



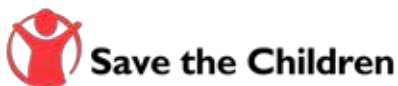
**KEY MESSAGES FOR  
DISASTER RISK REDUCTION  
AND RESILIENCE IN FIJI**

*A Guide For Public Education & Awareness*



# KEY MESSAGES FOR DISASTER RISK REDUCTION AND RESILIENCE IN FIJI

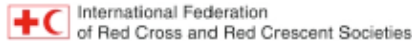
*A Guide For Public Education & Awareness*



## FINANCIAL SUPPORT PROVIDED BY:



The Ministry of Education and National Disaster Management Office, in partnership with Save the Children held the "Consensus-based Key Messages for Awareness and Education for Disaster Risk Reduction". The workshop developed a set of Key Action Messages for household and family disaster risk reduction, to form the foundation for public awareness messaging, information education and communication materials, and curriculum development for disaster risk reduction. **Global Template** provided by International Federation of Red Cross and Red Crescent 'Public awareness and public education for disaster risk reduction: key messages'.



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## KEY MESSAGES:

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## KEY MESSAGES:

# USING THIS GUIDE

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The International Federation of Red Cross and Red Crescent published the ‘Public awareness and public education for disaster risk reduction: key messages’ – a guide, designed to help harmonize messages for disaster risk reduction. Harmonized messaging is a key goal in disaster reduction awareness, and is particularly important when it comes to scaling-up efforts to create a culture of safety. To promote consistent actions to the public, we need key safety and resilience messages. Key messages comprise the core, common and comprehensive information about safety and resilience that are needed to promote consistent and sustained DRR – they are ‘actionable’ risk reduction messages. If we act on these messages, we could substantially avoid the effects and impacts of disaster. Research indicates that effective public education for DRR requires sustained repetition of the same messages. If messages are contradictory, inconsistent or unclear, the result is confusion, apathy, mistrust and inaction.

Save the Children worked together with the Fiji Red Cross and a group of key stakeholders to adapt and harmonize national and local versions of these messages. This guide has been contextualised to Fiji, and the content within can be used directly, or as a guide to create more simple messages.

*This guide was developed to be used by:*

- Households and Individuals
- Community leaders, trainers and members
- School disaster management committees and teachers
- Agencies and ministries who provide education and awareness to the public

*The guide can be used to:*

- Undertake actions in your household and community to promote a culture of safety
- Develop media awareness campaigns
- Educational resources, i.e. teachers can use key messages to guide students in creating posters, songs, essays and more

The core set of common messages, in *SECTION A*, addresses all-hazards household and family disaster planning. This section contains the guidance that everyone needs to know, to address all manner of hazards, including guidance for household fires, as well as general messages for early warning and evacuation in response to various hazards.

*SECTION B* presents additional hazard-specific messages that supplement the generic information in *SECTION A*, without duplicating the same instructions.



ALL HAZARDS:

# HOUSEHOLD & FAMILY DISASTER PREVENTION

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*All-hazards household and family disaster prevention:*

- Find out what could happen. Stay informed.
- Make a household disaster and emergency plan, considering everyone in your household.
- Reduce structural, non-structural and environmental risks in and around your home.
- Learn response skills and practise your plan.
- Prepared response provisions to survive for about a week. Prepare evacuation bags.
- Work together with your workplace, schools, neighbours and local community to assess your risks, plan to reduce them, and prepare to respond.



## ALL HAZARDS – HOUSEHOLD: I. ASSESS & PLAN

KEY MESSAGE	CONTEXT-SPECIFIC DETAILS
<p><b>I.1.</b> Assess your risks where you live, work, study and play</p>	<ul style="list-style-type: none"> <li>• Learn about potential hazards, local emergency plans and communications and warning systems in your community.</li> <li>• Identify hazards and vulnerabilities in your home and surroundings.</li> <li>• Learn about the contact information, roles and responsibilities of government agencies in assessing and reducing risks, issuing early warnings and planning for response.</li> <li>• Contact Commissioners PA and advisory council and village headman for assessment &amp; risk reduction (rural).</li> <li>• Contact Disaster Management Committee for assessment and risk reduction (urban).</li> <li>• Contact school heads (school).</li> </ul>
<p><b>I.2.</b> Expect the unexpected!</p>	<ul style="list-style-type: none"> <li>• Hazards and disasters can occur at any time.</li> <li>• Learn about all hazards expected &amp; unexpected this should include Earthquake, Fire, Tsunami, Landslide, Hazardous/Chemical Spills (Oil spills), pandemics.</li> </ul>
<p><b>I.3.</b> Assess individual capabilities and needs</p>	<ul style="list-style-type: none"> <li>• Identify each person's individual needs and capacities within your family, community, school &amp; workplace. Consider all ages and functional needs – especially those related to communication and mobility.</li> <li>• Preparedness starts with you.</li> <li>• You can make the difference and help others.</li> <li>• Learn who is likely to be most exposed to different hazards, where, and why.</li> <li>• Identify needs that including operating equipment.</li> <li>• Consider the access and functional needs of each member of your household during a disaster.</li> </ul>
<p><b>I.4.</b> Make a plan</p>	<ul style="list-style-type: none"> <li>• Include all household, school, workplace members in your planning process.</li> <li>• Determine what actions are needed to reduce risks and identify what resources and help you will need in the case of an emergency.</li> <li>• Plan the steps you will take to protect yourselves, to communicate, reunite and recover.</li> <li>• Define/Identify roles and responsibilities of everyone. Practise and implement your plan quarterly and update (review) plan accordingly.</li> <li>• Identify leadership role &amp; key support networks.</li> <li>• Include in monthly Committee meeting the Disaster Management &amp; Simulation exercise.</li> <li>• Make a disaster safety plan.</li> <li>• Make a plan for disaster risk management.</li> <li>• If anyone will need help, for any reason, plan now for a network of neighbours, friends, and co-workers to provide assistance during an emergency.</li> <li>• Make plans to reunite: Agree on safe meeting places inside the house, outside the house and outside the neighbourhood.</li> <li>• Decide on primary emergency contacts.</li> <li>• Include pets, service animals and livestock in your planning.</li> </ul>

<p><b>1.5. Keep emergency contact and health information available</b></p>	<ul style="list-style-type: none"> <li>• Make emergency contact and health information cards for each household member, to be carried at all times (especially for children when they are away from home or school, and for anyone with particular access or functional needs). [Important information to include: names, address, workplace/ school, emergency contact, blood type, allergies, medication] (rural).</li> <li>• Know you health number; if not registered, please register (urban).</li> <li>• Keep it on you at all times and share it with your support network.</li> <li>• Keep your health card on you at all times &amp; make a copy for home.</li> </ul>
<p><b>1.6. Know your evacuation plan</b></p>	<ul style="list-style-type: none"> <li>• Identify your exits, and consider the safest exit routes in case of different types of hazards.</li> <li>• Keep exit pathways clear.</li> <li>• Identify a safe place away from your building (at home, at work, at school).</li> <li>• Know if your building is a safe evacuation place – shelter in place</li> <li>• Display this on a map in visible area</li> <li>• Identify &amp; prepare your safe assembly area</li> <li>• Plan alternate evacuation routes and methods, and practise your routes.</li> <li>• Work with your network to determine your transportation method if evacuation is necessary.</li> </ul>
<p><b>1.7. Learn and participate in your community's early warning systems</b></p>	<ul style="list-style-type: none"> <li>• Learn your community's early warning systems. If your community does not have one, help to develop one, taking care that the messages will be received and understood by everyone – especially the most vulnerable.</li> <li>• Take warnings seriously, even if they are frequent. Be alert for changes in circumstances, as risks may have increased since the early warning information was originally issued.</li> <li>• If told to evacuate; evacuate immediately. Do not return home/school/ workplace until local authorities say it is safe to do so.</li> <li>• Forms of warning: Bell, whistle, lali drum, conch shell.</li> <li>• Early warning colours: White (Alert), Yellow (Warning), Red (Response).</li> <li>• Identify the leadership &amp; coordination of sharing the warning (Disaster Management Committee &amp; School Committee)</li> </ul>
<p><b>1.8. Learn the location of temporary evacuation shelter, safe havens or temporary schools</b></p>	<ul style="list-style-type: none"> <li>• Arrange for temporary housing/ school away from the threatened area.</li> <li>• Learn the locations of shelters or safe havens for your community, and check to see that any special needs can be met. If these are not known in advance, find out how you will locate a shelter.</li> <li>• Identify the resources needed for the temporary shelter/ learning facility</li> <li>• Plan ahead to re-unite there, without detour or delay.</li> <li>• Take into account: gender; disability access, families, availability of water &amp; sanitation and rations of food</li> </ul>
<p><b>1.9. Keep copies of important personal documents</b></p>	<ul style="list-style-type: none"> <li>• Keep copies of your important personal documents in your evacuation bag, out-of-area-contact, safe deposit box, and electronically (for example, on a cloud, hard disk or memory stick).</li> </ul>
<p><b>1.10. Pool your financial risks</b></p>	<ul style="list-style-type: none"> <li>• If possible, buy insurance or set up a self-insurance pool with a large group. Check that coverage includes all the hazards you face, and make a complete inventory of your property, kept in a safe, out-of-area location.</li> </ul>

<p>1.11. Expand your networks, and connect with your neighbours and communities</p>	<ul style="list-style-type: none"> <li>• Know your neighbours.</li> <li>• Learn about your emergency and disaster plans at school and at work.</li> <li>• Get involved with workplace, school and community organizations, teams or projects to support on-going assessment of vulnerabilities and capacities, planning, risk reduction and response-preparedness activities.</li> <li>• Share what you have learned.</li> </ul>
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## ALL HAZARDS – HOUSEHOLD:

### 2. MITIGATE RISKS – Physical or environmental

KEY MESSAGE	CONTEXT-SPECIFIC DETAILS
<p>2.1. Construct your home in a safe place in compliance with building regulations</p>	<ul style="list-style-type: none"> <li>• Consider possible hazards before selecting the site for your home.</li> <li>• Learn about your area's building codes before you begin construction.</li> <li>• Design, build and maintain your home in accordance with building regulations and best international and local practices, to protect from ground movement, wind, water and severe weather.</li> <li>• Learn about the land before building your home</li> <li>• Learn local regulations on land use, construction, remodeling, landscape maintenance, fire safety and disposal of debris.</li> </ul>
<p>2.2. Know your building (and your building materials)</p>	<ul style="list-style-type: none"> <li>• Know the structural type of your home (for example, wood frame, confined masonry, reinforced concrete, adobe, steel, traditional wattle and daub, or rubble fill).</li> <li>• Consider having your building evaluated by a professional structural design engineer, if possible. Building codes are specific to the time when your building was constructed, and modern standards may be higher. Retrofitting may be advisable.</li> <li>• Learn about options to make your home safe from the hazards you face.</li> <li>• Contact your provincial office for regulation.</li> <li>• Understand the materials of your building and their strengths and weaknesses (concrete, wood, iron, glass).</li> <li>• Mention all relevant regulations (Public Health Act, building codes).</li> </ul>
<p>2.3. Take annual home maintenance measures to keep your home safe</p>	<ul style="list-style-type: none"> <li>• Carry out an annual check to identify and correct conditions that make you more vulnerable to fire, ground movement, wind, water and severe weather.</li> <li>• Be sure that windows can be opened from the inside and that exits and emergency exits are not blocked.</li> <li>• Clear fire hazards.</li> <li>• Inspect and repair electrical systems. (Get professionals to inspect/repair).</li> <li>• Replace smoke alarm batteries. (If you have smoke alarms).</li> <li>• Have a checklist of things to check (roof, gutter, cracks in wall).</li> <li>• Make sure that one window in each classroom has burglar bars which can be opened from the inside so people can escape when door are blocked.</li> <li>• Involve children.</li> </ul>
<p>2.4. Protect yourself in your home</p>	<ul style="list-style-type: none"> <li>• Close windows and doors to keep heat outside.</li> <li>• Create natural ventilation flows inside the house.</li> </ul>

	<ul style="list-style-type: none"> <li>• Drink plenty of water and use alternative ways of re-hydration like fresh coconut juices.</li> <li>• Limit use of fire stoves and cookers.</li> </ul>
<p><b>2.5.</b> Conserve water by minimizing outdoor usage</p>	<ul style="list-style-type: none"> <li>• Inspect pipes and outdoor taps for leaks, and repair them.</li> <li>• Store water at the household level.</li> <li>• Cover wells to reduce evaporation.</li> <li>• Harvest rainwater in above-ground or below-ground tanks. (Note: the water may need purification treatment before it is safe to drink.)</li> <li>• Use alternatives to water (for example, sand for washing).</li> <li>• Avoid over-grazing and manage the stocking rate.</li> <li>• Recycle household 'grey water' for toilet, and for irrigation and home gardens. Recycle fish tank water for plants.</li> <li>• Reduce water consumption by landscaping with low-water plants and rock gardens. In rainy conditions, turn off automatic sprinklers.</li> <li>• Conserve water outdoors by cleaning pathways with a broom (not water), washing cars with a bucket, and covering pools to reduce evaporation.</li> <li>• Insulate hot water pipes.</li> <li>• Where livestock use the same source as people, explore alternative methods of water usage.</li> </ul>
<p><b>2.6.</b> Practice home fire prevention</p> <p>KAR prevention:</p> <ul style="list-style-type: none"> <li>• KAMA (Fijian)</li> <li>• Aag (Hindi)</li> <li>• Rahi (Rotuman)</li> </ul>	<ul style="list-style-type: none"> <li>• Do not permit smoking in bed or when lying down.</li> <li>• Clean gutters and drains.</li> <li>• Keep matches, lighters and flammable or combustible products away from children and from heat sources.</li> <li>• Never leave a fire or candle burning unattended.</li> <li>• Avoid overloading electrical circuits.</li> <li>• Check wiring in your home, repairing/ checking broken electrical cords, damaged or exposed wires or loose plugs. Do not run electrical cords under carpets/ mats.</li> <li>• Check and maintain hoses on devices that run on gas.</li> <li>• Keep stove and heater areas clear of flammables.</li> <li>• (Advisable) Install working smoke detectors in sleeping areas and at each level in your home.</li> <li>• Dispose of ashes in a metal container and soaked with water.</li> <li>• Do not operate or refuel electrical generators indoors.</li> <li>• Check/maintain hoses and connections from the cylinder (gas bottle) to stove</li> <li>• Use proper mosquito coil stands instead of flammable materials (e.g. Newspaper) as stands</li> <li>• Do not leave candles close to flammable materials (e.g. Curtains, carpets)</li> <li>• Keep generator in safe distance</li> <li>• After cooking, ensure all embers are out</li> <li>• Paste instructions on kerosene stoves for maintenance (in Fijian, Hindi, English).</li> </ul>
<p><b>2.7.</b> Store dangerous materials safely</p>	<ul style="list-style-type: none"> <li>• Limit, isolate, eliminate and separate hazardous materials.</li> <li>• Store poisons and flammable products securely in closed "tight" (should be locked but sufficiently ventilated) cabinets to prevent accidental fires, toxic combinations and hazardous materials release.</li> <li>• Out of reach for children</li> </ul>

<p><b>2.8.</b> Protect your domestic animals and livestock</p>	<ul style="list-style-type: none"> <li>• Make sure any out-buildings, pastures or corrals are protected in the same way as your home.</li> <li>• Make sure that your animals and livestock are sheltered in a secure and safe place prior to natural hazards.</li> </ul>
<p><b>2.9.</b> Practise good hygiene and sanitation</p>	<ul style="list-style-type: none"> <li>• Wash hands well, using soap and water or sand.</li> <li>• Use toilets to dispose of human waste.</li> <li>• Do not defecate in the open air or near water sources.</li> <li>• Protect water and food supplies from contamination.</li> </ul>
<p><b>2.10.</b> Protect your environment</p>	<ul style="list-style-type: none"> <li>• Conserve precious environmental resources: reduce, reuse and recycle.</li> <li>• Monitor and reduce your energy and water (consumption) use.</li> </ul>

