISY format is also suggested. |
| <br>Speech & Hearing | Visual signals (posters, newspapers, pictures, messages through sign language/interpreter, turning light off/on frequently) Videos with subtitles are good for this group.                               |
| <br>Physical         | Generally, physically impaired can follow most of the communication methods. Audio & Visual signals could be used for this group.  |
| <br>Intellectual     | Appropriate gestures, body language, visual/audio signals as the case may be. For this group, care givers need to follow the EWS to assist those with severe mental disability.                          |

#### Competent Agencies for Issuing Early Warning

IMD – Weather Warnings; CWC – Flood Warnings; GSI/NCESS – Landslide Warnings; INCOIS/NCESS: High Wave & Tsunami; NEOC/SEOC – Any of the Above; District EOC/District Collector – Events without precursors (Eg: Accidents/Earthquakes/Terror Attacks); Government – Any of the above

### 3.3) Process of Inclusion

One important method of inclusion is to encourage community participation to enhance the resilience of communities towards disaster risk reduction, especially engaging PWDs actively in decision making, planning etc. Here the community acts as safety net for safeguarding the interests of the PWDs. Community Based Disaster Risk Management (CBDRM) is one of the effective tools to promote community participation, which has been implemented in various villages and urban wards of Kerala by ‘Government of India-UNDP project on enhancing institutional and community resilience to disasters and climate change’ through KSDMA.

The community should be trained

- To identify PWDs in vulnerable areas and inform the task force members/authorities of their specific needs.
- To map houses of PWDs for evacuation in the DM plans (see the map given as illustration)
- To identify and put in place special protection measures for rehabilitation facilities, like temporary shelters etc.

- To rescue & evacuate PWDs in times of emergencies/disasters

The process of inclusion has four stages, starting with denial, and then acceptance, leading to greater understanding and from there finally to knowledge. When knowledge is transferred, as is being done through this handbook and subsequent trainings, inclusion of persons with disabilities will follow.

|             |   |               |                                       |   |
|-------------|---|---------------|---------------------------------------|---|
| <b>From</b> | 1 | Denial        | Exclusion                             |  |
|             | 2 | Acceptance    | Segregation                           |   |
|             | 3 | Understanding | Integration / Special Needs Education |   |
|             | 4 | Knowledge     | Applicable for all (Inclusion)        |   |

**exclusion to inclusion**

### 3.4) Indicators of Inclusion

- Availability of disability inclusive DRR plans
- Availability of disability inclusive training for all relevant service personnel
- Proportion of accessible emergency shelters and disaster relief sites
- Number of persons with disabilities who died or were seriously injured in disasters
- Availability of psychosocial support service personnel that have the capacity to assist persons with disabilities affected by disasters
- Availability of assistive devices and technologies for persons with disabilities in preparing for and responding to disasters

### 4) Emergency Contact Card for PWDs

Carrying an emergency contact card can help a PWD and others who come to help/rescue at the time of emergency in a better way, hence, it is suggested to use a similar type of card as given below.

**EMERGENCY CONTACT CARD**

(To be carried with the PWD always)

Photo

Name: \_\_\_\_\_ Nick name (if any) \_\_\_\_\_

Contact No: \_\_\_\_\_ Address: \_\_\_\_\_

Type of Disability: \_\_\_\_\_

**I can (Tick)**

See \_\_\_ Hear \_\_\_ Speak \_\_\_ Read \_\_\_ Follow sign language \_\_\_

Assistive Device: \_\_\_\_\_

I can follow \_\_\_\_\_ language (Mala./Eng./Hindi)

Blood Group: \_\_\_ Medicines: \_\_\_\_\_ Allergic to: \_\_\_\_\_

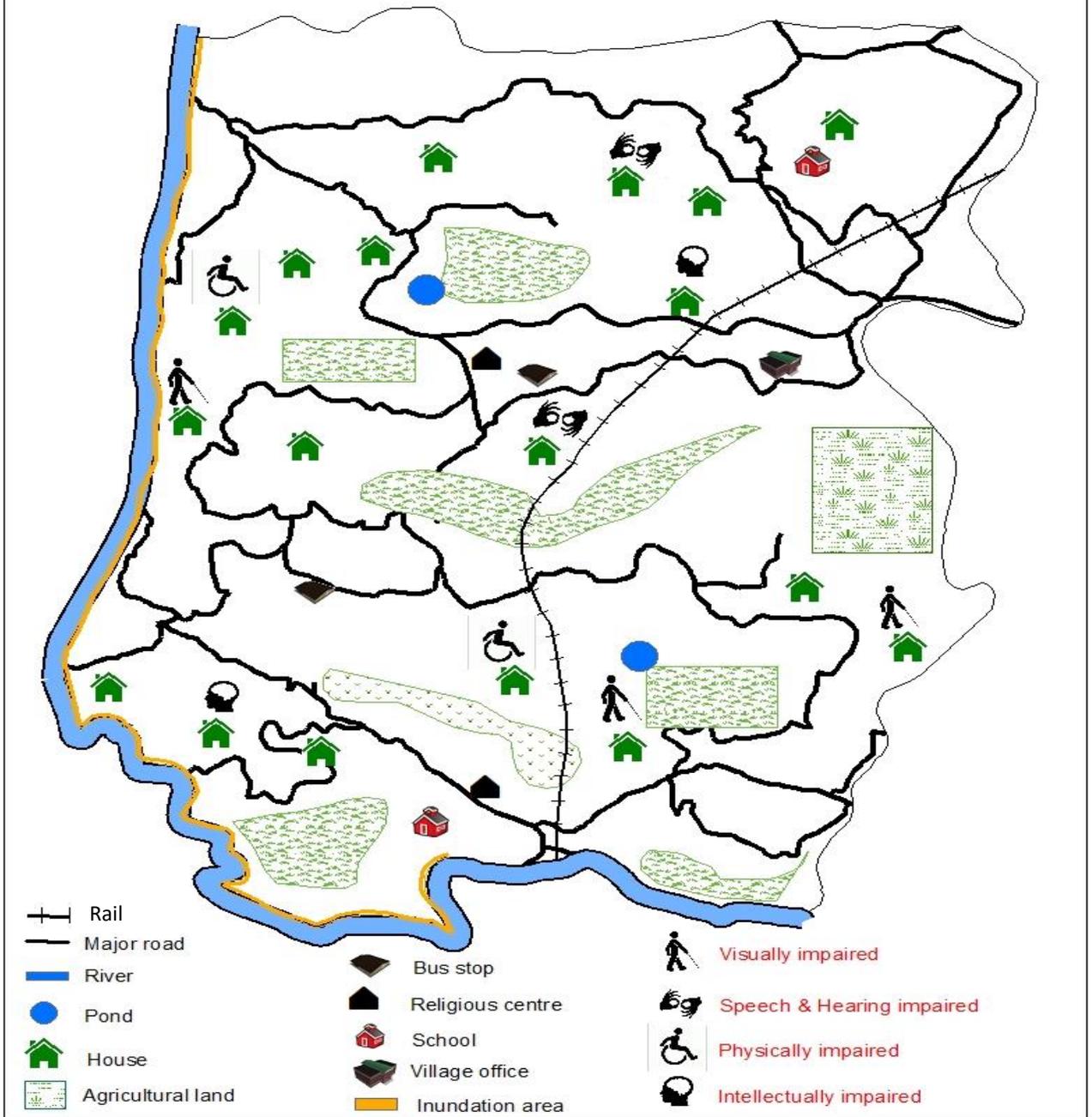
**Contact details in Emergency**

Name: \_\_\_\_\_ Relation \_\_\_\_\_

Address: \_\_\_\_\_ Contact No: \_\_\_\_\_

# DISABILITY INCLUSIVE MAP

N  
Map not to Scale





During one of the discussions conducted by KSDMA, a physically impaired person said - “according to me, being a disabled itself is a DISASTER in my life”

# Mainstreaming Disability into DRR

# 4

**“The only disability in life is a  
bad attitude”**

- Scott Hamilton

## Chapter 4 | Mainstreaming Disability into Disaster Risk Reduction

- Introduction to Mainstreaming disability into DRR
- Why & How Mainstreaming
- Steps in Mainstreaming
- Considerations for Persons with Disability
- Case Study

The Constitution of India ensures equality, freedom, justice and dignity of all individuals and implicitly mandates an inclusive society for all, including persons with disabilities. The Constitution, in the schedule of subjects lays direct responsibility to empower the people with disabilities on the State governments. PWDs have the same rights as all others in the society and every attempt should be made to ensure that they enjoy access to the services and activities including disaster management programmes.

Mainstreaming means looking critically at each activities/programmes being planned, not only from the perspective of reducing vulnerability of that activity from hazards but also from the perspective of minimizing that activity's potential contribution to hazard specific vulnerability with emphasis on persons with disabilities. Mainstreaming is a process whereby DRR measures are fully institutionalized into the policies and practices of the State by all stakeholders at all levels. In this process disaster risks and disability considerations are mandatorily factored into the activities/programmes.

### 4.1) Steps in Mainstreaming

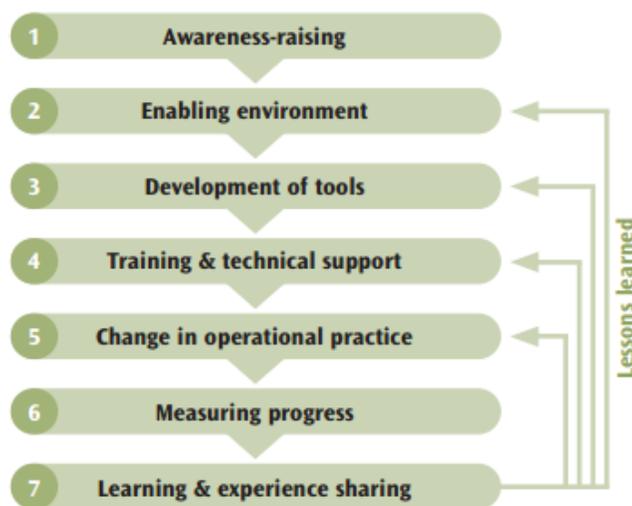
(Mainstreaming model from ProVention Consortium)

#### 1) Awareness Raising

Raise general awareness on disability issues and on the importance of mainstreaming disability into DRR. Awareness should be done at all levels from communities to the policy makers.

#### 2) Enabling Environment

An enabling environment shall be created to have active participation of PWDs to make informed decisions. Disability has to be seen as a cross-cutting development and justice issue rather than purely a health or social welfare issue. A conducive environment shall include infrastructure, EWS, attitudes of the society, laws, policies etc.



### 3) Development of Tools

Appropriate tools shall be developed to support Disaster Risk Reduction actors in effectively including disability issues towards mainstreaming. Programming, appraisal and evaluation tools shall be used.

### 4) Training & Technical Support

Governments, NGOs and other agencies shall provide appropriate skill trainings to the persons with disabilities along with technical support. KSDMA, with this project desires to train as many PWDs as possible to impart adequate skills and raise awareness among PWDs and caregivers.

### 5) Change in operational practice

Necessary changes in operational practice will enhance mainstreaming such as early assessment, adequate supporting information, cost minimization, treatment of low-probability, high-impact risks, transparent, inclusive and accountable consultation and adequate upkeep and maintenance of development investments.

