



Public awareness and public education for disaster risk reduction: key messages

SHORT VERSION

© International Federation of Red Cross
and Red Crescent Societies, Geneva, 2013

Copies of all or part of this guide may be made for noncommercial use, providing the source is acknowledged. The IFRC would appreciate receiving details of its use. Requests for commercial reproduction should be directed to the IFRC at secretariat@ifrc.org

The designations and maps used do not imply the expression of any opinion on the part of the International Federation or National Societies concerning the legal status of a territory or of its authorities.

All photos used in this guide are copyright of the IFRC unless otherwise indicated. Cover photo, from left to right, clockwise: Joe Lowry/IFRC, Rob Few/IFRC, Vina Agustina/IFRC.

Hazard and character iconography from DREAMS learning object repository, courtesy of Risk RED.
Contact: riskred@riskred.org

P.O. Box 303
CH-1211 Geneva 19
Switzerland
Telephone: +41 22 730 4222
Telefax: +41 22 733 0395
E-mail: secretariat@ifrc.org
Web site: www.ifrc.org

**Public awareness and public education
for disaster risk reduction: key messages**

1222000 E 01/2013

Key messages for all-hazards household and family disaster prevention

This section sets out foundation messages that are considered common for all-hazards preparedness. Specific messages relating to drought, earthquakes, floods, tropical cyclones, pandemics and wildfires are presented in Section B.

The better each household can plan ahead, reduce its risks (through structural, non-structural, infrastructural and environmental measures), develop response skills and store response provisions, the greater its resilience will be. By following this guidance, households and families can protect themselves, bounce back quickly, and contribute to the rapid recovery of their community. Each household can be part of the solution, rather than part of the problem. This work starts with each and every one of us.

All-hazards household and family disaster prevention in a nutshell

- 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.

ASSESS AND PLAN

KEY MESSAGES	CONTEXT-SPECIFIC DETAILS
Assess your risks where you live, work, study and play	<ul style="list-style-type: none">• Learn about potential hazards, local emergency plans and communications and warning systems in your community.• Identify hazards and vulnerabilities in your home and surroundings.• Learn about the contact information, roles and responsibilities of government agencies in assessing and reducing risks, issuing early warnings and planning for response.• Learn who is likely to be most exposed to different hazards, where and why.• Expect the unexpected!
Make a plan	<ul style="list-style-type: none">• Include all household and extended family members in your planning process.• Meet with household and family members to discuss your vulnerabilities and plan for the specific risks you face.• Determine what actions are needed to reduce risks and identify what resources and help you will need.• Plan the steps you will take to protect yourselves, to communicate, reunite and recover.• Decide who will do what, when and how it will get it done.• Practise and update your plan regularly, to reduce your risks and to prepare for those you cannot eliminate.

