Training Module for the First Responders to Rescue and Evacuate Persons with Disabilities during Disasters

Developed by Foundation for Development Action in association with KSDMA, Start Network, India Humanitarian Hub and SEEDS under SAHIT Project

Training module
for the First Responders to Rescue and Evacuate Persons with Disabilities during Disasters

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First responders rescuing a person using a wheelchair during inclusive response training held at Pathanamthitta, Kerala under the SAHIT project.

Dr. Sekhar L. Kuriakose
Member Secretary, KSDMA &
Head, KSEOC

Message

Inclusive Disaster Risk Reduction is the focus of Kerala State Disaster Management Authority for ensuring Resilient Kerala. The Disability Inclusive Disaster Risk Reduction programme of Kerala which started in 2015 attainted national attention leading to the development of the National Disaster Management Guidelines on disability inclusive DRR. Inclusiveness is better achieved when Government systems collaborates with sector skilled Non-Governmental Organizations and therefore, KSDMA spearheaded the creation of Inter Agency Groups in all Districts wherein 421 NGOs partner with District Disaster Management Authorities and work with the common moto of "Towards a Safer State". Kerala has over 10000 Civil Defence Volunteers and 4500 Aapda Mitra Volunteers. Voluntarism of Kerala attained global attention in the 4th World Reconstruction Conference (WRC) held in Geneva in 2019 wherein Hon'ble Chief Minister of Kerala who led the State during the 2018 floods and spearheaded the creation of India's only Directorate of Voluntarism (*Samoohika Sannadha Sena*), was invited to deliver the opening keynote address of WRC. With the pioneering DIDRR programme, a vibrant IAG programme and active volunteerism funded and mainstreamed in Government, it is imperative that these programmes converge and co-benefit.

It is while KSDMA was contemplating such a convergence that Foundation for Development Action (FDA), based out of Thiruvananthapuram and part of the IAG in Pathanamthitta came-up with a novel proposal for developing a training module on rescue skills and techniques to enable first responders to assist persons with disabilities under the Project SAHIT funded by START Network, UK and monitored by the Subhas Chandra Bose Aapda Prabandhan Puraskar winner, SEEDS. As the proposal was in line with KSDMA's DIDRR programme, IAG programme and voluntarism programme, we decided to actively collaborate with FDA in preparing the module and conduct trainings for selected volunteers in the State. Rescuing Persons with Disabilities is not as rescuing others. Therefore, specialised skilling becomes essential.

'Training is costly, not to train is costlier'; this is quite apt in disaster risk reduction. Right skills at the right time with the right person is critical in the Golden Hour. KSDMA is committed to mainstream this module in volunteer trainings in the State through Civil Defence, Aapda Mitra and Samoohika Sannadha Sena.

I congratulate FDA and the team who have been part of the module preparation. Let us join hands 'Towards a Safer State, by leaving no one behind'.

With regards

Dr. Sekhar L. Kuriakose

Acknowledgement

The journey of implementing project "SAHIT" – Inclusive response during emergencies with focus on persons with disabilities and transgenders, was altogether a new experience and reflection from a different perspective. The innovation of the project was the development of a training module consisting of specialised skills and techniques for the first responders to safely rescue and evacuate persons with disabilities during a disaster. For us, there was no precedence over similar types of work done in India, which was indeed a challenge for the entire team. We had several rounds of consultations with subject experts, persons with disabilities and consultants on kickstarting the development of the module and achieving our mission.The technical support provided by KSDMA in implementing the SAHIT project has been laudable. Dr. Sekhar L. Kuriakose, the Member Secretary of KSDMA, was instrumental in implementing the project from its inception by providing guidance and direction in achieving the desired outcome. His valuable comments on the training module helped us shape it to perfection.

I thank Dr. Gopukrishnan Pillai and Mr. Ronu Mathew Elanjickal for the effort they put into developing the training module. A special appreciation is bestowed on Mr. Joe John George, disability DRR expert and Dr. Midhila M, State Project Officer of Kerala SDMA for reviewing and fine-tuning the module.

I appreciate Mr. S.T Sajith, Station Officer of Kerala Fire and Rescue Services; Mr. Ratheesh (Person with locomotor disability); Mr. Rajesh, District Secretary of Kerala Federation for the Blind (KFB); Mr. Pradeep GS, Hazard & Risk Analyst, Kerala SDMAand Ms. Sibi A, Vice President FDA for sharing ideas to shape the document.

I also take this opportunity to thank the Start Network, India Humanitarian Hub, SEEDS and other partners for providing funding support, guidance and monitoring the activities of the SAHIT project. Last but not the least, I thank Mr. Rajendrakumar, Snehasree Graphics, Thiruvananthapuram for designing the training module.

Together, we can do more!

Best regards,

Ramesh Krishnan
Founder Director

Glossary of Terms

1. **Accessibility:** The quality of being able to be reached, entered, or used, particularly by people who have disabilities. In disaster management, it refers to the ease with which PwDs and terminally ill persons can access and use evacuation and rescue services. [Source: Merriam-Webster Dictionary]

2. **Adaptive Capacity:** The ability of systems, institutions, humans, and other organisms to adjust to potential damage, to take advantage of opportunities, or to respond to consequences. This term is especially relevant in the context of climate change and its effects on vulnerable populations. [Source: IPCC]

3. **Assistive Devices:** Tools, technology, or other items that aid individuals in performing functions that might otherwise be difficult or impossible due to a disability or illness. Examples include wheelchairs, hearing aids, and specially designed furniture or appliances. [Source: World Health Organization]

4. **Climate Change:** Long-term alterations in average weather patterns, particularly a rise in global temperatures. Climate change can exacerbate natural disasters, impacting vulnerable populations disproportionately. [Source: IPCC]

5. **Communication Barriers:** Obstacles in the environment or within individuals that prevent effective exchange of ideas or thoughts. For PwDs and terminally ill individuals, these might include sensory impairments or inaccessible information dissemination systems. [Source: United Nations Enable]

6. **Continuity of Care:** A fundamental principle of healthcare that emphasizes consistent and smooth delivery of services over time. It is particularly important in managing long-term illnesses and for maintaining health and quality of life for PwDs. [Source: Institute for Healthcare Improvement]

7. **Disability:** A condition caused by accident, trauma, genetics or disease, which restricts the individual's ability to engage in activities that are considered normal for a human being. Disabilities may affect mobility, cognition, hearing, speech, vision, or mental health. [Source: World Health Organization]

8. **Disaster:** 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 area (DM Act, 2005).

9. **Disaster Management:** The organisation and management of resources and responsibilities for dealing with all aspects of emergencies, in particular preparedness, response, and recovery, to lessen the impact of disasters. [Source: UNDRR]

10. **Disaster Preparedness:** The measures taken to prepare for and reduce the effects of

disasters, for example, by predicting and, where possible, preventing them. The knowledge and capacities developed by governments, response and recovery organisations, communities, and individuals to effectively anticipate, respond to, and recover from the impacts of likely, imminent, emerging, or current emergencies. [Source: UNDRR]

11. **Disaster Risk:** The potential loss of life, injury, or destroyed or damaged assets which could occur to a system, society or a community in a specific period of time, determined probabilistically as a function of hazard, exposure, vulnerability and capacity. [Source: UNDRR]

12. **Disaster Risk Reduction:** The concept and practice of reducing disaster risks through systematic efforts to analyze and manage the causal factors of disasters through reduced exposure to hazards, decreased vulnerability of people and property, wise management of land and the environment and improved preparedness for adverse events etc.

13. **Emergency Medical Services:** A network of services coordinated to provide aid and medical assistance from the scene of an emergency to the hospital. [Source: World Health Organization]

14. **Evacuation:** The removal of persons from a place due to a threat or occurrence of a disastrous event to mitigate harm or possible loss of life. [Source: Cambridge Dictionary]

15. **Exposure:** The presence of people, livelihoods, species or ecosystems, environmental functions, services, and resources, infrastructure, or economic, social, or cultural assets in places and settings that could be adversely affected. In disaster management, it refers to the susceptibility of PwDs and terminally ill persons to harm from disasters. [Source: IPCC]

16. **First Responders (FR):** They are the first to arrive and provide assistance at the scene of an emergency. FRs include professionals like police, firefighters, paramedics, and volunteers who have undergone specific training. [Source: U.S. Department of Homeland Security]

17. **Health Systems:** All the activities whose primary purpose is to promote, restore, or maintain health, encompassing a wide range of health care delivery systems, health care providers, health workers, and more. [Source: World Health Organization]

18. **Hazard:** Hazard is a dangerous phenomenon, substance, human activity, or condition that may cause loss of life, injury or other health impacts, damage to property, loss of livelihoods and services, social and economic disruption, or environmental damage.

19. **Inclusive Disaster Management:** An approach to disaster management that ensures the full and effective participation of all, including PwDs and terminally ill patients, in disaster preparedness, response, and recovery. [Source: United Nations Convention on the Rights of Persons with Disabilities]

20. **Palliative Care:** An interdisciplinary approach to specialized medical and nursing care for people with life-limiting illnesses. It focuses on providing relief from the symptoms, pain, and stress of a serious illness—whatever the diagnosis—aiming to improve the quality of life for both the patient and the family. [Source: World Health Organization]

21.Persons with Disabilities (PwDs): Individuals 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. [Source: United Nations Convention on the Rights of Persons with Disabilities]

22.Recovery: The restoration, and improvement where appropriate, of facilities, livelihoods and living conditions of disaster-affected communities, including efforts to reduce disaster risk factors. [Source: UNDRR]

23.Rescue Operations: Activities conducted to extricate and provide immediate assistance to individuals in distress during or after a disaster. [Source: Merriam-Webster Dictionary]

24.Resilience: The capacity of individuals, communities, or systems to adapt, recover, and grow in the face of stress and shocks, and even transform when conditions require it. [Source: UNDRR]

25.Response: The provision of emergency services and public assistance during or immediately after a disaster in order to save lives, reduce health impacts, ensure public safety, and meet the basic subsistence needs of the people affected. [Source: UNDRR]

26.Sensitivity: The degree to which a system or species is affected, either adversely or beneficially, by climate variability or change. The term may also refer to the susceptibility of a system to harm from exposure to a hazardous event. [Source: IPCC]

27.Social Services: Services provided by government or non-profit organisations to help improve the lives of people in need, which include people with disabilities and the terminally ill. [Source: Cambridge Dictionary]

28.Terminal Illness: A disease that cannot be cured or adequately treated, and that is reasonably expected to result in the death of the patient within a short period of time. [Source: Merriam-Webster Dictionary]

29.Trauma: A physical injury or a severe emotional shock and the subsequent psychological damage. In this context, it could refer to both the immediate physical injuries suffered during a disaster or the psychological trauma resulting from the event. [Source: American Psychological Association]

30.Vulnerability: The degree to which a population, individual or organisation is unable to anticipate, cope with, resist, and recover from the impacts of disasters. In the context of this document, it refers to the heightened risk faced by PwDs and terminally ill individuals during disasters. [Source: IPCC]

1. Introduction

1.1. Background and Rationale

The world is witnessing an increase in the frequency and intensity of disasters, a trend fueled in part by climate change. In such critical times, the most vulnerable such as persons with disabilities (PwDs) and those with terminal illnesses, are at a significantly higher risk. They are more likely to be affected, injured, or killed during disasters and have less access to necessary services during recovery. India, due to its geographical diversity and climatic conditions, is susceptible to various natural hazards.

