Kerala State Minimum Standards of Relief

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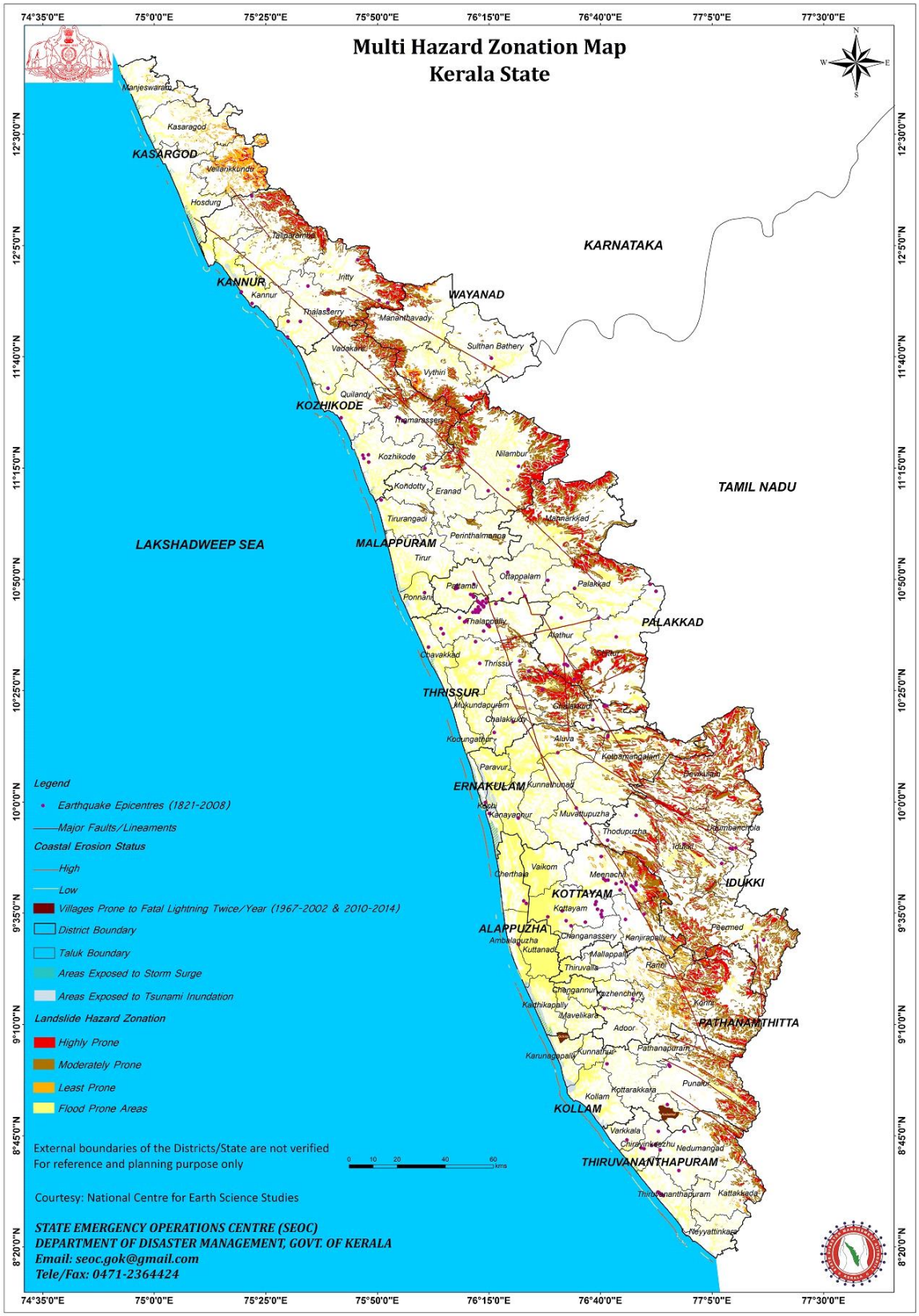
Multi Hazard Zonation Map
Kerala State
KARNATAKA
TAMIL NADU
LAKSHADWEEP SEA
KASARGOD
KANNUR
WAYANAD
KOZHIKODE
MALAPPURAM
PALAKKAD
THRISSUR
ERNAKULAM
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KOLLAM
THIRUVANANTHAPURAM
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Taluk Boundary
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Areas Exposed to Tsunami Inundation
Landslide Hazard Zonation
Highly Prone
Moderately Prone
Least Prone
Flood Prone Areas
External boundaries of the Districts/State are not verified
For reference and planning purpose only
Courtesy: National Centre for Earth Science Studies
STATE EMERGENCY OPERATIONS CENTRE (SEOC)
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Contents

Abbreviations

AIDS	Acquired Immuno Deficiency Syndrome
DDMA	District Disaster Management Authority
DEOC	District Emergency Operation Center
HIV	Human Immuno Deficiency Virus
JPHN	Junior Public Health Nurse
KSDMP	Kerala State Disaster Management Plan
MHA	Ministry of Home Affairs
NDMA	National Disaster Management Authority
NGO	Non-Government Organization
NCRMP	National Cyclone Risk Mitigation Project
PWD	Persons With Disabilities
PLWHA	Person Living With HIV/AIDS
SDMA	State Disaster Management Authority
SDRF	State Disaster Response Fund
UNISDR	United Nations International Strategy for Disaster Reduction
WCD	Women and Child Development Department
WHO	World Health Organization

1. Introduction

Kerala is a multi-hazard prone state. The state is frequently ravaged by the disastrous consequences of coastal erosion, landslides, floods, drought, lightning and petro-chemical transportation related accidents.