Assess individual capabilities and needs	<ul style="list-style-type: none"> • Identify each person's individual needs and capacities. Consider all ages and functional needs – especially those related to communication and mobility. • Being prepared is everyone's responsibility. <i>You can make the difference!</i>
Consider access and functional needs and create and prepare a support network	<ul style="list-style-type: none"> • Consider the access and functional needs of each member of your household during a disaster. 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. • Use your imagination and your network to problem solve. • Make sure your network knows how to operate any personal equipment that you may need in case of emergency.
Make plans to reunite	<ul style="list-style-type: none"> • Agree on safe meeting places inside the house, outside the house and outside the neighbourhood. • Pre-authorize emergency contacts for school and childcare pick-ups. • Decide on primary and back-up out-of-area contacts to act as an information centre for your household or family.
Keep emergency contact and health information available	<ul style="list-style-type: none"> • 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). • Put a copy where it can easily be found in a disaster or emergency, and share it with your support network.
Know your building exit routes	<ul style="list-style-type: none"> • Identify your exits, and consider the safest exit routes in case of different types of hazards. • Keep exit pathways clear. • Identify a safe place away from your building (home, work, school).
Make hazard-specific plans about whether to stay or go and where to shelter	<ul style="list-style-type: none"> • For different hazards and circumstances, you may have anything from several days of early warning to none at all. Discuss the various possible scenarios, and decide on your safe spaces – the best shelter and/or evacuation options – for each circumstance. • Prepare those safe spaces, whether in your home, outside or away from home.
Learn and participate in your community's early warning systems	<ul style="list-style-type: none"> • 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. • 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. • Follow evacuation instructions without hesitation. • Do not return home until local authorities say it is safe to do so.
Make an evacuation plan: know your shelter destination, evacuation route and transportation method	<ul style="list-style-type: none"> • Identify safe places where you can go if you need shelter or must evacuate. Everyone in your household should know where to go, and where to meet if they have to leave. • Plan alternate evacuation routes and methods, and practise your routes. • Work with your network to determine your transportation method if evacuation is necessary. • Ask your local emergency manager about community plans for directed evacuation and transportation options.
Learn the location of shelter, safe havens or temporary housing	<ul style="list-style-type: none"> • Arrange for temporary housing with relatives or friends far from the threatened area. • 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. • Plan ahead to re-unite there, without detour or delay.
Keep copies of important personal documents	<ul style="list-style-type: none"> • Keep copies of your important personal documents in your evacuation bag, out-of-area-contact, safe deposit box, and electronically (e.g., hard disk or memory stick).
Include pets, service animals and livestock in your planning	<ul style="list-style-type: none"> • Plan how to take care of your animals. • Use collar tags, microchips or tattoos to identify animals if they are lost. Take a picture with your pet. • Keep vaccinations and records up to date, and take these details with you when evacuating. • Identify in advance how and where you can arrange for temporary shelters.

Pool your financial risks	<ul style="list-style-type: none"> • 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.
Expand your circles. Continue your planning and plan with your neighbours and communities	<ul style="list-style-type: none"> • Know your neighbours. • Learn about your emergency and disaster plans at school and at work. • Get involved with workplace, school and community organizations, teams or projects to support ongoing assessment of vulnerabilities and capacities, planning, risk reduction and response-preparedness activities. • Share what you have learned.

MITIGATE RISKS: physical or environmental

KEY MESSAGES	CONTEXT-SPECIFIC DETAILS
Assess your risks where you live, work, study and play	<ul style="list-style-type: none"> • Learn about potential hazards, local emergency plans, communications and warning systems in your community. • Identify hazards and vulnerabilities in your home and surroundings. • Learn about the contact information, roles and responsibilities of government agencies in assessing and reducing risks, issuing early warnings and planning for response. • Learn who is likely to be most exposed to different hazards, where and why. • Expect the unexpected!
Know your building	<ul style="list-style-type: none"> • Know the structural type of your home (e.g., wood frame, confined masonry, reinforced concrete, adobe, steel, traditional wattle and daub, or rubble fill). • Learn local regulations on land use, construction, remodelling, landscape maintenance, fire safety and disposal of debris. • 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. • Learn about options to make your home safe from the hazards you face.
Construct your home in a safe place in compliance with building regulations	<ul style="list-style-type: none"> • Consider possible hazards before selecting the site for your home. • Learn about your area's building codes before you begin construction. • 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.
Take annual home maintenance measures to keep your home safe	<ul style="list-style-type: none"> • Carry out an annual check to identify and correct conditions that make you more vulnerable to fire, ground movement, wind, water and severe weather. • Be sure that windows can be opened from the inside and that exits and emergency exits are not blocked. • Clear fire hazards. • Inspect and repair electrical systems. • Clean gutters and drains. • Service all heating appliances and chimneys. • Replace smoke alarm batteries.
Practise home fire prevention	<ul style="list-style-type: none"> • Do not permit smoking in bed or when lying down. • Keep matches, lighters and flammable or combustible products away from children and from heat sources. • Never leave a fire or candle burning unattended. • Avoid overloading electrical circuits. • Check wiring in your home, repairing broken electrical cords, frayed or exposed wires or loose plugs. Do not run electrical cords under carpets. • Check and maintain connections on devices that run on gas. • Keep stove and heater areas clear of flammables. • Install working smoke detectors in sleeping areas and at each level in your home. • Dispose of ashes in a metal container and soaked with water. • Use heaters certified for safety and follow manufacturers' directions. • Do not use kitchen ovens for home heating. • Do not operate or refuel electrical generators indoors.