### 6) Measuring Progress

Progress shall be measured against the targets indicated in the international frameworks such as Sendai framework as well as the national/state targets or objectives. Achievement of Sustainable Development Goals (SDG) also should be considered.

### 7) Learning and experience sharing

Disability & Disaster Management practitioners shall make every effort to share and document the learning, experiences & best practices on disability mainstreaming.

#### Mortality of PWDs during Tsunami 2004

*“There was a polio epidemic in Car Nicobar Island several years ago, which resulted in 700 people becoming disabled. I went there three days after the disaster Tsunami struck but could not locate a single disabled person! They may be dead as they may not have been able to run up the hills to save their lives”*

- Dr S P Saha,  
Head of Orthopedic  
Department, GB Pant  
Hospital, Port Blair

## 4.2) Considerations for Persons with Disabilities

### 1) Visually Impaired

People with visual impairment need books and materials in Braille. Some of them with low vision need books and materials with larger and bold fonts. The following may be included to make them more comfortable

- i) Mobility canes
- ii) Yellow pathways
- iii) Audio aids and recordings
- iv) Concrete objects to teach shape, size, weight, thickness etc. near to real experiences through touch, smell and hearing.
- v) Instructor/Training facilitator should be more verbal
- vi) Text to speech softwares
- vii) Providing auditory cues
- viii) Have doors and furniture without sharp objects
- ix) When people talk, they should first introduce self, this will make it easier for a person with visual impairment to identify who he/she is speaking to
- x) Make them familiar with directions
- xi) Encourage problem solving, reasoning based on real life problems
- xii) Support in orientation and mobility
- xiii) Multisensory training

#### Barrier Free Environment

Barrier free environment enables PWDs to move about safely and freely and use the facilities within the built environment. The goal of barrier free design is to provide an environment that supports the independent functioning of individuals so that they can participate without assistance, in everyday activities

(National Policy of PWD, 2006)

### 2) Speech & Hearing Impaired

People with speech and hearing impairment are unable to hear at all/partially. They may use hearing aid. They are unable to speak and communicate clearly or have unclear speech and use sign language to communicate. They may need the following

- i) Sign language
- ii) Multi-sensory training
- iii) Support in using hearing aids
- iv) Training to improve speech
- v) Training to improve hearing
- vi) Lip reading
- vii) Visual aids – pictures, videos etc

### 3) Physically Impaired

This group has limited body movement/control. They face wide spread muscle tensions and stiffness, they need the following

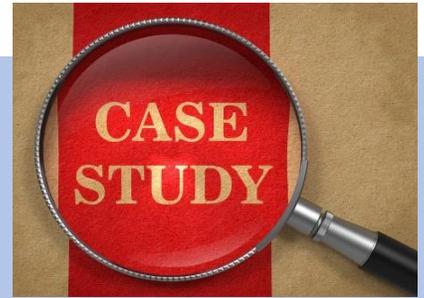
- i) Support in body movement and control
- ii) Support in walking
- iii) Proper arrangement of seating in the training hall
- iv) Support in daily activities
- v) Training in gross motor activity
- vi) Assistive devices like wheel chairs, crutches
- vii) Removing structural barriers
- viii) Accessible locations

### 4) Intellectually Impaired

Because of poor intelligence and slowness in physical and mental activities, this group is unable to recognize common shapes. They also find it difficult to develop fine motor skill like drawing, painting and even hand writing. They have difficulty in concentrating on any kind of activity; they need

- i) Support in identification of various shapes / signs
- ii) Training to improve mental and physical activities
- iii) Physical exercises / drills
- iv) Training to improve fine motor skills
- v) Training to participate in group activities
- vi) Activity based learning rather than seat based learning
- vii) Limit the distractions as much as possible
- viii) Providing the content in easy/simple language with a lot of pictures

## | Reena & Raju



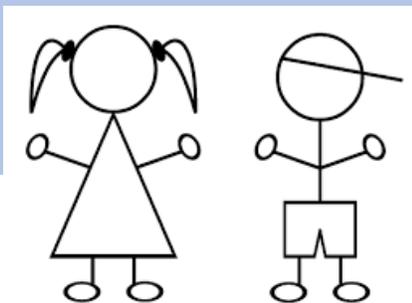
Kavalam village in Alappuzha district (Kerala), is a flood prone village. Almost every year floods hit this village. Floods in the past have been strong and destroyed many houses in the community. Let's assume the value of the hazard (the floods) for this village equal to 6 (on a scale between 0 and 10).

Reena is hearing impaired (PWD) and lives in a house situated in the middle of the flood prone area that has no raised grounds and is of poor quality. Let's assume her vulnerability in the event of floods equal to 7. However, Reena has been well instructed about floods, their impact and what to do when a flood occurs. She has followed mock drills on early warning and evacuation. Her capacity to deal with a flood is assumed to be 6.

Raju, is also hearing impaired (PWD), lives in a poorly built house, and his vulnerability is therefore assumed to be the same (7). He migrated to this village only 6 months back and hasn't heard anything about floods, related risks and impact. He hasn't been included in any disaster preparedness activities. Let's therefore assume his capacity to deal with the floods equal to 1.

If we fill in the values in the equation, ( $\text{Risk} = \text{Hazard} \times \text{Vulnerability} / \text{Capacity}$ ), we receive two very different disaster risks for Reena ( $6 \times 7 / 6 = 7$ ) and Raju ( $6 \times 7 / 1 = 42$ ). Reena's risk to this hazard is lower and she would be better capable to deal with the floods whereas Raju may find it difficult to cope with the floods. Capacity building and training programmes are required for people like Raju to understand about hazards and build the capacity to face such hazards.

*(For illustration purpose only)*



## Suggested days to conduct Awareness Programmes, Workshops, Trainings on Disability or Disaster Risk Reduction

|          |                  |  |
|----------|------------------|--|
| February | 20 <sup>th</sup> | World Day of Social Justice                    |
| March    | 08 <sup>th</sup> | International Women’s Day                      |
| March    | 21 <sup>st</sup> | World Down Syndrome Day                        |
| April    | 02 <sup>nd</sup> | World Autism Awareness Day                     |
| April    | 07 <sup>th</sup> | World Health Day                               |
| April    | 22 <sup>nd</sup> | Earth Day                                      |
| April    | 28 <sup>th</sup> | World Day for Safety and Health at Work        |
| May      | 15 <sup>th</sup> | International Day of Families                  |
| June     | 05 <sup>th</sup> | World Environment Day                          |
| August   | 12 <sup>th</sup> | International Youth Day                        |
| October  | 02 <sup>nd</sup> | World Cerebral Palsy Day                       |
| October  | 10 <sup>th</sup> | World Mental Health Day                        |
| October  | 13 <sup>th</sup> | International Day for Disaster Risk Reduction  |
| November | 14 <sup>th</sup> | Children’s Day                                 |
| December | 03 <sup>rd</sup> | International Day of Persons with Disabilities |
| December | 10 <sup>th</sup> | Human Rights Day                               |



Disability friendly communication materials are essential to make the PWDs prepared for disasters.

(KSDMA has prepared brochures on various hazards in Braille)

# First Aid & Survival Skills

# 5

**“I think the biggest disability that we have as human beings is UNBELIEF”**

- Nick Vujicic

## Chapter 5 | First Aid & Survival Skills

- Disaster preparedness
- Family disaster preparedness plan
- First aid & survival skills
- Do's and Don'ts in emergency situations
- Emergency contact numbers in Kerala

This chapter seeks to provide PWDs/general public with a basic understanding of disasters that affect them and the actions they can take in order to reduce risks to themselves and their families, especially PWDs. This chapter contains basic first aid & survival skills and do's and don'ts during a disaster event.

### 5.1) Disaster Preparedness

In any disaster preparedness, PWDs and others should

- Determine possible risks and hazards that could affect their community through observation based on past history of disaster in the area and by observing their environment
- Assess vulnerabilities in connection to identified hazard threats. Eg: Is your house near a flood prone area? Is it near a mountain? Etc
- Plan to take necessary actions to mitigate or prevent those risks



• Make special accommodation and plans for family members with disabilities.

### 5.2) Family Disaster Preparedness Plan

Making a family prepared for disasters is important, especially when the family has PWDs/children/aged/pregnant women etc. Family disaster preparedness plan is necessary for families living in hazardous areas.

**This plan is of four steps**

#### **First Step** – Be **AWARE**

Be aware about various hazards/disasters which have occurred in your locality, in the past. Occurrence of a disaster depends upon the geographical, geological, environmental and human induced parameters.



- Recognize various natural and human induced hazards in your locality which can lead to a disaster or can increase the impact of a disaster.

*(Picture Illustrations – Emergency Safety & First Aid handbook by MHA, Govt of India)*

- Be aware about the geographical, social, economic and weather related conditions of your locality which can increase the risk of a disaster.
- If there are any pregnant ladies, differently abled, geriatric, patients and children in your family, make them realize about the various difficulties they have to face at the time of a disaster.
- Gather information regarding “what to do and what not to do” during a crisis situation from State/District Disaster Management Authority or any concerned departments.

**Second Step** - Prepare **DISASTER MANAGEMENT PLAN** for your family.

At the time of a disaster, it may not be possible that all family members be together; and hence a disaster management plan is necessary to decide ‘what’ and ‘how’ each family member should respond.

- Decide how each family member should act during different types of disasters to save their own life and the life of the family members.
- Each member should know two safe locations (1 – a safe house in the neighbourhood and 2 - a house away from home) so that they can assemble there, after a crisis event.
- Each member should know the name, phone number and address of person whom they should contact during/after a crisis situation.
- All important documents related to Land, Bank, Insurance papers, Certificates of education should be kept safely from damage.
- Make special arrangements for PWDs in the plan.

**Third Step** - Prepare an **EMERGENCY KIT** for your family

- During a crisis situation, you and your family may have to live for a few days without basic facilities. So it is better to prepare an emergency kit with all necessary supplies, which your family may need during those days for survival and safety.
- Make sure that your emergency kit is water resistant and easy to carry. It should be kept in a safe place inside your house, so that each/any of your family member can grab it at the time of an emergency.
- In each kit there should be water bottle sufficient for next 72 hours (2 litres/person/day) and following items should also be kept:  
Important documents, Snacks, radio, first aid box, Tool kit, whistle, soap, toilet paper, liter, umbrella, medicines, torch and battery, charger and mobile. Assistive devices should be kept in the case of persons with disabilities. (Eg: Hearing aid). The family may add any other item as appropriate.



# Emergency Kit for **People with Disabilities**

## What is an Emergency kit?



A disaster/emergency is a sudden event. You may need to vacate your house/place of residence immediately. People with Disability may find greater difficulty in evacuation. Hence, an emergency kit will help you to evacuate yourself faster. In case of intellectually disabled, caregivers may have to help them.

The kit may be prepared in a water resistant bag and keep it in an accessible location known to all in the family.

When disaster strikes, anyone in the family/PWD can grab the kit and leave the house unhurt. The following things could be kept, you may also add as you wish. This should help you to survive 72 hours ideally.