## ALL HAZARDS – HOUSEHOLD:

### 3. PREPARE TO RESPOND: Storing provisions

KEY MESSAGE	CONTEXT-SPECIFIC DETAILS
<p><b>3.1.</b> Extinguish small fires</p>	<ul style="list-style-type: none"> <li>• If safe to do so, extinguish small fires using the correct fire extinguisher.</li> <li>• Put a fire extinguisher (ABC), bucket of sand or fire blanket in place and learn how to use it. Remember to have your fire extinguisher maintained.</li> <li>• Before you fight the fire, keep your back to your escape route and stand 2m (7ft) away from the fire. If possible, have a helper immediately behind you for safety.</li> <li>• Practise 'PASS': Pull the pin. Aim at the base of the flame. Squeeze the handle. Sweep at the base of the fire.</li> <li>• In case of a stove-top fire, cover the burning pan with a fire blanket or damp (not wet) cloth and lid, take it off the burner, and leave it covered for at least an hour.</li> <li>• Never use water or foam extinguishers on an oil or an electrical fire.</li> </ul>
<p><b>3.2.</b> Know the types of extinguisher and where/when to use them</p>	<ul style="list-style-type: none"> <li>• <b>Pressurized water</b> for Class A ordinary fires, such as burning wood, paper, cardboard, plastics and textiles</li> <li>• <b>Carbon dioxide</b> for Class B flammable liquids, such as burning oil, gasoline, paint and grease and Class C energized circuits, such as electrical or computer fires</li> <li>• <b>Dry chemical powder</b> for fires in Class A, B or C.</li> </ul>
<p><b>3.3.</b> Learn how to react when you see fire or smell smoke</p>	<ul style="list-style-type: none"> <li>• If you smell smoke or see a fire, alert others, get out quickly, assist others, and call for help.</li> <li>• If there is smoke in the room, follow the advice '<b>Get down low and go, go, go</b>'. Inhaling smoke or toxic gases kills many more people than burns do. Feel the doorknob and space around the door with back of your hand, but do not open it if it feels hot. As you exit each space, close doors and windows and turn off appliances.</li> <li>• Use a damp cloth over your nose and mouth to reduce fume inhalation when you are evacuating or waiting for rescue.</li> <li>• If you are on fire '<b>Stop, drop and roll</b>' to extinguish the flames. If someone else is on fire, make them do the same.</li> </ul>

	<ul style="list-style-type: none"> <li>• If you cannot get out, close the doors and stay down low, opening a window a little to signal for help. Protect your hands and face with wet cloths. Place a wet towel at bottom of door to prevent smoke from entering the room.</li> <li>• remove anyone in immediate danger, if you can do so without endangering yourself.</li> <li>• Make sure that doors and windows are closed, to confine fire and smoke.</li> <li>• Alert others to the fire and activate any fire alarm systems.</li> <li>• Call 911 the emergency fire service for help.</li> <li>• Try to extinguish small fires using appropriate tools – fire extinguisher, bucket of sand or a fire blanket.</li> </ul>
<b>3.4.</b> Respond to early warnings	<ul style="list-style-type: none"> <li>• Stay alert for emergency warnings, and respond immediately.</li> <li>• Know the alarm system that will be used and practise your response. Know your emergency exit choices.</li> <li>• If you are advised to evacuate, leave immediately.</li> <li>• Take your pets with you if possible.</li> <li>• Don't forget your evacuation bag, with copies of personal documents.</li> <li>• Secure your belongings if you have time.</li> </ul>
<b>3.5.</b> Learn first aid	<ul style="list-style-type: none"> <li>• Learn first aid skills. Make sure that at least one member of your household is trained in first aid.</li> <li>• Practise and update your first aid knowledge every year.</li> </ul>
<b>3.6.</b> Practise regular emergency drills	<ul style="list-style-type: none"> <li>• Conduct or participate in emergency evacuation drills (including at home).</li> <li>• Participate in activities in Disaster Awareness Week.</li> <li>• During Disaster Awareness Week practise a household drill.</li> <li>• Be sure to include all members of household in practice drills.</li> </ul>
<b>3.7.</b> Respond to the needs of your animals	<ul style="list-style-type: none"> <li>• If you have animals, evacuate early with them or make sure any outbuildings, pastures or corrals are protected.</li> <li>• If you must leave animals behind, do not leave them tied or shut in buildings. Leave dry food.</li> </ul>
<b>3.8.</b> Use telephones only for emergencies to avoid blocking the network in times of disasters	<ul style="list-style-type: none"> <li>• Keep all phone use to an absolute minimum. Use them only to request outside assistance for physical injury and damage. Otherwise, leave phone lines open for emergencies.</li> <li>• Learn the phone numbers for reporting fire and other emergencies. Keep these by/in your phone or programmed into the handset.</li> <li>• Keep your mobile phone with you. Minimize use to conserve batteries.</li> <li>• Use short text messaging rather than voice, and only to convey vital emergency information rather than to satisfy curiosity.</li> <li>• Send just one short message via mobile phone to report your status to your out-of-area contact.</li> </ul>
<b>3.9.</b> Learn how to swim	<ul style="list-style-type: none"> <li>• In times of flood or tsunamis knowing how to swim can save your life.</li> <li>• Don't enter flood waters, don't play in flood waters.</li> <li>• Learn swimming skills (to swim for 25 metres).</li> <li>• Know how to correctly use life jackets.</li> </ul>

<p><b>3.10.</b> Ensure you can be found</p>	<ul style="list-style-type: none"> <li>• Make sure street signs and house numbers are clearly marked so that emergency responders can help you.</li> <li>• Keep a track of where your household members/ family are.</li> <li>• Use landmarks when giving directions.</li> </ul>
<p><b>3.11.</b> Stay informed</p>	<ul style="list-style-type: none"> <li>• Listen to a portable battery-operated radio or television for emergency information and safety instructions.</li> <li>• Tune into radio stations for emergency information.</li> <li>• Look out for alert message from your phone provider.</li> </ul>
<p><b>3.12.</b> Boil all drinking water after an emergency</p>	<ul style="list-style-type: none"> <li>• Water can become contaminated after a disaster.</li> </ul>
<p><b>3.13.</b> After hazard impact, help those around you</p>	<ul style="list-style-type: none"> <li>• First, check your own security and safety, followed by that of those immediately around you, before moving or going to help others.</li> <li>• Check yourself and others for injuries. Do not try to move anyone who is seriously injured unless they are in immediate danger of death or further injury.</li> <li>• If you must move someone who is unconscious, first stabilize their neck and back and then get help.</li> <li>• If the person is not breathing, carefully position them so they are lying flat on the floor with their chin tilted slightly up, clear the airway, close their nose, and administer Mouth to mouth resuscitation.</li> <li>• Maintain normal body temperature (not too cold or too hot) and raise legs by about 20–30cm (7–12in), above the heart.</li> <li>• Stop bleeding only by using pressure and elevation, not by tourniquet.</li> </ul>
<p><b>3.14.</b> After hazard impact, check for damage</p>	<ul style="list-style-type: none"> <li>• Follow the specific advice below for the situation in question: <ul style="list-style-type: none"> <li>◦ <i>Electricity</i> - If your body or the equipment is in contact with water, do not touch electrical circuits or equipment. Do not touch damaged electrical wires or items in contact with them. If possible, turn off electricity at the main fuse box and check for damage. If the power is out, turn off and unplug major appliances to protect them from a power surge when electricity is restored. If the situation is unsafe, leave and call for help.</li> <li>◦ <i>Sewage</i> - If you suspect damage to the sewage system, avoid using toilets and tap water. Have septic tanks serviced regularly.</li> </ul> </li> </ul>
<p><b>3.15.</b> After hazard impact, take care of yourself so you can help others</p>	<ul style="list-style-type: none"> <li>• Keep with you any critical health information with you – especially if you have diabetes, heart disease or need any regular life-sustaining or behaviour-controlling medications or devices.</li> <li>• Prevent exhaustion. Pace yourself, rest and sleep.</li> <li>• Drink plenty of clean water. Eat as well as circumstances allow.</li> <li>• Wear protective shoes, clothing and gloves.</li> <li>• If you are working in debris, wash your hands thoroughly with soap and water.</li> </ul>
<p><b>3.16.</b> After hazard impact, support each other</p>	<ul style="list-style-type: none"> <li>• If you are not in good health – you will not be able to help others</li> <li>• Under abnormal conditions, sadness, grief, anger and a wide range of unusual behaviours are considered normal. Try to be flexible and to understand that everyone has different needs and ways of coping.</li> </ul>

	<ul style="list-style-type: none"> <li>• Pay special attention to people with disabilities and help where possible.</li> <li>• Reduce stress by spending time with loved ones, talking and taking care of yourself.</li> <li>• Be aware of children's behaviour changes and needs.</li> <li>• Return children to normal recreational and educational activities as soon as possible.</li> <li>• Work together to return to normal routines, roles and responsibilities.</li> <li>• Continue to practise preparedness together.</li> </ul>
<p><b>3.17.</b> After hazard impact, support response, clean-up and recovery</p>	<ul style="list-style-type: none"> <li>• After taking care of your needs and your family's needs Help to speed up recovery by showing solidarity with your neighbours and working together in an organized way.</li> <li>• Volunteer in local disaster response, assisting with: <ul style="list-style-type: none"> <li>◦ opening blocked emergency transportation routes (as long as safe)</li> <li>◦ checking for damage to water, sewage, electrical lines and combustible fluid containers and reporting these</li> <li>◦ first aid</li> <li>◦ fire suppression (for example, through bucket forming line to pass water buckets)</li> <li>◦ logistics support to professional responders (for example, cutting wood for search and rescue in building collapse)</li> <li>◦ creating shelter</li> <li>◦ preparing and distributing water and food</li> <li>◦ supervising children</li> <li>◦ attending to escaped pets</li> <li>◦ creating sanitary and private pit toilets</li> <li>◦ making sure that shelter, water, sanitation, and food distribution is accessible to people with various access and functional needs.</li> </ul> </li> </ul>

## ALL HAZARDS – HOUSEHOLD:

### 4. PREPARE TO RESPOND: Storing provisions

KEY MESSAGE	CONTEXT-SPECIFIC DETAILS
<p><b>4.1.</b> Check your phones</p>	<ul style="list-style-type: none"> <li>• Make sure you have at least one non-electric, non-cordless landline phone in case of power outage.</li> <li>• For mobile phones, keep an extra battery or manual or solar charger available.</li> <li>• Have a checklist for all provisions per household</li> <li>• Have more than 1 landline (urban) per community (RF &amp; radio - rural)</li> <li>• Check your communication devices</li> <li>• Phone cards for public phones</li> <li>• Check batteries for power back-up</li> </ul>
<p><b>4.2.</b> Store water and food</p>	<ul style="list-style-type: none"> <li>• Store enough clean water and non-perishable food to survive for about a week. 25-30 litres (7 gallons) for each household member. About half of this is for drinking or cooking and half for sanitation.</li> <li>• Keep the water in clean, closed containers.</li> </ul>



	<ul style="list-style-type: none"> <li>• Have expiry dates on checklist &amp; plan evacuation.</li> <li>• Prepare water tanks per community &amp; portable water containers per household.</li> </ul>
<p><b>4.3.</b> Store emergency provisions at home, work and school</p>	<ul style="list-style-type: none"> <li>• Keep the following disaster provisions in a secure place – outside your home, where possible: <ul style="list-style-type: none"> <li>◦ emergency contact information and copies of vital records</li> <li>◦ 25 litres (7 gallons) per person. This is sufficient for survival for one person for one week based on an estimated 2 litres (half a gallon) for drinking and 2 for sanitation. Include allocations for pets and service animals. Replace every six months</li> <li>◦ enough non-perishable food to last for at least seven days. Remember infant and other special dietary needs and pets or service animals. (Check expiry dates every six months)</li> <li>◦ first aid kit and prescription medications</li> <li>◦ torch/flashlight – either solar or wind-up, or with extra batteries</li> <li>◦ plastic bags and ties for personal sanitation</li> <li>◦ liquid bleach for water purification</li> </ul> </li> <li>◦ plastic sheeting and duct tape to seal windows and doors for hazardous materials release</li> <li>◦ paper and markers</li> <li>◦ multi-purpose pocket knife tool</li> <li>◦ matches/ lighters</li> <li>◦ a whistle, to signal for help</li> <li>◦ a telephone with extra battery or power storage</li> <li>◦ clothing and toiletries, including rain gear; a change of underclothing, sturdy shoes and work gloves</li> <li>◦ bedding and towels</li> <li>◦ personal items to meet the needs of each household member including assistive devices such as spectacles.</li> </ul>
	<ul style="list-style-type: none"> <li>◦ to cut dangerous branches near the house and use as firewood (in case of gas shortage) and take down coconuts (food)</li> <li>◦ respond to emergency</li> <li>◦ bleach – chlorine</li> <li>◦ have checklist for work &amp; school</li> <li>◦ anchors (hopefully in place already)/rope/straps for roof boards/ tins, shutters</li> <li>◦ assistive devices – spectacles, wheelchairs, crutches, elbow crutches, list of applications, transistor radio, gumboots</li> </ul>
<p><b>4.4.</b> Prepare a 'go bag' for evacuation</p>	<ul style="list-style-type: none"> <li>• Pack evacuation bags containing: <ul style="list-style-type: none"> <li>◦ emergency water and high-energy food</li> <li>◦ communication equipment such as a portable radio (solar wind up, or with extra batteries)</li> <li>◦ first aid supplies and prescription medications</li> <li>◦ tools including a torch/flashlight (solar, wind up or with extra batteries) multi-purpose tool, matches</li> </ul> </li> </ul>

	<ul style="list-style-type: none"> <li>◦ clothing, including rain gear; a change of underclothing, sturdy shoes and work gloves</li> <li>◦ emergency blanket</li> <li>◦ personal toiletries and items such as assistive devices</li> <li>◦ emergency contact information and copies of vital records</li> <li>◦ cash</li> </ul> <ul style="list-style-type: none"> <li>• Take this bag when you evacuate.</li> </ul>
<p><b>4.5.</b> After power outage take extra care preparing food and water</p>	<ul style="list-style-type: none"> <li>• Check refrigerated food for spoilage. If in doubt, throw it out.</li> <li>• Avoid drinking or preparing food using water that may be contaminated.</li> <li>• Throw away contaminated food/water.</li> <li>• Take extra care in preparing food/water.</li> <li>• Heat leftovers/water.</li> </ul>
<p><b>4.6.</b> Purify all water</p>	<ul style="list-style-type: none"> <li>• Even if water looks clean, it may be contaminated. If it is of questionable purity, carry out the following steps:</li> <li>• Remove solids by filtering the water through a cloth or letting it settle and pour it into a clean container.</li> <li>• Boil the water for at least one minute or until large bubbles appear, then let it cool.</li> <li>• Add bleach, mix well, and let stand for 30 minutes (1 drop of bleach per litre of water; 8 drops per gallon, or 1 capful per 20-litre jerry can).</li> <li>• Alternatively, place water in a clean, transparent plastic or glass bottle and lay it in direct sunlight for six hours.</li> <li>• In all cases, store water in a clean, closed container.</li> </ul>



## KEY MESSAGES:

# DROUGHT



A drought is a slow-onset phenomenon consisting of a prolonged period of abnormally low rainfall, snowfall or snow melt that results in reduced groundwater, surface water and/or reservoir levels. The shortages of water for drinking, sanitation and irrigation have an impact on ability to sustain agriculture, livestock and livelihoods, and can lead to food insecurity, spread of disease, malnutrition and starvation, migration and dislocation, and economic losses. Drought can also adversely affect power generation, transportation and commercial or industrial needs.

Periods of abnormal dryness are a normal, recurrent feature of climate, and are often predictable. However, they are also impacted by the human land-use degradation, dam construction and climate change.