Around 59% of India's landmass is prone to earthquakes, over 12% is susceptible to flood hazards, and approximately 76% of its coastline is vulnerable to cyclones and tsunamis (1). Given these risks, the proportion of the total population, including PwDs, at risk of major natural hazards is significantly high. Kerala state is particularly vulnerable to flood and landslide hazards, with the devastating floods in 2018 and 2019 being prime examples. These disasters have shown that a considerable proportion of the state's population, including PwDs, is at risk.

Kerala faces unique disaster risks due to its geographical location and climate. The state's vulnerability to both natural and human-made disasters is influenced by factors such as its long coastline, high population density, and frequent heavy rainfall. Floods and landslides during the monsoon season are recurrent challenges, often exacerbated by deforestation and urbanisation. Additionally, Kerala's susceptibility to tropical cyclones and rising sea levels due to climate change adds to its disaster risk profile. Effective disaster preparedness and mitigation strategies are crucial for safeguarding the well-being of the population, especially the elderly and vulnerable, in this region.

An estimated 15% of the world population lives with some form of disability (fig 1). According to the 2011 Census data, India has about 2.68 crore PwDs, accounting for 2.21% of the total population. However, this figure likely underestimates the actual number of PwDs, as the definition used by the Census was narrower than what is used by the Rights of Persons with Disabilities (RPwD) Act 2016 (2). In Kerala, according to the same census, around 7.61 lakh people or approximately 2.2% of the state's population were reported to have some form of disability. As with the national figures, this might be an underestimation given the narrower definitions used.

The 2015 disability census in Kerala has provided valuable insights into the prevalence and distribution of disabilities in the state (3). It revealed that approximately 2.32% of the population had some form of disability, with a higher prevalence among the elderly. Mobility-related

disabilities were the most common, followed by visual and hearing impairments. Interestingly, the census highlighted disparities between rural and urban areas, with a higher prevalence of disabilities in rural regions. This highlights the importance of developing systems that are not only efficient but can also ensure equitable access to all citizens.

PwDs often have unique needs and face distinctive challenges that are seldom addressed in conventional disaster management training modules. First Responders (FR) - including police, fire and rescue, local government employees and volunteers - often lack the knowledge, resources, or sensitization necessary to adequately support them during rescue and evacuation. This necessitates an urgent and focused effort to integrate the specific needs of PwDs and the terminally ill into the disaster management paradigm. This handbook elucidates techniques for safe rescue and evacuation of PwDs providing a practical, hands-on guide to the FRs. By implementing these principles, FRs can ensure that no individual is left behind, overlooked, or inadequately cared for during disaster response. Post-disaster, ensuring the continuation

WHO Disability Statistics

1 in **10** people in the world are disabled.

1 in **5** of the world's poor are disabled.

4 out of **5** children with disabilities in Africa do not attend school.

More than **4** out of **5** people in low and middle income countries do not have access to assistive devices and technology that they need.

1 in **2** disabled people cannot afford healthcare, compared to 1 in 3 non disabled people.

Less than **2** in **4** disabled people are employed, compared to 3 in 4 non disabled people in OECD* countries.

* 34 countries that make up the organization for economic cooperation and development

Fig 1: Disability - A global snapshot

of care for these individuals is a critical component that is often overlooked in mainstream disaster management strategies. This handbook addresses the ways in which FRs can facilitate this, thereby helping to bridge the gap between immediate disaster response and long-term recovery.

1.2. Evolution of Disability Rights

On the global stage, disability rights began to gain significant attention in the late 20th century. The International Year of Disabled Persons in 1981, and the subsequent UN Decade of Disabled Persons (1983-1993), were instrumental in bringing visibility to disability rights. However, the most significant milestone in the global disability rights movement is the UN Convention on the Rights of Persons with Disabilities (UNCRPD) (4). Adopted in 2006, the UNCRPD marked a paradigm shift from a charity-based or medical model of disability to a rights-based model. It emphasises the intrinsic dignity of PWDs and calls for societal change to remove barriers to their full participation in all aspects of life.

In India, the disability rights movement took shape post-independence, largely influenced by global developments. Initially, efforts were focused on providing rehabilitation services and special education. However, the disability rights discourse gradually shifted towards demanding equal opportunities, protection of rights, and full participation. The turning point came with the Persons with Disabilities (Equal Opportunities, Protection of Rights and Full Participation) Act in 1995. This Act recognized seven types of disabilities and focused on affirmative actions, non-discrimination, and prevention and early detection of disabilities. The Rights of Persons with Disabilities (RPwD) Act which was passed in 2016 expanded the definition of disability to include 21 conditions, mandated a 4% reservation in government jobs, and addressed critical areas like accessibility, education, social security, and legal capacity.

Kerala was one of the first states to develop a comprehensive state policy for persons with disabilities in 2015, even before the enactment of the RPwD Act 2016 (5). The state has over the years made remarkable strides in areas like inclusive education, social inclusion, and accessibility. It is important to make further progress to ensure the active participation of PWDs in decision-making processes that impact them, in line with the UNCRPD's principle of "Nothing about us, without us". The state is well-placed to be not only an early adopter but the leader in disability-inclusive approach to disaster management across the country. The Government of Kerala, through KSDMA, implemented a state wide disability inclusive disaster risk reduction project where 3000 plus persons with disabilities were trained on survival and first aid skills. This was one of the pioneering efforts in the country.

1.3. Climate Change and Health

Climate change is perhaps the biggest driver of increased risk of disasters in the world today. Natural hazards such as floods, heatwaves and landslides etc can be directly attributed to Climate Change. But even many human-made disasters (such as ethnic strife, war, displacement etc) are also ultimately rooted in social, economic and political instability wrought on or worsened due to climate change. The 'Synthesis Report' of the Sixth Assessment Report of the Intergovernmental Panel on Climate Change, which was released in March 2023, unequivocally points out the risks faced by marginalised communities and vulnerable individuals worldwide due to human-induced climate change (6).

It is important to understand the nexus between climate change and health that has a bearing on the wellbeing of PwDs and those suffering from terminal illnesses. Global Climate Change is characterised by rising temperatures, increased frequency and severity of extreme weather events, rising sea levels and increased levels of CO_2 in the atmosphere. Taken together, they lead to increased risk of injuries and death, mental stress, malnutrition, respiratory allergies and asthma, cardiovascular disease, infectious disease outbreaks etc. Figure 2 gives an overview of the various ways in which climate change impacts upon the health of the most vulnerable.
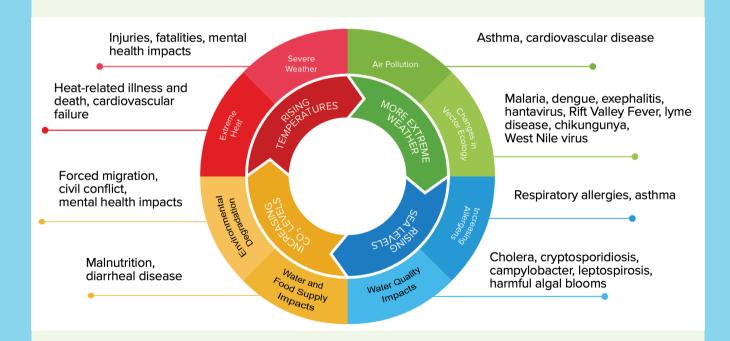

Fig 2: Health Impact of Climate (Source: US Centers for Disease Control and Prevention)

2. Framework of Disaster Management in India

2.1. Legal Framework

2.1.1. Disaster Management Act, 2005

The Disaster Management Act, 2005 was passed by the Rajya Sabha, the upper house of the Parliament of India on 28 November, and the Lok Sabha, the lower house of the Parliament, on 12 December 2005. It received the assent of The President of India on 23 December 2005. The Disaster Management Act, 2005 has 11 chapters and 79 sections. The Act extends to the whole of India. The Act provides effective management of disasters and for matters connected therewith or incidental thereto.

2.1.2. Kerala State Disaster Management Rules, 2007

Section 78 of Disaster Management Act, 2005 empowers the State Government to make rules to carry out the provisions of the Act. Accordingly, Government of Kerala issued Kerala State Disaster Management Rules in 2007. The rules mainly include structure and functions of State and District Disaster Management Authorities.

2.1.3. Kerala State Disaster Management Policy, 2010

The Disaster Management policy is the guiding principle for the state and vision of the state for disaster management. It aims to establish an optimum system for dealing with disasters, avoiding disruption of economic activity and ensuring continuity in developmental activities without damaging the environment.

2.1.4. Kerala State Disaster Management Plan, 2016

Kerala State Disaster Management Authority approved its first State Disaster Management on 7th September 2016 in the joint meeting of the State Executive Committee and the Kerala State Disaster Management Authority and was issued by Government as GO (Rt) No. 3667/2016/DMD dated 9-09-2016.

2.1.5. District Disaster Management Plans

KSDMA approved the District Disaster Management Plans in a new format after following all due procedures as on 5th October 2015 vide GO (Rt) No. 3104/2016/DMD dated 30th July 2016. District Plans have been prepared for all districts in Kerala.

2.2. Institutional Framework

2.2.1. The National Disaster Management Authority (NDMA)

The National Disaster Management Authority (NDMA), headed by the Prime Minister of India, is the apex body for Disaster Management in India. Setting up of NDMA and the creation

of an enabling environment for institutional mechanisms at the State and District levels is mandated by the Disaster Management Act, 2005. NDMA is mandated to lay down the policies, plans and guidelines for Disaster Management. India envisions the development of an ethos of Prevention, Mitigation, Preparedness and Response.