Store hazardous materials safely	<ul style="list-style-type: none"> • Limit, isolate, eliminate and separate hazardous materials. • Store poisons and flammable products securely in closed, latched metal cabinets to prevent accidental fires, toxic combinations and hazardous materials release.
Protect your domestic animals and livestock	<ul style="list-style-type: none"> • Make sure any out-buildings, pastures or corrals are protected in the same way as your home.
Practise good hygiene and sanitation	<ul style="list-style-type: none"> • Wash hands well, using soap and water or sand. • Use toilets or other sanitary methods to dispose of human waste. • Do not defecate in the open air or near water sources. • Protect water and food supplies from contamination.
Protect your environment	<ul style="list-style-type: none"> • Conserve precious environmental resources: reduce, reuse and recycle. • Monitor and reduce your energy and water use.

PREPARE TO RESPOND: developing skills

KEY MESSAGES	CONTEXT-SPECIFIC DETAILS
Learn how to turn off your utilities	<ul style="list-style-type: none"> • Learn where, when and how to turn off utilities (water, gas and electricity). • Ensure there is a clear path to access utilities easily in case of emergency. • Where appropriate, install automatic shut-off valves. • If you need to, keep a wrench or other tools available to access or shut off utilities.
In case of power outage, take fire precautions	<ul style="list-style-type: none"> • If there is a power outage for any reason, extinguish all flames and never light any flame (including cigarettes, matches or candles) after a disaster. • Use only battery-powered lanterns, torches/ flashlights until you are sure there is no danger of escaping gas or spilt fuel.
Learn how to react to fire	<ul style="list-style-type: none"> • If possible, remove anyone in immediate danger. • Make sure that doors and windows are closed, to confine fire and smoke. • Alert others to the fire and activate any fire alarm systems. • Call the emergency fire service for help. • Try to extinguish small fires using appropriate tools.
Extinguish small fires	<ul style="list-style-type: none"> • Extinguish small fires within the first two minutes of ignition by depriving them of fuel, air or heat. • 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. • Before you fight the fire, keep your back to your escape route and stand 1.8–2.5m (6–8ft) away from the fire. If possible, have a helper immediately behind you for safety. • Practise 'PASS': Pull the pin. Aim at the base of the flame. Squeeze the handle. Sweep at the base of the fire. • 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. • Never use water or foam extinguishers on an oil or an electrical fire.
Use the correct fire extinguisher for the situation	<ul style="list-style-type: none"> • Use the proper extinguisher: <ol style="list-style-type: none"> 1. Pressurized water for Class A ordinary fires, such as burning wood, paper, cardboard, plastics and textiles. 2. Carbon dioxide for Class B flammable liquids, such as burning oil, gasoline, paint and grease and Class C energized circuits, such as electrical or computer fires. 3. Dry chemical powder for fires in Class A, B or C.