*Vulnerability is made worse by the following factors:*

- population pressures
- food insecurity
- economic systems that are strictly dependent on rain-fed agriculture
- poor infrastructure including irrigation, water supply and sanitation systems
- health conditions
- seasonality
- absence of warning systems
- other concurrent economic and political conditions

## DROUGHT: 1. ASSESS & PLAN

KEY MESSAGE	CONTEXT-SPECIFIC DETAILS
1.1. Be informed	<ul style="list-style-type: none"> <li>Learn about monthly, seasonal and long-term weather outlooks and what they may mean in your area.</li> <li>Understand the optimal weather conditions for different agricultural practices and water requirements, and compare with current practices/ sustainable practices</li> <li>Find out about communication channels for early warning about drought in your community.</li> </ul>
1.2. Work with your neighbours and community to present drought impacts	<ul style="list-style-type: none"> <li>Participate in community risk mapping, capacity mapping and drought monitoring.</li> <li>Work with local authorities and communities to develop a inclusive drought mitigation plan.</li> <li>Work with local water suppliers and communities to develop a water conservation plan.</li> </ul>
1.3. Participate in planning for rationing of water and food	<ul style="list-style-type: none"> <li>Plan for an initial basic ration of food to sustain you through the drought period</li> <li>Learn about the needs of the most vulnerable people in your community, including who and where they are and how you can help them.</li> </ul>
1.4. Approach water as a community resource, and plan accordingly	<ul style="list-style-type: none"> <li>Work with local authorities and your communities wherever possible to plan for and reduce the impacts of water shortages.</li> <li>Identify water resources and learn how to conserve them.</li> <li>Plan your own land use with water conservation in mind.</li> </ul>
1.5. Assess health related risks and plan for prevention	<ul style="list-style-type: none"> <li>Stay in contact with your local health care providers and learn about:               <ul style="list-style-type: none"> <li>how to keep water clean or purify it</li> <li>good sanitation and hygiene practices</li> <li>available immunization programmes</li> <li>the airborne, water-borne or vector-borne risks you may face</li> <li>what kinds of information to communicate.</li> </ul> </li> </ul>
1.6. Plan to improve your household food security	<ul style="list-style-type: none"> <li>Consult your local Agriculture Offices for Advice.</li> <li>Plant backyard gardens.</li> <li>Set up seed banks.</li> <li>Store food and water for use during scarcity.</li> <li>Look for alternative sources of income to fill the food gap.</li> </ul>

## DROUGHT: 2. MITIGATE RISKS – Physical or environmental

KEY MESSAGE	CONTEXT-SPECIFIC DETAILS
2.1. Participate in community water resource management	<ul style="list-style-type: none"> <li>Protect water catchment areas from evaporation and contamination (for example, by pesticides), and minimize waste.</li> </ul>
2.2. Prevent deforestation and practise reforestation	<ul style="list-style-type: none"> <li>Protect water catchment areas from deforestation.</li> <li>Re-forest water catchment areas.</li> </ul>

<p><b>2.3.</b> Conserve water in soil through sustainable agriculture and landscaping practices (Sustainable Land Management)</p>	<ul style="list-style-type: none"> <li>• Plant trees, especially species that need little water, and mulch around them.</li> <li>• Use mulching and other crop covers to capture or retain water and reduce evaporation</li> <li>• Recycle irrigation water.</li> <li>• Avoid waste of irrigation water due to poor-quality irrigation canals.</li> <li>• Identify and cultivate early maturing, drought-tolerant crops.</li> <li>• Reduce run-off and improve rainwater infiltration by planting barriers such as, lemon-grass or agave.</li> <li>• Implement crop diversification and inter-cropping to improve yields by having plants complement and support each other and plant drought resistant crops</li> <li>• Avoid slash and burn agriculture.</li> <li>• Practise conservation agriculture. This involves: <ul style="list-style-type: none"> <li>◦ ensuring minimum mechanical soil disturbance ('no-till' techniques) to maintain minerals, stop erosion and prevent water loss</li> <li>◦ managing topsoil to create permanent organic soil cover, allowing for growth of organisms</li> <li>◦ practising crop rotation with more than two species.</li> </ul> </li> <li>• Increase soil fertility and water retention by using animal compost and plant manures to add nutrients and organic matter to soil.</li> <li>• Replace sprinkler systems with drip irrigation, applied close to plant roots to prevent waste.</li> <li>• Use a soil moisture indicator to see when watering is needed, water the garden or ground cover early in the day, and not on windy days.</li> <li>• Lay green driveways and water-permeable asphalt rather than concrete.</li> </ul>
<p><b>2.4.</b> Protect yourself in your home</p>	<ul style="list-style-type: none"> <li>• Close windows and doors to keep heat outside.</li> <li>• Create natural ventilation flows inside the house.</li> <li>• Drink plenty of water and use alternative ways of re-hydration like Fresh coconut juices</li> <li>• Limit use of fire stoves and cookers.</li> </ul>
<p><b>2.5.</b> Conserve water by minimizing outdoor usage</p>	<ul style="list-style-type: none"> <li>• Inspect pipes and outdoor taps for leaks, and repair them.</li> <li>• Store water at the household level.</li> <li>• Cover wells to reduce evaporation.</li> <li>• Harvest rainwater in above-ground or below-ground tanks. (Note: the water may need purification treatment before it is safe to drink.)</li> <li>• Use alternatives to water (for example, sand for washing).</li> <li>• Avoid over-grazing and manage the stocking rate.</li> <li>• Recycle household 'grey water' for toilet, and for irrigation and home gardens. Recycle fish tank water for plants.</li> <li>• Reduce water consumption by landscaping with low-water plants and rock gardens. In rainy conditions, turn off automatic sprinklers.</li> <li>• Conserve water outdoors by cleaning pathways with a broom (not water), washing cars with a bucket, and covering pools to reduce evaporation.</li> <li>• Insulate hot water pipes.</li> <li>• Where livestock use the same source as people, explore alternative methods of water usage.</li> </ul>

<p><b>2.6.</b> Conserve water by minimizing indoor usage</p>	<ul style="list-style-type: none"> <li>• Inspect pipes, taps and toilets for leaks, and repair them.</li> <li>• Conserve running water at home. For example:</li> <li>• Turn off taps when brushing teeth or shaving.</li> <li>• Take shorter showers.</li> <li>• Install aerating taps and low-flow shower-heads.</li> <li>• Clean vegetables in a basin rather than under running water.</li> <li>• Clean greasy hands with waterless hand cleaner.</li> <li>• Install composting toilets or low-volume toilets, or place a brick or sealed bag of water into toilet cistern to reduce flush water.</li> <li>• Wash dishes using two basins rather than doing it under running water.</li> <li>• In washing machines, match the load setting to amount of laundry, or wash full loads only.</li> </ul>
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## **DROUGHT: 3. PREPARE TO RESPOND: Storing provisions**

KEY MESSAGE	CONTEXT-SPECIFIC DETAILS
<p><b>3.1.</b> Stockpile essential foods</p>	<ul style="list-style-type: none"> <li>• Consider which of the following three levels of food security or insecurity you may face:</li> <li>• Self-sufficient</li> <li>• Food insecure</li> <li>• Food and livelihoods insecure</li> </ul>
<p><b>3.2.</b> Preserve and store food year round</p>	<ul style="list-style-type: none"> <li>• Preserve and store dry food, tinned food and grains that last 3–12 months.</li> <li>• Store dried yeast, sugar, jams, chutneys, sauces, tea leaves, peanut butter and biscuits.</li> <li>• Use traditional Knowledge of food preservation.</li> </ul>
<p><b>3.3.</b> Learn principles of good nutrition</p>	<ul style="list-style-type: none"> <li>• In average conditions, an adult should drink about 2 litres of water per day, although this amount may increase or decrease under different conditions.</li> <li>• Plan for a basic food ration that are naturally balance. . This should be as simple as possible, to include:             <ul style="list-style-type: none"> <li>◦ a basic staple such as rice, corn, wheat flour or corn–soy blend) and root crops.</li> <li>◦ a concentrated source of energy (oil or another fat)</li> <li>◦ a concentrated source of protein, such as legumes (beans, peas, lentils).*</li> </ul> </li> <li>• Learn about the most vulnerable people in your community, including who and where they are and how you can help them.</li> <li>• Expand diets by cultivating foods in backyard gardens and foraging.</li> <li>• For good nutrition, eat from each of these four food groups, every day:</li> </ul> <p><b>GROUP 1</b></p> <p>.....</p> <p>dried vegetables and fruits  tinned/canned vegetables and fruits  bottled vegetables and fruits  vegetable and fruit juices  dried herbs</p>

tomato paste  
products that can be stored (in the cool and dark) for a relatively long time, such as garlic, onions, potatoes, apples, citrus fruits, carrots and cabbage.

**GROUP 2**

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peas, beans and lentils  
tinned/canned beans  
milk powder (full fat)\* or evaporated or long-life milk  
cheese that does not require refrigeration  
dried meat and dried fish  
tinned/canned meat and fish.

**GROUP 3**

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grains such as sorghum, millet, rice, corn or wheat  
cassava, yam or plantain  
pasta, cereals or flour  
bread of all kinds  
crackers  
noodles  
instant products, such as dried mashed potato.

**GROUP 4**

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oil  
seeds, including sesame and sunflower.  
If no fresh food is available, vitamin supplements are recommended.  
Use salt and condiments to make food tasty.

\* Kadhasanoglu, A. *Guide on How to Secure Food and Livelihoods of Communities in a Pandemic Influenza*. Geneva: IFRC, 2009.





## KEY MESSAGES:

# EARTHQUAKES



.....

An earthquake is a sudden, rapid shaking of the ground caused by the shifting of rocks beneath the Earth's surface. Earthquakes strike suddenly, without warning, and can occur at any time of the year – day or night. The impacts of earthquakes include deaths, injuries and property damage, loss of shelter and livelihood, disruption of critical or 'lifeline' infrastructure, and destruction of community.

Earthquakes are among the deadliest of natural hazards. Most deaths are due to building collapse or to secondary hazards, such as fires, tsunamis, flooding, landslide and release of chemicals or toxic materials. Injuries tend to be due to less-severe building damage, parts of buildings or their contents falling or breaking, and failure to take precautions during aftershocks.

Each year there are about 15 major earthquakes, 135 strong earthquakes and more than 1,000 moderate earthquakes each year. However only 70–75 of these are reported to cause damage. Their impacts differ widely and depend a great deal on the resilience and preparedness of human settlements.

*Vulnerability factors include:*

- non-compliance or non-conformity to building codes established for expected intensity of shaking
- poor land-use planning
- building in unsafe locations
- unprotected critical infrastructure
- inadequate non-structural measures to secure building contents and equipment
- disorganized or unpractised response.

Tsunamis are usually associated with earthquakes, but they can also be generated by volcanic eruptions or underwater landslides. The precautions noted here apply regardless of the cause.

## EARTHQUAKE: 1. ASSESS & PLAN

KEY MESSAGE	CONTEXT-SPECIFIC DETAILS
1.1. Identify safest places	<ul style="list-style-type: none"> <li>Identify the safest places in your building, and in each room. These places must be located away from exterior walls, unsecured partition walls, windows, glass and large or heavy objects that can fall, slide or collide, that can cause fire.</li> <li>Outside your building, the safest places are open spaces.</li> </ul>
1.2. Identify items that could cause death or injury and work out how to secure them	<ul style="list-style-type: none"> <li>Identify items within the building and around the perimeter that could fall, slide or collide during earthquake shaking. Move them or find the best ways to secure them.</li> <li>Move or secure objects that may fall and block exits.</li> </ul>
1.3. Do not be misled by disinformation, myths or rumours	<ul style="list-style-type: none"> <li>Base safety information on the available scientific evidence provided by local Authorities. Do not spread rumours or unfounded myths about causes or effects of hazards. Many popular anecdotes are not supported by scientific data.</li> </ul>

## EARTHQUAKE: 2. MITIGATE RISKS – Physical or environmental

KEY MESSAGE	CONTEXT-SPECIFIC DETAILS
2.1. Select a safe site for your building	<ul style="list-style-type: none"> <li>Find out from local authorities where earthquake risks are highest in your local area.</li> <li>Locate buildings on stable, solid, dry ground (in other words, on deep and unbroken rock known as bedrock). Avoid adjacent hazards by leaving sufficient space between buildings so that they cannot pound against each other during earthquake shaking.</li> <li>Avoid building on unstable slopes or sites subject to liquefaction, avalanches or inundation from tsunami, flooding or dam failure.</li> <li>Avoid building on top of, known earthquake faults.</li> </ul>
2.2. Build and maintain your building with earthquakes in mind	<ul style="list-style-type: none"> <li>The way a building behaves during earthquakes depends on the ground it sits on, its shape, the design of its structural system, the materials it is built with, and construction detailing. Ideally it should be strong but flexible, so that it does not fail when shaken.</li> <li>Select an appropriate foundation system for the topography, soil conditions and construction type.</li> <li>Select a simply symmetrical shape for the building (usually a simple rectangle).</li> <li>Ensure that the parts of the structural system (such as the columns, beams and walls) are continuous, evenly distributed and well connected.</li> <li>Use the appropriate quality and quantity of materials.</li> <li>Protect your building from water and moisture damage.</li> <li>Review the overall safety of your building periodically.</li> </ul>
2.3. Repair and retrofit for life safety	<ul style="list-style-type: none"> <li>Whether you are a homeowner or a tenant, there are things that you can do to improve the structural integrity of your home. Anything you do to strengthen your home could reduce the risk of death and injury.</li> </ul>

	<ul style="list-style-type: none"> <li>• Where possible, consult a qualified engineer or skilled professional to help identify your building's weaknesses and fix them. Check that the person you hire is fully qualified in anti-seismic building techniques, has full knowledge of local regulations, and follows them rigorously.</li> <li>• Check for: <ul style="list-style-type: none"> <li>◦ inadequate foundations</li> <li>◦ unbraced walls</li> <li>◦ discontinuous columns or beams</li> <li>◦ damage to concrete</li> <li>◦ unreinforced masonry</li> <li>◦ rotting wood</li> <li>◦ vulnerable pipes</li> <li>◦ in frame buildings that supporting columns and beams are evenly spaced, continuous, and well-connected.</li> </ul> </li> <li>• Check for any building adaptations or alterations that might have adversely affected the safety of the structure.</li> <li>• Implement retrofit. Even minimum retrofit is effective in preventing total collapse of structures, saving lives.</li> </ul>
<p><b>2.4.</b> Secure your belongings</p>	<ul style="list-style-type: none"> <li>• Secure large objects and furniture that could fall, break, slide or collide during an earthquake and cause crushing or piercing injuries.</li> <li>• Your choices are to relocate, remove or refit, or to anchor, fasten, or secure. For example: <ul style="list-style-type: none"> <li>◦ Fasten bookcases, display cabinets and other tall and heavy furniture to the wall. Position them away from anywhere where they could block exit pathways. Secure anything that could fall on people while they are sleeping.</li> </ul> </li> <li>• Secure water heaters, gas cylinders, outside fuel tanks and other gas and electrical appliances.</li> <li>• Install latches on cabinets and drawers.</li> <li>• Hang heavy items, such as pictures and mirrors, away from exit doors, beds, couches or anywhere that people sleep or sit.</li> <li>• Anchor computers and televisions.</li> <li>• Secure fire extinguishers.</li> <li>• Move beds away from windows.</li> </ul>

## **EARTHQUAKE: 3. PREPARE TO RESPOND: Developing skills**

KEY MESSAGE	CONTEXT-SPECIFIC DETAILS
<p><b>3.1.</b> Practise earthquake drills in different locations</p>	<ul style="list-style-type: none"> <li>• Practise earthquake drills, both physically and as thought exercises, in different locations, conditions and time of the day. Considering the impact of strong shaking and identify the safest actions in each place (at home, work and school).</li> </ul>
<p><b>3.2.</b> Take immediate action</p>	<ul style="list-style-type: none"> <li>• Trust your senses. Assume that the first shaking you feel is an earthquake.</li> <li>• Move away from windows/glass/exterior walls/unstable and heavy objects.</li> <li>• Extinguish all flames.</li> <li>• If you are near an exit door, open it a little so that if it becomes misshapen it will not be stuck closed.</li> </ul>

<p><b>3.3.</b> Remain calm</p>	<ul style="list-style-type: none"> <li>• Stay calm by counting or taking slow, deep breaths. Look around to assess the situation before moving.</li> </ul>
<p><b>3.4.</b> Drop, get down or crouch!</p>	<ul style="list-style-type: none"> <li>• Crouch by dropping down on your knees and making yourself small. Cover your head and neck, and protect your face. Hold on to this cover, or move with it, until the shaking stops. Do not attempt to run.</li> <li>• If you are near a sturdy table, get under it. Hold on to the table leg with one hand and protect your eyes with the other hand.</li> <li>• If you are in bed, stay there and protect your head with a pillow.</li> <li>• If you are near a sofa, get down next to it and use a cushion to protect your head and neck.</li> <li>• If you are sitting in a theatre or stadium seat, brace yourself while protecting your head and neck.</li> <li>• If you are in a wheelchair, lock it. If you cannot get down low, brace yourself and protect your head with your arms.</li> <li>• If you cannot drop to the floor, stay where you are, bracing yourself in place.</li> <li>• Stay indoors until the shaking stops and you are sure it is safe to exit.</li> </ul>
<p><b>3.5.</b> If you are on the ground floor of an unsafe house with a heavy roof, exit quickly</p>	<ul style="list-style-type: none"> <li>• If you are indoors, on the ground floor of an unsafe house with a heavy roof, and if you can get outside to a clear space, then exit quickly and carefully as soon as you feel shaking. Drop, cover and hold on, away from the building and any overhead hazards.</li> </ul> <p><b>Note:</b> This is the only exception to the rule to stay indoors until the shaking has stopped, as lightweight roofs pose little danger.</p>
<p><b>3.6.</b> If you are outdoors, find a clear spot and drop to your knees to prevent falling</p>	<ul style="list-style-type: none"> <li>• If you are outside, find a clear spot away from overhead hazards such as buildings, trees, streetlights, power lines, overpasses, underpasses or above-ground gas lines. Drop to the ground and stay there until the shaking stops. Stay outside and remain in open areas away from hazards.</li> </ul>
<p><b>3.7.</b> If you are in a multi-storey building, be careful both during and after the shaking</p>	<ul style="list-style-type: none"> <li>• After the shaking stops, check for the safety of stairs or exterior fire escapes, before using them.</li> <li>• Do not use elevators at all.</li> </ul>
<p><b>3.8.</b> If you are in a vehicle, go to a clear location and pull over</p>	<ul style="list-style-type: none"> <li>• Stop the vehicle in a safe place. Stay in the vehicle until the shaking stops. Avoid bridges, trees, power lines, poles, street signs, overpasses, underpasses, tunnels and other overhead or ground-level hazards.</li> <li>• Once the shaking has stopped, proceed with caution. Avoid bridges, elevated roadways, ramps and tunnels that might have been damaged by the quake.</li> </ul>
<p><b>3.9.</b> After the main shaking stops, expect aftershocks</p>	<ul style="list-style-type: none"> <li>• Aftershocks will be frequent during the first hours and days after an earthquake, and will gradually diminish in frequency and intensity. However, unusually large aftershocks may occur days or even weeks after the main earthquake. Aftershocks can trigger additional building damage or collapse.</li> <li>• Follow the same guidance for an aftershock as you would for any earthquake.</li> </ul>
<p><b>3.10.</b> After the main shaking stops, if you are indoors, move cautiously and evacuate the building</p>	<ul style="list-style-type: none"> <li>• Put on sturdy shoes before you move around. If it is dark, use a torch/flashlight. Move to your pre-determined meeting place either inside the building or outside, away from high buildings. Notice any damage as you exit.</li> <li>• If you feel strong shaking, exit the building following the standard building evacuation rules: 'Don't run. Don't talk. Don't push. Assist others to evacuate the building.'</li> </ul>