2.2.2. Kerala State Disaster Management Authority (KSDMA)

State Disaster Management Authorities are statutory bodies constituted under the Disaster Management Act, 2005 (Central Act 53 of 2005). Kerala State Disaster Management Authority is a statutory non-autonomous body under the Chairmanship of the Chief Minister of Kerala. The authority is composed of ten (8) members, chaired by Chief Minister and convened by the Additional Chief Secretary, Revenue and Disaster Management. The Chief Secretary (inter alia Chairperson of the State Executive Committee) is the Chief Executive Officer of KSDMA. The Commissioner, Disaster Management is the Head of the Department of KSDMA. Routine decisions related to the functioning of KSDMA, as under the Disaster Management Act, 2005 is conducted as per the decision of the State Executive Committee by the Office of KSDMA.

2.2.3. Kerala State Emergency Operations Centre (KSEOC)

The State Emergency Operations Centre supports the State in coordinating disaster response. In times of Crisis, the SEOC facilitates interagency response. Depending on the crisis, officers of respective stakeholder departments are offered space in the Fusion Centre and data from various sources are collected, collated and presented for the State Relief Commissiner (SRC) to take appropriate decisions. Technical matters and emergency operations are managed by Kerala State Emergency Operations Centre (KSEOC).

2.2.4. District Disaster Management Authority (DDMA)

DDMA has been constituted in all the districts of Kerala as per Section 25 of the DM Act 2005 and is chaired by the District Collector and co-chaired by the District Panchayath President.

2.2.5. District Emergency Operations Centre (DEOCs)

All districts in the state are equipped with State-of-the-Art facilities for Disaster Management. DEOCs function 24*7, with staff of Revenue Department, Police Department, and Fire& Rescue Services.

2.3. Community Based Disaster Risk Management

2.3.1. Civil Defence

Civil Defence is a statutory entity under Civil Defence Act 1968. The Director General, Fire & Rescue Service is the Director General of Civil Defence of Kerala since 2009. Understanding the requirements for creating a robust Civil Defence system, the State Disaster Management Authority, in the State Disaster Management Plan, 2016 identified 'Community based disaster

risk reduction – formation, training and capacity building of civil defence force in districts' as a 5-year plan to be implemented in the period from 2017-22.

2.3.2. Samoohika Sannadhasena

The potential of volunteers in emergency response was well understood in the floods of 2018. In light of the lessons learnt post floods 2018, Honourable Chief Minister directed Kerala State Disaster Management Authority to establish a common platform for all volunteers and voluntary organisations in the State to work in tandem with Government functionaries and thus Samoohika Sannadhasena was formed. A dedicated directorate is also established to monitor its functions & operations. Around 4 lakh volunteers are registered in this sena as of now.

2.3.3. Aapda Mitra

Community is the first responder in case of any disaster. To train and raise community volunteers in disaster response, NDMA launched a country-wide project titled 'Aapda Mitra', meaning 'friends during disasters'. Around 6000 community volunteers were selected across the country from 30 most flood prone districts in its first phase. Kottayam district was selected for this project from Kerala in the first phase, where 200 volunteers were trained. In the second phase, 4500 volunteers are selected and trained from all the districts of Kerala. They are deployed under the fire & rescue services.

2.4. Local Self Government Institutions & Disaster Preparedness

In accordance with the provisions of Disaster Management Act, The Local Self-Government Department, Kerala State Disaster Management Authority (KSDMA) and Kerala Institute of Local Administration (KILA) jointly engaged in the 'resource-intensive, time bound pan-Kerala grass root-level consultations for developing the DM plans at local level.

The overall objective of the mission which was rolled out in the first week of December 2019 was to identify and understand the ground-level challenges faced by citizens who were the first responders in light of the recent natural calamities that struck the state. Kerala, in its 14 districts, has 941 grama panchayats, 87 municipalities, and 6 corporations. It was directed by the Government that disaster management plans to be formulated for all these local bodies in the State. Thus, first of its kind, in the country (Perhaps in the whole world), an extensive disaster prevention/response programme at the local level was initiated. Each of these LSGIs have their disaster management plans and volunteers known as Emergency Response Teams (ERT).

2.5. Other Volunteer Groups

Other volunteer groups including National Service Scheme (NSS) volunteers, Nehru Yuva Kendra Volunteers (NYKs), National Cadet Corps (NCC), Student Police Cadets Volunteer Corps, Scouts & Guides also are important stakeholders in Disaster Response.

3. Basics of Disaster Management

3.1. Disaster Management Cycle

The disaster management cycle involves four key steps: mitigation, preparedness, response, and recovery (fig 3)

Mitigation: This step aims to reduce the likelihood of a disaster or lessen its effects. It can involve building flood barriers, earthquake-resistant buildings, or improving drainage to prevent water-logging.

Preparedness: This phase involves planning how to respond when a disaster occurs. This can include creating disaster management plans, training first responders, and ensuring communities know what to do in a disaster.

Response: This is the immediate reaction to a disaster. It can involve search and rescue operations, providing medical care, food, shelter, and helping the affected people evacuate.

Recovery: This phase includes actions to restore normal conditions after a disaster. It can involve rebuilding homes, restoring services, and rehabilitating those affected by the disaster.
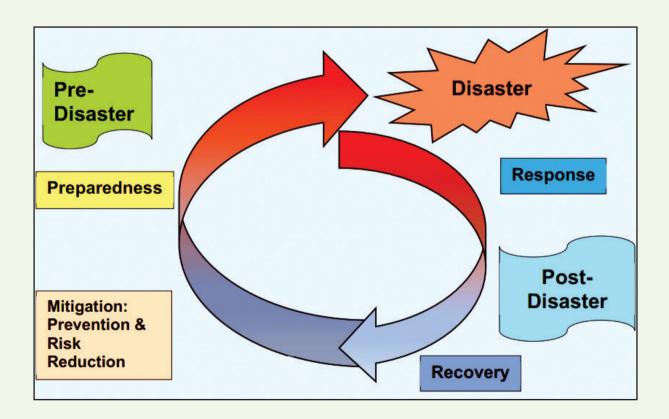
Fig 3: Disaster Management Cycle

3.2. Exposure, Sensitivity, and Adaptive Capacity

These are critical concepts in understanding vulnerability to hazards (fig 4)

Exposure refers to the presence of people, infrastructure, and other resources in areas where hazards could occur. For example, a house built on a flood plain has high exposure to flooding.

Sensitivity is the degree to which a system or individual could be harmed by a hazard. For example, PwDs or people with terminal illnesses may have higher sensitivity to hazards due to their specific health needs.

Adaptive capacity refers to the ability of a system or individual to adjust or recover from the damage caused by a hazard. It could be influenced by factors like health status, availability of resources, or support systems. For example, communities with robust healthcare and support systems may have a higher adaptive capacity.

In conclusion, disaster management involves understanding the disaster management cycle, recognising different types of hazards, and considering the relationships between exposure, sensitivity, and adaptive capacity. It's crucial that our disaster management efforts are inclusive, ensuring that PwDs and people with terminal illnesses are not left behind.
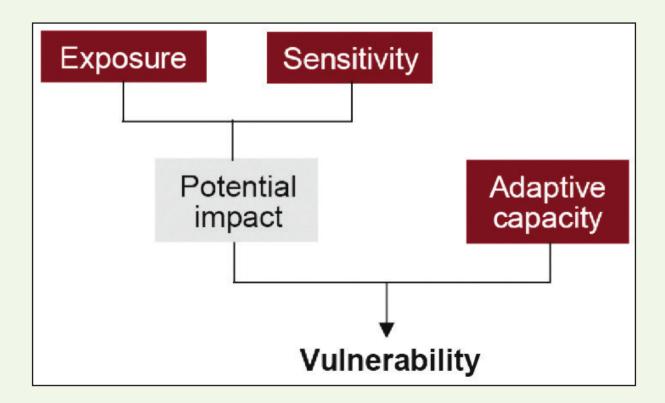
Fig 4: Understanding Climate Vulnerability

4. Before Disaster Strikes: Adaptation and Preparedness

PwDs are not a homogeneous group. The challenges they face during disasters can vary significantly based on the type of disability. The key to effective disaster response for PwDs lies in recognising their diverse needs and responding with empathy, patience, and flexibility.

4.1. Classification of Disabilities

The RPwD Act describes 21 different types of disabilities (see Annexure 1 for complete list). These are further grouped into five categories:

1. Blindness and low vision.

2. Deaf and hard of hearing.

3. Locomotor disability including cerebral palsy, leprosy cured, dwarfism, acid attack victims and muscular dystrophy.

4. Autism, intellectual disability, specific learning disability and mental illness.

5. Multiple disabilities including deaf-blindness etc.

4.2. Challenges faced by PwDs during Disasters

1. People with blindness and low vision may struggle to access information during a disaster. They may be unable to read written instructions or warnings, and navigating through a disaster-struck area can be highly dangerous.

2. Individuals with hearing impairments may miss out on important audible warnings or instructions during a disaster. This can delay their response and increase their vulnerability.

3. People with mobility impairments, including those who use wheelchairs, walkers, or other assistive devices, may find it particularly challenging to evacuate during a disaster. Navigating through debris, flooded areas, or uneven terrain can be very difficult and potentially dangerous.

4. People with intellectual or cognitive disabilities, including those with Down syndrome, autism, or dementia, may struggle to understand the situation during a disaster. They may be unable to follow instructions or may become overwhelmed by the chaos. Individuals with mental health conditions, such as depression, anxiety disorders, or post-traumatic stress disorder etc, may face increased psychological distress during a disaster. The chaotic and stressful nature of disasters can exacerbate their conditions.

5. Many individuals may have multiple disabilities, each adding a layer of complexity to their needs during a disaster.

These challenges are summarised below for quick reference (Table 1)

Sl. No.	Disability type	Associated Needs
1.	Locomotor	• Mobility impairments that require the use of a wheelchair or other mobility device. • May need assistance with transferring, navigating stairs, or getting into and out of vehicles. • Possible additional needs include respiratory or bladder/bowel management.
2.	Vision (blindness or low vision)	• Alternative means of communication, such as audio messages. • May also require special visual or auditory alerts in the event of an emergency, such as flashing lights or vibrating alarms. • Instructions in big fonts.
3.	Hearing (deaf or hard of hearing)	• Assistance with decision-making, problem-solving, and communication. • Sign language messages. • Text messages. • Additional visual or auditory aids, including hearing aids.
4.	Cognitive / Mental	• Support with decision-making, communication, and daily living tasks. • May have difficulty understanding the severity of an emergency. • Likely to require assistance with evacuation and other safety measures. • Medication management, securing drugs available at home and administering the same during and post rescue. • Additional assistance with daily living tasks.
5.	Multiple disabilities.	• All of the above, plus additional measures as necessitated by nature and severity of disaster. Persons with Multiple disabilities should in particular not be separated from their caregivers and supportive equipment. Wherever possible they should be the first to be evacuated.