**Torch & Battery**



**Dry Snacks like biscuits**

**Water**



**Medicines**



**Assistive devices**



**Knife/Blade**



**Mobile, Charger/Powerbank**



**Important Documents**

(eg: disability certificate)



**Clothes**



**Radio & Battery (for those who can hear)**



**ATM/Credit/Debit Cards**



**Jewelry/valuables**

#### **Fourth Step - MOCK EXERCISES** should be done to enact the plan

After preparing the plan, it is necessary that the family members practice the security and saving exercises in an organized manner. It would be practically difficult to evacuate physically challenged, aged and small children, hence, mock exercises will help them to prepare before an emergency.

- Important and simple exercises like DROP – COVER – HOLD during an earthquake and STOP – DROP – ROLL for fire should be practised.
- At least once in three months, practise how to reach the nearest safe shelter from your home during a crisis situation.
- Replace necessary items like water and snacks from the emergency kit prepared and ensure quality of the items.
- Ensure that children know all emergency contact numbers and route map to reach the nearest safe shelter.
- Train yourself in first aid with the help of trained personnel and also spread awareness among your society regarding the various hazards in your locality. Some basic information on first aid is given below.



### **5.3) FIRST AID**

Any immediate assistance or treatment given to a person who is injured or suddenly taken ill, before the arrival of skilled medical help is known as First Aid. In an emergency situation injuries are often aggravated due to lack of adequate care. Proper first aid always helps to reduce casualties in a post disaster situation.

The aim of first aid is to:-

1. Preserve life and limbs
2. Limit further injuries or limit worsening of the injury
3. Promote recovery

First aid is limited to the assistance rendered at the time of emergency with materials that may be available. If possible, a first aid provider should use personal protection equipment (PPE) such as a personal mask, latex gloves, eye protection and apron/gown, if necessary. Providing first aid training to PWD may be a challenge.



## Administering First Aid

As a first aid provider, perform first things first such as prioritizing and carrying out first aid procedure quietly without panic.

### Initial assessment (Primary Survey)

- After ensuring your own safety, check for general responsiveness of the victim
- Always call for help
- Assess the person in the position he/she was found.
- Check for airway, breathing and circulation (ABCs of Resuscitation). These three are required for maintaining life)
- Check for the level of consciousness by :
  - Tap on shoulder and ask “are you OK”, gently shake him or pinch him gently
- Conscious victim’s ability to speak (If not mute) ensures proper air way or that the air passage is not blocked.
- For unconscious victim, put your ear over victim’s mouth and nose and listen for breathing. If you do not see, hear or feel patients breathed air, or the victim is not breathing normally, start Cardiopulmonary Resuscitation (CPR)
- After you have determined victim’s responsiveness and breathing, check for adequate circulation by feeling the pulse in the side of the neck.

After ensuring that the person is conscious and breathing normally, then proceed with your next assessment (secondary survey)

- Check for deformity, obstruction, tenderness and swelling in head, neck, cheek, back, abdomen and pelvis.
- To help a person who may have stopped breathing, a CPR needs to be administered quickly.



### 5.3.a) Following steps may be used to administer CPR

- Perform Initial Assessment** – Always perform initial assessment in the position the person is found. If victim needs to be turned on his back for CPR, move the neck and body at the same time like rolling a log. Shake the person gently and check for response.



Open the person's mouth using the head tilt chin lift' technique and check if there are any foreign objects in mouth or throat and remove them. Check breathing by placing your face close to the mouth and observing the chest. Look, listen and feel for signs of breathing for up to 10 seconds. If the casualty is not responding (unconscious) and not breathing normally, call for help and start performing CPR.



## ii) Administer Resuscitation CPR

1. Perform external chest compressions by placing the heel of one palm at the lower half of the breast bone and keeping fingers off the ribs. Cover this hand with the heel of the other hand.
2. Keep arms straight and push down vertically about 4 to 5 cm and then release. Do not lift hands off the chest between compressions. Complete 30 compressions in 18 seconds.
3. After one cycle of compressions tilt head back, pinch nose and give two short breaths of mouth-to-mouth respiration.
4. Complete 5 cycles of this routine (compressions and mouth-to-mouth) within 2 minutes. Check pulse after every 5 cycles.
5. Stop compressions as soon as pulse returns and check for breathing. If there is no breathing continue mouth-to-mouth respiration until natural breathing is restored.
6. Cover your mouth with clean cloth/ handkerchief to prevent transmitting infections when giving mouth to mouth rescue breathing.
7. Continue CPR till you are completely exhausted, or someone takes over. Never leave the victim alone. To perform CPR with proper CPR techniques and procedures one should undergo CPR training.



**5.3.b) Treating Wounds** - Wounds do not kill the persons immediately, but the bleeding will. So the immediate aim of first aid is to stop bleeding. Once the bleeding is controlled, proceed with the rest of the care of wound.

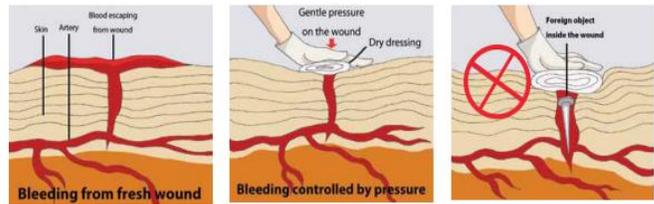
- Taking care of open wounds
- Put on personal protection
- Equipment (protect yourself)
- Expose the wound
- Control bleeding



## Control bleeding

Bleeding is simply blood escaping from its vessels. The main method to stop bleeding is by applying pressure.

Place your palm or fingers over the bleeding point and apply direct pressure. Bleeding usually stops after a while.



With this method there is also a slight risk of germs infection into the wound. To prevent this, place a clean piece of material over the wound before applying pressure.

Do not use this method if there is a foreign body in the wound or if a fracture is suspected

### 5.3.c) Treating Fractures

A fracture is a broken or cracked bone. We can recognize the presence of fracture by

- History of injury
- Presence of pain
- Deformity and swelling
- Unable to use that part (loss of function)
- Grating sensation on moving the parts (never try to illicit it)

Dangers of fractures: The sharp end of fracture bone can cause damage to surrounding structures like

Nerve : Loss of sensation and movement in part distil to fracture

Blood Vessels : Loss of blood supply to part distal to fracture leading to ischemia and necrosis

Muscles : Loss of movement

Taking care of fractures

- First control bleeding if present
- Avoid unnecessary movement
- Immobilize the injured joint in the position in which it was found and seek medical help.

### 5.3.d) Treating burns

Skin acts as a defense protecting our body from the entry of harmful micro-organism. Any break (burns) in the skin opens the way for all diseases causing micro-organisms to enter the body. It also leads to loss of fluids and heat from the body.

Burns are often classified on the basis of percentage of the body surface area involved. The more the percentage of burns, more will be the complications like infections, loss of body fluids leading to shocks etc. The other classification is depending on the depth of burns viz.

**Superficial** First degree burns which involve only the top layer of the skin

**Partial Thickness** Second degree burns in which the superficial layer of the skin is damaged and burns extend to the next layer

**Full thickness** Third degree burns in which all the layers of the skin are burn including the fatty layers

- Reduce the spread of heat, pain and swelling by placing the burnt area under running water or immersing in water for at least 10 minutes. Avoid chilled water.
- Gently remove any rings, watches, belts or clothes from the injured area before swelling begins
- Cover the burns with clean, preferably sterile, non fluffy material, use dry sterile dressing
- Do not break any blisters or anything sticking in the burn
- Do not apply lotions, ointments etc to the injured area.



### 5.3.e) Treating Snake Bites

Death due to snake bite is common in Kerala. If outdoors, you can help prevent significant bites by wearing boots. If your occupation (farming etc) exposes you to dangerous snakes on a regular basis, preplanning before a potential bite may save your life. If you are ever bitten by a snake

- Stay calm and get safely away from the snake
- The less the victim moves the bitten site, the less likely the venom will spread through the body and cause damage
- Lie down the victim with the affected limb lower than the heart. Keep the limb immobilized. If practical, splint the limb
- Treat for shock and preserve body heat
- Identifying the type of snake will help in getting the specific anti-venom

DO NOT cut or suck the bite, cutting into the bite site can damage underlying organs, increasing the risk of infection and does not result in venom removal. The additional tissue damage may actually increase the diffusion of the toxins throughout the body.

DO NOT apply cold/ice packs. Recent studies indicate that application of cold or ice makes the injury much worse.

DO NOT use alcohol. Alcohol may deaden the pain, but it also makes the local blood vessels bigger, which can increase venom absorption.

### 5.3.f) Treating Dog Bites

Dog bites have increased in Kerala in the recent times. Due to human interaction with canine, dog bites are common, especially in children. Responding to a dog bite should always start with the safety for all involved.

As with other wounds, you should stop any bleeding by putting pressure on the wound

Once the bleeding is controlled, clean the wound with soap and warm water. Do not be afraid to clean inside the wound. Be sure to rinse all the soap away, or it will cause irritation later



Cover the wound with a clean, dry dressing. You can put antibiotic ointment on the wound before covering. Watch for signs of infection:

- Redness
- Swelling
- Heat
- Weeping pus

### 5.3.g) Choking

Choking is caused when the airway of a person is obstructed

#### a) Watch for signs of choking

Victim will be probably clasp their necks with their hands

In case of complete obstruction, victim cannot speak or make noise, if victims are able to speak, breathe or cough, they are attempting to expel the foreign object. One should not interfere with the process, however, if victim has difficulty breathing or speaking, one should perform the abdominal thrust



#### b) Performing the abdominal thrust

Stand behind the victim and wrap your arms around the waist

Grasp one fist with your other hand. Place the thumb side of the fist in the midline, slightly above the navel.

Press your fist into victim's abdomen with quick inward and upward thrust. Each thrust should be decisive and with the intention of relieving the obstruction.

#### c) Chest thrust for obese persons and pregnant women

Stand behind victim and place arms under the victim's armpits and encircle the chest

Grasp one fist with the other hand, place the thumb side of the fist in the middle of the victim's breastbone

Press with quick backward thrust.

### What is Psychological First Aid?

In a disaster event, people may lose their homes, loved ones, property, be separated from family and community, or may witness violence, destruction or death. Although everyone is affected in some way by these events, there are a wide range of reactions and feelings each person can have. Many people may feel confused, overwhelmed and insecure about what is happening. In such cases, psychological first aid is needed.

According to Sphere (2011) and IASC (2007), psychological first aid (PFA) describes a humane, supportive response to a fellow human being who is suffering and who may need support. PFA involves

- Providing care and support
- Assessing needs and concerns
- Helping people to address basic needs
- Listening to people, but not pressuring them to talk
- Comforting people and helping them to feel calm/safe
- Protecting people from further harm.

## 5.4) Survival skills during Disasters

### LANDSLIDE

The highlands of Kerala experience several types of landslides, of which debris flows are the most common. They are called '*Urul Pottal*' in the local vernacular. The following actions will help the PWDs to survive in the event of a landslide.