	<ul style="list-style-type: none"> <li>• Take your evacuation 'go-bag' with you when you evacuate.</li> <li>• Make sure school buildings are evacuated and have been visually inspected before people are allowed to go back inside.</li> <li>• Other public or private buildings should have their own emergency plans, and management should inform all occupants whether to evacuate or not. If visual inspection shows signs of moderate or heavy damage, the building should be evacuated, and should not be re-occupied until it has been inspected by qualified engineers.</li> </ul>
<p><b>3.11.</b> Check for damage and stay out of damaged buildings</p>	<ul style="list-style-type: none"> <li>• Use extreme caution. Move cautiously and check for any unstable objects and other hazards around you. Open cabinet and closet doors with care.</li> <li>• Stay out of damaged buildings and away from damaged areas. Arrange for temporary shelter rather than staying in damaged buildings. If your building is damaged, it may need to be surveyed by an expert to determine whether you can go back inside.</li> <li>• Watch out for and avoid fallen power lines or broken gas lines.</li> </ul>
<p><b>3.12.</b> Extinguish flames and put out small fires</p>	<ul style="list-style-type: none"> <li>• Fire is a common hazard following earthquakes. In areas with wooden construction, fires following an earthquake can cause more damage than the earthquake itself. Check for small fires and extinguish any that you find.</li> </ul>
<p><b>3.13.</b> If you are in a coastal area or near a tributary, move away from water to higher ground</p>	<ul style="list-style-type: none"> <li>• The earthquake could cause a tsunami very soon afterwards or some hours later. If there is a tsunami watch, stay informed by radio. If a tsunami warning is issued, be ready to evacuate.</li> <li>• If you are near the coast and feel the shaking of a strong earthquake that lasts 20 seconds or longer, or if you see receding waters at the shoreline, you may only have minutes until a tsunami arrives. Do not wait for an official tsunami warning. Most tsunamis have two or three large waves, and there may be tens of minutes between the arrival of each one.</li> <li>• If you are on a boat or ship at sea, do not return to port. If you are in shallow water, move to deep water if you have time, and if you are in deep water stay there. Contact the harbour authorities to report any large waves near to the shore, before you return to harbour.</li> </ul>
<p><b>3.14.</b> If you are in a mountainous area, stay alert</p>	<ul style="list-style-type: none"> <li>• If you are in a mountainous area or near unstable slopes or cliffs, be alert for: <ul style="list-style-type: none"> <li>◦ falling rocks and other debris</li> <li>◦ unusual sounds, such as cracking trees</li> <li>◦ sudden increase or decrease of water in streams</li> <li>◦ local dams, dikes, or levees that may be prone to damage or destruction.</li> </ul> </li> <li>• Tune into your early warning system.</li> <li>• Be alert for earthquake-induced landslides, which can dam streams or rivers. Even weeks after an earthquake, breakage of dams can put downstream areas in danger of flooding.</li> </ul>

<p><b>3.15.</b> If you are near unstable slopes or cliffs, or have a landslide or flood warning, leave if it is safe to do so</p>	<ul style="list-style-type: none"> <li>• Listen for landslide or flood warnings.</li> <li>• Consider leaving the area if it is safe to do so.</li> <li>• If a warning includes evacuation, evacuate immediately.</li> <li>• If there is a landslide warning and there is a sudden burst of rain, evacuate immediately to your safe haven.</li> <li>• Watch for flooding and be alert when driving near embankments or along swollen waterways.</li> </ul>
<p><b>3.16.</b> Look for and prevent fire hazards</p>	<ul style="list-style-type: none"> <li>• Extinguish all flames immediately.</li> <li>• Do not light any match, candle, lighter, flame or cigarette until you are sure there is no danger of a gas leak.</li> <li>• Check for gas leaks and turn off any gas connections. If there is any doubt, shut off main connections.</li> <li>• Do not use any electrical switch, appliance or phone if there is danger of a gas leak. Evacuate immediately if you hear or smell gas and cannot immediately locate the source and shut it off.</li> <li>• Remember that natural gas rises and can escape through windows and doors, but that liquefied propane, kerosene and carbon monoxide gases sink, and can be trapped on lower floors.</li> <li>• Stay away from downed power lines. Do not touch wires that are lying on the ground or hanging, or any objects touching them.</li> <li>• Shut off power at the main electrical switch if you suspect any damage to household electrical wiring.</li> <li>• Do not re-fuel or operate generators indoors. Take care when handling flammable fuel.</li> </ul>

## KEY MESSAGES: **FLOODS**



Floods can be very high-impact events. Annual flooding is a natural phenomenon long associated with increased soil fertility, but human habitation and land-use practices lead to many adverse impacts. Less frequent but unexpected flooding, caused by the interplay of natural and human factors, occur worldwide.

Natural causes include: high-intensity or prolonged rains, storms and storm surges, drought. Man-made causes include: the failure of water containment and drainage system, human-generated refuse in riverbeds and run-off channels, deforestation, unsustainable land management,

The two main types of floods are inundation floods (which are slow, developing over hours or days) and flash floods (which occur without warning, in places where there are no streams, generally within six hours of a rain event, or after dam or flood gate failure). Within these two types, the major kinds of flooding are:

**River flooding** is a natural event for any river, creek or stream when the catchment receives more water than usual. Development on the flood plain and alteration of the flood plain terrain can cause flooding or make it worse. It may be slow or fast.

**Run-off from higher ground** flowing from mountains towards the sea may collect in low or flattened areas, creating 'sheet flooding' run-off.

**Coastal flooding** is inundation caused by sea water above normal tides. Causes can include prolonged or strong onshore flow of wind, storm surges and astronomical tides or tsunamis generated by earthquakes.

**Estuary flooding** can be caused by sea tidal surges or storm-force winds from a cyclone.

**Outburst flooding** is created by unexpected dam.

**Urban flooding** may be caused by poor drainage system and impermeable ground cover (such as concrete and asphalt) that increases run-off two-to-six times more than natural terrain . Urban streets can become swiftly moving rivers, while basements and viaducts can collect water.



Depending on their size and severity, floods can roll boulders and vehicles, tear out trees, destroy buildings and bridges, bring down power lines, cover roads and fill basements. Floodwater may rise to several storeys, reaching heights of 3–6m and can trigger deadly debris slides. Debris in floodwater can accumulate in tight passages, creating flooding above the blockage and flash flooding below when the jam breaks. In coastal outlet areas, floodwater can move at 10–15km per hour (6–10mph), spreading as widely as the terrain permits.

Flood impacts include death, injury, damage to property and infrastructure, severe erosion, ground instability, food shortage, contamination of drinking water and deposits of mud, sand and gravel. Floods can lead to loss of shelter and livelihoods, and can disrupt lifeline infrastructure and destroy communities.

## FLOOD: I. ASSESS & PLAN

KEY MESSAGE	CONTEXT-SPECIFIC DETAILS
<b>I.1.</b> Know your area's flood risks	<ul style="list-style-type: none"> <li>• Know the local terrain, water sources, catchment area and weather patterns, to better understand the risks.</li> <li>• If flood plains have been mapped, find out whether you are located on a flood plain, and learn about the elevation of your property and buildings relative to predictable flood levels.</li> <li>• Consider risk factors such as proximity to rivers, coastlines, blockage of channels or drainage, and urban infrastructure.</li> <li>• Investigate historical experience and the potential impact of climate change on your area.</li> <li>• Speak with local authorities and neighbours to find out whether your area is prone to flooding and how flood risk is being addressed.</li> <li>• Maintain communication with neighbours located above and below you.</li> <li>• Identify industrial activity that may create hazardous materials release and contamination risks during flooding.</li> </ul>
<b>I.2.</b> Store valuables and dangerous materials above likely water levels	<ul style="list-style-type: none"> <li>• Keep important papers, equipment, feedstock and other valuables above potential flood levels, using waterproof containers where possible.</li> <li>• Keep hazardous chemicals above anticipated flood levels.</li> </ul>
<b>I.3.</b> Consider relocating or mitigating and adapting	<ul style="list-style-type: none"> <li>• If you live in a place prone to frequent or serious flooding, consider building elevated storage buildings or using floating shelters or relocating (as a last option)</li> </ul>
<b>I.4.</b> Plan to protect your animals	<ul style="list-style-type: none"> <li>• Consider precautionary evacuation of your livestock and pets.</li> </ul>
<b>I.5.</b> Know your areas expected flood evacuation routes	<ul style="list-style-type: none"> <li>• Identify your safe evacuation routes, using any forms of transportation available to you, as well as routes that can be used on foot.</li> </ul>

## FLOOD: 2. MITIGATE RISKS – Physical or environmental

KEY MESSAGE	CONTEXT-SPECIFIC DETAILS
2.1. Select a safe site for your building	<ul style="list-style-type: none"> <li>• Avoid building or living near or around flood prone areas.</li> <li>• Avoid building or living on riverbanks, gullies or flood plains, unless you elevate and reinforce your home (with the exception of delta areas, where riverbanks are on high ground).</li> </ul>
2.2. Build and maintain your home with floods in mind	<ul style="list-style-type: none"> <li>• If you live on a flood plain, build an appropriate foundation and elevate your home.</li> <li>• Construct wells, cemetery and latrines in safe places, above expected flood levels.</li> <li>• When you make renovations or alterations, wet-flood proof the construction. Choose flood damage-resistant materials for areas that usually get wet, raise electrical circuits 1.2m above the floor, put appliances on pedestals, and design walls so that cavities drain.</li> </ul>
2.3. Maintain water channels	<ul style="list-style-type: none"> <li>• If you change the natural course of a river or stream, make sure its water-carrying capacity is not reduced.</li> <li>• Keep water channels, drainpipes and gutters clear of debris.</li> </ul>
2.4. Provide a raised and secured platform for animals	<ul style="list-style-type: none"> <li>• If you have livestock or large animals that cannot be transported, create a raised secured platform, with access, so that the animals can move to higher ground in the event of flooding.</li> </ul>
2.5. Construct barriers to prevent floodwater from entering buildings	<ul style="list-style-type: none"> <li>• Construct levees, Flood bags or flood walls in accordance with local building regulations, to prevent floodwater from entering your building.</li> <li>• Identify the best methods to prevent water from entering your home, depending on your construction type and location. If possible, create a barrier in front of your doors and vents to keep water out.</li> <li>• Make sure you have the supplies and time available to implement your solution. Examples of temporary barrier solutions include washboards, sandbags and anchored heavy plastic sheeting that can be used to channel water away from your building.</li> </ul>

## FLOOD: 3. PREPARE TO RESPOND: Developing skills

KEY MESSAGE	CONTEXT-SPECIFIC DETAILS
3.1. Practise evacuation routes	<ul style="list-style-type: none"> <li>• Make sure household members know where to evacuate to, what route to take, and where to meet if they have to leave.</li> </ul>
3.2. Stay informed: monitor weather, listen to the radio and follow instructions	<ul style="list-style-type: none"> <li>• Monitor the weather closely. If there is a flood Alert, this means a flood is possible in your area. If there is a flood warning, this means a flood is already occurring in your area, or will do soon.</li> <li>• If you are advised to evacuate, or if you think you are in danger, evacuate immediately.</li> <li>• If you are instructed, or if you have time before evacuating, disconnect heating and cooking or gas tanks and unplug electrical appliances.</li> </ul>

<p><b>3.3.</b> Keep supplies to protect your home</p>	<ul style="list-style-type: none"> <li>• If you live in an area prone to flooding, keep supplies (such as plywood, plastic sheeting, nails, hammer, a saw, a crow bar, sand, shovels and sandbags), to protect your home.</li> </ul>
<p><b>3.4.</b> Keep supplies to protect people from drowning and as floating transportation</p>	<ul style="list-style-type: none"> <li>• Buy/make a personal flotation device for each household member.</li> <li>• Keep a ladder and rope for escaping to the roof.</li> <li>• Keep an inflatable boat or make an improvised group flotation platform (for example, with capped water bottles).</li> </ul>
<p><b>3.5.</b> Bring your pets and service animal indoors</p>	<ul style="list-style-type: none"> <li>• Maintain direct control of your animals and take them to a safe and secure shelter before you evacuate.</li> </ul>
<p><b>3.6.</b> When you hear a flood warning, store extra water</p>	<ul style="list-style-type: none"> <li>• Fill plastic bottles with clean water for drinking.</li> <li>• Fill bathtubs and sinks with water for all other cleaning and sanitation needs.</li> </ul>
<p><b>3.7.</b> During rainy season and flood conditions, keep your vehicle fuel tank filled</p>	<ul style="list-style-type: none"> <li>• If you have a vehicle, keep its fuel tank filled in case you need to evacuate.</li> </ul>
<p><b>3.8.</b> During a flood 'Turn around, don't drown.' Stay out of floodwater and evacuate vertically</p>	<ul style="list-style-type: none"> <li>• Never try to walk, swim or drive through swift water. If you come across flowing water above your ankles, stop, turn around and go the other way. Fast-moving water only 15cm (6in) deep can sweep a person off their feet.</li> <li>• Do not expect to outrun floodwater, as it may flow at 10–20km per hour (6–12mph).</li> <li>• If you have not been able to evacuate out of the area, then evacuate vertically, moving to higher ground or the uppermost floors of buildings.</li> </ul>
<p><b>3.9.</b> During a flood, if you are in a vehicle, avoid unsafe conditions</p>	<ul style="list-style-type: none"> <li>• Never attempt to cross any flowing water or water-covered roads or bridges.</li> <li>• Do not drive around barricades: they are there for your safety. Turn around and find another route.</li> <li>• Standing water may be electrically charged from underground or downed power lines.</li> <li>• Avoid travelling at night.</li> <li>• Move to higher ground, away from rivers, streams, creeks and storm drains.</li> <li>• As little as 20cm (6in) of water can cause you to lose control of your vehicle and as little as 50cm (2ft) of rushing water can carry away most vehicles, including trucks.</li> <li>• If they become wet, test your brakes on a clear patch of road at low speed. If brakes are not stopping as they should, dry them by pressing gently on the brake pedal while maintaining speed.</li> <li>• If your vehicle stalls in water, abandon it and climb to higher ground. Restarting your engine may cause irreparable damage.</li> <li>• If your vehicle is being submerged, open the windows to escape.</li> </ul>
<p><b>3.10.</b> After a flood, take care around floodwaters</p>	<ul style="list-style-type: none"> <li>• Stay away from low-lying areas.</li> <li>• Do not drink from, play or swim in water left by floods.</li> <li>• Avoid touching electrical that is wet or any water that is in contact with electrical wires.</li> </ul>