Table 1: Types of disabilities and their associated needs

4.3. Adaptation: Building a Resilient Environment

Adaptation involves taking long-term measures to reduce the impact of disasters. At the institutional level, FRs (including Police, Fire and Rescue services, CBOs etc) have an opportunity to help influence policy and legislation that ensure that the unique needs of PwDs and terminally ill patients are adequately met. For instance, ensuring that PWDs have adequate access to assistive technologies and devices helps fortify their adaptive capacity to overcome disasters. See Annexure 2 for a detailed list of Assistive Technologies and devices that can help PwDs improve their adaptive capacity towards disasters.

FRs should identify PWDs that are residings in the communities they serve. Geotagging and developing a database to assess their needs in the event of a disaster should be undertaken as a collaborative process including FRs, local governments and community-based organisations. Conducting such risk assessments to identify potential hazards that could affect PwDs in each district, helps in developing emergency response plans. This will ensure accessibility in public infrastructures like evacuation centres, community buildings, and emergency shelters both during and in the aftermath of a disaster.

4.4. Preparedness: Fostering Community Readiness

Disaster preparedness for persons with disabilities (PwDs) requires specific strategies to ensure their safety, accessibility, and inclusion in all aspects of preparedness efforts. Here is an overview of key strategies for disaster preparedness with a focus on PwDs:

Inclusive Risk Assessment: Conducting comprehensive risk assessments that specifically consider the vulnerabilities and needs of PwDs. This involves identifying hazards, assessing their impact on individuals with disabilities, and mapping accessible evacuation routes and safe areas.

Accessible Early Warning Systems: Implementing early warning systems that are inclusive and accessible to PwDs is essential. These systems should consider alternative communication methods, such as visual and tactile alerts, clear and simple language, and providing information in accessible formats like braille or large print.

Disability-Inclusive Community Education: Raising awareness among PwDs, their families, and caregivers about potential hazards and inclusive preparedness measures is vital. Providing disability-specific training, distributing accessible educational materials, and conducting

inclusive workshops and drills helps individuals understand their roles and responsibilities during emergencies.

Personalised Emergency Planning: Developing personalised emergency plans in collaboration with PwDs and their support networks is critical. These plans should outline specific evacuation procedures, communication methods, and necessary accommodations, considering individual disabilities and accessibility requirements.

Accessible Infrastructure and Facilities: Ensuring that critical infrastructure, emergency shelters, and public facilities are accessible to PwDs is essential. This includes providing ramps, elevators, accessible toilets, and appropriate signage. Training shelter staff on disability etiquette and inclusive service provision is also important.

Inclusive Community-Based Approaches: Establishing disability-inclusive community disaster management committees, conducting disability-specific training, and involving PwDs in decision-making processes promotes their active participation and expertise.

Assistive Technology and Accessibility Solutions: Identifying and integrating assistive technologies and accessibility solutions into preparedness efforts can enhance the resilience of PwDs. This includes providing emergency communication devices, ensuring the availability of assistive devices and supplies, and incorporating universal design principles into infrastructure development etc.

Training and Capacity Building: Conducting specialised training and capacity building programs for emergency responders, government officials, and community members on disability-inclusive emergency response and support is essential. This includes disability awareness training, sign language training, and inclusive communication techniques.

Collaborative Partnerships: Establishing partnerships with disability organisations, service providers, and advocacy groups strengthens disaster preparedness for PwDs. Collaborating with these stakeholders enhances knowledge sharing, resource mobilisation, and coordination, ensuring a holistic and inclusive approach.

Regular Evaluation and Feedback: Regularly evaluating the effectiveness of preparedness strategies and seeking feedback from PwDs and their support networks is crucial. This allows for continuous improvement, addressing gaps, and ensuring that the needs and voices of PwDs are considered in future planning and preparedness efforts.

4.4.1. Role of Family members

Family members and caregivers should be involved in disaster planning and periodic drills to improve their readiness and resilience. This helps in developing evacuation plans that address the needs of PwDs, such as identifying accessible evacuation routes and available transportation options. Not only do they possess invaluable knowledge about the specific needs, abilities, and limitations of the individuals they care for, but by involving them, emergency plans can be adapted as necessary to address the unique challenges faced by PwDs.

Family members provide insights during planning stages, identify potential risks, and suggest adaptations for emergency communication, evacuation procedures, and shelter arrangements. In addition, they ensure that PwDs receive appropriate support during evacuations and in emergency shelters, advocating for accommodations and necessary resources. They offer emotional support, familiarity, and comfort, alleviating distress for PwDs in challenging situations. They also have key responsibilities towards preparing and maintaining emergency kits and supplies.

4.5. Safety Considerations

Safety of both PwDs as well as FRs should be ensured during rescue and evacuation. The principle of 'Do No Harm' is just as relevant to Disaster Response, as it is to the practice of clinical medicine. Training should hence impart the requisite skills for safe handling of PwDs and assistive equipment. Special care should be taken with respect to bed-bound patients with indwelling catheters or intravenous cannulae etc.

It is equally important to ensure safety of FRs, particularly during lifting and moving heavier patients (see later). Some PwDs on long term care might also present an infection risk. Aseptic precautions include wearing of well-fitting disposable gloves and masks, proper hand hygiene both before and after handling each patient etc.

5. After Disaster Strikes: Response and Recovery

5.1. Response: Ensuring Safe Rescue and Evacuation

During the response phase, immediate actions are taken to protect life, property, and the environment of PWDs. This is made possible by ensuring that adequate information is not only collected beforehand but it is appropriately sorted and made available to FRs so as to facilitate on-the-spot decision making. At a minimum, this necessitates that FRs have prior knowledge regarding the type of disability, location, routes of access and assistive devices used by PwDs in their jurisdiction. It is important to ensure clear and effective communication, using alternative methods if necessary.

Not only should evacuees be treated with care, respect, and dignity, but FRs should also safeguard assistive devices and essential medical equipment during evacuation. It is necessary to make provision for assistive devices to PWDs who may not have them or may have lost theirs during a disaster. FRs should form collaborative partnerships with local health services so as to ensure continuity of care and assistance with daily living activities in accessible shelters and accommodations. The following is an overview of specific considerations to be kept in mind while evacuating diverse groups of PWDs and terminally ill patients:

1. Locomotor Disabilities

People with locomotor disabilities may have difficulties with mobility, and may use aids like wheelchairs, crutches, or walkers. FRs can help by ensuring that evacuation routes and shelters are wheelchair-accessible. They should also be prepared to provide assistance during evacuation, which may include lifting or carrying individuals in a safe and respectful manner. FRs should be trained to handle assistive devices properly and ensure their transportation during evacuation.

2. Visual impairment

People with visual impairments might have partial or total vision loss. FR can assist by providing information through audible means and offering guided assistance during evacuation. Incorporating tactile elements into warning systems can also enhance accessibility. For instance, vibrating alerts can be used alongside audible alarms.

3. Hearing Impairments

People with hearing impairments might have partial or total hearing loss. FRs should ensure the use of visual alarms and warnings alongside audible ones. They can use simple gestures or written instructions to communicate important information. Knowledge of basic sign language can also be incredibly useful for FRs.

4. Cognitive and intellectual Disabilities

People with cognitive disabilities may have difficulty in understanding or remembering information. FRs can support these individuals by providing clear, simple instructions and ensuring a calm and patient interaction. It's crucial to explain the situation in an understandable way and confirm the person's understanding. Accommodating these individuals with a caregiver or a trusted person can also help alleviate their distress. FRs should also be trained to recognize signs of distress and refer these individuals to professional mental health support when necessary.

5. Rescue and Evacuation of persons with multiple disabilities and terminally Ill Patients

Terminally ill patients have unique needs due to their serious health conditions. They may be bedridden or require ongoing treatment and palliative care, which provides relief from the symptoms and stress of their illness. FRs should approach these situations with flexibility and patience. A personalised approach, considering each individual's unique set of needs, can be most effective. Coordination with family caregivers, healthcare providers, or family members will be highly beneficial in these cases.

6. Buddy System

A buddy system involves pairing each person with a capable partner who can provide support during evacuation. This ensures that vulnerable individuals receive the necessary help to safely exit a facility or area. It is essential that the PwD and their 'buddy' are familiar with each other and have a degree of comfort and trust. The buddy has received general instruction regarding safe rescue and evacuation of PwDs, and has further in-depth training sufficient to meet the needs of their PwD buddy. Table 2 summarises the specific do's and don'ts to observe while evacuating PWDs.

Sl. No.	Category of disability or illness	Do's	Dont's
1	Physical / Mobility issues	1) Communicate clearly and patiently. 2) Ask the person about their specific needs and how best to assist them. 3) Safeguard assistive devices if evacuation is required and carry it along the PWD during evacuation. 4) Maintain their comfort and dignity.	1) Do not make assumptions about their capabilities. 2) Do not forcibly move the person without their consent unless there is immediate danger. 3) Do not isolate PwDs from family / caregivers unless necessary.

		Do's	Don'ts
2	Visual impairments	1) Provide clear verbal directions and describe the situation. 2) Guide them by allowing them to hold your arm. 3) Be aware of potential hazards in their path.	1) Avoid grabbing or pulling them without warning. 2) Do not separate from the family or guide animal if they have one. 3) Ensure that volunteers deputed to support PWDs are trained.
3	Hearing impairments	1) Get the patient's attention before communicating. 2) Use simple signs, gestures, or written messages to communicate. 3) Use flashlight or other visual signals during low visibility conditions. 4) Use the service of a sign language interpreter, where available. 5) Write the instruction clearly and legibly.	1) Do not shout or over-exaggerate your speech without assessing the degree of disability first. 2) Do not separate patients from family or service animals, if they have one. 3) Make sure the person can see the face and lips of the rescuer while speaking.
4.	Cognitive / Intellectual impairments	1) Speak slowly and clearly. 2) Provide concrete, step-by-step instructions. 3) Use visual aids if possible. 4) Provide clear and simple information. 5) Use the help of the caregiver.	1) Do not use complex language or concepts. 2) Avoid becoming impatient or expressing frustration. 3) Avoid making dismissive or judgmental remarks. 4) Learn to identify early signs of acute distress such as raised heart rate, irritability.