Kerala State Disaster Management Plan identifies thirty-nine (39) phenomena with potential to cause disasters requiring L2 attention that the state is susceptible to and they are grouped under two categories based on the major triggering factors, they being Naturally Triggered Hazards (Natural Hazards) and Anthropogenically Triggered Hazards (Anthropogenic Hazards). Not all of these hazards turn into disasters that are 'beyond the coping capacity of the community of the affected area'.

Sl. No	Category	Type
1	Natural Hazards	Flood (Riverine, Urban and Flash Floods)
2		Landslides (includes debris flows, rock fall, rock avalanche, rock slide, landslips and mud slips)
3		Drought
4		Coastal hazards (High waves, Storm surges, *Kallakadal*, Tsunami, Salt Water Intrusion, Coastal erosion)
5		Wind (Cyclone, Gustnados, Gusty winds)
6		Lightning
7		Earthquakes
8		Human epidemics
9		Plant disease epidemics and pest attack on crops
10		Avian epidemics
11		Animal epidemics
12		Pest attack of human habitations
13		Forest Fire
14		Meteorite/asteroid impacts
15		Soil Piping
16		Heat wave/sunburn/sunstroke
17		Natural background radiation
1	Anthropogenic Hazards	Stampedes
2		Fire cracker accidents
3		Petro-chemical transportation accidents
3		Industrial accidents
4		Dam break
5		Dam spillway operation related floods & accidents
6		Oil spill
7		Road accidents involving civilian transport vehicles
8		Human induced forest fire
9		Human-animal conflicts
10		Fire accidents in buildings and market places

11		Boat capsizing
12		Accidental drowning
13		Building collapse
14		Hooch accident
15		Air accidents
16		Rail accidents
17		Terrorism, riots and Naxalite attacks
18		Nuclear and radiological accidents
19		Space debris impacts
20		Biological accidents
21		Occupational and recreational area related hazards
22		Accidents in Armed Forces premises
23	Disasters outside State's administrative boundaries, affecting Keralites	

2. Definitions

- A '**Disaster'** means a catastrophe, mishap, calamity or grave occurrence in any area, arising from natural or manmade causes, or by accident or negligence which results in substantial loss of life or human suffering or damage to, and destruction of, property, or damage to, or degradation of, environment, and is of such a nature or magnitude as to be beyond the coping capacity of the community of the affected areas.
- **'Disaster risk'** is a function of the characteristics and frequency of hazards experienced in a specified location, the nature of the elements at risk, and their inherent degree of vulnerability or resilience. Simply put, risk is a calculation of the possible effects that a hazard might cause bearing in mind both the vulnerabilities and capacities of a community. The concept of risk is summarized in the equation presented here, i.e. Risk = Hazards X Vulnerability / Capacity.
- **'Mitigation'** is any structural (physical) or non-structural (e.g., land use planning, public education) measure undertaken to minimize the adverse impact of potential natural hazard events.
- **'Preparedness'** is activities and measures taken before hazard events occur to forecast and warn against them, evacuate people and property when they threaten and ensure effective response (e.g., stockpiling food supplies).
- **'Relief, rehabilitation and reconstruction'** are any measures undertaken in the aftermath of a disaster to, respectively, save lives and address immediate humanitarian needs, restore normal activities and restore physical infrastructure and services.
- **'Disaster risk reduction'** is the concept and practice of reducing disaster risks through systematic efforts to analyse and reduce the causal factors of disasters. Reducing exposure to hazards, lessening vulnerability of people and property, wise management of land and the environment, and improving preparedness and early warning for adverse events are all examples of disaster risk reduction.
- **'Hazard'** is a dangerous phenomenon, substance, human activity or condition that may cause loss of life, injury or other health impacts, property damage, loss of livelihoods and services, social and economic disruption or environmental damage.