<p><b>3.11.</b> After a flood, pump out floodwater from basements gradually</p>	<ul style="list-style-type: none"> <li>• Pump out flooded basements gradually (about one-third of the water per day) to avoid the basement walls collapsing due to pressure from water-saturated soil outside.</li> </ul>
<p><b>3.12.</b> After a flood, start clearing out and drying your home when rain stops and water recedes</p>	<ul style="list-style-type: none"> <li>• Drying may take weeks, and complete restoration may take months. Sewage and toxic contamination is difficult to clean.</li> <li>• Move everything that is wet outside (weather permitting).</li> <li>• Drain away water under the house.</li> <li>• Keep doors and windows open on dry days. On wet days, leave windows ajar.</li> <li>• Wash and then disinfect every part of your home that has been flooded. Start from the bottom and work up. Work in a well-ventilated area with two buckets – one for the cleaning agent and one for rinse water. Replace rinse water frequently. Repeat after 8–24 hours to kill germs and reduce the odour.</li> <li>• Remove mildew.</li> </ul>
<p><b>3.13.</b> After a flood, take sanitation precautions</p>	<ul style="list-style-type: none"> <li>• Service sanitation systems as soon as possible.</li> <li>• Check drinking wells for contamination before using the water.</li> <li>• Use protective equipment for all tasks (including tall boots, long pants, long sleeves, eye protection and gloves).</li> <li>• Wash hands before eating, drinking or smoking.</li> <li>• Use disinfectant when cleaning.</li> <li>• Disinfect any cuts and protect them with a waterproof dressing.</li> <li>• Keep children away during the clean-up.</li> <li>• Bury human waste matter quickly.</li> <li>• Properly boil all drink water.</li> </ul>
<p><b>3.14.</b> After a flood, clean up carefully</p>	<ul style="list-style-type: none"> <li>• Follow these instructions for cleaning specific items:</li> </ul> <p><b>PAPER AND PHOTOGRAPHS:</b></p> <p>To protect paper, rinse and freeze it or place it in a sealed container with moth crystals or stacked individually between sheets of wax paper and sealed in a plastic bag. Freezing slows the damage, and the paper can then be defrosted and dried later.</p> <p>Place wet or frozen photos in cold clear water and separate them. Do not hold them under running water or wipe. Dislodge dirt by moving gently in a tub.</p> <p>Photocopy the items as soon as possible.</p> <p>As soon as the pages are thawed or unsealed, dry them with a blow dryer or blotting paper.</p> <p>Don't force pages apart – dry them until they come apart easily.</p> <p>Seek professional help for rare and heritage books, photographs and stamp collections.</p> <p><b>CLOTHING AND LINENS:</b></p> <p>Shake out mud, hose off dirt and wash items with hot water and disinfectant.</p>

### **FURNITURE AND APPLIANCES:**

If appliances are wet, turn off the electricity at main fuse box or circuit breaker. Unplug appliances and let them dry out. Ensure that the electrical system and appliances are checked by a professional before turning power on and using them.

Clean appliances with clean drinkable water.

Check that sewer line is working before using toilet/latrine.

Discard all food that has been in contact with the water.

Discard plastic or porous kitchen items.

Clean and disinfect refrigerators and other appliances with drinkable water and disinfectant. (However, refrigerators and freezers may not be salvageable.)

Use hot water to wash pots, pans, dishes and utensils. Disinfect.

Remove the backs of furniture to allow air to circulate.

Do not force open wooden drawers and doors:  
let them dry first.

## KEY MESSAGES:

# PANDEMICS



A pandemic is an epidemic of infectious disease that spreads through human populations across a large region, multiple continents or even worldwide. Pandemics are caused by diseases that are able to infect humans and can spread quite easily. Pandemics become disasters when they are associated with enormous numbers of deaths, as well as illness.

*Pandemics are caused by contamination hazards. Examples are:*

- airborne (such as flu, typhus, tuberculosis, smallpox, measles, Severe Acute Respiratory Syndrome (SARS))
- conveyed by body fluids (such as polio or HIV)
- water borne (cholera, E.coli, dysentery)
- food borne (such as salmonella, E.coli, listeria, hepatitis)
- soil borne (such as anthrax)
- vector borne (transmitted from animals to humans (such as the H5N1 avian flu virus, malaria, dengue or letospira).

In the past, pandemics have included cholera, smallpox, leprosy, measles, polio and yellow fever.

*Pandemics can be prevented through a variety of measures, such as:*

- public practice of good hygiene and sanitation
- access to clean water
- hand washing
- vaccination
- proactive surveillance
- vector control.

## PANDEMIC: 1. ASSESS & PLAN

KEY MESSAGE	CONTEXT-SPECIFIC DETAILS
1.1. Protect sources of clean water	<ul style="list-style-type: none"> <li>• Cover open wells.</li> <li>• Collect drinking water upstream away from animals and washing.</li> <li>• Fence Dam/water catchment areas to avoid animal and human contamination.</li> </ul>
1.2. Strictly follow the vaccination schedule as advised by the Ministry of Health vaccination card	<ul style="list-style-type: none"> <li>• Maintain vaccination cards for babies and children.</li> <li>• Keep vaccinations up to date.</li> <li>• Participate in vaccination campaigns</li> <li>• Vaccinate against polio, diphtheria and measles.</li> <li>• Do not re-use needles.</li> </ul>
1.3. Be aware of disease outbreaks	<ul style="list-style-type: none"> <li>• Think about your household as well as your neighbourhood and community.</li> </ul>

## PANDEMIC: 2. MITIGATE RISKS: Physical or environmental

KEY MESSAGE	CONTEXT-SPECIFIC DETAILS
2.1. Use clean and protected water sources	<ul style="list-style-type: none"> <li>• Use water sources with care and maintained them in a good condition.</li> <li>• Risk factors include:               <ul style="list-style-type: none"> <li>◦ unprotected water sources</li> <li>◦ leaking septic tanks and latrines</li> <li>◦ contaminated surface water run-off entering wells and springs</li> <li>◦ animals using the same source as people</li> <li>◦ objects falling into a well.</li> </ul> </li> </ul>
2.2. Keep water clean	<ul style="list-style-type: none"> <li>• Protect water from contamination.</li> <li>• Use clean vessels and closed containers for transportation and storage.</li> <li>• Keep water clean during collection, transportation and storage.</li> <li>• Take drinking water from storage vessels using a clean dipper or containers so that hands, cups and other objects cannot contaminate water.</li> <li>• Avoid touching the water when collecting from a storage container.</li> <li>• Remove standing water that may attract insects and become contaminated.</li> </ul>
2.3. Boil water before drinking	<ul style="list-style-type: none"> <li>• Learn and practise reliable methods for purifying water for your household.</li> <li>• Let water to boil for 12 minutes before storing or drinking.</li> </ul>
2.4. Wash hands very well with soap and water	<ul style="list-style-type: none"> <li>• Learn how to wash your hands very well, using clean water and soap.</li> <li>• Always wash your hands after using the toilet, and before and after handling food, drinking Kava and eating.</li> </ul>
2.5. Practise good sanitation	<ul style="list-style-type: none"> <li>• Dispose of any waste that attracts flies and insects.</li> <li>• Keep rubbish out of reach of animals.</li> <li>• Dispose of waste properly without contaminating water or soil.</li> </ul>
2.6. Keep food clean	<ul style="list-style-type: none"> <li>• Keep food safe for eating.</li> <li>• After a disaster take heed of safe food practices advice.</li> <li>• Avoid eating damaged or expired food.</li> </ul>

<p><b>2.7.</b> Dispose of human waste safely</p>	<ul style="list-style-type: none"> <li>• Dispose of human waste safely,</li> <li>• Use latrines rather than open defecation, to prevent spread of dangerous diseases.</li> <li>• If latrines are not available, dig a hole defecate in it well away from houses, water sources and places where children play. Bury faeces immediately or cover with earth, sand or ash.</li> <li>• Locate trench and pit latrines away from water sources (raised, where there is a shallow water table) and keep them clean.</li> <li>• When pit and latrine are full dig a new one.</li> </ul>
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## PANDEMIC: 3. FOR AIRBORNE DISEASES

KEY MESSAGE	CONTEXT-SPECIFIC DETAILS
<p><b>3.1.</b> Wash your hands very well</p>	<ul style="list-style-type: none"> <li>• Wash your hands very well using clean water and soap.</li> <li>• Wash your hands very well using clean water and soaps.</li> <li>• This is of critical importance before and after you have contact with people who are sick.</li> <li>• Avoid touching your face.</li> <li>• Dispose of your tissue safely.</li> <li>• Wash your handkerchiefs/face towel regularly.</li> </ul>
<p><b>3.2.</b> Cover your mouth when sneezing or coughing</p>	<ul style="list-style-type: none"> <li>• Cough or sneeze into your elbow or into a scarf, tissue or handkerchief. Do not cough or sneeze into the air. If you cough or sneeze into your hands, wash them immediately with soap and water.</li> </ul>
<p><b>3.3.</b> During contagious disease outbreak avoid close contact with other people</p>	<ul style="list-style-type: none"> <li>• When there are contagious diseases going around, keep a safe distance and avoid crowds if possible. Stay 1–2m (3–6.5 ft) away when talking to people. Do not shake hands or kiss people as a greeting.</li> </ul>
<p><b>3.4.</b> Use good ventilation</p>	<ul style="list-style-type: none"> <li>• Open windows to let fresh air in and to let the airborne germs out.</li> </ul>
<p><b>3.5.</b> Separate and care for your sick</p>	<ul style="list-style-type: none"> <li>• In order to limit the spread of the illness within the household: <ul style="list-style-type: none"> <li>◦ Separate family members who are sick into one room or corner of the house. Use only one caregiver – preferably a family member who is not at high risk. The caregiver should use safety measures – for example, using a mask when less than 1m (3ft) from the person who is sick. Put protective clothing on when you are in the room and remove it before leaving the room. Wash hands after providing care.</li> <li>◦ Other family members should monitor themselves daily for fever and cough. Make sure that young children, pregnant women and people who have another disease receive medical care if they get sick.</li> </ul> </li> </ul>

## PANDEMIC: 4. FOR BODY-FLUID BORNE DISEASES:

KEY MESSAGE	CONTEXT-SPECIFIC DETAILS
<p><b>4.1.</b> Wash your hands very well</p>	<ul style="list-style-type: none"> <li>• Wash your hands very well using clean water and soap.</li> <li>• Washing your hands is of critical importance before and after you have contact with people who are sick.</li> </ul>
<p><b>4.2.</b> Practise safe sex</p>	<ul style="list-style-type: none"> <li>• Do not engage in unprotected sexual activity. Use a condom.</li> <li>• Do not introduce other people's body fluids into your mouth.</li> </ul>



	<ul style="list-style-type: none"> <li>• Follow the ABCD method – Abstain, Be Faithful, use a Condom and Do other things.</li> </ul>
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## PANDEMIC: 5. FOR VECTOR (ANIMAL) BORNE DISEASES:

KEY MESSAGE	CONTEXT-SPECIFIC DETAILS
5.1. Take extra care when handling and slaughtering animals	<ul style="list-style-type: none"> <li>• Isolate animal that display symptoms of sickness.</li> <li>• Never touch sick/dead animals without protection – this can cause health risks.</li> </ul>
5.2. Avoid mosquito bites	<ul style="list-style-type: none"> <li>• Sleep under mosquito netting.</li> <li>• Support filarisis campaign by taking tablets.</li> <li>• Use mosquito repellent to reduce exposure to disease carrying mosquito.</li> </ul>
5.3. Destroy mosquito breeding grounds	<ul style="list-style-type: none"> <li>• Remove/eliminate stagnant water where mosquito can breed.</li> <li>• Bury, burn and cover to reduce breeding grounds.</li> </ul>

## PANDEMIC: 6. PREPARE TO RESPOND: Developing skills

KEY MESSAGE	CONTEXT-SPECIFIC DETAILS
6.1. Use personal protection equipment	<ul style="list-style-type: none"> <li>• Personal protection equipment includes: <ul style="list-style-type: none"> <li>◦ masks</li> <li>◦ protective glasses or goggles</li> <li>◦ gloves</li> <li>◦ apron</li> <li>◦ soap or disinfectant in alcohol base, for washing hands.</li> </ul> </li> <li>• Footwear</li> </ul>
6.2. Manage fever	<ul style="list-style-type: none"> <li>• Cool the body down and drink lots of fluids.</li> </ul>
6.3. Prepare oral re-hydration solution to treat dehydration and diarrhoea	<ul style="list-style-type: none"> <li>• Oral re-hydration solution consists of: 1 litre water, 8 level teaspoons sugar, and 5 level teaspoons salt.</li> <li>• Drink coconut juice and other fruit juice</li> </ul>
6.4. Breastfeed	<ul style="list-style-type: none"> <li>• Breastfeed babies rather than bottle feeding them, to provide them with non-contaminated nutrition.</li> </ul>
6.5. Bathe regularly	<ul style="list-style-type: none"> <li>• Bathe often, using clean water and soap or clean sand.</li> </ul>
6.6. Share your knowledge with others	<ul style="list-style-type: none"> <li>• Teach others how to take care of themselves and maintain healthy practices. This will help to avoid the spread of diseases and epidemics.</li> </ul>
6.7. Seek medical attention for anyone who cannot be treated at home	<ul style="list-style-type: none"> <li>• If someone needs medical care, go to the nearest health clinic or hospital to get help.</li> </ul>
6.8. Seek advice on traditional remedies for treating common illness.	<ul style="list-style-type: none"> <li>• Many traditional remedies exist to treat illnesses during times of Disaster, especially when medicine or professional help cannot be accessed.</li> </ul>
6.9. Stockpile essential foods	<ul style="list-style-type: none"> <li>• Make sure you have enough food supplies to last you for one month in case there are disruptions to normal food supplies.</li> </ul>

## KEY MESSAGES:

# TROPICAL CYCLONES



Tropical cyclones are relatively slow-moving but severe forward-tracking storms with fast rotational winds of at least 65 knots (120–320 km per hour or 74–200mph). They have an ‘eye’: a central calm area. Maximum power is close to the ‘wall’, or outer edge, of the eye.

*These storms are referred to as:*

- **cyclones** when occurring in SE Asian, Pacific waters and the Indian Ocean
- **typhoons** when they occur in East Asian and Pacific waters
- **hurricanes** when they occur in the Atlantic, Gulf of Mexico or Caribbean Sea.

Each type is associated with a particular season that can last as long as seven months each year.

Major hazards associated with tropical cyclones are: strong winds, which can destroy or seriously weaken structures, tear off roofs and topple power lines and trees; torrential rainfall, wind-driven water, powerful and destructive marine waves and storm surges, which cause mainly coastal flooding, but can also cause inland flooding of fresh and sea water via tributaries.

Impacts include deaths (mostly flood-related, but also from electrocution and the impact of collapsing structures and blowing debris), property and infrastructure damage, severe erosion, destruction of standing crops and vegetation, instability of ground, deposits of mud, sand and gravel, food shortages and contamination of drinkable water. These effects can lead to loss of shelter and livelihoods, disruption of transportation and critical lifeline infrastructure and destruction of community.