Know what to do if you see fire or smell smoke	<ul style="list-style-type: none"> • If you smell smoke or see a fire, alert others, get out quickly, assist others, and call for help. • If there is smoke in the room, follow the advice 'Get down low and go, go, go'. 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. • Use a damp cloth over your nose and mouth to reduce fume inhalation when you are evacuating or waiting for rescue. • If you are on fire 'Stop, drop and roll' to extinguish the flames. If someone else is on fire, make them do the same. • 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.
Respond to early warnings	<ul style="list-style-type: none"> • Stay alert for emergency warnings, and respond immediately. • Know the alarm system that will be used and practise your response. Know your emergency exit choices. • If you are advised to evacuate, leave immediately. • Take your pets or service animals with you if possible. • Don't forget your evacuation bag, with copies of personal documents. • Secure your belongings if you have time.
Learn first aid	<ul style="list-style-type: none"> • Learn first aid skills. Make sure that at least one member of your household is trained in first aid. • Practise and update your first aid knowledge every year.
Practise regular emergency drills	<ul style="list-style-type: none"> • Conduct or participate in emergency evacuation drills (including at home) at least twice a year. • Conduct or participate in other hazard drills, including full response simulation, at least once a year. • Be sure to include all members of household in practice drills.
Respond to the needs of your animals	<ul style="list-style-type: none"> • If you have animals, evacuate early with them or make sure any outbuildings, pastures or corrals are protected. • If you must leave animals behind, do not leave them tied or shut in buildings. Leave dry food.
Use telephones only for emergencies	<ul style="list-style-type: none"> • 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. • Learn the phone numbers for reporting fire and other emergencies. Keep these by your phone or programmed into the handset. • Keep your mobile phone with you. Minimize use to conserve batteries. • Use short text messaging rather than voice, and only to convey vital emergency information rather than to satisfy curiosity. • Send just one short message via mobile phone to report your status to your out-of-area contact. Learn emergency hash tags for emergency social messaging.
Maintain communication	<ul style="list-style-type: none"> • Make sure street signs and house numbers are clearly marked so that emergency responders can help you.
Stay informed	<ul style="list-style-type: none"> • Listen to a portable battery-operated radio or television for emergency information and safety instructions. • Know the frequency of your local emergency-alarm radio station.
Familiarize yourself with household water-treatment methods to purify water	<ul style="list-style-type: none"> • If the water source is not clean or water is not stored properly, carry out water treatment procedures at the household level. • First strain water through fine clean cotton is an important first step. Follow by disinfection, sedimentation or filtration.

After hazard impact, help those around you	<ul style="list-style-type: none"> • First, check your own security and safety, followed by that of those immediately around you, before moving or going to help others. • 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. • If you must move someone who is unconscious, first stabilize their neck and back and then get help. • 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 rescue breaths via protected mouth. • Maintain normal body temperature (not too cold or too hot) and raise legs by about 20–30cm (7–12in), above the heart. • Stop bleeding only by using pressure and elevation, not by tourniquet.
After hazard impact, check for damage	<ul style="list-style-type: none"> • Follow the specific advice below for the situation in question: <ul style="list-style-type: none"> – Gas: Check for leaks. If you smell gas, hear a blowing or hissing noise or see a broken gas line, open a window and get everyone outside and away from the area quickly. Seek professional help. Extinguish all flames, and do not light flames of any kind. Do not touch electrical switches. – Electricity: 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. – Sewage: If you suspect damage to the sewage system, avoid using toilets and tap water. Have septic tanks serviced regularly. – Water: If you suspect damage, turn off the main water valve. Avoid using water, except from undamaged water heaters or ice cubes made before the hazard impact. – Spills: Clean up spills carefully. Place containers in a well-ventilated area. Keep combustible liquids away from heat sources. Pay special attention to flammable liquids such as gasoline, paint thinner or lighter fluid.
After hazard impact, take care of yourself	<ul style="list-style-type: none"> • 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. • Prevent exhaustion. Pace yourself, rest and sleep. • Drink plenty of clean water. Eat as well as circumstances allow. • Wear protective shoes, clothing and gloves. • If you are working in debris, wash your hands thoroughly with soap and water.
After hazard impact, support response, clean-up and recovery	<ul style="list-style-type: none"> • Help to speed up recovery by showing solidarity with your neighbours and working together in an organized way. • Volunteer in local disaster response, assisting with: <ul style="list-style-type: none"> – opening blocked emergency transportation routes – checking for damage to water, sewage, gas and electrical lines and reporting these – first aid – fire suppression (for example, through bucket forming line to pass water buckets) – logistics support to professional responders (for example, cutting wood for search and rescue in building collapse) – creating shelter – preparing and distributing water and food – supervising children – attending to escaped pets – creating sanitary and private pit toilets – making sure that shelter, water, sanitation, and food distribution is accessible to people with various access and functional needs.
After hazard impact, support each other	<ul style="list-style-type: none"> • 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. • Reduce stress by spending time with loved ones, talking and taking care of yourself. • Be aware of children's behaviour changes and needs. • Return children to normal recreational and educational activities as soon as possible. • Work together to return to normal routines, roles and responsibilities. • Organize or participate in memorials, if this feels helpful. • Continue to practise preparedness together.