- **'Vulnerability'** is the extent to which a community, structure, services or geographic area is likely to be damaged or disrupted by the impact of particular hazard, on account of their nature, construction and proximity to hazardous terrains or a disaster prone area'.
- **'Capacity'** is the resources, means and strengths which exist in households and communities and which enable them to cope with, withstand, prepare for, prevent, mitigate or quickly recover from a disaster.
- **'Disaster Management'** involves a continuous and integrated process of planning, organizing, coordinating and implementing measures which are necessary for
  - Prevention of danger or threat of any disaster
  - Mitigation or reduction of risk of any disaster or its severity or consequences
  - Capacity building including research and knowledge management
  - Preparedness to deal with any disaster
  - Prompt response to any threatening disaster situation or disaster
  - Assessing the severity or magnitude of effects of any disaster
  - Evacuation, rescue and relief
  - Rehabilitation, reconstruction & recovery

3. State's Responsibility in Relief

According to Section 19 of the Disaster Management Act, 2005, the State Authorities shall lay down detailed guidelines for providing standards of relief to persons affected by disaster in the state and such standards shall in no case be less than the minimum standards in the guidelines laid down by National Disaster Management Authority (NDMA). The State has the primary responsibility to provide assistance and protection to persons affected by natural disasters. In doing so, they are obliged to respect the human rights of affected individuals and to protect them from violations of their rights by private actors as well as from the disaster.

It is therefore, imperative that all actors involved in disaster response – including state agencies and civil society/humanitarian organizations – take concerted measures to safeguard the human rights of disaster-affected individuals, groups and communities and ensure that their interventions do not facilitate discrimination or suffering.

Therefore, disaster affected individuals, irrespective of class, caste, religion, ethnicity, gender, sexual orientation, marital status, disability and age at every relief camp, temporary or otherwise shall be ensured with

- Adequate housing
- Adequate water and resources to access food
- Adequate healthcare facilities including psychological counselling
- Access to education
- Access to livelihood options
- Access to adequate and timely information
- Protection against violence
- Access to timely and judicial remedy

4. Minimum Standards of Relief

Minimum Standards of Relief define the minimum level of services that are essential to ensure the survival and dignity of the people affected by the disasters. Laying such standards of relief is essential in protecting fundamental human rights in post-disaster situations which are the right to adequate housing, food, water and sanitation, health, work/livelihood, land, security of the person and home, information, participation and education. This document will ensure that minimum standards of relief shall be made available to those who are affected by various disasters in the state.

4.1 National Disaster Management Authority Guidelines

The Minimum Standards of Relief laid by NDMA as available here https://ndma.gov.in/images/guidelines/guideline-on-minimum-standard-of-relief.pdf is read as an integral part of this Kerala State Minimum Standards of Relief.

4.2 Contents of the Minimum Standards of Relief

The Minimum Standards of Relief laid by KSDMA contains the following:

- Temporary Shelters
- Vector control in Temporary Shelters
- Food
- Water
- Health
- Sanitation and Hygiene
- Waste Management

4.3 Relationship with Orange Book of Disaster Management

The minimum standards of relief referred herein is updated annually in the Orange Book of Disaster Management 2 – Monsoon Preparedness and Response Guidelines (Malayalam – കാലവർഷ-തുലാവർഷ മുന്നൊരുക്ക, ദുരന്ത പ്രതികരണ മാർഗ്ഗരേഖ) published in Malayalam by KSDMA, annually. Hence, this document forms an integral part of the Orange Book and vice versa. In a given year, the specific prescriptions in the Orange Book will prevail as the minimum standards, which shall not be less than the standards prescribed herein.

5. Minimum Standards of Relief – Temporary Shelters

Disasters may displace people from their place of dwelling, forcing them to take shelter in places available to them. Generally, they are moved to public schools, community halls etc. The camp is organized by Revenue officials with the support of various other departments. The shelters with inadequate facilities may lead to poor hygiene and affect the health and wellbeing of people especially vulnerable groups like children, pregnant women, lactating mothers, differently abled etc. Relief centres shall be temporary in nature and should be closed as soon as normalcy returns in the area.

Facilities needed in any relief camps

- Water supply – safe water
- Toilets
- Hand washing facilities
- Facilities for solid waste management
- Basins, tables, chopping block, knives, can opener etc.
- Facilities for utensil and dishwashing
- SOP on food security and safety
- Anti-Rodent and Anti-Pests measures
- Flash light with extra batteries, candles and matches in waterproof container
- Cooking gas or other fuels for cooking
- Shovel, hammer, nails, rope, cord etc.
- Availability of Hygiene chemicals
- Availability of cooking and eating utensils
- First Aid Kit
- Registers for attendance, stock, medicines etc.

The required minimum standards with respect to temporary shelters/relief camps:

- District Administration shall take necessary steps to pre-identify safe buildings which could be used as temporary shelters and determine maximum number of individuals that could be accommodated (Revenue)
- The list of pre-identified shelters should be made available in district website and should be updated in the IDRN portal as well (Revenue)