5	Multiple Dis-ability and Terminally ill patients	1) Exercise extreme care to avoid causing discomfort or pain. 2) Maintain access to medications and essential medical equipment. 3) Special care in handling patients with indwelling catheters, I V cannulas etc. 4) Communicate with their healthcare provider if possible. 5) Arrange for continuation of care at the evacuation site.	1) Do not rush or jostle the patient. 2) Do not separate them from their caregiver.

Table 2: Best Practices for evacuating PWDs and terminally ill patients

Evacuating different groups of PwDs during different types of Hazards are described in greater detail in Annexures numbered 3 - 7. For the sake of simplicity, each type of disability is mapped to only one particular type of Hazard in this module. The following are described:

1. Locomotor disability during Flood.

2. Visually impaired during Fire.

3. Speech & Hearing impairment during Landslides and,

4. Intellectual disability during Cyclone/Storm.

It is important to note that these annexures are intended merely as a guide, and specific skills are to be acquired in hands-on training sessions specifically organised for the purpose. There needs to be a certification process and drills to ensure that designated FRs have acquired a degree of knowledge, skills and attitudes sufficient to ensure that these principles and practices are implemented.

5.2. Recovery: Facilitating Inclusive Rehabilitation

Disaster recovery efforts should prioritise the specific needs and vulnerabilities of PwDs to ensure their inclusion, well-being, and full participation in the recovery process. Even though many of these would be beyond the scope of FRs, it is important that they remain engaged as

an empowered stakeholder, making sure that other government agencies, as well as uniformed forces etc are sufficiently aware of the lived reality and experiences of PwDs and other vulnerable communities. Key strategies include:

1. **Inclusive Damage Assessment and Needs Analysis:** Conduct a comprehensive assessment of the damage and needs, specifically considering the impact on PwDs. Evaluate physical infrastructure, economic losses, social impacts, and the specific needs of PwDs, including accessibility requirements and support services.

2. **Inclusive Recovery Planning:** Develop recovery plans that explicitly address the needs of PwDs. Ensure that the plans outline inclusive strategies for rebuilding infrastructure, restoring services, and supporting the recovery of livelihoods for PwDs. Involve PwDs and their representative organisations in the planning process to ensure their voices are heard.

3. **Accessibility and Universal Design:** Incorporate accessibility and universal design principles into the reconstruction of physical infrastructure, public spaces, and facilities. Ensure that buildings, transportation systems, housing, and public amenities are accessible to PwDs, including features such as ramps, elevators, wide doorways, accessible toilets, and visual and auditory cues.

4. **Inclusive Livelihood Restoration and Economic Recovery:** Prioritise the restoration of livelihoods for PwDs through inclusive economic recovery measures. Support PwDs in re-establishing businesses, accessing job opportunities, and participating in vocational training programs. Ensure that economic recovery initiatives consider the diverse skills and abilities of PwDs.

5. **Supportive Social and Community Recovery:** Address the social and psychological impacts of the disaster on PwDs. Provide psychosocial support, counseling services, and community-based programs that address the specific needs of PwDs. Promote community engagement, social inclusion, and the rebuilding of support networks for PwDs.

6. **Accessible Health and Rehabilitation Services:** Ensure that health and rehabilitation services are accessible and available to PwDs during the recovery period. Establish mobile health clinics, provide assistive devices and medical supplies, and train healthcare providers on disability-inclusive care. Support the rehabilitation and recovery of PwDs through physical therapy, occupational therapy, and other specialised services.

7. **Inclusive Education and Training:** Promote inclusive education and training opportunities for PwDs during the recovery phase. Support the reopening and reconstruction of inclusive schools and educational institutions, ensuring accessibility and reasonable accommodations. Provide training and capacity building programs to enhance the skills and knowledge of PwDs in various fields.

8. **Disability-Inclusive Policies and Legislation:** Ensure that recovery efforts are guided by disability-inclusive policies and legislation. Advocate for the implementation and enforcement of disability rights frameworks, accessibility standards, and anti-discrimination laws. Promote the participation of PwDs in decision-making processes related to recovery and reconstruction.

9. **Knowledge Sharing and Collaboration:** Facilitate the sharing of best practices and lessons learned in inclusive disaster recovery for PwDs. Foster collaboration and exchange of information among stakeholders, including governments, organisations, and academic institutions, to enhance knowledge and improve future recovery efforts.

10. **Monitoring, Evaluation, and Accountability:** Regularly monitor and evaluate the impact and effectiveness of recovery efforts for PwDs. Establish mechanisms for accountability and feedback from PwDs and their representative organisations to ensure that their needs and concerns are addressed. Use the findings to improve future recovery planning and implementation.

5.2.1. Importance of involving PwDs

The immediate aftermath of disasters often provide a useful window of opportunity to rebuild better, ensuring accessible and inclusive homes and community infrastructure. FRs should capitalise on the same by conducting outreach to PWDs and their families to increase awareness of emergency planning and preparedness. Not only should FRs continue providing support and resources to help PWDs recover from the disaster, but they should also advocate for adequate and timely psychological support and counselling services, as people with disabilities and those with terminal illnesses may have unique mental health needs after a disaster. Finally, FRs should take the lead in developing a feedback mechanism to improve emergency response for PWDs in future disasters.

Just as in Disaster Preparedness, family members and caregivers have an important role to play in the recovery phase as well. Not only do they facilitate access to medical services, rehabilitation programs, and ongoing support systems for PwDs in the aftermath of disasters, but their involvement empowers the disability community, promotes inclusivity, and establishes collaborative networks within emergency management. By recognizing their expertise and lived experiences, emergency planners can develop comprehensive and inclusive plans, bridging gaps and upholding the rights of PwDs.

6. First Aid and Basic Life Support

6.1. Definition of First Aid

Emergency care or treatment given to an ill or injured person before regular medical aid can be obtained (Merriam-Webster).

6.2. Special considerations for Persons with Special Needs

First Aid in persons with special needs might slightly vary from case to case, even though general principles remain the same. Special needs including communication needs for specific categories and use of assistive devices should be taken into account, while providing first aid.

6.3. What should be the content of First aid box?

First aid kit should contain the following:

- Sterile gauze pads (dressings) in small and large squares to place over wounds.
- Disinfectants like dettol or savlon.
- Medicines like pain killers (ibuprofen) and antibiotics.
- Roller bandages to hold dressings in place.
- Adhesive tape.
- Bandages in assorted sizes.
- Scissors.
- Tweezers.
- Safety pins.
- Antiseptic wipes or soap.
- Thermometer.
- Barrier devices, such as a pocket mask or face shield.

6.4. Heavy Bleeding from a Wound

- Put pressure on the wound to stop or slow down the flow of the blood.
- Call local emergency numbers or ask for somebody's help to get to hospital.
- Keep pressure on the wound until the help arrives.

6.5. Foreign Body in Nose

- Blow nose gently to try to free the object, but don't blow hard or repeatedly.

- If only one nostril is affected, close the opposite nostril by applying gentle pressure and then blow out gently through the affected nostril.

- If the object is visible gently remove it. Don't try to remove an object that isn't visible or easily grasped.

- Call for emergency medical assistance or go to the nearest hospital, if these methods fail.

6.6. Bleeding from Nose

- Make the patient sit in upright position with his/her head slightly forward.

- With thumb and index finger, apply pressure on soft part of nostrils below the nose bridge.

- Continue applying pressure until the bleeding stops.

- Ask the patient to breathe through the mouth while nostrils are pinched.

- Loosen the tight clothing around the neck.

- After 10 minutes, release the pressure on the nostrils and check to see if the bleeding has stopped.

- If bleeding persists, seek medical aid.

6.7. Foreign Body in Ear

- A foreign object in the ear can cause pain and hearing loss. Usually you know if an object is stuck in your ear, but small children may not be aware of it.

- If the foreign body is not a living creature, there is no immediate danger, but the casualty should seek medical assistance. Do not try to remove the foreign body by probing anything into the ear, the internal ear structures are very delicate and hearing loss could result.

- If the foreign body is an insect, treatment is urgent.

- If the foreign body is a dislodged hearing aid, attempt to remove the same only if visible from outside.

6.8. Bleeding from Ear

- Make the patient relaxed and place clean cloth/cotton over the ears.

- Never insert cloth/cotton inside the ears. This will aggravate bleeding.

- Arrange immediate medical attention.

- If the person uses hearing aid remove the hearing aids if possible. Do not try to apply force to remove hearing aid. It might aggravate the bleeding.

6.9. Foreign Body in Eye

- Wash your hands with soap and water.

- Try to flush the object out of your eye with a gentle stream of clean, water. Use an eyecup or a small, clean drinking glass positioned with its rim resting on the bone at the base of your eye socket.

- Another way to flush a foreign object from your eye is to get into a shower and aim a gentle stream of lukewarm water on your forehead over the affected eye while holding your eyelid open.

- If you're wearing contact lenses, it's best to remove the lens before or while you're irrigating the surface of the eye with water. Sometimes a foreign body can be embedded on the undersurface of the lens.

- If wearing glasses, remove the glasses before attempting first aid.

6.10. Bleeding from Eye

- Lay the person straight, if the person is not on wheel chair.

- Elevate head end using pillows.

- Ask the person to keep the eyes closed. Cover both eyes using clean cloth.

6.11. Bleeding from Mouth

- Lay the patient with head turned to one side (unless contraindicated due to issues related to locomotor impairment).

- Encourage to spit out the blood if possible.

- Never give hot food/beverages, as it will aggravate bleeding.

- Take the person to hospital.

6.12. Poisoning

- Search the premises for source of poison (eg. Bottles, tablets). However, do not waste much time for this.

- Never induce vomiting.

- If unconscious, do CPR. Take precaution while giving mouth to mouth breathing.

- In case of food poisoning, provide lots of fluids.

6.13. Burns

- Call an ambulance for any serious burns. Burns to children or the elderly, electrical or chemical burns as well as burns to the face or genital area, should be attended to immediately.

- Administer CPR if the person is unconscious.

- Try to remove clothes and jewellery (from the area that has been burned) only if it is not sticking to the burned area.

- Hold the burned area under gently running water, for about 10 minutes to half an hour.

- To prevent corneal damage (in the case of chemical burns to the eyes), immediately irrigate the eyes with water or a saline solution.