PREPARE TO RESPOND: storing provisions

KEY MESSAGES	CONTEXT-SPECIFIC DETAILS
Check your phones	<ul style="list-style-type: none"> • Make sure you have at least one non-electric, non-cordless landline phone in case of power outage. • For mobile phones, keep an extra battery or manual or solar charger available.
Store water and food	<ul style="list-style-type: none"> • Store enough clean water and non-perishable food to survive for about a week. Twenty-five to thirty litres (seven gallons) for each household member. About half of this is for drinking or cooking and half for sanitation. • Keep the water in clean, closed containers.
Store response provisions at home, work and school	<ul style="list-style-type: none"> • Keep the following disaster provisions in a secure place – outside your home, where possible: <ul style="list-style-type: none"> – emergency contact information and copies of vital records – Twenty-five litres (seven gallons) per person. This is sufficient for survival for one person for one week based on an estimated two litres (half a gallon) for drinking and two for sanitation. Include allocations for pets and service animals. Replace every six months. – 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) – first aid kit and prescription medications – dust mask to filter contaminated air – torch/flashlight – either solar or wind-up, or with extra batteries. – plastic bags and ties for personal sanitation – liquid bleach for water purification – plastic sheeting and duct tape to seal windows and doors for hazardous materials release – paper and markers – multi-purpose pocket knife tool – matches – a whistle, to signal for help – a telephone with extra battery or power storage – clothing and toiletries, including rain gear, a change of underclothing, sturdy shoes and work gloves – bedding and towels – personal items to meet the needs of each household member including assistive devices such as spectacles.
Prepare a 'go bag' for evacuation	<ul style="list-style-type: none"> • Pack evacuation bags containing: <ul style="list-style-type: none"> – emergency water and high-energy food – communication equipment such as a portable radio (solar wind up, or with extra batteries) – first aid supplies and prescription medications – tools including a torch/flashlight (solar, wind up or with extra batteries) multi-purpose tool, matches – clothing, including rain gear, a change of underclothing, sturdy shoes and work gloves – emergency blanket – personal toiletries and items such as assistive devices – emergency contact information and copies of vital records – cash. • Take this bag when you evacuate.
After power outage throw away contaminated food and water	<ul style="list-style-type: none"> • Check refrigerated food for spoilage. If in doubt, throw it out. • Avoid drinking or preparing food using water that may be contaminated.
Purify water	<ul style="list-style-type: none"> • Even if water looks clean, it may be contaminated. If it is of questionable purity, carry out the following steps: <ul style="list-style-type: none"> – Remove solids by filtering the water through a cloth or letting it settle and pour it into a clean container. – Boil the water for at least one minute or until large bubbles appear, then let it cool. – Add bleach, mix well, and let stand for 30 minutes (one drop of bleach per litre of water, eight drops per gallon, or one capful per 20-litre jerry can). • Alternatively, place water in a clean, transparent plastic or glass bottle and lay it in direct sunlight for six hours. • In all cases, store water in a clean, closed container.

Key hazard-specific messages

This section is divided into key messages for six specific types of hazard:

- **drought**
- **earthquakes**
- **floods**
- **pandemics**
- **tropical cyclones**
- **wildfires.**

These are intended to supplement the general key messages provided in Section A.



Key messages for DROUGHT

Please note that the foundation messages are contained in

Key Messages for All-Hazards Household and Family Disaster Planning.

Separate messages are also available for earthquakes, floods, pandemics, tropical cyclones, and wildfires.

A drought is a slow-onset phenomenon consisting of a prolonged period of abnormally low rainfall, snowfall or snowmelt 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.