See also Key Messages for Floods

## CYCLONE: 1. ASSESS & PLAN

KEY MESSAGE	CONTEXT-SPECIFIC DETAILS
1.1. Know your area's risks related to cyclone	<ul style="list-style-type: none"> <li>Learn and understand about the risks and potential impacts of severe tropical storms that can impact your location (especially winds, storm surge and flooding).</li> </ul>
1.2. Make an evacuation plan: know your shelter destination, evacuation route and transportation method	<ul style="list-style-type: none"> <li>Contact your latest Police station for information on your nearest evacuation centre.</li> <li>If evacuation is necessary, work with your network to determine various transportation options.</li> <li>If you do not know the different options, ask your local municipal government or nearest district offices about plans for people without private vehicles, or for anyone requiring assistance.</li> <li>Make sure everyone in your household knows where to go if they have to leave the area.</li> <li>If you think you are in danger evacuate immediately.</li> </ul>
1.3. Work with your community to identify local cyclone shelters	<ul style="list-style-type: none"> <li>Work with your community to identify safe local cyclone shelter locations for anyone who will need them.</li> <li>Make sure each household member knows the location and route to the agreed shelter.</li> <li>Make sure that cyclone Shelters are appropriate for people with special needs.</li> </ul>
1.4. Work with your community or strategic placement of water and food	<ul style="list-style-type: none"> <li>Strategically place drinkable water, food, cooking equipment, and blankets. This can save lives.</li> <li>Work with employers, school and community leaders and organizations to stockpile and store these provisions in safe places.</li> </ul>
1.5. Store valuables up high	<ul style="list-style-type: none"> <li>Keep important papers in a waterproof bag, and store equipment, feed stocks and other valuables in a location high above potential floodwater. Keep copies of important documents in another place, out of your area.</li> </ul>

## CYCLONE: 2. MITIGATE RISKS: Physical or environmental

KEY MESSAGE	CONTEXT-SPECIFIC DETAILS
2.1. Build and maintain your home with severe tropical cyclone in mind	<ul style="list-style-type: none"> <li>Install permanent external storm shutters on windows and doors wherever possible, to protect from flying debris.</li> <li>Be sure that roofs are securely fastened to the frame structure. Minimize roof overhangs, as winds can catch and uplift them.</li> <li>Install check valves in plumbing to prevent floodwater from backing up into drains.</li> <li>Check that all your windows have cyclone shutters.</li> <li>Check loose structures/materials that needs to be secured during cyclones.</li> </ul>
2.2. Inspect and repair your roof annually especially before cyclone seasons	<ul style="list-style-type: none"> <li>Inspect your roof prior to the beginning of the cyclone season and make repairs, such as fixing loose tiles, as needed. The roof is often the most vulnerable part of the house. For wooden structures, brace the roof to the main structure and add cyclone straps to secure the roof.</li> </ul>

	<ul style="list-style-type: none"> <li>• For lightweight roofs, secure sandbags on top, to increase stability.</li> <li>• Clear rain gutters and downspouts, and fix any that are loose.</li> </ul>
2.3. Keep trees and bushes well trimmed	<ul style="list-style-type: none"> <li>• Where necessary, remove branches and small trees that may fall on the house. Remove or prune older trees, damaged branches and ornamental trees not suited to surviving strong winds. (In some cases, removing some branches allows wind to blow through large trees rather than toppling them).</li> </ul>

## CYCLONE: 3. PREPARE TO RESPOND: Developing skills

KEY MESSAGE	CONTEXT-SPECIFIC DETAILS
3.1. Practise your evacuation routes	<ul style="list-style-type: none"> <li>• Make sure household members know where to evacuate to, what route to take, and where to meet each other, if they have to leave.</li> <li>• Prepare a “Go Bag”</li> <li>• Keep a directory of all essential emergency numbers.</li> <li>• Always brief family members on progress of cyclones, especially for members with special needs.</li> </ul>
3.2. Stay informed	<ul style="list-style-type: none"> <li>• Monitor the weather closely by listening to your local radio station for regular update</li> <li>• If you are advised to evacuate, or if you think you are in danger, evacuate immediately away from the tropical cyclone direction of movement.</li> <li>• Make sure you understand the difference between an alert and a warning in early warning weather reports. <b>An alert</b> means there is a threat of cyclone, conditions within 36 hrs. This is the time to check your preparations. <b>A warning</b> means that the conditions are expected within 24 hrs or less.</li> </ul>
3.3. Keep necessary supplies to protect your home from Tropical Cyclones	<ul style="list-style-type: none"> <li>• Keep supplies on hand to protect your home – for example, plywood, plastic sheeting, nails, a hammer and saw, a crow bar, sand, shovels, sandbags and washboards.</li> </ul>
3.4. Keep vehicle fuel tanks filled and in a secure place	<ul style="list-style-type: none"> <li>• During the Cyclone season, refill vehicle fuel tanks before they are half empty, in case you need to evacuate.</li> <li>• Ensure that your vehicle is parked in a secure and easily accessible place.</li> </ul>
IF YOU RECEIVE A CYCLONE ALERT	
3.5. Prepare your property for high winds and surge waters	<ul style="list-style-type: none"> <li>• When you receive a cyclone, hurricane or typhoon watch, you need to: <ul style="list-style-type: none"> <li>◦ remove any debris or loose items, and bring indoors anything that can become a flying object</li> <li>◦ securely close permanent storm shutters or fix wood or other protective materials outside to protect windows from wind</li> <li>◦ prepare sandbags, flood washboards or plastic sheeting, to stop water getting in through doors, lower windows or vents.</li> </ul> </li> </ul>
3.6. Keep your pets and service animals in a safe and secure shelter	<ul style="list-style-type: none"> <li>• Bring your pets and service animals in a safe and secure shelter, well before the cyclone.</li> <li>• Maintain direct control of your pets and service animals, and take them with you if you evacuate.</li> </ul>
3.7. Stay informed	<ul style="list-style-type: none"> <li>• Listen to the radio or TV for information.</li> <li>• Close cyclone shutters or board up windows from the outside.</li> </ul>

	<ul style="list-style-type: none"> <li>• Secure outdoor objects or bring them inside.</li> <li>• Fill bottles and empty containers with drinking water, and fill the bathtub and any large containers with water for sanitation.</li> <li>• Check your personal supplies, including prescription medications.</li> <li>• Turn the refrigerator thermostat to coldest setting and keep it closed.</li> <li>• Wrap your frozen food with news paper.</li> </ul>
<b>3.8.</b> Attend to utilities	<ul style="list-style-type: none"> <li>• Turn off electricity, gas supply and water, if you are told to do so.</li> <li>• Disconnect any small appliances e.g. TV, microwave, phone chargers etc.</li> </ul>
<b>3.9.</b> Prepare to evacuate	<ul style="list-style-type: none"> <li>• Check that your evacuation supplies and your 'go bags' are ready, including water and high-energy food, emergency contact information. Wear rain boots if possible. Charge mobile phone batteries.</li> <li>• Understand the needs of people of special needs and prepare accordingly.</li> </ul>
<b>3.10.</b> Know when and where to evacuate	<ul style="list-style-type: none"> <li>• During evacuation special care is to be taken for people with special needs.</li> <li>• You need to evacuate if you live on the coast, on a flood plain, near a river or on an inland waterway.</li> <li>• If you live in a temporary or lightweight structure, evacuate early.</li> <li>• Evacuate if you are directed to do so by local authorities.</li> <li>• Evacuate down to 2nd or 3rd floor if you live in a high-rise building, as winds are much stronger higher up.</li> <li>• Evacuate to designated evacuation centres based on prior planning.</li> <li>• Evacuate if you feel you may be in danger but do not evacuate during the cyclone.</li> </ul>
<b>3.11.</b> If you don't evacuate, shelter in place	<ul style="list-style-type: none"> <li>• If you are not advised to evacuate, secure and brace all exterior doors and close all interior doors. Keep curtains and blinds closed.</li> <li>• Stay indoors, away from windows, skylights and doors.</li> <li>• Remain on the floor least likely to be affected by strong winds as well as storm-surge floodwaters.</li> <li>• Take refuge in a small secure interior room, hallway, or closet.</li> <li>• Be aware that the 'eye of the cyclone' is deceptively calm and quiet. The cyclone is not over. If things seem calm, it is probably the lull at the center of the cyclone, so maintain your secure position and do not go outside as the winds will get stronger again.</li> </ul>
<b>3.12.</b> If you are in a building	<ul style="list-style-type: none"> <li>• Stay on lower floors but above basement and ground floors, which may flood. In dense urban settings, the severity of winds increases at higher altitudes. The impact of any cyclone is far more severe at around the tenth floor and above.</li> </ul>
<b>3.13.</b> After the storm passes, check on neighbours and help anyone who is injured or trapped	<ul style="list-style-type: none"> <li>• Give first aid where appropriate.</li> <li>• Do not move seriously injured people unless they are in immediate danger of further injury.</li> <li>• Seek professional medical help for serious injuries.</li> <li>• Remember your safety and security must be first.</li> </ul>
<b>3.14.</b> After the storm passes, stay safe	<ul style="list-style-type: none"> <li>• Check for building damage and stay out of damaged buildings.</li> <li>• Beware of ground-level and above-ground hazards – especially flood and electrocution hazards.</li> <li>• Practise good hygiene and avoid potentially contaminated food or water.</li> </ul>

## KEY MESSAGES:

# WILDFIRES



Like all fires, a wildfire (also known as a forest fire, cane fire or bush fire) requires three ingredients: oxygen, heat and fuel. A wildfire is a large, uncontrolled and potentially destructive fire that spreads quickly and may change direction or jump across gaps. Wildfires can affect rural and urban areas, and can start in just seconds, sparked by a range of natural causes (for example, lightning) or human carelessness (such as a discarded cigarette) and in some cases are deliberately lit. The spread of wildfires depends on the topography, the fuel available, and the weather. Dry vegetation and abundant or uncleared dead wood are an enormous source of deadly fuel. A small fire can become a rapidly spreading inferno in a matter of minutes – particularly in windy conditions.

Although they can have some ecologically beneficial effects on forest and wilderness areas, wildfires can cause extensive damage. The impacts include death, injury and property damage, loss of shelter and livelihood, disruption of lifeline infrastructure and destruction of community. They may also result in adverse environmental consequences, such as loss of wild habitats, threats to biodiversity, land degradation and increased risk of erosion. Meanwhile, the chemicals used to fight the fires can pollute natural water sources.

## WILDFIRE: 1. ASSESS & PLAN

KEY MESSAGE	CONTEXT-SPECIFIC DETAILS
1.1. Regularly inspect your home and property for fire hazards	<ul style="list-style-type: none"> <li>Inspect for local hazards, such as Exposed Electrical wires and flammable materials.</li> <li>Check rain gutters to clear out flammable debris.</li> <li>Check irrigation systems to ensure access to water and open water sources</li> <li>Check for spaces between roof tiles or within the structure where burning embers could become lodged.</li> <li>Check that flammable substances (including fertilizers, kerosene and pesticides) are safely stored.</li> <li>Check that all fire exits and property exit routes are clear.</li> </ul>
1.2. Report hazardous conditions	<ul style="list-style-type: none"> <li>Immediately report to local fire fighters any hazardous conditions that could cause a fire or wildfire.</li> </ul>
1.3. Make your property for fire teams to easily find and access	<ul style="list-style-type: none"> <li>Make clearly marked driveways and turnaround space accessible to fire engines. Access roads should measure 3.5 m wide with vertical clearance of 4.5 m</li> </ul>

## WILDFIRE: 2. MITIGATE RISKS: Physical or environmental

KEY MESSAGE	CONTEXT-SPECIFIC DETAILS
2.1. Prevent wildfires	<ul style="list-style-type: none"> <li>Never leave children unsupervised with fireworks.</li> <li>Never discard cigarette butts on the ground.</li> <li>Never leave an outside fire unattended.</li> <li>Always ensure that campfires are completely extinguished after use.</li> <li>Clear outdoor areas of broken glass which can reflect sunlight and start a fire.</li> <li>Dispose of glass bottles in closed recycling bins.</li> <li>Do not commit arson.</li> <li>Make sure that you turn all electrical appliances off before you leave the house.</li> <li>Place mosquito coils and candle away from combustible materials.</li> <li>Keep matches away from children.</li> <li>Check that your kerosene storage or gas piping is well maintained.</li> </ul>
2.2. Select a safe location for your building	<ul style="list-style-type: none"> <li>Build on level ground. Fire spreads more rapidly even on minor slopes.</li> <li>Set structures at least 6m between the next house.</li> <li>Ensure that there is enough distance between buildings, following local standards).</li> <li>For forest and cane field there should be at least 20 m clearing to your home.</li> </ul>
2.3. Design, build and maintain your structures with wildfires in mind	<ul style="list-style-type: none"> <li>Seek local fire authority for advice.</li> <li>Use fire-resistant or non-combustible building materials whenever possible.</li> <li>Treat wood or combustible materials with fire retardant.</li> <li>Install electrical lines underground if possible.</li> <li>Install and maintain a lightening rod.</li> <li>Provide at least two ground-level doors, for easy and safe exit, and two means of escape from each room (doors or windows).</li> </ul>

<p><b>2.4.</b> Clear flammable materials away from your property</p>	<ul style="list-style-type: none"> <li>• Regularly clean roofs and gutters, removing twigs, dead leaves, needles and other debris.</li> <li>• Remove all dead wood and dense vegetation within at least 6m around your home.</li> <li>• Dispose of cuttings and debris.</li> </ul>
<p><b>2.5.</b> Maintain water sources for fire fighting</p>	<ul style="list-style-type: none"> <li>• Maintain an alternative water source.</li> <li>• Identify and maintain outside water sources such as ponds, cisterns, wells, swimming pools and hydrants.</li> <li>• Keep hoses long enough to reach any part of any buildings.</li> </ul>
<p><b>2.6.</b> Take precautions with flammable materials</p>	<ul style="list-style-type: none"> <li>• Avoid open burning, especially during dry season.</li> </ul>

### **WILDFIRE: 3. PREPARE TO RESPOND: Developing skills**

KEY MESSAGE	CONTEXT-SPECIFIC DETAILS
<p><b>3.1.</b> Plan and practise two ways out of your neighbourhood</p>	<ul style="list-style-type: none"> <li>• Plan a secondary way out in case your primary escape route is blocked.</li> </ul>
<p><b>3.2.</b> Monitor conditions, stay informed, listen to the radio and follow instructions</p>	<ul style="list-style-type: none"> <li>• Listen to local radio and television regularly for updated information and instructions.</li> <li>• Stay in touch with neighbours if possible.</li> </ul>
<p><b>3.3.</b> Respond to early warnings</p>	<ul style="list-style-type: none"> <li>• Stay alert for emergency warnings and respond to them immediately.</li> <li>• Know the alarm system that will be used, and practise your response.</li> <li>• If you are advised to evacuate, leave immediately.</li> </ul>
<p><b>3.4.</b> Leave if you think you should, or if authorities tell you to</p>	<ul style="list-style-type: none"> <li>• If you are advised to evacuate, or if you think you are in danger, evacuate immediately. The fire may move too fast for officials to issue evacuation orders.</li> <li>• If you are not trained and equipped to fight a wildfire, don't risk your life.</li> <li>• Leave right away: delay could be deadly.</li> </ul>
<p><b>3.5.</b> Protect your animals</p>	<ul style="list-style-type: none"> <li>• If you have livestock or horses, sweep hay and other combustible feed away from the barn or stable.</li> <li>• Close windows and doors to prevent embers from entering buildings.</li> <li>• Consider opening barn doors to let animals escape.</li> </ul>
<p><b>3.6.</b> Confine pets and service animals</p>	<ul style="list-style-type: none"> <li>• Confine pets and service animals to one room.</li> <li>• If you are evacuating with animals, leave early.</li> </ul>
<p><b>3.7.</b> Wear protective clothing</p>	<ul style="list-style-type: none"> <li>• Wear sturdy shoes, long cotton or woolen trousers/pants, long-sleeved shirts and gloves.</li> <li>• Carry a damp handkerchief to protect your face.</li> <li>• Carry wet towels to cover your head or bare skin or to wrap your feet, in case you need to run through small area of fire.</li> </ul>



<p><b>3.8.</b> Prepare your home for a fire, if you have time</p>	<ul style="list-style-type: none"> <li>• Shut off the gas at the cylinder.</li> <li>• Close windows, vents, doors, blinds and non-combustible window coverings. Use wet cloths to block any other openings.</li> <li>• Remove lightweight or combustible window coverings.</li> <li>• Move combustible furniture to the centre of the home away from windows and doors.</li> <li>• Place in a pool or pond any valuables that will not be damaged by water.</li> <li>• Remove combustible items from around the home.</li> <li>• Connect hoses to outside taps.</li> <li>• Gather your fire tools. Fire extinguisher, fire hose and rack.</li> </ul>
<p><b>3.9.</b> If you are trapped by fire, crouch in a pond, river or pool</p>	<ul style="list-style-type: none"> <li>• If there is no body of water nearby, look for shelter in a cleared area among a bed of rocks. Lie flat, face down and cover you body with soil. Breathe air close to the ground.</li> <li>• You cannot outrun a fire.</li> </ul>
<p><b>3.10.</b> After a wildfire be aware of hazards</p>	<ul style="list-style-type: none"> <li>• Look out for smoldering hot spots or items, and be alert to the possibility of re-ignition.</li> <li>• Beware of hazards such as burnt trees and power poles or fallen wires and ash pits.</li> <li>• Do not enter before given the all clear by Fire Authority or Police.</li> <li>• Check for damage and stay out of damaged buildings.</li> </ul>
<p><b>3.11.</b> After a wildfire, take precautions while cleaning your property</p>	<ul style="list-style-type: none"> <li>• Minimize health risks from hazardous materials such as toxic fumes from substances in garden sheds or garages, burnt asbestos and fine dust particles. Hold a damp cloth over your face to minimize and filter air-borne particles.</li> <li>• Keep children away from clean-up sites.</li> <li>• Minimize the health risks from breathing dust particles by wetting any debris, and using a two-strap dust particulate mask, coveralls, leather gloves, and heavy-soled shoes during clean-up.</li> <li>• Use rubber gloves when cleaning.</li> <li>• Check for assistance when cleaning up and disposing of hazardous materials.</li> </ul>

## KEY MESSAGES:

# INFESTATIONS



Agricultural pests are plants or animals that compete with humans for food sources, can cause destruction to agriculture or livestock and have the potential to spread disease in human and animal populations. This can lead to production losses, raise the cost of food, compromise food security, disrupt trade, and have serious public health and environmental consequences. Many pests and diseases can survive for a long time in water and feed stocks, until they find another host.