- For second degree burns on the limbs – elevate the limbs higher than the heart.

- To reduce shock as well as loss of body heat, place clean, dry, non-fluffy cloths lightly over the burn.

- Cover the person with a cool, wet, lint-free cloth, while waiting for an ambulance or when transporting the person to hospital.

Caution

- Do not apply lotions, butter, grease, oil, honey or tooth paste to burnt area.

- Do not apply ice, as it may cause frostbite.

6.14. Snake Bite

- Remain calm and move beyond the snake's striking distance.

- Remove jewellery and tight clothing before you start to swell.

- Position yourself, if possible, so that the bite is at or below the level of your heart.

- Clean the wound, but don't flush it with water. Cover it with a clean, dry dressing.

Caution

- Don't use a tourniquet or apply ice.

- Don't cut the wound or attempt to remove the venom.

- Don't drink caffeine or alcohol, which could speed your body's absorption of venom.

- Don't try to capture the snake. Try to remember its colour and shape, so that you can describe it, which will help the treatment.

- Rush to the hospital where anti-venom is available.

Snakepedia

A team of scientists, doctors and photographers in Kerala have launched a mobile application named 'Snakepedia', that presents all relevant information on snakes, to help the public as well as doctors in treating snake bites.

Snakepedia is available on Google Playstore

The main aim of the app is to help the public identify snakes, avail proper treatment on time for snakebites, bust myths about snakes, and protect snakes as well as snakebite victims. The android mobile application documents information on snakes with the help of pictures, infographics and podcasts and analyses its first aid, treatment, myths and superstitions.

6.15. Insect Bite

- Carefully remove the sting. However, do not apply too much pressure using fingers/equipment.

- Use ice over the affected area (ice should be wrapped in clean cloth).

- As risk for hypersensitivity is high, please arrange immediate medical attention.

6.16. Electric Shock

- Arrhythmia, burns, fractures and injuries due to fall etc may result from electric shock.

- Disconnect the electric supply before attending to the victim.

- Provide first aid based on the impact.

- If electric lines are broken, inform the concerned authority.

- Take the victim to the hospital.

6.17. Seizures

- Never try to stop shaking. Once shaking ends, lay the person on the floor, with head turned towards one side.

- Loosen tight clothing.

- Check for breathing difficulty.

- Never attempt to open the mouth or introduce anything into the mouth.

- There is no point in making the patient hold metallic objects.

6.18. Bone injuries/Fractures

- If bleeding persists, adopt measures to arrest bleeding.

- Splint the affected area using flat splint.

- In case of back injury, take utmost care not to mobilize the back. Transfer the patient using spine board, if possible (a wooden plank also will serve the purpose).

6.19. Foreign Body in Throat/ Choking

To give effective back blows:

- Stand to the side and slightly behind the casualty.

- Support his chest with one hand and lean him well forward, so that when the obstructing material is dislodged, it comes out of the mouth rather than going further down the airway.

- Give 5 sharp blows between the shoulder blades with the heel of your other hand.

- If the obstruction is not relieved by back blows, perform chest thrusts.

To perform the Chest Thrusts:

- Stand behind the person. Wrap your arms around the chest. Tip the person forward slightly.

- Make a fist with one hand. Position it in the centre of their chest

- Grasp the fist with the other hand. Press hard into the chest with a quick thrust — as if trying to squash them toward you.

- Repeat up to 5 times.

- If choking is persistent, alternate between 5 back slap and 5 chest thrusts.

- If unconscious, lower the person on his or her back onto the floor.

- If there is a visible blockage at the back of the throat or high in the throat, reach a finger into the mouth and sweep out the cause of the blockage. Be careful not to push the food or object deeper into the airway, which can happen easily in young children.

- If the object remains lodged and the person doesn't respond after you take the above measures, begin Cardio-Pulmonary Resuscitation (CPR). Chest compressions of CPR may dislodge the object.

- Remember to recheck the mouth periodically.

6.20. Heart Attack

- Patient should be made to sit down, rest, and try to keep calm.

- Loosen any tight clothing.

- Ask if the patient takes any chest pain medication for a known heart condition, such as nitroglycerin, and help him take it.

- If the pain does not go away with rest or within 3 minutes of taking nitroglycerin, call for emergency medical help.

- If the person is unconscious and unresponsive, call for emergency and should begin CPR.

Caution

- Do not leave the patient alone.

- Do not allow the person to deny the symptoms.

- Do not wait to see if the symptoms go away.

- Do not give the person anything by mouth unless a heart medication (such as nitroglycerin) has been prescribed.

6.21.CPR

- CPR – or Cardiopulmonary Resuscitation – is an emergency lifesaving procedure performed when the heart stops beating.

- Immediate CPR can double or triple chances of survival after cardiac arrest.

Steps:

1. Check the scene for safety, form an initial impression and use personal protective equipment (gloves, masks etc., if available).

2. If the person appears unresponsive, check for responsiveness, breathing, life-threatening bleeding or other life-threatening conditions using shout-tap-shout. Call out the patient's name if known.

4. Place the person on their back on a firm, flat surface.

5. Give 30 chest compressions.

Hand position: Two hands centered on the chest.

Body position: Shoulders directly over hands; elbows locked.

Depth: At least 2 inches.

Rate: 100 to 120 per minute.

Allow chest to return to normal position after each compression.

6. Give 2 breaths. Open the airway to a past-neutral position using the head-tilt/chin-lift technique.

Ensure each breath lasts about 1 second and makes the chest rise; allow air to exit before giving the next breath.

Note: If the 1st breath does not cause the chest to rise, re-tilt the head and ensure a proper seal before giving the 2nd breath. If the 2nd breath does not make the chest rise, an object may be blocking the airway.

7. Continue giving sets of 30 chest compressions and 2 breaths, till advanced medical support is available.

7. Early Warning

Early Warning is instrumental to limit the impact of disaster to a great extent, as it enables those at risk to be prepared. Moreover, Early Warning also aids the rescuers to equip themselves for a timely rescue and evacuation. In the case of persons with special needs, communication systems used in early warning should consider special needs. Rescuers also should be aware of the same (Table 3).

Sl. No.	Warning	Issued by	Sources of information
1	**Rainfall** • White- No rain, no action required • Green- Light to moderate rain, no action required • Yellow- Isolated heavy rain. Watch, and be updated • Orange • Red	India Meteorological Department (IMD) https://mausam.imd.gov.in/ Meteorological Centre, Thiruvananthapuram https://mausam.imd.gov.in/thiruvananthapuram/	Official website of Kerala State Disaster Management Authority https://sdma.kerala.gov.in/ Official Facebook page of Kerala State Disaster Management Authority https://www.facebook.com / Kerala State Disaster Management Authority ksdma
2	Flood	Central Water Commission https://www.cwc.gov.in/	
3	Dams	• Kerala State Electricity Board Limited (KSEBL) • Irrigation Department, Kerala (With the permission of District Disaster Management Authority-DDMA)	

4	Lightning	'Nowcast' of India Meteorological Department (IMD), updated every three hours https://mausam.imd.gov.in/	Official website of Kerala State Disaster Management Authority https://sdma.kerala.gov.in/ Official Facebook page of Kerala State Disaster Management Authority https://www.facebook.com/KeralaStateDisasterManagementAuthorityksdma Damini mobile application of Government of India https://play.google.com/store/apps/details?id=com.lightning.live.damini
5	Cyclone	India Meteorological Department (IMD) https://mausam.imd.gov.in/	
6	Warning for Fishermen	India Meteorological Department (IMD) https://mausam.imd.gov.in/	https://sdma.kerala.gov.in/ Official Facebook page of Kerala State Disaster Management Authority https://www.facebook.com/KeralaStateDisasterManagementAuthorityksdma
7	High wave, rough sea, coastal erosion	Indian National Centre for Ocean Information Services https://incois.gov.in/	
8	Tsunami		

9	Heat related disasters (heat wave, heat stroke etc)	India Meteorological Department (IMD) https://mausam.imd.gov.in/	Official website of Kerala State Disaster Management Authority https://sdma.kerala.gov.in/ Official Facebook page of Kerala State Disaster Management Authority https://www.facebook.com/KeralaStateDisasterManagementAuthority ksdma
10	Strong winds		
11	Drought	Ministry of Environment and Forests http://moef.gov.in/en/	Drought monitoring cell at State Emergency Operations Centre Official website of Kerala State Disaster Management Authority https://sdma.kerala.gov.in/
12	Communicable diseases/ Epidemics	Ministry of Health and Family Welfare (MoHFW) https://www.mohfw.gov.in/	Official website of Kerala State Disaster Management Authority https://sdma.kerala.gov.in/ Official Facebook page of Kerala State Disaster Management Authority https://www.facebook.com/KeralaStateDisasterManagementAuthority ksdma

Table 3: Early Warning for disasters in India

*Note: Various disasters such as fire, earthquake, landslide etc do not have an early warning system in place, at present

ANNEXURES

ANNEXURE # 1

Complete list of disabilities described under Rights of Persons with Disabilities Act (2016)

1. Blindness

2. Low-vision

3. Leprosy Cured persons

4. Hearing Impairment (deaf and hard of hearing)

5. Locomotor Disability

6. Dwarfism

7. Intellectual Disability

8. Mental Illness

9. Autism Spectrum Disorder

10. Cerebral Palsy

11. Muscular Dystrophy

12. Chronic Neurological conditions

13. Specific Learning Disabilities

14. Multiple Sclerosis

15. Speech and Language disability

16. Thalassemia

17. Haemophilia

18. Sickle Cell disease

19. Multiple Disabilities including blindness

20. Acid Attack victim

21. Parkinson's disease

ANNEXURE # 2

List of Assistive Technologies and Devices

1. **Emergency Communication Systems:** Devices that enable PwDs to receive emergency alerts and communicate with emergency responders. Examples include accessible emergency radios, visual and vibrating alert systems, and emergency communication apps.

2. **Personal Emergency Evacuation Plans (PEEPs):** Customised plans that consider the specific needs of PwDs during evacuation. PEEPs may include devices such as wearable communication devices, personal alarms, and evacuation chairs or sleds for individuals with mobility impairments.

3. **Assistive Listening Devices (ALDs):** Technologies that enhance sound transmission for individuals with hearing impairments. ALDs include hearing aids, cochlear implants, induction loop systems, and personal amplification systems.

4. **Mobility Aids:** Devices that assist individuals with mobility impairments during evacuations or movement within disaster-affected areas. These may include wheelchairs, walkers or crutches, transfer boards and sliding sheets, gait belts etc.