ASSESS AND PLAN

KEY MESSAGES	CONTEXT-SPECIFIC DETAILS
Be informed	<ul style="list-style-type: none"> • Learn about monthly, seasonal and long-term weather outlooks and what they may mean in your area. • Understand the optimal weather conditions for different agricultural practices and water requirements, and compare with current practices. • Find out about communication channels for early warning about drought in your community.
Work with your neighbours and community to present drought impacts	<ul style="list-style-type: none"> • Participate in community risk mapping, capacity mapping and drought monitoring. • Work with local authorities to develop a drought mitigation plan. • Work with local water suppliers to develop a water conservation plan.
Participate in planning for rationing of water and food	<ul style="list-style-type: none"> • Plan for an initial basic ration of food equivalent to about 2,100 calories per person per day. The food ration should be as simple as possible, to include: <ul style="list-style-type: none"> – a basic staple such as rice, corn, wheat flour or corn–soy blend) – a concentrated source of energy (oil or another fat) – a concentrated source of protein, such as beans, peas, lentils.* • Learn about the most vulnerable people in your community, including who and where they are and how you can help them.
Approach water as a community resource, and plan accordingly	<ul style="list-style-type: none"> • Work with local authorities wherever possible to plan for and reduce the impacts of water shortages. • Identify water resources and learn how to conserve and extend them. • Plan your own land use with water conservation in mind.
Assess epidemic risks and plan for prevention	<ul style="list-style-type: none"> • Stay in contact with your primary health care providers and learn about: <ul style="list-style-type: none"> – how to keep water clean or purify it – good sanitation and hygiene practices – available immunization programmes – airborne, water-borne or vector-borne risks you may face – what kinds of information to communicate.
Plan to improve your household food security	<ul style="list-style-type: none"> • Buy crop insurance. • Plant backyard gardens. • Set up seed banks. • Store food for use during scarcity. • Look for alternative sources of income to fill the food gap. • Monitor the grazing and fodder situation for livestock.

MITIGATE RISKS: physical and environmental

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

Conserve water in soil through sustainable agriculture and landscaping practices	<ul style="list-style-type: none"> • Plant trees – especially species that need little water – and mulch around them. • Use mulching and other crop covers to capture or retain water and reduce evaporation • Recycle irrigation water. • Avoid waste of irrigation water due to poor-quality irrigation canals. • Identify and cultivate early maturing, drought-tolerant crops. • Reduce run-off and improve rainwater infiltration by planting barriers such as vetiver, lemongrass or agave. • Implement crop diversification and inter-cropping to improve yields by having plants complement and support each other. • Avoid slash and burn agriculture. • Practise conservation agriculture. This involves: <ul style="list-style-type: none"> – ensuring minimum mechanical soil disturbance ('no-till' techniques) to maintain minerals, stop erosion and prevent water loss – managing topsoil to create permanent organic soil cover, allowing for growth of organisms – practising crop rotation with more than two species. • Increase soil fertility and water retention by using animal compost and plant manures to add nutrients and organic matter to soil. • Replace sprinkler systems with drip irrigation, applied close to plant roots to prevent waste. • 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. • Lay green driveways and water-permeable asphalt rather than concrete.
Conserve water by minimizing outdoor usage	<ul style="list-style-type: none"> • Inspect pipes and outdoor taps for leaks, and repair them. • Store water at the household level. • Cover wells to reduce evaporation. • Harvest rainwater in above-ground or below-ground tanks. (Note: the water may need purification treatment before it is safe to drink.) • Use alternatives to water (for example, sand for washing). • Avoid over-grazing and manage the stocking rate. • Recycle household 'grey water' for toilet, and for irrigation and home gardens. • Recycle fish tank water for plants. • Reduce water consumption by landscaping with low-water plants and rock gardens. In rainy conditions, turn off automatic sprinklers. • Conserve water outdoors by cleaning pathways with a broom (not water), washing cars with a bucket, and covering pools to reduce evaporation. • Insulate hot water pipes. • Where livestock use the same source as people, explore alternative methods of water usage.
Conserve water by minimizing indoor usage	<ul style="list-style-type: none"> • Inspect pipes, taps and toilets for leaks, and repair them. • Conserve running water at home. For example: <ul style="list-style-type: none"> – Turn off taps when brushing teeth or shaving. – Take shorter showers. – Install aerating taps and low-flow showerheads. – Clean vegetables in a basin rather than under running water. – Clean greasy hands with waterless hand cleaner. – Install composting toilets or low-volume toilets, or place a brick or sealed bag of water into toilet cistern to reduce flush water. – Wash dishes using two basins rather than doing it under running water. – In washing machines, match the load setting to amount of laundry, or wash full loads only.
Protect yourself in your home	<ul style="list-style-type: none"> • Close windows and doors to keep heat outside. • Create natural ventilation flows inside the house. • Drink plenty of water. • Limit use of fire stoves and cookers.