#### Do's

- Prepare tour to hilly region only according to information given by weather department or news channel/DDMA/SDMA.
- Move away from landslide path or downstream valleys quickly without wasting time.
- Keep drains clean
- Inspect drains for - litter, leaves, plastic bags, rubble etc.
- Grow more trees that can hold the soil through roots,
- Identify areas of rock fall and subsidence of buildings, cracks that indicate landslides and move to safer areas. Even muddy river waters indicate landslides upstream.
- Notice such signals and contact the nearest Tehsil or District Head Quarters/District control rooms.
- Ensure that toe of slope is not cut, remains protected, don't uproot trees unless re-vegetation is planned.
- Listen for unusual sounds such as trees cracking or boulders knocking together.
- Stay Alert, Awake and Active (3A's) during the impact or probability of impact.
- Locate and go to safe shelters (if directed by the authorities)
- Try to stay with your family and companions, especially if the family is having PWD(s)
- Check for injured and trapped persons.
- Mark path of tracking so that you can't be lost in middle of the forest.
- Know how to give signs or how to communicate during emergency time to flying helicopters and rescue team.



#### Don'ts

- Try to avoid construction and staying in/near to vulnerable areas.
- Do not panic and loose energy by crying/yelling.
- Do not touch or walk over loose material and electrical wiring or pole.
- Do not build houses near steep slopes and near drainage path.
- Do not drink contaminated water directly from rivers, springs, wells but rain water if collected directly is fine.
- Do not move an injured person without rendering first aid unless the casualty is in immediate danger.

## EARTHQUAKE

India has been divided into four seismic zones namely zone II, zone III, zone IV and zone V according to the maximum intensity of earthquake expected. The state has been included in the earthquake Zone III, where the maximum expected magnitude is 6.5. A number of mild tremors have been recorded in many parts of the State.

### What to Do Before an Earthquake

- Repair deep plaster cracks in ceilings and foundations. Get expert advice if there are signs of structural defects.
- Follow BIS codes relevant to your area for building standards
- Fasten shelves securely to walls.
- Place large or heavy objects on lower shelves.
- Store breakable items such as bottled foods, glass etc in closed cabinets with latches.
- Hang heavy items such as pictures and mirrors away from beds, settees/sofas, and anywhere that people sit/sleep.
- Brace overhead light and fan fixtures.
- Repair defective electrical wiring and leaky gas connections. These are potential fire risks.
- Secure water heaters, LPG cylinders etc., by strapping them to the walls or bolting to the floor.
- Store weed killers, pesticides, and flammable products securely in closed cabinets with latches and on bottom shelves.
- Identify safe places indoors and outdoors like:-
  - Under strong dining table, bed
  - Against an inside wall
  - Away from where glass could shatter around windows, mirrors, pictures, or where heavy bookcases or other heavy furniture could fall over
  - In the open, away from buildings, trees, telephone and electrical lines, flyovers and bridges
- Know emergency telephone numbers (such as those of doctors, hospitals, the police, Fire stations, control rooms etc)
- Educate yourself and family members, especially PWDs
- Disaster Resistant Construction Practice
- Techno Legal Regime for Safe Construction Practice (The State has this under LSG department)



## Develop an emergency communication plan

- In case family members are separated from one another during an earthquake (a real possibility during the day when adults are at work and children are at school), develop a plan for reuniting after the disaster.
- Ask an out-of-state relative or friend to serve as the 'family contact' after the disaster; it is often easier to call long distance. Make sure everyone in the family knows the name, address, and phone number of the contact person.

## Help your community to get ready

- Publish a special section in your local newspaper with emergency information on earthquakes. Localize the information by printing the phone numbers of local emergency services offices and hospitals.
- Work with local emergency services and officials to prepare special reports for people with mobility impairment and other PWDs on what to do during an earthquake.
- Provide tips on conducting earthquake drills at home.
- Work together in your community to apply your knowledge to building codes, retrofitting programmes, hazard hunts, and neighborhood and family emergency plans.

## What to Do During an Earthquake

Stay as safe as possible during an earthquake. Be aware that some earthquakes are actually foreshocks and a larger earthquake might occur. Minimize your movements to a few steps that reach a nearby safe place and stay indoors until the shaking has stopped and you are sure exiting is safe.

### If Indoors

- DROP to the ground; take COVER by getting under a sturdy table or other piece of furniture; and HOLD ON until the shaking stops. If there is no table or desk near you, cover your face and head with your arms and crouch in an inside corner of the building.
- Protect yourself by staying under the lintel of an inner door, in the corner of a room, under a table or even under a bed.
- Stay away from glass, windows, outside doors and walls, and anything that could fall, (such as lighting fixtures or furniture).
- Stay in bed if you are there when the earthquake strikes, especially if you are physically impaired. Hold on and protect your head with a pillow, unless you are under a heavy light fixture that could fall. In that case, move to the nearest safe place.
- Use a doorway for shelter only if it is in close proximity to you and if you know it is a strongly supported, load bearing doorway.

## What to do during an Earthquake:



- Stay inside until the shaking stops and it is safe to go outside. Research has shown that most injuries occur when people inside buildings attempt to move to a different location inside the building or try to leave.
- Be aware that the electricity may go out or the sprinkler systems or fire alarms may turn on.
- Never take lift/elevator during an earthquake.

### If outdoors

- Do not move from where you are. However, move away from buildings, trees, streetlights, and utility wires.
- If you are in open space, stay there until the shaking stops. The greatest danger exists directly outside buildings; at exits; and alongside exterior walls. Most earthquake-related casualties result from collapsing walls and other falling objects.

### If in a moving vehicle

- Stop as quickly as safety permits and stay in the vehicle. Avoid stopping near or under buildings, trees, overpasses, and utility wires.
- Proceed cautiously once the earthquake has stopped. Avoid roads, bridges, or ramps that might have been damaged by the earthquake.

### If trapped under debris

- Do not light a match.
- Do not move about or kick up dust.
- Cover your mouth with a handkerchief or clothing.
- Tap on a pipe or wall so rescuers can locate you. Use a whistle if one is available. Shout only as a last resort. Shouting can cause you to inhale dangerous amounts of dust.

## FLOOD

Floods are the most common of natural hazards that affect people, infrastructure and natural environment in Kerala.

### What to do before a flood

To prepare for a flood, you should:

- Avoid building houses in flood prone areas unless you elevate and reinforce your home.
- Elevate the furnace, water heater, and electric panel if susceptible to flooding.



- Install "Check Valves" in sewer traps to prevent floodwater from backing up into the drains of your home.
- Contact authorities/officials to find out if they are planning to construct barriers (levees, beams and floodwalls) to stop floodwater from entering the houses in your area.
- Seal the walls in your basement with waterproofing compounds to avoid seepage.

**If a flood is likely to hit your area, you should:**

- Listen to the radio or television for information.
- Be aware that flash flooding can occur. If there is any possibility of a flash flood, move immediately to higher ground. Do not wait for instructions to move.
- Be aware of streams, drainage channels, canyons, and other areas known to flood suddenly. Flash floods can occur in these areas with or without such typical warnings as rain clouds or heavy rain.

**If you must prepare to evacuate, you should:**

- Secure your home. If you have time, Move essential items to an upper floor.
- Turn off utilities at the main switches or valves if instructed to do so. Disconnect electrical appliances/gas stoves. Do not touch electrical equipment if you are wet or standing in water.
- Take the emergency kit along, if PWD, remember to carry assistive devices.

**If you have to leave your home, remember these evacuation tips:**

- Do not walk through moving water. Six inches of moving water can make you fall. If you have to walk in water, walk where the water is not moving. Use a stick to check the firmness of the ground in front of you.
- Do not drive into flooded areas. If floodwaters rise around your vehicle, abandon the vehicle and move to higher ground. You and the vehicle can be quickly swept away.

**CYCLONE**

**Before the Cyclone season:**

- Check the house; secure loose tiles and carry out repairs of doors and windows, if any
- Remove dead branches or dying trees close to the house; anchor removable objects such as lumber piles, loose tin sheets, loose bricks, garbage cans, sign-boards etc. which can fly in strong winds.
- Keep some wooden boards ready so that glass windows can be boarded if needed
- Keep a lantern filled with kerosene, battery operated torches and enough dry cells
- Demolish condemned buildings



## **Immediately before the cyclone season**

- When cyclone alerts and warnings are communicated by the SDMA/DDMA
- When evacuations are advised
- When the cyclone has crossed the coast

## **When the Cyclone starts**

- Listen to the radio (All India Radio stations give weather warnings).
- Keep monitoring the warnings. This will help you prepare for a cyclone emergency.
- Pass the information to others.
- Ignore rumours and do not spread them; this will help to avoid panic situations.
- Believe in the official information
- When a cyclone alert is on for your area continue normal working but stay alert to the radio warnings.
- Stay alert for the next 24 hours as a cyclone alert means that the danger is within 24 hours.

## **When your area is under cyclone warning get away from low-lying beaches or other low-lying areas close to the coast**

- Leave early before your way to high ground or shelter gets flooded
- Do not delay and run the risk of being marooned
- If your house is securely built on high ground take shelter in the safe part of the house. However, if asked to evacuate do not hesitate to leave the place.
- Board up glass windows or put storm shutters in place.
- Provide strong suitable support for outside doors.
- If you do not have wooden boards handy, paste paper strips on glasses to prevent splinters. However, this may not avoid breaking windows.
- Get extra food, which can be eaten without cooking. Store extra drinking water in suitably covered vessels.
- If you have to evacuate the house move your valuable articles to upper floors to minimize flood damage.
- Ensure that your torches or other emergency lights are in working condition and keep them handy.
- Small and loose things, which can fly in strong winds, should be stored safely in a room.
- Be sure that a window and door can be opened only on the side opposite to the one facing the wind.
- Make provision for children and adults requiring special diet.
- If the centre of the cyclone is passing directly over your house there will be a lull in the wind and rain lasting for half an hour or so. During this time do not go out; because immediately after that, very strong winds will blow from the opposite direction.
- Switch off the electrical mains in your house.
- Remain calm.

## When Evacuation is instructed

- Pack essentials for yourself and your family to last a few days. These should include medicines, special food for babies and children or elders.
- Head for the proper shelter or evacuation points indicated for your area.
- Do not worry about your property
- At the shelter follow instructions of the person in charge.
- Remain in the shelter until you are informed to leave

## Post-cyclone measures

- You should remain in the shelter until informed that you can return to your home.
- You must get inoculated against diseases immediately.
- Strictly avoid any loose and dangling wires from lamp posts.
- If you have to drive, do drive carefully.
- Clear debris from your premises immediately.
- Report the correct losses to appropriate authorities.

## TSUNAMI

Nine districts of Kerala are situated on the coast and hence the threat of Tsunami cannot be overlooked. In the year 2004, the State has lost many lives, livelihood and property to tsunami waves. The following suggestions may help you to prepare to be safe on such events.



- You should find out if your home, school, workplace, or other frequently visited locations are in tsunami hazard areas along sea-shore.
- Know the height of your street above sea level and the distance of your street from the coast or other high-risk waters. (Local administration may put sign boards).
- Plan evacuation routes from your house, school, workplace, or any other place you could be where tsunamis present a risk.
- If your children's school is in an identified inundation zone, find out what the school evacuation plan is.
- Practice your evacuation routes.
- Use a weather radio or stay tuned to a local radio or television station to keep informed of local watches and warnings. PWDs shall use appropriate mode of information for warning.
- Discuss tsunamis with your family. Everyone should know what to do in a tsunami situation. Discussing tsunamis ahead of time will help reduce fear and save precious time in an emergency. Review flood safety and preparedness measures with your family.