5. **Augmentative and Alternative Communication (AAC) Devices:** Tools that support individuals with speech and language disabilities in communicating during emergencies. AAC devices range from low-tech options like communication boards and picture cards to high-tech devices such as speech-generating devices and specialised communication apps.

6. **Braille and Tactile Displays:** Systems that provide access to information for individuals who are blind or have low vision. These include braille displays, braille labels, tactile maps, and tactile signage to navigate disaster-affected areas.

7. **Personal Protective Equipment (PPE) Adaptations:** Modifications to standard PPE to accommodate the specific needs of PwDs. This can include face masks with clear windows for lip reading, PPE with adjustable straps for individuals with sensory sensitivities, or gloves with tactile enhancements for individuals with dexterity limitations.

8. **Environmental Control Systems (ECS):** Technologies that allow individuals with limited mobility or dexterity to control their environment. ECS can automate tasks such as opening doors, adjusting lighting, operating appliances, and controlling heating or cooling systems.

9. **Assistive Technology for Information Access:** Devices and software that enable access to information and digital resources. This includes screen readers,

magnification software, adaptive keyboards, switch access devices, and alternative input methods for computers and mobile devices.

10. **Personal Emergency Power Supply:** Portable power solutions, such as rechargeable batteries or generators, to ensure uninterrupted power supply for assistive devices like ventilators, communication devices, and medical equipment during emergencies.

11. **GPS and Tracking Devices:** Location tracking systems that help locate and ensure the safety of PwDs during evacuations or in case of separation from caregivers. These devices can include GPS trackers, wearable alarms, and smartphone apps with location-sharing features.

12. **Emergency Supply Kits:** Customised emergency kits that contain essential items specific to the needs of PwDs, such as medication, medical supplies, spare batteries for assistive devices, hearing aid drying kits, communication aids, and mobility device repair tools.

It is important to remember that simple alternatives exist to more advanced technologies, and may often be more reliable in a disaster situation. For example, a notepad and pen can be the easiest way to communicate with a deaf or hearing-impaired person, especially if they are unable to read lips.

(First responder using a notepad to communicate effectevely)

ANNEXURE # 3

Evacuating Persons with Locomotor Disability during Floods.

Preparing for Evacuation

1. Gather relevant information about individuals with locomotor disability in the affected area, including their locations, specific needs, and any assistive devices they use (wheelchairs, crutches, walkers, etc.).

2. Ensure that any emergency kit that has been prepared in advance (making provisions for the specific requirements of the disabled person) is not left behind during evacuation (7).

3. Identify accessible evacuation routes, transportation options, and shelters that can accommodate individuals with mobility challenges, in coordination with local authorities, disability organisations, and community members.

Evacuation Planning

1. Assess individual needs: Evaluate the specific requirements of each person with a locomotor disability, such as wheelchair access, assistance with transferring, personal care, medical needs, and any necessary assistive devices or medications. The American Red Cross society has listed the specific steps included in assessing individual needs (8).

2. Formulate an evacuation plan: Develop an individualised evacuation plan for each person, considering their capabilities, limitations, and preferred methods of assistance. Allocate necessary resources, equipment, and personnel accordingly (9).

3. Assign trained personnel: To assist each individual during the evacuation. Ensure that these personnel are adequately briefed on the specific needs and preferences of the person they are assigned to.

Safe Evacuation Process

1. Clearly explain the need for evacuation, the severity of the flood situation, and the importance of their safety. Use simple language and visuals if necessary.

2. Obtain consent: Seek consent from the individuals with disabilities or their caregivers before initiating the evacuation process. Respect their autonomy and involve them in decision-making whenever possible.

3. Depending on the individual's capabilities and preferences, offer physical assistance for evacuation, such as supporting them while walking, providing a sturdy arm for balance, or helping them use assistive devices.

4. If necessary, utilise evacuation equipment like stretchers, ramps, or lift chairs to safely transport individuals with mobility challenges (Fig 7). Ensure the equipment is in good condition and used correctly. Do not leave behind essential equipment used by the PwD in their daily life.
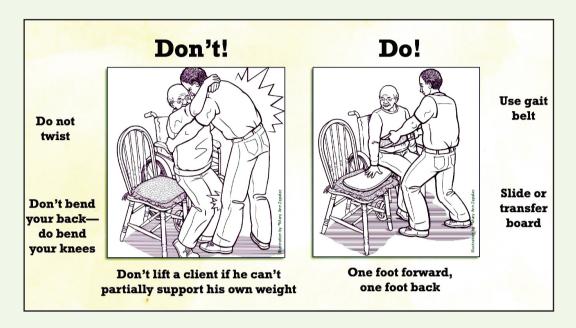

Don't! **Do!**

Do not twist

Don't bend your back— do bend your knees

Use gait belt

Slide or transfer board

Don't lift a client if he can't partially support his own weight

One foot forward, one foot back

Fig 6: Appropriate body mechanics for transferring patients (Source: OSHA)

5. Mobility-impaired persons should NOT be evacuated by untrained personnel unless the situation is life-threatening. Clear pathways of any debris or obstacles that could hinder the evacuation process. Ensure that ramps and walkways are accessible and free from hazards.

6. Maintain constant communication with the individuals during the evacuation process. Provide reassurance, guidance, and information about the progress of the evacuation.

7. Ambulatory Mobility Impairments - If individuals are able to walk up or down stairs, it is advisable that they wait until the heavy traffic has cleared before attempting to evacuate. Someone should walk beside the person to provide assistance in exiting the building, if needed.

8. Non-Ambulatory Mobility Impairments: Wheelchair users who need support for evacuation should move to and remain at a designated area of rescue assistance until emergency rescue personnel arrive. A specific person should be designated to inform emergency personnel of the disabled person's location.

9. If people are in immediate danger and cannot be moved to a safer area, it may be necessary to evacuate them using an evacuation chair or a carry technique (fig 7,8).

fig 7: Creating a seat in four-arm carry technique (source WikiHow)

Fig 8: Two-hand carry technique for unconscious evacuees (source WikiHow)

Safe Sheltering and Post-Evacuation Support

1. Ensure that the designated shelters are accessible and equipped to meet the needs of individuals with locomotor disabilities. Arrange for necessary support services, including accessible toilets, bedding, and medical assistance. Ensure safety of women and children during and post-evacuation (10).

2. Respect the privacy and dignity of individuals with disabilities in the shelter. Ensure their safety and well-being by considering their specific requirements for personal care, privacy, and accessibility.

3. Continuously assess and address the ongoing needs of individuals with disabilities. Collaborate with local authorities, disability organisations, and healthcare providers to provide appropriate support and services in the aftermath of the flood. Take further help from the government services like F&R, Revenue, LSGD, Health as the need be.

ANNEXURE # 4

Evacuating visually impaired persons during a fire

Fire hazard has both indoor as well as outdoor dimensions. In Kerala the risk is mostly pertaining to indoor fires, although for those living close to the Western Ghats the risk of forest fires are likely to intensify during summer as global warming intensifies in future.

Disaster Risk Reduction:

1. Ensure buildings are fire-safety compliant, with good quality electrical wiring, smoke alarms, emergency escape routes and designated safe assembly points etc (11).

2. Take precautionary measures to avoid forest fires particularly around human settlements.

Preparedness:

3. Identify visually impaired persons who are ordinarily resident or working in the premises, develop and practise a personalised evacuation plan. Most of them will be familiar with the immediate area they are in and may have learned locations of exits and fire alarms in advance. Disseminate Braille prints of evacuation routes and plans.

4. Conduct routine checks and fire drills, including for PwDs with visual impairments. Alternate alarm signals include auditory announcements, vibrating alerts etc.

5. Develop a buddy system, an individual at each locality or building to be designated as the responsible person to coordinate with FRs in evacuating the disabled person.

Response:

6. Tell the person the nature of the emergency and offer to guide him/her by offering your left/right elbow (this is the preferred method). Do NOT grasp a visually impaired person's arm.

7. Give verbal instructions to advise about the safest route or direction using compass directions, estimated distances, and directional terms or information (i.e., elevators cannot be used or if there is debris or a crowd.)

8. As you walk, tell the person where you are and advise of any obstacles, e.g. stairs, overhanging objects, uneven pavement, curbs, and narrow passageways.

9. When you have reached safety, orient the person to where he/she is and ask if any further assistance is needed.

10. Some individuals may have Guide Dogs that may be disoriented during the emergency, and may require additional assistance.

11. White canes and other mobility aids should NOT be left behind.

ANNEXURE # 5

Evacuating Speech & Hearing-impaired persons during landslides

Disaster Risk Reduction:

1. Develop a multi-channel warning system that incorporates visual alerts, vibration-based notifications, and text messages to ensure individuals with hearing impairments are promptly alerted to potential landslides and evacuation orders.

2. Install flashing lights or vibrating alarms in residences or public areas frequented by speech and hearing impaired individuals.

Personal Emergency Preparedness:

3. Encourage individuals with speech and hearing impairments to have personal emergency kits readily available, including essential supplies, written communication aids, and spare batteries for hearing aids or cochlear implants.

4. Provide training sessions on emergency response techniques tailored specifically for speech and hearing-impaired individuals, for eg carrying a whistle.

Collaborative Partnerships:

5. Collaborate with local associations, organisations, and support groups that specialise in assisting speech and hearing impaired individuals. Seek their guidance to develop evacuation plans that address their unique needs.

6. Establish a feedback mechanism to continuously improve evacuation strategies and incorporate the input and experiences of speech and hearing-impaired individuals.

Inclusive Response

7. Write a note stating what the emergency is and what the evacuation route is, for eg:. "Fire – go out and walk along the irrigation canal down to the Post Office".

8. Turn the room lights on and off to gain attention – then indicate through hand gestures or writing (i.e. on a blackboard) what is happening and where to go.

9. Offer visual instructions to advise of the safest route or directions by pointing toward exits for evacuation maps.

ANNEXURE # 6

Evacuating Intellectually disabled persons during a Cyclone or Storm

Disaster Risk Reduction

1. *Early Warning Systems:* Timely dissemination of warnings through various communication channels is essential to ensure that communities have enough time to evacuate and take necessary precautions.

2. *Community Preparedness:* Vulnerable communities should be encouraged to establish early warning networks, designate safe shelters, and stock essential supplies to ensure their resilience in the face of such events.

3. *Resilient Infrastructure:* Measures like storm surge barriers, elevated structures, and robust drainage systems can help mitigate damage and improve the overall resilience of the region.