- As far as possible schools/Educational institutions shall be avoided as temporary shelters. However, in case no other options are available the authorities should arrange alternate options to continue education (Education)
- Community centers, wedding halls or any other enclosed safe space available in the locality could be used as temporary shelters (Revenue)
- In the relief centers, 3.5 m^2 of covered area per person (Revenue)
- Basic lighting facilities shall be made available in the temporary shelters (Revenue)
- In mountainous areas, required area per person shall be relaxed to 2.5 m^2 due to lack of available flat land/built up area (Revenue)
- Special care shall be taken for safety, security and privacy of inmates, especially for women, PWD, widows, elderly and children (Revenue, Police, Social Justice, Women and Child Department)
- Identify the vulnerable groups that are marginalized or normally excluded from relief. The socio-economic and demographic analysis of the affected population should be carried out to identify such groups like people living with HIV/AIDS, widows, orphans, PWD, Chronic debilitating disease etc. (Revenue, Police, Social Justice Department, Women and Child Department, Health)
- Provision shall be made to keep the domestic animals in a separate space in the relief centres. It should be at-least 100 m away from the shelter. Fodder & Water shall be made available for these animals (Animal Husbandry)
- A Register shall be maintained in each temporary shelter with necessary details of the inmates. List of people who needs special attention should be maintained – PWD, PLWHA, malnourished, pregnant women, lactating mothers, infants, chronic diseases, elderly etc. (Revenue)
- Power supply to relief camps shall be ensured (KSEB)
- Volunteers shall be chosen from the inmates for proper functioning of the temporary shelters (LSGD)
- Separate areas should be allotted for men, transgender and women inside the camps
- Relief Camp Management Committee should be formed with Village Officer, two male and female inmates, people from LSGD, ASHA worker who could manage the camp.
- Specific area can be allocated to store relief materials in the camp site itself

- Two police officers could be appointed to ensure the safety & security of the inmates.
- The help line numbers of the police, health and DEOC should be displayed in the camps
- All the temporary shelters in the state are accessible and friendly to PWD
- The way to the toilet, inside toilet and the hand wash area should be well lit.
- The closure of camps shall be meticulously planned and coordinated with the stakeholder departments and the community.
- Foster home facilities may be encouraged

Vector Control in temporary shelters

A vector is a disease-carrying agent and vector-borne diseases are a major concern during disaster situations. Most vectors are insects such as mosquitoes, flies and lice, but rodents can also be vectors. Mosquitoes are the vector responsible for dengue fever, malaria transmission, which are leading causes of morbidity and mortality.

Vector borne diseases can be controlled by appropriate site selection, vector control activities, including type of site selection and provision of shelter, clean water supply, excreta disposal, solid waste management and drainage. Control programmes should aim to reduce vector population density, vector breeding sites, and contact between humans and vectors.

Site selection is important to minimizing the exposure of the affected population to the risk of vector-borne disease. This should be one of the key factors when considering possible sites. To control malaria, for example, locate communal settlements 1–2 kilometres upwind from large breeding sites such as swamps or lakes, but ensure the availability of an additional clean water source.

The three main species of mosquitoes responsible for transmitting disease are:

1. Culex (filariasis and West Nile virus), which breed in stagnant water with organic matter, such as in toilets;
2. Anopheles (malaria and filariasis), which breed in relatively unpolluted surface water such as puddles, slow-flowing streams and wells; and
3. Aedes (dengue, yellow fever, chikungunya and Zika virus), which breed in fresh water containers such as bottles, buckets and tyres.

Mosquito control measures to be adopted in relief camps:

1. Personal protective measures:

A. Mosquito nets (Long Lasting Insecticide Treated Nets/ Non treated Nets): Based on endemicity of diseases and vector density) - Atleast 2 nets per household of five persons
B. Mosquito repellent creams

Use other protection methods like long-sleeved clothing, household fumigants, burning coils, aerosol sprays and repellents against mosquitoes. Support the use of such methods for those most at risk, such as children under five years, people with immune deficiencies and pregnant women.

2. Environmental engineering responses: Several basic environmental engineering measures reduce vector breeding, including:
    - Proper disposal of human and animal excreta, properly functioning toilets, and keeping lids on the squatting hole of pit toilets;
    - Proper disposal of solid waste to control insects and rodents;
    - Ensuring good drainage in settlements; and
    - Draining standing water and clearing vegetation around open canals and ponds to control mosquitoes.
3. Chemical Measures:
    a. Fogging
    b. Indoor Residual Spraying
    c. Application of larvicides in the vector breeding sites

6. Minimum Standards of Relief – Food

Food, Shelter and Clothing are the primary needs of every human. Right to food is enshrined in Article 47 of the Constitution of India. Disasters often lead to situations where the availability of food to the affected people gets highly compromised.

Food security is based on three basic parameters – availability, accessibility and affordability. Food security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food for a healthy and active life. It also covers the quality, variety, safety of food, its consumption and biological utilization.

Revenue officials along with other stakeholder departments shall ensure the following in every shelter.

- Rice and basic materials should be made available from PDS shop/ Ration shop and SupplyCo with the support of Revenue officials. Vegetables should be made available from VFPCK/Horticorp. In case if there is an additional requirement of raw material they could be purchased from open market.
- Children and infants (0 to 5 yrs) should be screened for malnutrition in the camp by health authorities, JPHN, Anganwadi workers. The identified malnourished children should be given additional nutritional support through local ICDS.
- A sub-committee on food and water could be formed in each camp for managing kitchen.
- Sufficient potable water (2.5 to 3 l/person) shall be made available for drinking.
- Sufficient steps shall be taken to ensure hygiene at camp kitchens.
- Date of manufacturing and expiry of materials used for cooking shall be monitored.
- It shall be ensured that men and women are supplied food with minimum calorie of 2,400 Kcal per day.
- In respect of children/infants, the food to be supplied would be 1,700 Kcal per day.
- Milk and other dairy products shall be provided for the children (0-12) and lactating mothers.