## If you are visiting an area at risk from tsunamis

- Check with the hotel or campground operators for tsunami evacuation information and find out what the warning system is for tsunamis. It is important to know designated escape routes before a warning is issued.
- One of the early warning signals of a tsunami is that the sea water recedes several metres, exposing fish on shallow waters or on the beaches. If you see the sea water receding, you must immediately leave the beach and go to higher ground far away from the beach.
- These areas are more likely to experience damage from tsunamis, strong winds, or coastal storms.
- Most tsunami waves are less than 3 meters. Elevating your house will help reduce damage to your property from most tsunamis.
- Take precautions to prevent flooding.
- Have an engineer check your home and advise about ways to make it more resistant to tsunami water.
- There may be ways to divert waves away from your property. Improperly built walls could make your situation worse. Consult with a professional for advice.

## What to Do if You Feel a Strong Coastal Earthquake

If you feel an earthquake that lasts 20 seconds or longer when you are in a coastal area, you should:

- Drop, cover, and hold on. You should first protect yourself from the earthquake damages. When the shaking stops,
  - Gather members of your household and move quickly to higher ground away from the coast. A tsunami may be coming within minutes.
  - Avoid downed power lines and stay away from damaged buildings and bridges from which Heavy objects might fall during an aftershock.
- If you are on land
- Be aware of tsunami facts. This knowledge could save your life! Share this knowledge with your relatives and friends. It could save their lives!
- If you are in school and you hear there is a tsunami warning,*
- You should follow the advice of teachers and other school personnel.
- If you are at home and hear there is a tsunami warning.*
- You should make sure your entire family is aware of the warning. Your family should evacuate your house if you live in a tsunami prone area. Move in an orderly, calm and safe manner to the evacuation site or to any safe place outside your evacuation zone. Follow the advice of local authorities.
- If you are at the beach or near the ocean and you feel the earth shake,*
- Move immediately to higher ground, DO NOT wait for a tsunami warning to be announced. Stay away from rivers and streams that lead to the ocean as you would stay away from the beach and ocean if there is a tsunami. A regional tsunami from a local earthquake could strike some areas before a tsunami warning could be announced.

- Tsunamis generated in distant locations will generally give people enough time to move to higher ground. For locally-generated tsunamis, where you might feel the ground shake, you may only have a few minutes to move to higher ground.
- Homes and small buildings located in low-lying coastal areas are not designed to withstand tsunami impacts. Do not stay in these structures should there be a tsunami warning.
- Offshore reefs and shallow areas may help break the force of tsunami waves, but large and dangerous wave can still be a threat to coastal residents in these areas.
- Staying away from all low-lying areas is the safest advice when there is a tsunami warning.

*If you are on a boat,*

- Since tsunami wave activity is imperceptible in the open ocean, do not return to port if you are at sea and a tsunami warning has been issued for your area. Tsunamis can cause rapid changes in water level and unpredictable dangerous currents in harbours and ports.
- If there is time to move your boat or ship from port to deep water (after a tsunami warning has been issued), you should weigh the following considerations:
  - If you are aware there is a tsunami warning and you have time to move your vessel to deep water, then you may want to do so in an orderly manner, in consideration of other vessels.
  - Owners of small boats may find it safest to leave their boat at the pier and physically move to higher ground, particularly in the event of a locally-generated tsunami.
  - Concurrent severe weather conditions (rough seas outside of safe harbor) could present a greater hazardous situation to small boats, so physically moving yourself to higher ground may be the only option.
- Damaging wave activity and unpredictable currents can affect harbours for a period of time following the initial tsunami impact on the coast. Contact the harbor authority before returning to port making sure to verify that conditions in the harbor are safe for navigation and berthing.

### **What to do after a Tsunami**

- You should continue using a weather radio or stay tuned to a Coast Guard emergency frequency station or a local radio or television station for updated emergency information.
- The Tsunami may have damaged roads, bridges, or other places that may be unsafe.
- Check yourself for injuries and get first aid if necessary before helping injured or trapped persons.
- If someone needs to be rescued, call professionals with the right equipment to help.
- Help people who require special assistance— Infants, elderly people, those without transportation, large families who may need additional help in an emergency situation, people with disabilities, and the people who care for them.
- Your presence might hamper rescue and other emergency operations and put you at further risk from the residual effects of floods, such as contaminated water, crumbled roads, landslides, mudflows, and other hazards.
- Use the telephone only for emergency calls. Telephone lines are frequently overwhelmed in disaster situations. They need to be clear for emergency calls to get through.
- Stay out of a building if water remains around it. Tsunami water, like floodwater, can undermine foundations, causing buildings to sink, floors to crack, or walls to collapse.

- When re-entering buildings or homes, use extreme caution. Tsunami-driven floodwater may have damaged buildings where you least expect it. Carefully watch every step you take.
- Use battery-powered lanterns or flashlights when examining buildings. Battery-powered lighting is the safest and easiest to use, and it does not present a fire hazard for the user, occupants, or building. **DO NOT USE CANDLES.**
- Look for fire hazards. Under the earthquake action there may be broken or leaking gas lines, and under the tsunami flooded electrical circuits, or submerged furnaces or electrical appliances. Flammable or explosive materials may have come from upstream. Fire is the most frequent hazard following floods.
- Check for gas leaks. If you smell gas or hear a blowing or hissing noise, open a window and get everyone outside quickly. Turn off the gas using the outside main valve if you can, and call the gas company from a neighbour's home. If you turn off the gas for any reason, it must be turned back on by a professional.
- Look for electrical system damage. If you see sparks or broken or frayed wires, or if you smell burning insulation, turn off the electricity at the main fuse box or circuit breaker. If you have to step in water to get to the fuse box or circuit breaker, call an electrician first for advice. Electrical equipment should be checked and dried before being returned to service.
- Check for damage to sewage and water lines. If you suspect sewage lines are damaged under the quake, avoid using the toilets and call a plumber. If water pipes are damaged, contact the water company and avoid using water from the tap. You can obtain safe water from undamaged water heaters or by melting ice cubes that were made before the tsunami hit. Turn off the main water valve before draining water from these sources. Use tap water only if local health officials advise it is safe.
- Watch out for wild animals, especially poisonous snakes that may have come into buildings with the water. Use a stick to poke through debris. Tsunami floodwater flushes snakes and animals out of their homes.
- Watch for loose plaster, drywall, and ceilings that could fall.
- Take pictures of the damage, both of the building and its contents, for insurance claims. Open the windows and doors to help dry the building.
- Shovel mud before it solidifies.
- Check food supplies.
- Any food that has come in contact with floodwater may be contaminated and should be thrown out.
- Expect aftershocks. If the earthquake is of large magnitude (magnitude 8 to 9+ on the Richter scale) and located nearby, some aftershocks could be as large as magnitude 7+ and capable of generating another tsunami. The number of aftershocks will decrease over the course of several days, weeks, or months depending on how large the main shock was.
- Watch your animals closely. Keep all your animals under your direct control. Hazardous materials abound in flooded areas. Your pets may be able to escape from your home or through a broken fence. Pets may become disoriented, particularly because flooding usually affects scent markers that normally allow them to find their homes. The behaviour of pets may change dramatically after any disruption, becoming aggressive or defensive, so be aware of their well-being and take measures to protect them from hazards, including displaced wild animals, and to ensure the safety of other people and animals.

## HEAT WAVE

Indian Meteorological Department issued heat-wave warning on 27-04-2016 in the State. This is the first time that such a warning was issued in the State. Temperature of Palakkad district was 6°C above normal touching a record high of 41.9°C.

Heat Wave conditions can result in physiological strain, which could even result in death. To minimise the impact during the heat wave and to prevent serious ailment or death because of heat stroke, you can take the following measures:



- Avoid going out in the sun, especially between 12.00 noon and 3.00 p.m.
- Drink sufficient water and as often as possible, even if not thirsty
- Wear lightweight, light-coloured, loose, and porous cotton clothes. Use protective goggles, umbrella/hat, shoes or chappals while going out in sun.
- Avoid strenuous activities when the outside temperature is high. Avoid working outside between 12 noon and 3 p.m.
- While travelling, carry water with you.
- Avoid alcohol, tea, coffee and carbonated soft drinks, which dehydrates the body.
- Avoid high-protein food and do not eat stale food.
- If you work outside, use a hat or an umbrella and also use a damp cloth on your head, neck, face and limbs
- Do not leave children or pets in parked vehicles
- If you feel faint or ill, see a doctor immediately.
- Use ORS, homemade drinks like lassi, torani (rice water), lemon water, buttermilk, etc. which helps to re-hydrate the body.
- Keep animals in shade and give them plenty of water to drink.
- Keep your home cool, use curtains, shutters or sunshade and open windows at night.
- Use fans, damp clothing and take bath in cold water frequently.

### **Tips for treatment of a person affected by a sunstroke:**

- Lay the person in a cool place, under a shade. Wipe her/him with a wet cloth/wash the body frequently. Pour normal temperature water on the head. The main thing is to bring down the body temperature.
- Give the person ORS to drink or lemon sarbat/torani or whatever is useful to rehydrate the body.
- Take the person immediately to the nearest health centre. The patient needs immediate hospitalisation, as heat strokes could be fatal.

## Acclimatisation

People at risk are those who have come from a cooler climate to a hot climate. You may have such a person(s) visiting your family during the heat wave season. They should not move about in open field for a period of one week till the body is acclimatized to heat and should drink plenty of water. Acclimatization is achieved by gradual exposure to the hot environment during heat wave.

## LIGHTNING

Kerala is prone to high incidence of lightning, especially during the months of April, May, October and November. Lightning has been notified as state specified disaster along with other disasters.

- Remember, rubber-soled shoes and rubber tires provide NO protection from lightning
- Unplug any/all electrical or electronic appliances and turn off air conditioners, TV, computers, iron etc.
- Use your battery operated radio for news updates
- Avoid contact with electrical equipment or cords
- Do not lie on concrete/marble floors and do not lean against concrete walls
- Help people who may require special assistance such as PWDs, children, elderly etc
- Stay away from broken power lines and report them to authorities immediately



## EPIDEMICS

The Directorate of Health Services identifies Malaria, Dengue, Chikungunya, AES/ Japanese encephalitis, Leptospirosis, Hepatitis-A, Typhoid, ADD, Cholera, H1N1 and Hepatitis-B as communicable diseases that has the potential of being an epidemic.

- Store at least two weeks supply of water and food
- Periodically check availability of your regular prescription of medicines (if any)
- Have other medicines handy including pain relievers, stomach remedies, cough and cold medicines, fluids with electrolytes and vitamins
- Volunteer with local groups to prepare and assist during emergency response
- Keep your surroundings clean and do not let the water be stagnant

- Avoid close contact with people who are sick. When sick, keep distance from others to protect them from getting sick
- If possible, stay at home, keep away from work, school etc. when you are sick. This will help prevent others from getting infected.
- Cover your mouth and nose with a tissue while coughing or sneezing. Washing your hands often will help protect you from harmful germs
- Avoid touching your eyes, nose or mouth. Germs are often spread when a person touches something that is contaminated with germs and then touches his or her eyes, nose or mouth.