*Agricultural pests can present in a number of forms, these include:*

- **Invasive plant species and fungi:**  
These can colonize cultivation or pasture areas with monoculture weeds, or contaminate crops.
- **Rodents:**  
Rats and mice may consume or contaminate human and livestock food supplies, and spread disease in human and animal populations.
- **Insects:**  
Insects and other invertebrates, may consume or contaminate human and livestock food supplies. These may also be parasitic on domestic animals.
- **Animal disease:**  
Animal diseases may be spread by contaminated animals, alive or dead, or by insects, biological products, food waste, wind currents and air.

## INFESTATION: 1. ASSESS & PLAN

KEY MESSAGE	CONTEXT-SPECIFIC DETAILS
1.1. Monitor surroundings for appearance of rodents	<ul style="list-style-type: none"> <li>Regularly monitor the area around food stores, keeping watch for rodent droppings, tracks, burrows and gnawing damage</li> </ul>
1.2. Monitor and survey crops for plant pests and weeds	<ul style="list-style-type: none"> <li>Look for and record the presence, absence levels of plant diseases.</li> <li>Regularly check newly planted areas for the appearance of pests or unusual symptoms</li> <li>Regularly monitor property for emerging infestation of invasive weed species.</li> <li>Establish a seasonal program to monitor weed species</li> </ul>
1.3. Monitor sources of water, feed, plants and fertilizer for disease pests and weeds	<ul style="list-style-type: none"> <li>Regularly check newly planted areas for the appearance of pests or unusual symptoms to contain spread early.</li> <li>Ensure plant material brought onto property is clean</li> <li>Ensure that animal manure and green waste is aged and thoroughly composted to destroy weed seeds and diseases.</li> </ul>
1.4. Learn about safe methods for sanitation, pest-proofing, poisoning and trapping	<ul style="list-style-type: none"> <li>Use an integrated approach to environmental sanitation, food storage, rodent and pest-proofing, poisoning, and trapping</li> </ul>
1.5. Be prepared to investigate and report outbreaks	<ul style="list-style-type: none"> <li>Report animal disease outbreaks to veterinarians or their staff.</li> <li>Report termite infestation.</li> </ul>
1.6. Learn about and participate in early warning system	<ul style="list-style-type: none"> <li>Learn how to get information from your country or region's emergency disease information system.</li> <li>Learn about high-threat epidemic livestock diseases.</li> </ul>
1.7. Learn about termite infestation	<ul style="list-style-type: none"> <li>Learn about the seasons for increased termite infestation.</li> <li>Use treated wood where possible.</li> </ul>

## INFESTATION: 2. MITIGATE RISKS: Physical or environmental

KEY MESSAGE	CONTEXT-SPECIFIC DETAILS
2.1. Maintain good hygiene at home to resist rats, pests and diseases	<ul style="list-style-type: none"> <li>Sweep home and storage areas regularly to remove scattered food sources</li> <li>Wash, cover or store away dishes, pans, and cooking utensils immediately after use.</li> <li>Remove leftover food and clean up any spilled food from cooking and eating areas.</li> <li>Do not store empty cans or other opened containers with food residues</li> </ul>
2.2. Maintain good hygiene in farm and storage areas to resist rats, pests and diseases	<ul style="list-style-type: none"> <li>Remove materials and containers that can provide cover and nesting opportunities for rodents and insects.</li> <li>Clean and clear storage areas before use.</li> <li>Dispose of old or contaminated feed safely to prevent use and further contamination.</li> </ul>

<p><b>2.3.</b> Prevent access of rats and pests to food</p>	<ul style="list-style-type: none"> <li>• Keep food and water covered and stored in thick plastic, glass, or metal containers with tight-fitting lid.</li> <li>• Store trash in rats-proof containers with tight fitting lids.</li> <li>• Remove any food sources, including animal carcasses.</li> </ul>
<p><b>2.4.</b> Protect water from contamination by rodents, pests, and disease</p>	<ul style="list-style-type: none"> <li>• Use water sources with care and maintain them in a good condition.</li> <li>• Remove standing water that may attract insects and spread disease.</li> <li>• Prevent and repair leaking septic tanks and latrines.</li> <li>• Prevent contaminated surface water runoff from entering wells and springs.</li> <li>• Prevent animals from using the same water source as people.</li> <li>• Prevent objects from falling into wells.</li> <li>• Regularly inspect water sources and ensure they are secured from access by wild/feral animals.</li> <li>• Manage drainage of water from fields.</li> </ul>
<p><b>2.5.</b> Protect animals water supply</p>	<ul style="list-style-type: none"> <li>• Keep water troughs high enough or covered to prevent faecal contamination by wild animals.</li> <li>• Clean water troughs regularly to prevent build up of contaminants.</li> <li>• Prevent livestock from drinking water that is contaminated by wastewater.</li> </ul>
<p><b>2.6.</b> Dispose of waste safely</p>	<ul style="list-style-type: none"> <li>• Dispose of any waste that attracts flies and insects.</li> <li>• Dispose of waste without contaminating water or soil.</li> </ul>
<p><b>2.7.</b> Protect livestock feed, and store it safely</p>	<ul style="list-style-type: none"> <li>• Make sure livestock feed is free from unwanted weeds, soil and pests.</li> <li>• Keep feed stores covered to prevent feed from becoming wet and moldy.</li> <li>• Store grains in metal or plastic drums with tight-fitting lids. Fill completely to minimize oxygen and kill insects.</li> <li>• Clean feed troughs regularly to avoid faecal contamination.</li> <li>• Know the expiry date of purchased feed and use it before that date, or dispose of it safely.</li> </ul>
<p><b>2.8.</b> Protect your livestock from disease and pests</p>	<ul style="list-style-type: none"> <li>• Participate in vaccination campaigns</li> <li>• Identify disease threats</li> <li>• Keep records of all farm inputs (and outputs) so that you can trace-back or trace-forward in the event of a pest incursion or disease outbreak.</li> <li>• Protect your livestock from new pests and diseases from contact with contaminated animals, pens, vehicles, people and equipment when going to market.</li> <li>• Buy stock from a trusted source and inspect them before you purchase.</li> <li>• Inspect stock on arrival to make sure they are healthy and in the same condition as when you purchased them</li> <li>• Isolate new stock for a period of 10 days to allow any signs of disease to emerge, and to allow time for weed seeds to be excreted by the animals</li> </ul>
<p><b>2.9.</b> Keeps rodents and pests away from property</p>	<ul style="list-style-type: none"> <li>• Seal cracks around windows and doors using strips of metal or timber and secure, framed window screens</li> <li>• Keep cats for pets to deter rats and mice</li> <li>• Remove any vegetation that overhangs roof.</li> </ul>

	<ul style="list-style-type: none"> <li>• Remove vegetation in a 2m strip around all buildings to create a cleared barrier.</li> <li>• Fill any burrows or holes as soon as they are observed, if possible pack them with earth and wire mesh.</li> <li>• Store wood and other materials at least 1/3m / 12" above the ground, and as far away from building as possible.</li> <li>• Remove comfortable hiding places or nesting places for rats.</li> </ul>
<p><b>2.10.</b> Minimize use of chemical pesticides to achieve sustained production without harming environment and food</p>	<ul style="list-style-type: none"> <li>• Use companion planting and natural methods to resist invasive plants and pests. (Seek specifics with the Ministry of Agriculture)</li> <li>• Always follow label instructions (dilution and application rates, expiry date, disposal of residues).</li> <li>• Avoid inappropriate use of pesticides which can build up and pose risk to human health.</li> <li>• Keep a spray diary of herbicide, pesticide and fumigation treatments for crops and adhere to withholding periods.</li> </ul>
<p><b>2.11.</b> Implement crop and harvest management strategies and good hygiene measures, to reduce pest infestation</p>	<ul style="list-style-type: none"> <li>• Rotate crops to break continuity in disease cycle.</li> <li>• Remove and destroy disease/pest infested plant parts.</li> <li>• Collect and destroy egg mass and larvae.</li> <li>• Select healthy seeds or resistant and tolerant varieties.</li> <li>• Plant using normal spacing.</li> <li>• Make balanced use of fertilizer.</li> <li>• Harvest close to ground.</li> <li>• Use appropriate biological agents to resist pests. (E.g. spider, water bug, frog, mirid bug, damsel fly, dragon fly, grasshopper, coccinellids, bracon, wasp, trichogramma, telenomus etc.)</li> </ul>
<p><b>2.12.</b> Implement annual weed control program for invasive plants</p>	<ul style="list-style-type: none"> <li>• Prepare seed beds thoroughly.</li> <li>• Sow crops with proper spacing, puddling and harrowing.</li> <li>• Sow crops at proper time.</li> <li>• Use mechanical weeding after 2-3 weeks.</li> <li>• Keep bunds and irrigation channels free of weeds.</li> <li>• Plough and line sow in summer.</li> <li>• Check areas around waterways for new weeds.</li> <li>• Increase monitoring for new weeds after flooding.</li> </ul>
<p><b>2.13.</b> Prevent fungal infestation and mycotoxin contamination</p>	<ul style="list-style-type: none"> <li>• Develop of fungal resistant varieties of growing plants.</li> <li>• Control field infection by fungi by making schedule for suitable pre-harvest, harvest and post-harvest.</li> <li>• Lower moisture content of plant seeds, after harvesting and during storage.</li> <li>• Store commodities at low temperature whenever possible.</li> <li>• Use fungicides and preservatives against fungal growth.</li> <li>• Control insect infestation in stored bulk grains with approved insecticides.</li> </ul>

## INFESTATION: 3. PREPARE TO RESPOND: Developing skills

KEY MESSAGE	CONTEXT-SPECIFIC DETAILS
<p><b>3.1.</b> Prioritize safety in response to rodent infestation</p>	<ul style="list-style-type: none"> <li>• Ensure safe use of traps and baits:               <ul style="list-style-type: none"> <li>◦ Wear protective gloves.</li> <li>◦ Don't eat, drink or smoke while laying baits or traps.</li> <li>◦ Wash hands after touching any trapping or baiting materials.</li> <li>◦ Store any leftover baits in a safe manner; out of reach of children.</li> </ul> </li> </ul>
<p><b>3.2.</b> Eradicate invasive rodents with means at your disposal</p>	<ul style="list-style-type: none"> <li>• Set out mechanical or glue traps in areas where there is evidence of rodent activity</li> <li>• Lay poison baits in several areas around the home or farm, taking care that poisons are not left in areas that are accessible to children or pets</li> <li>• Regularly patrol the area and remove and appropriately dispose of any dead rodents</li> </ul>
<p><b>3.3.</b> Limit spread of insects and other pests by imposing quarantine</p>	<ul style="list-style-type: none"> <li>• Restrict the movement of people, material, machinery and equipment vehicles, and plant material and products onto and off the affected site</li> <li>• Establish buffer zones around affected properties.</li> <li>• Restrict movement of plant materials/products or other materials that may assist spread of the pest;</li> <li>• Be aware of items of equipment shared between properties;</li> <li>• Contact personnel or contractors that may have moved from affected to unaffected properties.</li> </ul>
<p><b>3.4.</b> Prioritize safety in response to animal disease outbreak</p>	<ul style="list-style-type: none"> <li>• Use personal protection equipment including:               <ul style="list-style-type: none"> <li>◦ masks</li> <li>◦ protective glasses or goggles</li> <li>◦ gloves</li> <li>◦ apron</li> <li>◦ soap or disinfectant in alcohol base for; washing hands</li> </ul> </li> </ul>
<p><b>3.5.</b> Limit animal disease outbreak by implementing quarantine</p>	<ul style="list-style-type: none"> <li>• Follow all instructions as directed by the authorities</li> <li>• Do not dispatch any livestock from the farm until authorized.</li> <li>• Ensure suspect livestock are isolated within the farm and segregated from other livestock.</li> <li>• Restrict movement of all livestock.</li> <li>• Delay or halt the delivery of all non essential commodities, including livestock.</li> <li>• Secure the farm perimeter and limit access.</li> <li>• Remove unnecessary persons and machinery from livestock feeding areas.</li> <li>• Ensure no equipment or machinery leaves the farm until authorized.</li> <li>• Compile a list of all livestock, persons and machinery movements over the last 7 days.</li> </ul>

<p><b>3.6.</b> Limit the spread of plant diseases by implementing quarantine.</p>	<ul style="list-style-type: none"> <li>• Prevent movement of material, people, machinery and equipment into, and out of, the diseased area.</li> <li>• Do not touch, move or transport affected plant material.</li> <li>• Wash hands, clothes and footwear that have been in contact with affected plant material or soil.</li> <li>• Mark the location of the pest detection and limit access to the area.</li> <li>• Restrict the movement of people, stock and equipment near the affected area.</li> </ul>
<p><b>3.7.</b> Control invasive plants immediately</p>	<ul style="list-style-type: none"> <li>• Prioritize removal highly invasive species before infestation and before seeding.</li> <li>• Hand weed using finger weeder and wheel hoes for removal of invasive species</li> <li>• Use spot spraying</li> </ul>

KEY MESSAGES:

# LANDSLIDE & DEBRIS FLOWS



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A **landslide** or **landslip** refers to a wide range of ground movement, such as rock falls, deep failure of slopes and shallow debris flows. The action of gravity is the primary driving force though other contributing factors are rainfall, earthquakes, volcanic eruptions, groundwater pressure, erosion, destabilization of slopes through deforestation, cultivation and construction, snow and glacial melt.

**Debris flow** or **mud-flow** is a fast moving mass of loose mud, sand, soil, rock, water and air that moves downhill under the influence of gravity. Preconditions for debris flow are: very steep slope, a lot of loose debris and water, and little vegetation. In very steep areas debris flow can reach speeds of over 160 kph / 100 mph. The speed and volume make them very dangerous.



## LANDSLIDE: I. ASSESS & PLAN

KEY MESSAGE	CONTEXT-SPECIFIC DETAILS
<p><b>I.1.</b> Learn about local history of landslides</p>	<ul style="list-style-type: none"> <li>• Learn slopes where debris flows have happened in the past as they are likely to experience them in the future.</li> </ul>
<p><b>I.2.</b> Learn and be alert to early warning signs in the natural environment</p>	<ul style="list-style-type: none"> <li>• Familiarize yourself with the land around you.</li> <li>• Be aware of areas more prone to landslides:               <ul style="list-style-type: none"> <li>◦ on existing old landslides.</li> <li>◦ on or at the base of slopes.</li> <li>◦ at the base or top of an old fill slope.</li> <li>◦ at the base or top of a steep cut slope.</li> <li>◦ burn areas and hillside, mountain and other steep areas are vulnerable.</li> </ul> </li> <li>• Be aware of areas less prone to landslides:               <ul style="list-style-type: none"> <li>◦ on hard, non-jointed bedrock that has not moved in the past.</li> <li>◦ on relatively flat-lying areas away from sudden changes in slope angle.</li> <li>◦ at the top or along the nose of ridges, set back from the tops of slopes.</li> </ul> </li> <li>• Regularly inspect and observe changes in your natural landscape (your property and surroundings) and watch for signs of slope movement:               <ul style="list-style-type: none"> <li>◦ places where runoff water converges.</li> <li>◦ increased water flow over soil-covered slopes.</li> <li>◦ small landslides or debris flows.</li> <li>◦ progressively tilting trees.</li> <li>◦ new springs, new cracks, holes or bare spots on hillsides.</li> <li>◦ rapid increase in creek water levels, possibly accompanied by increased turbidity (muddy).</li> <li>◦ sudden decrease in creek water levels though rain is still falling or just recently stopped.</li> <li>◦ muddy waters.</li> <li>◦ bulging ground appears at the base of a slope</li> <li>◦ water breaks through the ground surface in new locations or saturated ground in areas that have not typically been wet before.</li> <li>◦ cracked snow, ice or rock.</li> <li>◦ blockages and water build-up behind retaining walls.</li> </ul> </li> </ul>
<p><b>I.3.</b> Learn and be alert early warning signs from transportation and underground utilities</p>	<ul style="list-style-type: none"> <li>• Regularly inspect and observe changes in local infrastructure landscape.               <ul style="list-style-type: none"> <li>◦ slowly developing, widening cracks or new bulges on the ground or on paved areas.</li> <li>◦ underground utility line breaks (e.g.. water).</li> <li>◦ collapsed pavement, mud, fallen rocks, and other indications of possible debris flow can be seen when driving.</li> <li>◦ sunken or down-dropped road beds.</li> </ul> </li> </ul>
<p><b>I.4.</b> Learn and be alert to early warning signs in the built environment</p>	<ul style="list-style-type: none"> <li>• Regularly inspect and observe changes to the buildings you live/work/play in:               <ul style="list-style-type: none"> <li>◦ doors or windows stick or jam.</li> <li>◦ fences, retaining walls, utility poles, or trees tilt or move.</li> <li>◦ new cracks appear in plaster, tile, brick, or foundations.</li> </ul> </li> </ul>