PREPARE TO RESPOND: develop skills and store provisions

KEY MESSAGES	CONTEXT-SPECIFIC DETAILS
Stockpile essential foods	<ul style="list-style-type: none"> • Consider which of the following three levels of food security or insecurity you may face: <ul style="list-style-type: none"> – self-sufficient – food insecure – food and livelihoods insecure.
Preserve and store food year round	<ul style="list-style-type: none"> • Preserve and store dry food, tinned food and grains that last 3–12 months. • Store dried yeast, sugar, jams, chutneys, sauces, tea leaves, peanut butter and biscuits. • Store products to produce fresh food at home, such as: yoghurt (milk powder, water and yoghurt culture), herbs, germinated seeds (bean sprouts, onion seeds).
Learn principles of good nutrition	<ul style="list-style-type: none"> • In average conditions, an adult should drink about two litres of water per day, although this amount may increase or decrease under different conditions. • Plan for a basic food ration equivalent to about 2,100 calories per person per day. This should be as simple as possible, to include: <ul style="list-style-type: none"> – a basic staple such as rice, corn, wheat flour or corn–soy blend – a concentrated source of energy (oil or another fat) – a concentrated source of protein, such as legumes (beans, peas, lentils).* • Learn about the most vulnerable people in your community, including who and where they are and how you can help them. • Expand diets by cultivating foods in backyard gardens and foraging. • For good nutrition, eat from each of these four food groups, every day: <ul style="list-style-type: none"> Group 1 <ul style="list-style-type: none"> – dried vegetables and fruits – tinned/canned vegetables and fruits – bottled vegetables and fruits – vegetable and fruit juices – dried herbs – 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 <ul style="list-style-type: none"> – 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 <ul style="list-style-type: none"> – 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 <ul style="list-style-type: none"> – oil – seeds, including sesame and sunflower. • If no fresh food is available, vitamin supplements are recommended. • Use salt and condiments to make food tasty.
Mitigate loss of livestock	<ul style="list-style-type: none"> • Manage pastures or rangelands to protect livestock. • Decide the optimal number of animals that the household can maintain. • Plan de-stocking of animals before the crisis affects them seriously. • Use fodder to sustain the most important animals: mothers and kids, and other productive asset animals. • Keep part of the income from the de-stocking for re-stocking after the drought crises. • Use veterinary services to ensure the health of your livestock.



Key messages for EARTHQUAKES

Please note that the foundation messages are contained in

Key Messages for All-Hazards Household and Family Disaster Planning.

Separate messages are also available for earthquakes, floods, pandemics, tropical cyclones, and wildfires.

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.

ASSESS AND PLAN	
KEY MESSAGES	CONTEXT-SPECIFIC DETAILS
Identify safest places	<ul style="list-style-type: none"> • 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, or objects such as heaters and open fireplaces that can cause fire. • Outside your building, the safest places are away from overhead and underground hazards.
Identify items that could cause death or injury and work out how to secure them	<ul style="list-style-type: none"> • 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. • Move or secure objects that may fall and block exits.
Do not be misled by disinformation, myths or rumours	<ul style="list-style-type: none"> • Base safety information on the available scientific evidence. Do not spread rumours or unfounded myths about causes or effects of hazards. Many popular anecdotes are not supported by scientific data.