## FIRE

- In case of fire, dial 101
- Learn at least two escape routes and ensure they are free from obstacles
- Remain calm, unplug all electrical appliances
- Keep bucket of water and blankets ready
- If clothes catch fire, STOP-DROP-ROLL (as shown in the pic)
- In case of uncontrolled fire, wrap the victim in a blanket, till the fire ceases.
- Don't burn crackers in crowded, congested places, narrow lanes or inside the house.
- Don't cover crackers with tin containers or glass bottles for extra sound effect.
- Avoid wearing long loose clothes, as they are fast in catching fire.
- Don't remove burnt clothing (unless it comes off easily)
- Don't apply adhesive dressing on the burnt area

*(also refer first aid for burns under First Aid section)*

**Stop.**



**Drop.**



**Roll.**



## District wise contact numbers of DDMA, Police, Health, Fire & Rescue.

| District       | DDMA<br>(Dist. Collector) | Police<br>(SP) <sup>12</sup> | Health<br>(DMO) <sup>13</sup> | Fire & Rescue<br>(DO) <sup>14</sup> |
|----------------|---------------------------|------------------------------|-------------------------------|-------------------------------------|
| Trivandrum     | 0471 2731177              | 0471 2300303                 | 0471 2473217                  | 0471 2320868                        |
| Kollam         | 0474 2794900              | 0474 2764422                 | 0474 2799299                  | 0474 2746200                        |
| Pathanamthitta | 0468 2222505              | 0468 2222636                 | 0468 2222642                  | 0468 2222001                        |
| Alappuzha      | 0477 2251720              | 0477 2239326                 | 0477 2252329                  | 0477 2230303                        |
| Kottayam       | 0481 2562001              | 0481 2564700                 | 0481 2562778                  | 0481 2567444                        |
| Idukki         | 0486 2233103              | 0486 2233006                 | 0486 2233030                  | 0486 2236100                        |
| Ernakulam      | 0484 2423001              | 0484 2623550                 | 0484 2360802                  | 0484 2206131                        |
| Thrissur       | 0487 2361020              | 0487 2361000                 | 0487 2333050                  | 0487 2423650                        |
| Palakkad       | 0491 2505266              | 0491 2534011                 | 0491 2505264                  | 0491 2505758                        |
| Malappuram     | 0483 2734355              | 0483 2734377                 | 0483 2766857                  | 0483 2734800                        |
| Kozhikkode     | 0495 2371400              | 0496 2523100                 | 0495 2370540                  | 0495 2323191                        |
| Wayanad        | 0493 6202230              | 0493 6202525                 | 0493 5240390                  | 0493 6202333                        |
| Kannur         | 0497 2700243              | 0497 2763330                 | 0497 2700709                  | 0497 2701092                        |
| Kasaragod      | 0499 4256400              | 0499 4257401                 | 0467 2203118                  | 0499 4230101                        |

|             |                                |
|-------------|--------------------------------|
| 100         | Police                         |
| 101         | Fire & Rescue                  |
| 139         | Railway call Centre            |
| 102 & 108   | Ambulance                      |
| 1090        | Crime stopper cell             |
| 155300      | Kerala Government Call Centre  |
| 1098        | Child helpline                 |
| 1910        | Blood bank                     |
| 1091        | Women's Safety                 |
| 1099        | Traffic Helpline               |
| 1077        | State Disaster Control Room    |
| 1070        | District Disaster Control Room |
| 9846200100  | Rail Alert                     |
| 04713943000 | Police Helpline                |
| 9846100100  | Safety on National Highways    |
| 04712331639 | SDMA Control Room              |

### EMERGENCY Numbers



<sup>12</sup> Superintendent of Police

<sup>13</sup> District Medical Officer

<sup>14</sup> Divisional Officer



# Training Persons with Disabilities

# 6

**“Training is costly; but, not to train  
is costlier”**

- Jawaharlal Nehru

## Chapter 6 | Training Persons with Disabilities

- Qualities of a Trainer/Facilitator
- Facilitator Do's and Don'ts
- Training methods & materials
- Specific tips for communicating with PWDs
- Training suggestions and Schedule

**T**raining is a process whereby the trainee acquires relevant skills related to a particular subject. Training is inevitable in the case of disaster management, so much so with the PWDs. By training the PWDs, they become aware about the risks around them, trainings will also help them to prepare for hazards and the likely emergency situations. The term 'facilitator' fits better than the term 'trainer', as the person who trains has to facilitate the sessions and create a learning atmosphere across various sessions and also encourage the trainees to participate and express their opinions, if any.

While training PWD groups, the facilitator should make sure that he/she uses different methods to address different types of disabilities. Eg: While training a visually impaired, obviously, you cannot use videos/PPTs, similarly while training hearing impaired, one cannot use audio/speech presentations. A facilitator has to be very sensitive in the terminologies used while training PWDs. Always respect the dignity of PWDs as you would for anyone else, irrespective of the kind of disability. Be patient with PWDs (trainees) and do not treat them as if they will not understand. Consider a PWD as the best expert about his/her disability and always ask the PWD for advice/suggestions on how best to meet his/her needs (eg: for a PWD with a physical disability, always ask her/him how best to lift or move him/her). Most of the PWDs use assistive devices, therefore do not separate a PWD from his/her assistive devices (wheelchairs, hearing aids etc)

### 6.1) Desirable qualities in a Facilitator

**Empathy:** This is the ability to put oneself in the shoes of another. It is the faculty for recognising the fears and uncertainties in the minds of trainees when learning additional techniques or skills. Empathy enables a facilitator to point out personal difficulties encountered by him/her in similar learning situations, so as to put the learners at ease.

**Honesty:** This is the courage to recognise personal strengths and weaknesses and to be frank about these aspects to the personnel being trained, for their own benefit.

**Patience:** This is shown in the willingness to compliment slow progress and refrain from anger when mistakes are made. It includes the techniques of repeating instructions, breaking down a task into small units and allowing time for learners to try out.

**Pace:** This is closely integrated with empathy and patience. This is an external speed governor, which acts more to slow down than to speed up. It is far better to move slowly and attain complete

mastery, than to push for rapid and sloppy completion. This quality is very much required while training PWDs.

**Democracy:** This refers to the kind of atmosphere created when learning takes place. The facilitator should be supportive and non-threatening in presentation. The tone of voice and facial expression should lead the learners to feel comfortable in raising questions, offering suggestions, reinterpreting instructions and generally to feel relaxed while they learn.

**Purpose:** This emphasizes the element of tenacity in achieving the training goals. A good facilitator conscientiously moves a group of learners along to a pre-set destination. There may be stops and shifts, but the eye is always fixed on certain performance standards and levels.

**An ability to listen:** The facilitator must hear questions raised by trainees and understand if the questions reflect other problem, which are not being mentioned. He should have the posture of a listener through training towards the speaker and maintaining eye contact.

**Respect for experience:** Trainees will learn more effectively if respect is given to the experience and qualifications they can bring to a situation. This will encourage greater participation and activity by facilitators.

## 6.2) Facilitator - Dos and Don'ts

- Use Icebreakers<sup>15</sup>
- Provide materials relevant to the PWD group (based on their ability to comprehend)
- Use more activities
- Encourage interaction with and among trainees
- Set ground rules
- Engage your trainees
- Be passionate about your session
- Know your trainees better
- Be prepared/be confident in your material
- Allow time for questions / reflections
- Be flexible (especially when you train persons with disabilities)
- Be selective in the material you present, use appropriate tools/methods to disseminate
- Share examples / real life stories and experiences
- Debrief with trainees and get feedback
- Have a sense of humor
- If you don't know the answer, be honest; you can ask the group for answers
- If no one asks questions, suggest your own
- Give handouts at end of training (rather than at the beginning)
- Use role-plays

DOs

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<sup>15</sup> An icebreaker is an activity, game or event that is used by a facilitator to welcome and warm up the trainees in a training session

**DOs**

- Bring your materials on a variety of formats
- Use small group discussions and activities
- Reinforce learning
- Repeat questions and comments so that everyone can hear
- Start and end on time
- Be open to trainees thoughts and opinions
- Give adequate breaks, be sensitive to their special needs
- Use appropriate terminologies
- Use simple language
- Maintain eye contact

**DON'Ts**

- Read your PowerPoint slides
- Use jargons
- Present in monotone
- Rush
- Overload learners
- Talk too fast
- Move around too much

**DON'Ts**

- Ignore trainees
- Use acronyms (eg: SDMA)
- Assume everyone is on the same level
- Start late
- End early
- Pretend to know everything

**6.3) Training Methods & Materials**

A training method is the process, technique or approach, which a facilitator uses in training. Some of the most common methods used during training are given below. However, a facilitator has to use his/her discretion in adopting any one or more of the following methods, especially when you facilitate sessions for the PWDs.

| Disability Group  | Method & Materials  |
|---|---|
|  | <p>Lecture Method – Words/Lessons spoken by the facilitator.</p> <p>Audio messages – Facilitator may use audio messages, like audio brochures produced by KSDMA on various hazards.</p> <p>Braille material – Most of the visually impaired people can read messages on braille format, hence this may be used, if available. KSDMA has released brochures in braille format too.</p> <p>Discussion Method – Group discussion is possible for this group.</p> |
|  | <p>For this group, the facilitator may use Visual presentations like PPT, Photographs, Video formats etc. The facilitator can also use texts so that those who are able to read can follow. Help of an interpreter is also good to speak to the group and to receive feedback to the facilitator.</p>   |

|   |   |
|---|---|
|  | <p>Demonstration method – so that the trainees can see and learn. (Eg: CPR)</p> <p>Role playing method – This method is effective while conducting mock drills and demonstration exercises.</p>   |
|  | <p>This group relatively follows most of the methods &amp; materials. However, in case of multiple disability it may not be so.</p> <ul style="list-style-type: none"> <li>• Lecture Method</li> <li>• Demonstration method</li> <li>• Role Playing</li> <li>• Guided Group Discussion</li> <li>• Power Point Presentations</li> <li>• Video/Audio Materials</li> </ul> |
|  | <p>This group, unlike other groups, may not follow most of the methods. This depends on the severity of the impairment. KSDMA suggests to train the caregivers on behalf of the intellectually impaired people. Hence all the above methods can be used for training the care givers.</p>   |

## 6.4) Specific Tips for communicating with Persons with Disabilities

### I) Visual Impairment

a) For people with low vision

- Use flashy colours, big font and contrasts
- Combine visual with audio information

b) For people with blindness

- Make available materials in Braille<sup>16</sup>
- Provide audio messages in DAISY<sup>17</sup> format

### II) Hearing / Speech Impairment

Get an interpreter<sup>18</sup> as far as possible, this will make the trainees comfortable to express their concerns to the facilitator. However, you may keep the following in mind while training

<sup>16</sup> KSDMA has produced materials in Braille as well as in audio formats

<sup>17</sup> DAISY is designed to be a complete audio substitute for print material and is specifically designed for use by people with 'print disabilities', including blindness, impaired vision, and dyslexia. Unlike MP3 and XML formats, the DAISY format has advanced features in addition to those of a traditional audio book.