- It is suggested to provide meals thrice daily (Breakfast/Lunch/Dinner) and three times tea/coffee.
- Locally available food materials are suggested to be provided to those who are residing in the shelters.

  Foods should be served in houses for people who can't reside in camps due to justifiable reasons like chronic illness, PWD, elderly population,
- The menu shall be fixed according to the local context and culture.

***Suggested Menu**:*

Breakfast	*Upma/Idli/Tapioca/ Puttu Banana/Sambar/Gram*
Lunch	*Rice, Sambar/ vegetarian thoran, pickle, pappad, one non-veg item**
Dinner	*Chappathi/Rice/Vegetable curry/Tapioca/Pickle/Salad)*
* Please Note*:* The community shall be consulted for appropriateness of food items and local food habits. Camp committee can decide on non veg menu	

- Plates and glasses shall be of steel/glass. Plastic plates & glasses shall be avoided.
- Initiatives to enhance community's coping mechanisms like community kitchens shall be supported and encouraged in the initial few days of functioning.
- Diabetic patients, patients with cardiac illness, hypertensive patients shall be given consideration and priority for timely availability of meals.
- Food shall be served to be eaten in the shelters. It is advised that food shall not be taken out of the shelters. However, food shall be served to people who can't reside in camps due to justifiable reasons like PWD, elderly, bed-ridden with chronic diseases etc
- Infants under six months shall be exclusively breastfed or in exceptional cases shall have access to an adequate amount of an appropriate breast milk substitute. Children aged 6-24 months shall have access to nutritious, energy dense complementary food.
- Nutrient supplement shall be provided for pregnant and breast feeding women.
- Sufficient measures shall be in place to ensure food related hygiene at community and camp kitchens.
- Ensure all cooked food is kept covered until served.
- Raw materials should be stored properly so that there won't be any pest/ rodent attack.
- Food should be cooked using LPG rather than firewood.

The minimum energy requirement as given below as by National Institute of Nutrition shall be considered for designing food menu in the relief camp.

Recommended dietary allowances for Indians (Macronutrients & Minerals).

Group	Particulars	Body Weight (Kg)	Net Energy K Cal/d	Protein g/d	Visible Fat g/day	Calcium Mg/d
Man	Sedentary Work	60	2320	60	25	600
	Moderate Work		2730		30	
	Heavy Work		3490		40	
Woman	Sedentary Work	55	1900	55	20	600
	Moderate Work		2230		25	
	Heavy Work		2850		30	
	Pregnant Woman		350	23	30	1200
	Lactating (0-6 months)		600	19	30	1200
	6-12 months		520	13	30	
Infants	0-6 months	5.4	92 K cal/kg/d	1.16 g/kg/d	-	500
	6-12 months	8.4	80 K cal/kg/d	1.69 g/kg/d	19	
Children	1-3 years	12.9	1060	16.7	27	600
	4-6 years	18	1350	20.1	25	
	7-9 years	25.1	1690	29.5	30	
Boys	10-12 years	34.3	2190	39.9	35	800
Girls	10-12 years	35	2010	40.4	35	800
Boys	13-15 years	47.6	2750	54.3	45	800
Girls	13-15 years	46.6	2330	51.9	40	800
Boys	16-17 years	55.4	3020	61.5	50	800
Girls	16-17 years	52.1	2440	55.5	35	800

List of suggested items required for preparing food for 1000 people in the relief camps

1. Thick bottom aluminium vessels - 100 litres with lids
2. Vessels cap. 20 kg with lid
3. Vessels of cap. 5 kg with lid
4. Wooden long handle ladles for mixing
5. Industrial burner
6. Cooking gas cylinder
7. Vegetable chopping board
8. Vegetable cutting knives SS
9. Serving buckets (SS) of cap. 10 kg each
10. Serving spoon (SS)
11. Steel/Glass plate
12. Steel/Glass cups
13. Containers for storing water (20 litres capacity)
14. Heavy duty mixer grinder

This may be hired from the local store according to the number of people residing in the camp.

7. Minimum Standards of Relief – Water

The Constitution of India, Article 21 refers to 'right to life' which includes the right to water as it is an important constituent essential for living. Lack of sufficient water may lead to poor hygiene and contaminated water may lead to spread of water borne diseases. Water is essential for life, health and human dignity. In extreme situations, there may not be sufficient water available to meet basic needs and in these cases supply of safe drinking water is of critical importance.