	<ul style="list-style-type: none"> <li>◦ outside walls, walks, or stairs begin pulling away from the building.</li> <li>◦ soil moving away from foundations.</li> <li>◦ ancillary structures such as decks and patios tilting and/or moving relative to the main house.</li> </ul>
1.5. Learn and participate in your early warning systems	<ul style="list-style-type: none"> <li>• Develop and use programs for reporting of local conditions to local authorities</li> <li>• Be aware that landslides can occur progressively, often some time (hours/days) after a triggering event (e.g. rainstorm or earthquake).</li> </ul>
1.6. Stay informed about weather	<ul style="list-style-type: none"> <li>• Monitor the amount of rain during intense storms.</li> <li>• Be aware of heavy rainfall. More than three to four inches of rain per day. In mountainous areas, stay away from rivers and gorges during rain.</li> <li>• Short bursts of heavy rain may be particularly dangerous, especially after longer periods of wet weather.</li> </ul>

## LANDSLIDE: 2. MITIGATE RISKS: Physical or environmental

KEY MESSAGE	CONTEXT-SPECIFIC DETAILS
2.1. Keep drainage systems clear	<ul style="list-style-type: none"> <li>• Keep storm water drainage systems free of dirt, leaves, and debris, so that water can flow freely when it rains</li> <li>• Clean keeping gutters, downpipes and drains</li> <li>• Trim back or remove vegetation blocking drains and gutters.</li> </ul>
2.2. Seek expert advice before construction	<ul style="list-style-type: none"> <li>• Do not build in landslide prone areas.</li> <li>• If you are planning on building and believe the site may be affected by landslide, seek advice from a soil engineer or engineering geologist.</li> <li>• Get a ground assessment of your property</li> </ul>
2.3. Seek expert advice about preventative measures	<ul style="list-style-type: none"> <li>• Consult with experts to minimize potential impacts of landslides, e.g.: <ul style="list-style-type: none"> <li>◦ soil engineer or engineering geologist</li> <li>◦ university department of geology</li> </ul> </li> <li>• Seek advice from the Mineral Resources Department for expert advice.</li> </ul>
2.4. Follow proper land-use procedures	<ul style="list-style-type: none"> <li>• Avoid building on steep slopes, close to mountain edges, near drainage ways, along natural erosion valleys, at mouth of steep ravines.</li> </ul>
2.5. Protect your property	<ul style="list-style-type: none"> <li>• Plant ground cover on slopes</li> <li>• Built retaining walls</li> <li>• Build channels or deflection walls to direct flow around buildings (but don't cause problems for others)</li> <li>• Have flexible pipe fittings installed to avoid water leaks.</li> </ul>

## LANDSLIDE: 3. PREPARE TO RESPOND: Developing skills

KEY MESSAGE	CONTEXT-SPECIFIC DETAILS
3.1. Implement protection measures during times of high risk	<ul style="list-style-type: none"> <li>• Board up windows and doors.</li> <li>• Place sandbags to divert water flow.</li> </ul>
3.2. Stay awake and informed during heavy rainfall	<ul style="list-style-type: none"> <li>• Monitor rainfall.</li> <li>• Listen to radio or check online for warnings of heavy rainfall.</li> </ul>
DURING A LANDSLIDE	
3.3. Listen and be alert to signs of imminent threat	<ul style="list-style-type: none"> <li>• Be alert to unusual sights and sounds:               <ul style="list-style-type: none"> <li>◦ faint rumbling sound that increases in volume</li> <li>◦ ground sloping downward in one direction and may begin shifting in that direction under your feet.</li> <li>◦ trees cracking or boulders knocking together;</li> <li>◦ trickle/flow of falling mud and debris that may precede a large landslide.</li> <li>◦ sudden increase or decrease in water flow or change from clear to muddy water</li> </ul> </li> <li>• Be aware that strong shaking from earthquakes can induce or intensify the effects of landslides.</li> <li>• Be especially alert while driving. Watch for collapsed pavement, mud and fallen rocks.</li> </ul>
3.4. Get out of the landslide path	<ul style="list-style-type: none"> <li>• If you learn or suspect that a landslide is occurring or about to occur, evacuate immediately.</li> <li>• If you suspect imminent danger:               <ul style="list-style-type: none"> <li>◦ get out</li> <li>◦ inform your neighbors</li> <li>◦ contact local officials</li> </ul> </li> </ul>
3.5. Protect livestock and pets	<ul style="list-style-type: none"> <li>• Bring pets indoors and maintain control of them.</li> <li>• If you evacuate, take your pets with you.</li> <li>• Consider precautionary evacuation of livestock if you believe there is a risk of landslide.</li> <li>• Ensure livestock are in safe paddocks during heavy rain.</li> </ul>
3.6. If you cannot evacuate protect yourself in place	<ul style="list-style-type: none"> <li>• If you are inside:               <ul style="list-style-type: none"> <li>◦ if escape is not possible curl into a tight ball and protect your head</li> </ul> </li> <li>• If you are outside:               <ul style="list-style-type: none"> <li>◦ get out of the path of the landslide</li> <li>◦ get to the highest spot you can find</li> <li>◦ run to the closest shelter, such as a group of trees or a building</li> </ul> </li> <li>• If you are driving:               <ul style="list-style-type: none"> <li>◦ do not cross flooding streams, <b>“turn around, don’t drown”</b></li> <li>◦ avoid river valleys and low-lying areas</li> </ul> </li> <li>• If you are arriving into a flooded area, turn around and take another direction.</li> <li>• If your car stops, leave it and get immediately to the highest spot you can find.</li> </ul>

#### AFTER A LANDSLIDE

<b>3.7.</b> Check for hazards	<ul style="list-style-type: none"><li>• Stay away from landslide area (further slides may occur).</li><li>• Check for injured and trapped persons and animals near the slide, without entering the slide area. Direct rescuers to their locations.</li><li>• Watch for flooding</li><li>• Report broken utility lines and other potential hazards to local authorities</li><li>• Check your home's foundation, chimney, and surrounding land for damage.</li></ul>
<b>3.8.</b> Reduce landslide risks	<ul style="list-style-type: none"><li>• Replant damaged ground to prevent further erosion</li><li>• Seek expert help for reducing risks</li></ul>

### **LANDSLIDE: 4. RESPONSE CAPACITY: Storing provisions**

KEY MESSAGE	CONTEXT-SPECIFIC DETAILS
<b>4.1.</b> Keep supplies to protect your home	<ul style="list-style-type: none"><li>• Keep supplies such as hammer, nails, plywood, sand, sandbags, shovel.</li></ul>



## KEY MESSAGES:

# TSUNAMI, STORM SURGE & KING TIDES



**Tsunami:** A tsunami is a series of huge waves carrying a massive volume of water that can flood and inundate land for hours. These can be caused by an underwater earthquake (> 6.magnitude), volcanic eruption, sub-marine landslide, or more rarely a meteorite.

The first wave may not be the largest. A small tsunami at one point can be extremely large a few kilometers away. All tsunamis are potentially dangerous, even though they may not damage every coastline they strike. Most tsunami are full of debris. Their waves do not curl and break and cannot be surfed. Tsunamis monitoring and early warning

There are three types of tsunami — depending on the distance between where it is generated and where it is encountered.

- **Local tsunami** are generated close by. Their destructive effects are confined to within 100km or 1-hour travel time from source. There is often no time for official warning. Usually a strong earthquake is the natural warning sign for a local tsunami.
- **Medium-field/regional tsunami** are generated between one and three hours travel time away from their destination. There may or may not be time for dissemination of early warning messages. A moderate or weak earthquake lasting 30-40 seconds or more may be the only warning.
- **Far-field tsunami** are generated from a long distance away. Two or more hours of advance warning can be issued by tsunami monitoring centers. Although virtually undetectable until they break, tsunami early warning centers will issue a watch or warning immediately after a strong earthquake occurs. A watch is issued if the arrival time for tsunami is more than 2 hours away, allowing time to verify whether or not a tsunami has been generated. A warning is issued if the potential tsunami would arrive within 2 hours of the warning. Government agencies monitor and disseminate these messages to the public.

Storm surges and coastal inundation are associated with low-pressure weather systems and are caused by high winds pushing on the ocean's surface. In areas where there is a significant difference between high tide and low tide, storm surges are particularly damaging when they occur at the time of high tide.

King tides are naturally occurring and predictable seasonal events caused by the moon's gravitational effect. During winter and summer, high tides are higher than average for three or four days. Predicted heights may be affected by local weather and ocean conditions.

## TSUNAMI: I. ASSESS & PLAN

KEY MESSAGE	CONTEXT-SPECIFIC DETAILS
I.1. Learn about local risks of tsunami, storm surge and king tides	<ul style="list-style-type: none"> <li>Find out if your home, workplace, school or visited locations are at risk from tsunami and coastal inundation.</li> <li>Learn about the history of tsunami, coastal inundation and king tides, and the impacts of climate change on these risks in your area.</li> </ul>
I.2. Tsunami can travel up river	<ul style="list-style-type: none"> <li>A Tsunami wave can also travel through rivers from the ocean leaving areas around the river vulnerable to a tsunami wave/flood and strong currents.</li> <li>Check with you local Disaster Management Office for more information</li> </ul>
I.3. Make your tsunami evacuation plans	<ul style="list-style-type: none"> <li>Identify higher ground (if possible 30m/100' above sea level or 3km/2m inland) and the routes to get there.</li> <li>Know the tsunami evacuation zone and evacuation routes for your area. Display maps wherever helpful.</li> <li>Post and observe evacuation route signs</li> <li>Plan to evacuate on foot, bicycle, and vehicle where possible.</li> <li>Prepare to assist those in need.</li> <li>Plan for evacuation needs of small children, elderly people and those with disabilities.</li> </ul>
I.4. Long OR strong, evacuate	<ul style="list-style-type: none"> <li>Learn and be ready to evacuate when you feel and earthquake.</li> <li>Natural warning signs are:               <ul style="list-style-type: none"> <li><b>Very strong earthquake:</b> shaking that lasts for 20 seconds or more signifies high local tsunami risk in very short term (no other warning).</li> <li><b>Moderate earthquake:</b> shaking that for 40 seconds or more (or weak earthquake shaking for 60 seconds or more) signifies high risk of mid-range tsunami in short term (no other warning possible).</li> <li>Rapid rise or fall in coastal waters</li> <li>Coastal water making unusual noise (like approaching train or plane)</li> </ul> </li> </ul>
I.5. Learn and be ready to act on official long range tsunami watch or warning	<ul style="list-style-type: none"> <li>Make plans to respond quickly for people with special evacuation needs.</li> <li>Make plans to respond quickly to protect livestock, if time permits.</li> <li>Identify unanchored objects that can be secured, if time permits.</li> </ul>

<p><b>1.6.</b> Work with schools in tsunami risk areas to plan tsunami evacuation</p>	<ul style="list-style-type: none"> <li>• Contact Ministry of Education or the National Disaster Management office for assistance.</li> <li>• If school is in an identified tsunami risk area, ensure and learn the schools evacuation routes.</li> <li>• Be sure that schools plan for automatic evacuation in response to natural warning signs.</li> <li>• Learn how to obtain official "all clear" message.</li> <li>• Make plans for safe family reunification after "all clear" is given.</li> </ul>
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## TSUNAMI: 2. MITIGATE RISKS: Physical or environmental

KEY MESSAGE	CONTEXT-SPECIFIC DETAILS
<p><b>2.1.</b> Seek expert advice before construction</p>	<ul style="list-style-type: none"> <li>• If you are building in a coastal area, ask local authorities about the likelihood of tsunami and coastal inundation (including the effects of climate change).</li> <li>• Ideally avoid building or living close to coastline where tsunami, strong winds and tide surges are high risks</li> </ul>
<p><b>2.2.</b> Protect your property and livestock</p>	<ul style="list-style-type: none"> <li>• Follow and promote proper land-use planning.</li> <li>• Seek information from local authorities to mitigate potential coastal inundation damage.</li> <li>• Elevating coastal buildings by 3m/10ft to protect from most tsunami.</li> <li>• Arrange fencing lines to allow animals to move to higher ground.</li> <li>• If long-range warning time permits, secure unanchored objects.</li> </ul>
<p><b>2.3.</b> Prepare evacuation routes and safe havens</p>	<ul style="list-style-type: none"> <li>• Identify safe havens and prepare safe routes for getting there.</li> </ul>

## TSUNAMI: 3. PREPARE TO RESPOND: Developing skills

KEY MESSAGE	CONTEXT-SPECIFIC DETAILS
<p><b>3.1.</b> Do NOT wait to receive an alert</p>	<ul style="list-style-type: none"> <li>• Crouch, cover, hold, and count.</li> <li>• During strong, moderate, and weak earthquake shaking, Crouch, Cover and Hold On and count the number of seconds of shaking (e.g., 1-1,000, 2-1,000, 3-1,000 = 3 seconds).</li> <li>• If you are in a tsunami risk area, and if shaking is strong and lasts for 20 seconds, or if shaking is moderate or weak and lasts for 40 seconds or more, evacuate immediately.</li> <li>• Avoid hazards caused by earthquake damage.</li> <li>• Do not go back towards shore.</li> </ul>
<p><b>3.2.</b> Respond to natural tsunami warning signals and evacuate quickly to higher ground or as far inland as possible</p>	<ul style="list-style-type: none"> <li>• Be ready to evacuate immediately in response to natural signs.</li> <li>• Evacuate to higher ground 30m above sea level or 3km inland.</li> <li>• Follow posted evacuation routes, where present.</li> <li>• If you cannot evacuate to higher ground, evacuate vertically to 3rd floor or above, onto roof, up a tree, or grab a floating object.</li> <li>• Do not stop to collect animals.</li> <li>• Do not try to reunite until you reach safe haven, or after "all clear".</li> </ul>



<p><b>3.3.</b> Follow instructions for long-range tsunami watch or warning</p>	<ul style="list-style-type: none"> <li>• Listen to radio, TV and local warnings for tsunamis generated by distant earthquakes. These will be issued prior to expected impact.</li> <li>• If any members of your household have special evacuation needs, evacuate early.</li> <li>• Be prepared to share warnings in your community and follow instructions for evacuation.</li> <li>• If time permits secure unanchored objects outside.</li> <li>• Respond to evacuation instructions immediately.</li> </ul>
<p><b>3.4.</b> Practice tsunami evacuation drills</p>	<ul style="list-style-type: none"> <li>• Practice community-wide tsunami evacuation drills from work, school and home, following evacuation routes to safe haven, and waiting for “all clear” signal.</li> </ul>
<p><b>3.5.</b> Protect livestock and pets</p>	<ul style="list-style-type: none"> <li>• Consider precautionary evacuation of your animals to higher ground.</li> </ul>
<p><b>3.6.</b> Stay away from coast, tidal estuaries, rivers and streams</p>	<ul style="list-style-type: none"> <li>• Tsunamis can travel quickly up rivers, streams and estuaries.</li> </ul>
<p><b>3.7.</b> If you are at sea, stay there</p>	<ul style="list-style-type: none"> <li>• Boats are generally safer in water deeper than 20 meters.</li> <li>• Ships are safest on high seas in water deeper than 100m.</li> <li>• Use loose mooring and loose anchorage to reduce risk of boats drifting onto land.</li> <li>• Do not return to land until ‘all clear’ has been issued. Listen to mariner and port reports before returning to port.</li> </ul>
<p><b>3.8.</b> Stay out of danger until an official “all clear” message is received</p>	<ul style="list-style-type: none"> <li>• Follow family reunification plans after “all clear” message is received.</li> <li>• Return home only after official message is received</li> </ul>
<p><b>3.9.</b> Be aware of and minimize secondary hazards</p>	<ul style="list-style-type: none"> <li>• Beware of secondary hazards such as contaminated water, damaged roads, landslides, mud flows, and other hazards.</li> <li>• Consider psychological effects.</li> <li>• Plan to provide assistance.</li> <li>• Turn off electricity in case of inundation or damage.</li> <li>• Avoid use of contaminated water.</li> <li>• Avoid entering damaged buildings.</li> <li>• Watch out for wild animals, especially poisonous snakes in water. Use stick to poke through debris.</li> <li>• Avoid tsunami impacted areas and debris in the water.</li> <li>• Expect aftershocks which could generate another tsunami.</li> </ul>