<sup>18</sup> Contact KSDMA for interpreters

hearing/speech impaired. You may also know that sign language is not uniform, it varies from place to place.

- Don't assume the person cannot speak at all.
- Keep a writing pad and pen ready to supplement verbal communication (if the person is able to read and write)
- Accompany your words with gestures, body language, picture messages etc
- You may need to repeat what you are saying or ask them to repeat what they said (do not pretend that you have understood, if you haven't really)
- If a person has difficulty in hearing: stand as near as possible to the person. If the person hears better out of one ear, stand on that side.
- If a person is able to lip read, speak slowly and articulate clearly but don't overdo your lip movements – this will make lip reading more difficult
- Since some lip movements are difficult to lip-read, try to rephrase a question if the person does not understand it after a couple of repetitions
- Face person and make sure your face is well lit and not obscured.

### **III) Physical Impairment**

No special adaptation of communication is necessary for this group, however, ensure training venues are physically accessible and that appropriate seats are provided as people with physical impairment might find it difficult or impossible to stand for an extended amount of time. Brochures, posters, audio/video, PPTs etc can be used for this group of people. KSDMA has developed many such materials.

### **IV) Intellectual Impairment**

For this group, KSDMA has planned to train the caregivers of the intellectually impaired. However, if the severity of impairment is less, they are welcome to attend the training sessions along with their caregivers. To communicate to them, the facilitator may

- Speak slowly, in clear and simple words. Don't make long and complex sentences
- Use appropriate gestures
- Use pictures with simple and clear messages (especially for people with severe mental impairment)

### **Suggestions for the Training**

KSDMA suggests to conduct training for the following group of disabilities separately for the convenience of communication methods (only).

- Visually Impaired
- Speech & Hearing Impaired
- Physically Impaired
- Intellectually Impaired

- Training shall be ideally of one full day (Minimum). The Schedule of the training is given in this handbook, however, the DDMA's of the respective districts have the flexibility to customize according to their context.
- District Disaster Management Authorities (DDMA) of the respective districts shall monitor the training programmes at the district level and State Disaster Management Authority (SDMA) shall monitor the implementation of the project at the State level.
- Appropriate communication methods shall be adopted by the trainers/facilitators according to the state of disability.
- The training venue shall be accessible to all types of PWDs. Toilets also should be friendly to the PWDs.
- The training should be arranged for all PWDs irrespective of age/gender. It is highly recommended to involve children actively in all the training programmes.
- The training shall be conducted by experienced trainers/agencies, especially for First Aid sessions.

### POINTS TO NOTE WHILE TRAINING PWDs

- ✓ Always try to find a simple method to work with people with disabilities.
- ✓ Remember to have visualized materials when working with people with disabilities, particularly among people with hearing, speaking and intellectual impairment.
- ✓ Try to help people with disabilities and community stakeholders to understand correctly the concept of inclusion before starting to work with them.
- ✓ Plan more time to work with PWDs, as they need more time to comprehend various concepts.
- ✓ Prepare for additional resources (human & financial resources) when training PWDs, as they require additional support to fill the gap such as sign interpreters, accessible transport etc.
- ✓ Always consider removing barriers for PWDs to facilitate active participation
- ✓ Consider caregivers as people affected by disability, not only the individuals who have impairments.



# Annexures

## Annexure – 1

| Suggested schedule for district level trainings for PWDs |               |  |   |   |  |   |  |
|--|---------------|--|---|---|--|---|--|
| Sl.No:   | Time          | Session  | Contents  | Objectives  | Method   | Outcome   | Responsibility   |
| 1  | 09:30 - 10:00 | Registration   |   |   |  |   | DDMA to facilitate   |
| 2  | 10:00 - 10:45 | Inauguration, Introduction to the Programme, Briefing about the project                                |   |   |  |   |  |
| 3  | 10:45 - 11:00 | Tea  |   |   |  |   |  |
| 4  | 11:00 - 12:00 | <p><b>SESSION - I</b></p> <p><b>Introduction to Disaster Management</b><br/>(60 minutes)</p>           | Types of Disasters, Vulnerability of the State, Respective District, Institutional mechanism, Understanding Vulnerability, Hazards & Risk, Understanding mitigation, Preparedness, Response | 1) To introduce the concept of disaster management 2) To give practical suggestions in disaster preparedness with specific reference to disability.   | PPT, Charts, Videos (refer chapter 1 of the module)              | All the participants/caretakers understand about disasters & its management, helps the participants to understand their vulnerability and take necessary steps in mitigating their risks.     | <p>Primary: Resource Person/Team;</p> <p>Secondary: DDMA, DEOC</p> |
| 5  | 12:00 - 01:30 | <p><b>SESSION - II</b></p> <p><b>Disability inclusive disaster risk reduction</b><br/>(90 minutes)</p> | Understanding disability, familiarising various terminologies, explanation on disability inclusive DRR, understanding vulnerability related disability & measures to address the same.      | 1) To facilitate the participants to understand their own vulnerabilities and to measures to prepare for an emergency. 2) To help the participants understand various interventions related to disability inclusive DRR | Group discussion, Videos (refer chapters 2, 3 & 4 of the module) | <p>(1) The participants/caregivers understand the practical application of disability inclusive disaster risk reduction.</p> <p>(2) Information leads to behavioural change action points</p> | <p>Primary: Resource Person/Team;</p> <p>Secondary: DDMA, DEOC</p> |

| Sl.No: | Time          | Session   | Contents   | Objectives   | Method  | Outcome   | Responsibility  |
|--------|---------------|---|--|--|---|---|---|
| 6      | 01:30 - 02:15 | Lunch   |  |  |   |   |   |
| 7      | 02:15 - 04:15 | <b>SESSION - III</b><br><b>First Aid &amp; Survival Skills</b><br>(120 minutes) | First Aid for Heart attack, cardiac arrest, stroke, choking, drowning, burns, eye injuries, snake bite, fracture/dislocation | 1) To impart appropriate skills in first aid to be used in emergencies<br>(2) To have hands on practical first aid session | Demonstrations, Hands on practice for those who can, videos, PPTs (refer chapter 5) | Participants learn about various first aid & Survival skills. | Primary: Resource Person/Team;<br>Secondary: DDMA, DEOC |
| 8      | 04:15 - 04:45 | Action points, Feedback, Further plans  |  |  |   |   | DDMA/DEOC to facilitate                                 |
| 9      | 04:45 - 05:00 | Valedictory   | Certificate distribution, Closing remarks, Future plans, Vote of Thanks  |  |   |   | DDMA/DEOC to facilitate                                 |
| 10     | 5:00          | Disperse with Tea   |  |  |   |   |   |

*DDMA shall ensure that appropriate method of communication is adopted by the trainers to the four different disability groups, the details of which are given under 6.3 of sixth chapter.*

## Annexure 2

### “Disability is a state of mind” proves these 16 famous Indians With Disabilities

*(These are some inspiring stories of PWDs which could be shared by the facilitator during the trainings, though it may not be linked to the subject disability and DRR, this may motivate and encourage the trainees)*

These Indians with disabilities prove that it is just a state of mind. Learn about 16 amazing people who have not let their disability hold them back them in any way. From performing in international arenas to bagging gold medals in sports events, there is nothing these champions cannot do! They have made us so proud.

Here are 16 Indians who have proved this statement right by excelling in various fields in spite of their disability and who inspire us in so many ways every day –

#### 1. Sudha Chandran

This Indian actress and classical dancer needs no introduction. Born in Kerala, this 50-year-old artist met with an accident when she was just 16. Doctors missed a small wound in her ankle and plastered it, which later got infected and there was no alternative left but to amputate her leg. She overcame her disability by getting a prosthetic “Jaipur Foot” and became one of the most popular and acclaimed classical dancers of the country. Having performed Bharatnatyam internationally, Chandran has also been a known figure in the Indian television and film industry. Having received many awards for her amazing talent, Chandran is an inspiration to many!



#### 2. Ravindra Jain

Born visually impaired, Jain started singing at a very young age and took his passion to a new high when he joined the Indian music industry, becoming one of the most notable music directors of the 1970s. He was so dedicated towards his work that when, during one of the recording sessions, his father passed away, but he still did not leave the recording room until the recordings were finalized. Apart from composing various ‘super-hit’ songs for Hindi movies, he had also launched several private albums which were praised by many.



#### 3. Girish Sharma

He lost a leg in a train accident when he was a kid. But, this setback in life did not stop him from becoming a badminton champion. He has just one leg which is so strong that he not only plays the game effortlessly but also easily covers the entire court. Ever since he was a kid, he would indulge in outdoor activities with other kids without letting his disability come in the way. Aren't we super proud of this talented man?



#### 4. Shekar Naik

Naik is a perfect example of someone who has converted a disability into an opportunity. With his strong will power and dedication, he became a T20 Blind Cricket World Champion and has 32 centuries to his name. After a lot of financial and social troubles, Naik has emerged as a winner and we salute his spirit.



## 5. H Ramakrishnan

Ramakrishnan was affected by polio in both his legs at a young age of two and half years. From being denied admission in a regular school to getting rejected for a job due to his disability, Ramakrishnan has had to struggle at each step in his life. In spite of this, he worked as a journalist for 40 years and is currently CEO of SS Music television channel. He is also a musician and has showcased his talent at various platforms. He runs a charitable trust called Krupa to help the specially-abled.



## 6. Preethi Srinivasan

Preethi Srinivasan was the captain of the under-19 Tamil Nadu women's cricket team. Even after the unfortunate swimming accident that left her paralyzed below the neck, she continues to inspire other lives through her organization Soulfree. She has started to provide hope to women with severe disabilities and assists them in fulfilling their highest human potential by providing a basic quality of life.



## 7. Satendra Singh

This acclaimed doctor contracted Polio when he was just nine months old. He is also a prominent disability activist and works extensively to make public places more accessible to persons with disabilities. His efforts made ATMs disabled-friendly by constructing ramps. Similar initiatives were taken for the post office, medical institutes, polling booths, etc. He is also the founder of Infinite Ability – a medical humanities group on disability.



## 8. H. Boniface Prabhu

Prabhu's life changed at the age of four when a botched lumbar puncture made him a quadriplegic for the rest of his life. But he never let this disability change his goals of life and continued his education in a regular school. His immense hard work and dedication has made him a notable figure and a leading quadriplegic wheelchair tennis player. He was a medal winner at the 1998 World Championships and was also awarded the Padma Shri by Government of India in 2014. It seems like disability is not a word in his dictionary.



## 9. Sai Prasad Vishwanathan

Vishwanathan lost sensation in the lower half of his body when he was a kid. But he was not one to let a disability take over his life. He became India's first skydiver and has his name registered in the Limca Book of Records for being the first Indian with disability to skydive from 14,000 feet. He has co-founded Sahasra, an organization that provides scholarships to financially disadvantaged students with great potential, to pursue higher studies. He currently works as a risk consultant at Deloitte U.S. in India.