4. *Ecosystem-based Approaches:* Preserving and restoring natural ecosystems, such as mangroves, coral reefs, and coastal wetlands, can significantly contribute to disaster risk reduction. Implementing sustainable land and water management practices, promoting afforestation, and adopting nature-based solutions can enhance the resilience of ecosystems and minimise the devastating effects of cyclones and storms.

5. *Coordination and Governance:* Governments, local authorities, community organisations, and relevant stakeholders should collaborate closely to develop and implement comprehensive disaster management plans. Adequate allocation of resources, regular drills and exercises, and continuous monitoring and evaluation of preparedness measures are critical to enhancing response capabilities and minimising the impact of cyclones and storms.

Intellectual Disability-inclusive Disaster Preparedness, Response and Recovery

1. **Inclusive Communication:** Provide information using accessible formats such as simplified language, visual aids, pictures, or videos to ensure that intellectually impaired individuals can understand and respond appropriately. Use clear and concise instructions and reinforce the information through multiple channels, including verbal communication, written materials, and visual cues.

2. **Personalised Emergency Plans:** Work closely with caregivers, family members, and support networks to develop personalised emergency plans for intellectually impaired individuals. Consider their specific abilities, limitations, and communication styles when creating these plans. Identify safe areas, evacuation routes, and alternative means of

communication, and ensure that the individual understands and can follow the instructions outlined in the plan.

3. **Training and Education:** Provide training and education programs to intellectually impaired individuals, their caregivers, and support staff on disaster preparedness. Conduct regular drills and exercises tailored to their needs, focusing on practical skills such as recognizing warning signs, seeking shelter, and following evacuation procedures. Reinforce these skills through repetition and reinforcement to enhance their understanding and response during a cyclone or storm.

4. **Support Networks and Assistance:** Encourage the formation of support networks within communities to ensure that intellectually impaired individuals have access to assistance during emergencies. Identify trusted individuals, neighbours, or community organisations who can provide support and assistance in case of an evacuation or during the aftermath of a cyclone or storm. Collaborate with local disability organisations and service providers to ensure that necessary support services are available during emergencies.

5. **Sensory Considerations:** Recognize that individuals with intellectual impairments may have sensory sensitivities. During cyclones or storms, provide a safe and calm environment by minimising loud noises, using appropriate lighting, and addressing sensory triggers. Consider the individual's sensory needs when identifying evacuation centres or shelters, ensuring they have access to quiet spaces or sensory-friendly accommodations.

6. **Reunification and Post-Emergency Support:** Establish clear procedures for reuniting intellectually impaired individuals with their caregivers or support networks after an emergency. Ensure that appropriate identification methods, such as wearable tags or bracelets, are available to aid in the reunification process. Provide post-emergency support services, including access to medical care, counselling, and any necessary accommodations to facilitate recovery and resilience. Do NOT separate intellectually impaired persons from their family members or primary caregivers unless necessary.

ANNEXURE # 7

Rescue and Evacuation of Bedridden Patients

Handling bedridden patients, a key aspect of any response plan, demands specific training and techniques. Taking expert opinion & help from FR is critical for the volunteers. to ensure that they do not inadvertently cause harm to PwDs.

Understanding the Challenges

Bedridden patients are among the most vulnerable during disaster events due to their inability to self-evacuate. Their safety depends entirely on efficient response plans and effective action. Challenges can arise from limited mobility, underlying health conditions, the requirement for medical equipment, dependence on family caregivers, and the need for continuous care. Caregivers of bedridden patients should be encouraged to use a checklist that outlines the various tasks that need to be performed for each patient. Fig. 9 is an example, FRs are encouraged to use or develop a simple checklist that gives essential information while being eminently practical for use by caregivers and buddies/volunteers.
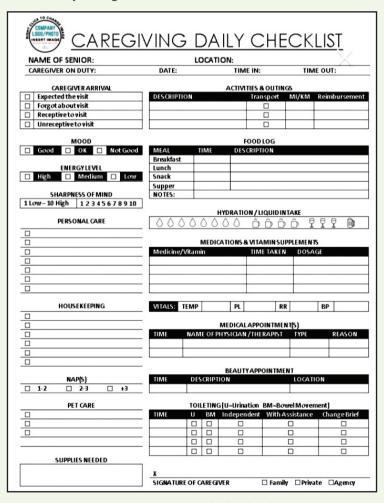

Fig 9: Care giving daily checklist

Preparing for Rescue

Preparation begins with thorough knowledge of your service area. Identifying locations with high concentrations of bedridden patients, such as nursing homes, rehabilitation centres, and special needs households, is critical. Regular disaster preparedness drills incorporating these special needs populations help improve rescue efficacy during actual disasters. Ensure you have the necessary equipment on hand. This includes portable patient transfer devices, evacuation sleds, carry sheets, wheelchairs, and portable oxygen tanks if needed.

The Rescue Process

1) Approach the patient calmly, introduce yourself, and explain the situation clearly and concisely. This can greatly reduce anxiety and foster cooperation. Ensure that you have assessed the patient's condition and any special needs, including life-supporting devices.

2) Safety Assessment: Check the immediate environment for potential hazards, such as unstable structures, fire, water hazards, and so on. Always ensure your own safety first before the patient's evacuation. If in doubt FRs should seek support and advice from healthcare professionals whenever possible.

3) Assess the weight of the patient, as well as their dominant side. Be sure to use appropriate body mechanics and, if possible, ask for assistance from a team member to avoid injury to both yourself and the patient. A bedridden person may be moved between a bed and a chair or wheelchair by various maneuvres (below). A gait belt can be used with any of these transfers (fig 10-13):
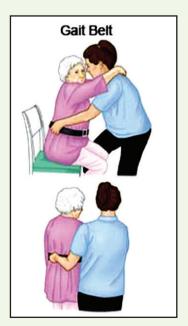

Fig 10: Using a Gait Belt

Using a Gait Belt (Rock-and-Pull)

Face the person. Bend your knees and hips, but keep your back straight. Ask them to place one hand on your shoulder.

Grasp the belt with your palms toward you. Gently rock back and forth about 3 times with the person. On the third rock, pull the person up to standing position.
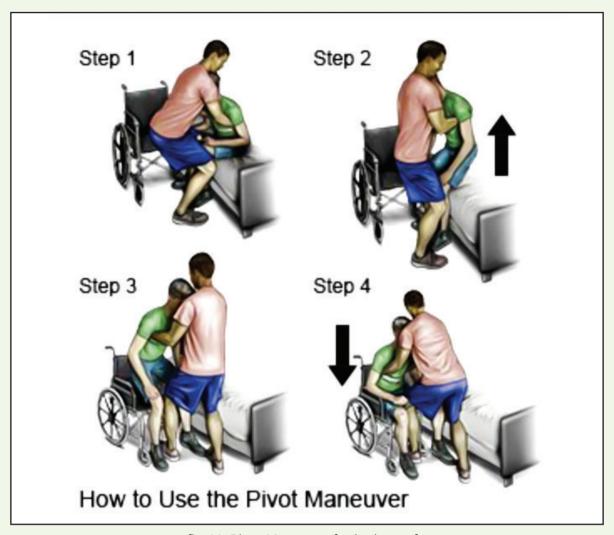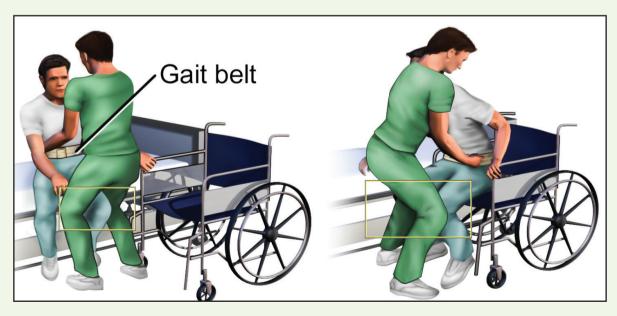
fig 11: Pivot Maneuver for bed transfer

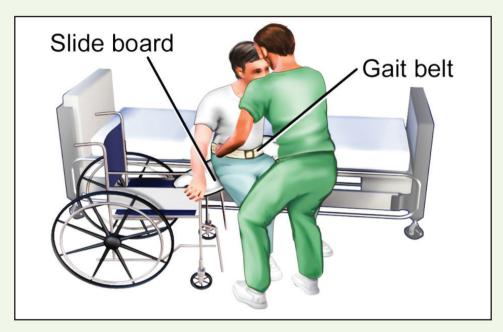*Fig 12: Scoot Maneuver for bed transfer*

Fig 13: Using slide board for bed transfer

4) Caregivers and First Responders are most likely to sustain injuries to themselves while transferring bed bound patients. Use specialised equipment such as lifts if necessary (fig 14).

fig 14: Patient Transfer Lift

5) Ensure the evacuation path is clear and safe. If using an evacuation chair or sled, secure the patient firmly but comfortably. The head should be slightly raised if possible. If the patient requires oxygen or other life-supporting devices, ensure they are properly functioning and securely fastened during transport.

6) On reaching a safe zone or a designated medical facility, relay all relevant information to the receiving medical team. This includes the patient's medical history, current condition, any interventions performed during the evacuation, and family contacts if available. Make sure that the patient is safely and comfortably repositioned in bed (fig 15).

Fig 15: Repositioning in bed

After the Rescue

The job of the first responder does not end with the rescue. Documentation and a post-event debrief are vital. Discuss what went well, what could have been better, and how you can improve in future rescues. Keep learning and improving.

Conclusion

Rescuing and evacuating bedridden patients during a disaster is a complex and challenging task that requires specific skills, effective communication, and the right equipment. Through effective preparation and a systematic approach, you can ensure that every individual under your care receives the best possible chance of safety and survival.

Annexure # 8 | Basic Etiquettes for first responders

- Obtain consent of the PWDs to be helped
- Communicate clearly to them
- Respond with empathy, patience, and flexibility with a personalized
- approach
- Evacuees to be treated with care, respect and dignity.
- Respect their privacy and dignity
- Use appropriate terminologies
- Carry along the assistive device while rescuing PWD, in case they use them, also consider evacuating companion animal along with the person if they use one.
- Do no harm, seek others help when needed.
- work closely with government machinery.
- Read more about inclusion of PWD's in disasters from the KSDMA handbook of disability and DRR - https://sdma.kerala.gov.in/wp-content/uploads/2018/11/Handbook-Different-Ability-2016.pdf

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First responders practising CPR during the inclusive response training held at Pathanamthitta, Kerala under the SAHIT project.

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