The required minimum Standards with respect to water:

- Boiled water is suggested for drinking purposes
- Identify appropriate water sources for the shelter camp and ensure that it is safe for drinking. Water from these sites should be tested within 24 hours of establishing the camp.
- Minimum supply of 2 litres per person/per day for adults and 1.5 liters per person/per day for children of drinking water shall be made available in the relief shelters.
- If safe drinking water is not possible/ available, double chlorination of water needs to be ensured.
- The maximum distance from the relief camp to the nearest water point shall not be more than 500 m
- Water for livestock shall also be provided at the camps.
- The water facility provided in the shelter shall be tested and certified by the health officials as and when required, mainly for the presence of EColi and Coliform bacteria.
- Wherever possible boiled water shall be used, especially for children, pregnant & lactating mothers.
- If water supply is insufficient, safe water could be made available in camps via water tankers. The quality of the water should be ensured.

The desired standards are given below

WATER supply (domestic use)	20 ltrs of water for drinking, cooking and personal hygiene in any household	per person per day
	Queueing time at a water source	not more than 30 min.

WATER Supply (Domestic Use)	Maximum numbers of people per water source	250 people/tap - based on a flow of 7.5 ltrs/min
	500 people per hand pump	17 ltrs/min
	400 people per single-user open well	flow of 12.5 ltrs/min.
	Water intake (drinking & food)	2.5-3 ltrs per day
	Hygiene practices	2-6 ltrs /day
	Cooking needs	3-6 ltrs/day
	Total basic water needs	7.5-15 ltrs/day
WATER SUPPLY (Other)	One wash basin	Per 100 people
	Private laundering and bathing areas	Per 50 people

8. Minimum Standards of Relief – Health

WHO defined health as a complete state of physical, mental and social well-being and not merely the absence of any disease or infirmity. Health care is one of the major concerns during disasters, particularly when the inmates in the relief camps from different social setups stay together in a state of shock and uncertainty. Additionally, there will be medical emergencies during disasters and there will be secondary issues like disease outbreaks. This can happen in temporary shelters as well. Hence along with setting up the shelter, a proper healthcare delivery system should be arranged in shelters.

Issues such as overcrowding, inadequate water and sanitation facilities, shelter inadequacies and nutritional deficits at the relief camps require urgent attention which increases the risk of malnutrition and outbreaks of communicable diseases. The psychosocial shocks resulting from the disaster can also trigger psychosocial crises among the victims and the destruction of social support mechanisms and cop up systems accentuate these problems. Thus a meticulous system is essential to ensure that every inmate in the relief camp is supported with adequate health care so as to avoid mortality and morbidity.

The minimum required standards for Health are as follows:

- Health and family welfare department should stock sufficient amount of medicines and medical equipment before monsoon as there are more chances of disasters such as flood, landslide etc during monsoon.
- Information regarding healthcare services available in the relief shelters should be made as per the convenience of the occupants of the camp.
- Vaccinations should be arranged in camps via PHC
- Insulin and other emergency medicines need to be arranged.
- Provision for continuous monitoring of the disease outbreaks and regular reporting to IDSP unit should be initiated from the beginning of the camp.
- Medical Assessment of the camp occupants should be done for chronic diseases such as HIV, non-communicable diseases, TB etc. Facilities for referral services should be ensured in the camp in case of any worsening health condition
- Female health volunteers should be made available in the relief camps.
- Iron and Folic acid tablets should be made available for pregnant women. If the tetanus injection is due, the same should be made available.

- Nutritional assessment can be done by ICDS and if children below under 5 diagnosed for malnutrition, supplementary feeding can be initiated for needy
- Regular medicine supply should be ensured for People with diabetes, hypertension, cardiac illness, bed-ridden, dialysis patients
- Facilities for psychosocial support should be arranged in the camps.
- Minimum Initial Service Package for Reproductive health should be made available including facilities for safe child birth, facilities for blood transfusion if needed in nearby health centres and provide contraceptives.
- Health department should coordinate with Kerala Water Authority and Social justice department for public health concerns such as providing sanitary napkins, food for pregnant women and infants, nutritional assessment and assuring the quality of drinking water.
- If the relief camps are extended over a long time, then necessary arrangements may be made for psycho-social care.
- Mobile medical teams shall visit relief camps to attend the affected people.
- Necessary steps shall be taken to prevent communicable diseases.
- A doctor should be assigned to every temporary shelter who should visit the shelter once in a day.
- A JPHN should be present in the camp for 24 hours duty. If it is a camp with more people than more JPHN should be given duty.
- JPHN should be assigned task like active surveillance for epidemics, supplements for pregnant women, lactating mothers, malnourished children, people living with chronic medical conditions etc. under the guidance of camp doctor. If JPHN is not available then ASHA workers could be used for the same.
- Pregnant women and lactating mothers if present in the camp should be given medical check-up within 24 hours on reaching the camp if not emergency.
- Isolation area may be provided in case any of the inmates diagnosed with communicable diseases.
- Surveillance of nutritional status and diseases of public health importance such as measles, malaria, diarrhoeal diseases (cholera and dysentery), and acute respiratory infections, as well as diseases of epidemic potential such as hepatitis and meningitis should be conducted.