## 10. Akbar Khan

Born visually impaired in a poor family in Rajasthan, Khan saw a tough childhood. But with immense support from his elder brother, who also happened to be visually impaired since birth, Khan managed to continue his studies with excellent results. Having a great interest in music, Khan was invited to various platforms as a performer as well as a judge. His biggest achievements include getting a National Award for The Welfare of Persons with Disabilities in 1989. Khan has always believed in himself and says that visual impairment is a blessing and not a curse for him.



## 11. Arunima Sinha

Arunima Sinha lost her leg when some robbers pushed her out of a moving train. Two years later, she became the first woman amputee to climb Mount Everest. She disliked the look of pity and sympathy in everyone's eyes and did not want to be looked upon as a handicapped person. She has proved that a strong determination and will is far more important than a strong body. Even with a prosthetic leg, she overcame her challenges and made history.



## 12. Javed Abidi

He was diagnosed with spina bifida (a developmental congenital disorder caused by the incomplete closing of the embryonic neural tube) which was not operated on for eight years and caused permanent nerve damage. Further injuries made the situation worse and made him a wheelchair-user when he turned 15. Even this jolt in his life did not stop him from going abroad to finish his education and pursue his dreams of becoming a journalist. He has been actively engaged with disability rights for years, and is the director of the National Centre for Promotion of Employment for Disabled People (NCPEDP) in India, and also the founder of the Disability Rights Group.



### 13. Rajendra Singh Rahelu

Rajinder Singh Rahelu contracted polio when he was eight months old. Since then, he has not been able to walk. But he did not let his disability come in between him and his dreams. Rahelu decided to discontinue his studies after completing high school. In 1996, a little encouragement from his powerlifter friend motivated Rahelu to pursue a career in this sport. He started by lifting a weight of 75 kgs but rigorous training and motivation made him strong enough to lift a weight of 115 kgs within six months. He continued to practice, and today, he has created history after winning a silver medal in powerlifting at the Commonwealth Games 2014.



### 14. Dr. Suresh Advani

The prominent oncologist started Hematopoietic Stem Cell Transplantation in India. He contracted polio at the age of eight and has been wheelchair-bound since then. Having faced many difficulties to pursue his dreams due to his disability, Advani did not give up. His contributions in the field of Oncology have been recognized with many awards, including the Padma Shri in 2002 and the Padma Bhushan in 2012. He is the first oncologist in India to have successfully done a bone-marrow transplant.



### 15. Sadhna Dhand

Suffering from brittle bone disease, 57-year-old Dhand lost her hearing at the age of 12 and stands 3.3 feet tall. But, this disability was not strong enough to stop her from pursuing her passion for painting, for which she has even won a national award. Apart from this, she has received many awards at the state and national level for painting and photography. She is now imparting this art to other students and conducts classes at her house. Not only this, she is an active social worker and donates to various organizations working with children with mental and physical disability.



### 16. Malathi Krishnamurthy Holla

This international para-athlete from Bangalore was paralyzed completely at the tender age of one after a high fever. A regular electric shock treatment for two years got the strength of her upper body back, but below the waist her body remained weak. Holla decided to live life in the best possible way and chose sports to excel in. She started participating in various games at college, and today she has taken part in various international events including the Para-Olympics. She won Gold in 200m, shot put, discus and javelin throw at the 1989 World Masters' Games in Denmark. She has over 300 medals in her kitty, and is also the proud recipient of the Arjuna Award and Padma Shri. She runs the Mathru Foundation to help disabled children from rural India.



(Source - [www.betterindia.com](http://www.betterindia.com))

### **Annexure – 3**

#### **Materials Available for Information, Learning & Training for PWDs and others**

*(Published by Kerala State Disaster Management Authority)*

##### **I) Print & Audio Brochures in Malayalam on**

- a) Lightning
- b) Flood
- c) Earthquake
- d) Drought
- e) Fire
- f) Drowning (Print Only)
- g) Coastal Erosion (Print Only)
- h) Sun Burn (Print Only)
- i) Chemical Accidents (Print Only)
- j) Cyclones (Print Only)

##### **II) Posters available in Malayalam on**

- a) Lightning
- b) Flood
- c) Earthquake
- d) Drought
- e) Fire
- f) Emergency Kit

##### **III) Games on earthquake preparedness & drought (English & Malayalam)**

##### **IV) Braille brochures - Lightning, Fire, Earthquake, Drought & Flood**

##### **V) Brochures in Sign Languages - Lightning, Fire, Earthquake, Drought & Flood**

##### **VI) Audio Brochures in DAISY format - Lightning, Fire, Earthquake, Drought & Flood**

##### **VII) Family disaster preparedness plan (English)**

##### **VIII) Handbook on Disaster Management Vol 1 & 2 (English)**

*These materials can be accessed from [www.disasterlesskerala.org](http://www.disasterlesskerala.org)*

**Annexure – 4**

**PARTICIPANT FEEDBACK FORM**

*(Please Note: Organizers shall arrange volunteers to help those who cannot fill this by themselves)*

- 1. Name : \_\_\_\_\_
- 2. District : \_\_\_\_\_
- 3. Phone No(If any) : \_\_\_\_\_

**5. What are the two things you learnt in this programme?**

1)

2)

**6. Rate the following**

| <b>Particulars</b>              | <b>Poor</b> | <b>Average/ok</b> | <b>Good</b> | <b>Excellent</b> |
|---------------------------------|-------------|-------------------|-------------|------------------|
| <b>Sessions</b>                 |             |                   |             |                  |
| <b>Materials</b>                |             |                   |             |                  |
| <b>Venue</b><br>(accessibility) |             |                   |             |                  |
| <b>Overall</b>                  |             |                   |             |                  |

7. Any comments/suggestions?

8. Would you like to attend such programmes hereafter?

*The feedback form shall be duly filled and send to:*

SEOC, 2<sup>nd</sup> Floor, ILDM, PTP Nagar, Thiruvananthapuram, Kerala. PIN 695038 /  
seoc.gok@gmail.com

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- 27) [www.swd.kerala.gov.in](http://www.swd.kerala.gov.in)
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- 30) [www.nish.ac.in](http://www.nish.ac.in)





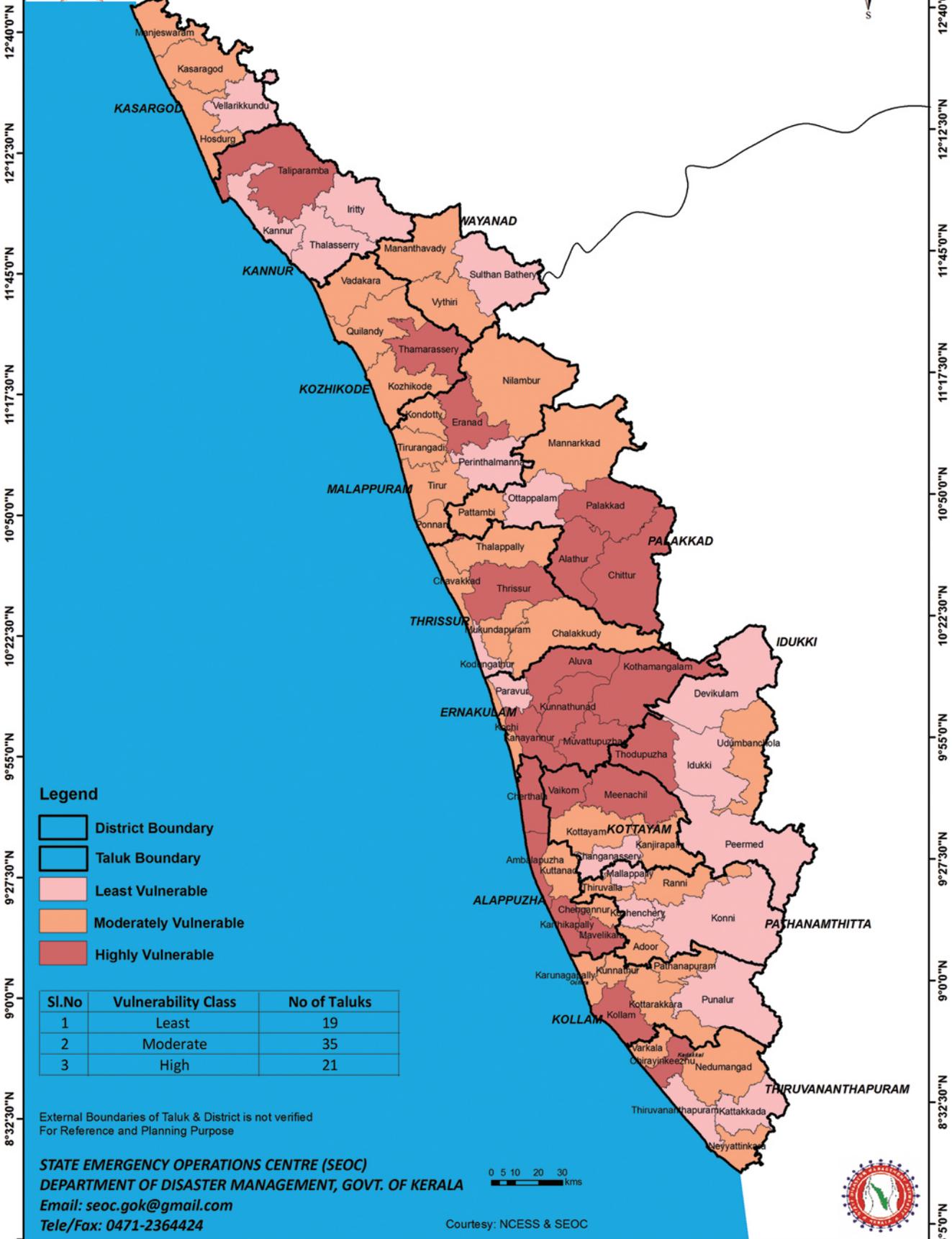




74°50'0"E 75°17'30"E 75°45'0"E 76°12'30"E 76°40'0"E 77°7'30"E 77°35'0"E



# TALUK WISE MULTI HAZARD POPULATION VULNERABILITY MAP KERALA STATE



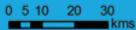
### Legend

- District Boundary
- Taluk Boundary
- Least Vulnerable
- Moderately Vulnerable
- Highly Vulnerable

| Sl.No | Vulnerability Class | No of Taluks |
|-------|---------------------|--------------|
| 1     | Least               | 19           |
| 2     | Moderate            | 35           |
| 3     | High                | 21           |

External Boundaries of Taluk & District is not verified  
For Reference and Planning Purpose

**STATE EMERGENCY OPERATIONS CENTRE (SEOC)**  
**DEPARTMENT OF DISASTER MANAGEMENT, GOVT. OF KERALA**  
 Email: [seoc.gok@gmail.com](mailto:seoc.gok@gmail.com)  
 Tele/Fax: 0471-2364424



Courtesy: NCESS & SEOC



74°22'30"E 74°50'0"E 75°17'30"E 75°45'0"E 76°12'30"E 76°40'0"E 77°7'30"E 77°35'0"E



'Towards a  
Safer  
State'

Kerala State Disaster Management Authority  
Department of Revenue & Disaster Management  
Government of Kerala