- Daily reporting of the following diseases from the relief camps recommended (Diarrhoeal diseases and Cholera 2. Malaria 3. Respiratory infection. 4. Infective hepatitis. 5. Typhoid. 6. Scabies. 7. Measles 8. Snake bites burns, cuts etc.- Health Department DM plan)

Disease	Alert threshold	Outbreak threshold
Cholera	2 cases with acute watery diarrhoea and severe dehydration in people age 2 or above, or dying from acute watery diarrhoea in the same area within one week of each other 1 death from severe acute watery diarrhoea in a person age 5 or above 1 case of acute watery diarrhoea, testing positive for cholera by rapid diagnostic tests in an area	1 confirmed case
Malaria	Decided at country level depending on context	Decided at country level depending on context
Measles	1 case	Defined at country level
Meningitis	2 cases in one week (in a population <30,000) 3 cases in a week (in a population of 30,000–100,000)	5 cases in a week (in a population of <30,000) 10 cases per 100,000 people in a week (in a population of 30,000–100,000) 2 confirmed cases in one week in a camp
Viral haemorrhagic fever	1 case	1 case
Yellow fever	1 case	1 case

Minimum Standards of relief for Children, Widows, Orphans and Persons with disabilities

- Special care shall be given to widows and orphans who are separated from their families.
- For widows, certificate by the District Administration shall be issued stating that she lost her husband in the disaster and the same shall be issued within 15 days of disaster.
- The state may also provide a reasonable amount for the funeral rites of her husband and this payment shall be deducted from the subsequent financial compensation/relief that shall be paid by the government.
- Necessary financial compensation and other government assistance need to be arranged within 45 days of the disaster to the widow and to the orphaned children.
- During emergencies the District collector *inter alia* Chairperson of District Disaster Management Authority shall act as the temporary guardian of children who are found deserted in his district. He / She shall be responsible for the care of such children.
- A register shall be maintained for this purpose at the DDMA level in consultation with the Social Justice Department.
- For *ex gratia* assistance on account of loss of life and also on account of damage to houses and for restoration of means of livelihood, the norms provided by Govt. of India (MHA) for assistance from SDRF should be the minimum standards of relief.
- Toys & Games may be provided for the children to be engaged in the relief centres.
- Children shall be protected from any forms of abuse, the possibility of child trafficking also should not be overlooked after a disaster.
- Special care shall be given to persons with disabilities considering their accessibility to the temporary shelters, sanitation/hygiene facilities etc.
- Children who lost their parents could be kept with the relatives after considering the interest of the children.

9. Minimum Standards of Relief – Sanitation & Hygiene

The World Health Organization defines the term ‘Sanitation’ as follows:

"Sanitation generally refers to the provision of facilities and services for the safe disposal of human urine and faeces. The word 'sanitation' also refers to the maintenance of hygienic conditions, through services such as garbage collection and wastewater disposal”. Sanitation includes all four of these engineering infrastructure items (even though often only the first one is strongly associated with the term ‘sanitation’): Excreta management systems, wastewater management systems (included here are wastewater treatment plants), solid waste management systems, drainage systems for rainwater, also called storm water drainage. Inadequate sanitation and hygiene are the major contributor of illness and death particularly diarrhoeal and infectious diseases in the aftermath of the diseases.

Safe excreta disposal is therefore a major priority, and in most disaster situations, should be addressed with as much speed and effort as the provision of safe water supply.

Sanitation

The minimum required standards for Sanitation are as follows:

- One toilet for 20 persons shall be arranged/built.
- Separate toilet and bath area to be provided for men & women.
- At least 20 litres of water per person/day shall be arranged for toilets/bathing purposes.
- Dignity kits for women shall be provided with sanitary napkins and disposable paper bags, soap
- Toilets shall not be more than 50m away from the relief camps.
- Pit latrines and soak ways shall be at least 30m from any ground water source and the bottom of any latrine has to be at least 1.5m above the water level.
- Toilets should be used in the most hygienic way possible and children’s faeces shall be disposed of immediately and hygienically as they are commonly more dangerous than those of adults.
- Hand wash facility in toilets/hand washing stations should be ensured. Provide adequate supply of water for hand washing after the use of toilets.

- Toilets should be accessible and friendly to the aged, differently abled & children.
- Camp inmates should be provided with soap, oil, hairbrush, tooth paste, tooth brush
- Toilets should be separate for both men and women
- If water is not available inside the toilet, sufficient amount of water should be stored outside toilets in night
- E toilets/Bio- toilet could be arranged near shelters including toilets for PWD

Excreta Disposal

Excreta disposal is a major concern in temporary shelters. The safe disposal of human excreta creates the first barrier to excreta-related disease, helping to reduce disease transmission through direct and indirect routes.

Ensure that the environment in which the affected population lives is free from human faeces.

Human Excreta Disposal	Excreta containment measures (Pit/trench latrines)	30 m away from any ground water source. The bottom of any latrine or soak - away pit is at least 1.5 m above the water table.
Toilets	20 people for each toilet	Toilets should not be more than 50 m from dwellings.
Possible alternatives for safe excreta disposal		
Safe excreta disposal type	**Application remarks**	
Demarcated defecation area	First phase: the first two to three days when a huge number of people need immediate facilities	
Trench Latrines	First Phase: Up to two months	
Simple pit latrines	Plan from the start through to long-term use.	
Ventilated Improved pit	Context - based for middle to long term response	
Ecological Sanitation (Ecosan) with urine diversion/floating toilets	Context based: in response to high water table and flood situations, right from the start or middle to long term.	

Hygiene

Hygiene is the conditions or practices conducive to maintaining health & preventing diseases, especially through cleanliness. It also ensures that people make the best use of water and sanitation facilities. Affected population can also be served blankets or any other non-food items

according to the local context, culture and climate. People with special needs should be provided with extra supplies as the case may be eg: adult diapers for bed-ridden patients.

The following may be considered as the minimum standards to be kept with regard to Hygiene.

Hygiene	*10-20 litres capacity water container for transportation	One per household
	10-20 litres capacity water container for storage	One per household
	250g bathing soap	One person per month
	200g laundry soap& powder	One person per month
	100g tooth paste	Per person per month
	One toothbrush	Per person
	250ml shampoo	Per month
	*50 ml oil	Per person /month
	Sanitary Pads for women and girls of menstrual age	
	Clothes including undergarments,	2 pairs/person
	Towel	1 per/person
	Razor	1 per fortnight
	Hairbrush/comb	1 per person
	Nail cutter	1 per family
	Diapers for children <2yrs	

10. Minimum Standards of Relief – Waste Management

Solid waste management is the process of handling and disposal of organic and hazardous solid waste, which, if unattended appropriately can pose public health risks to the affected population and can have a negative impact on the environment. Solid waste often blocks drainage channels and leads to an increased risk of flooding, resulting in environmental health problems and other public health risks associated with stagnant and polluted surface water. Untreated waste water can pollute surface and ground water source. Improper disposal of solid waste would result in the rise of vector-borne disease incidences.

The term 'solid waste' includes garbage (food wastes), rubbish (paper, plastics, wood, metal, throw-away containers, glass) demolition products, sewage treatment residue, dead animals and other discarded materials

Solid Waste: collection and storage

Collection and storage usually involves:

- Collection in the relief camps
- Storage in the intermediate storage points
- Collection and transport to final disposing point

Minimum required standards for collection and storage of wastes are:

- Sufficient number of dustbins should made available in temporary shelters
- All households have access to containers which are emptied twice a week at minimum and are no more than 100 meters from a communal reuse pit. Small containers with lid per households or one container of 100kgs/ltrs for 10 households can be distributed.
- Temporary storage area can be identified in the relief camp site itself for the intermediate storage of non-bio degradable wastes. Later it can be transported and disposed as decided by the district authority
- Timely disposal of solid waste without polluting the environment is required
- Medical waste should be disposed of separately in an operated pit or incinerator as available. If incinerator is not available medical wastes can be transferred to nearby PHC/CHC in consultation with health department
- Recycling of the wastes shall be encouraged

- Refuse containers should be made available in toilets for the collection of used sanitary napkins.
- Appropriate solid waste management can be entrusted upon Kudumbasree/LSGD/Suchitwa Mission

Solid waste: Disposal

- Landfill pits can be constructed if space available in the shelter camps
- Waste disposal site should be 150m away from the drinking water distribution point
- Waste should be disposed in such a way that the refuse pit should be free from rodents and flies
- Use any safe and appropriate treatment and disposal methods, including burying, managed landfill and incineration.
- The waste disposing site should be safely secured to prevent protection risks
- Waste management methods can be adopted in the relief camps:
- There is no single method of refuse disposal which is equally suitable in all circumstances. The choice of a particular method is governed by local factors such as availability of land in relief camps.

The principal methods of waste disposal can be adopted in the relief camp settings are described below

Type of wastes	Disposal methods can be adopted
Bio-degradable wastes	
1. Kitchen wastes	Land fill, Burial
2. Rubbish	Burial, incineration, land fill
3. Reusable	
Non- bio degradable wastes	Recyclable wastes should be separated
Medical wastes	incineration

Drainage

Drainage is the natural or artificial removal of surface and sub-surface water from an area. A proper drainage plan, addressing storm water drainage through site planning and wastewater disposal using small-scale, on-site drainage, should be implemented to reduce potential health risks to the disaster-affected population.

Standard

People have an environment in which health risks and other risks posed by water erosion and standing water, including storm water, floodwater, domestic wastewater and wastewater from medical facilities are minimized. The most effective way to control drainage problems is in the choice of site and the layout of the settlement.

Keep in mind

- Use of plastic in any form shall be banned in the temporary shelters.
- Burning of plastic waste shall be totally banned.
- Wastage of resources of any kind should be minimized.
- Reuse/Reduce/Recycle of water shall be encouraged.
- Community shall be actively involved in any post-disaster situation.

References:

- National Disaster Management Guidelines, Minimum Standards
- Kerala State Disaster Management Plan, 2016
- The Sphere Handbook: Humanitarian Charter and Minimum Standards in Humanitarian Response, Fourth Edition, Geneva, Switzerland, 2018
- Preparedness for disaster and health care management, Directorate of Health Services, Kerala