MITIGATE RISKS: physical and environmental

KEY MESSAGES	CONTEXT-SPECIFIC DETAILS
Select a safe site for your building	<ul style="list-style-type: none"> • Find out from local authorities where earthquake risks are highest in your local area. • 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. • Avoid building on unstable slopes or sites subject to liquefaction, avalanches or inundation from tsunami, flooding or dam failure. • Avoid building directly on top of, or within 15m (50 ft) of known earthquake faults.
Build and maintain your building with earthquakes in mind	<ul style="list-style-type: none"> • 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. • Follow these principles for seismic-resistant construction: <ul style="list-style-type: none"> – Rigorously follow anti-seismic building codes for your area. – Select an appropriate foundation system for the topography, soil conditions and construction type. – Select a simply symmetrical shape for the building (usually a simple rectangle). – Ensure that the parts of the structural system (such as the columns, beams and walls) are continuous, evenly distributed and well connected. – Use the appropriate quality and quantity of materials. – Protect your building from water and moisture damage. – Review the overall safety of your building periodically.
Repair and retrofit for life safety	<ul style="list-style-type: none"> • 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. • 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. • Check for: <ul style="list-style-type: none"> – inadequate foundations – unbraced walls – discontinuous columns or beams – damage to concrete – unreinforced masonry – rotting wood – vulnerable pipes – buildings are supported by columns and beams that are evenly spaced, continuous and well-connected. • Check for any building adaptations or alterations that might have adversely affected the safety of the structure. • Implement retrofit. Even minimum retrofit is effective in preventing total collapse of structures, saving lives.
When making improvements, maintain the structural integrity of your building	<ul style="list-style-type: none"> • Make improvements that follow local building codes, in consultation with a qualified engineer. • If you make structural changes, take care not to remove or damage any part of the load-bearing elements of the building (the columns, beams or walls). This can weaken the structure and impact on everyone in the building.

Secure your belongings	<ul style="list-style-type: none"> • Secure large objects and furniture that could fall, break, slide or collide during an earthquake and cause crushing or piercing injuries. • Your choices are to relocate, remove or refit, or to anchor, fasten, or secure. For example: <ul style="list-style-type: none"> – 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. – Secure water heaters, gas cylinders, outside fuel tanks and other gas and electrical appliances. – Install latches on cabinets and drawers. – Hang heavy items, such as pictures and mirrors, away from exit doors, beds, couches or anywhere that people sleep or sit. – Anchor computers and televisions. – Secure fire extinguishers. – Move beds away from windows.
PREPARE TO RESPOND: develop skills and store provisions	
KEY MESSAGES	CONTEXT-SPECIFIC DETAILS
Practise earthquake drills in different locations	<ul style="list-style-type: none"> • Practise earthquake drills, both physically and as thought exercises, in different locations. Considering the impact of strong shaking and identify the safest actions in each place (at home, work and school).
Take immediate action	<ul style="list-style-type: none"> • Trust your senses. Assume that the first shaking you feel is an earthquake. • Move away from windows, glass and exterior walls and unstable and heavy objects. • Extinguish any and all flames. • If you are near an exit door, open it a little so that if it becomes misshapen it will not be stuck closed.
If you are indoors, drop to your knees, cover your head and neck, and hold on to your cover	<ul style="list-style-type: none"> • Drop down on your knees and make 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. • ‘Drop, cover and hold on.’ This is shorthand for several options for earthquake position that protect you from the worst and most-common injuries, by protecting your head, neck and throat. Pulling in your hands, arms, feet and legs makes you a smaller target and places you in position, ready to crawl to a safer location. <ul style="list-style-type: none"> – 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. – If you are in bed, stay there and protect your head with a pillow. – If you are near a sofa, get down next to it and use a cushion to protect your head and neck. – If you are sitting in a theatre or stadium seat, brace yourself while protecting your head and neck. – If you are in a wheelchair, lock it. If you cannot get down low, brace yourself and protect your head with your arms. – If you cannot drop to the floor, stay where you are, bracing yourself in place. – Stay indoors until the shaking stops and you are sure it is safe to exit.
Remain calm	<ul style="list-style-type: none"> • Stay calm by counting or taking slow, deep breaths. Look around to assess the situation before moving.
If you are on the ground floor of an adobe house with a heavy roof, exit quickly	<ul style="list-style-type: none"> • If you are indoors, on the ground floor of an adobe 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. Note: This is the only exception to the rule to stay indoors until the shaking has stopped, as lightweight roofs pose little danger.
If you are outdoors, find a clear spot and drop to your knees to prevent falling	<ul style="list-style-type: none"> • 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.

If you are in a multi-storey building, be careful both during and after the shaking	<ul style="list-style-type: none"> • After the shaking stops, check for the safety of stairs or exterior fire escapes, before using them. • Do not use elevators at all.
If you are in a vehicle, go to a clear location and pull over	<ul style="list-style-type: none"> • 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. • Once the shaking has stopped, proceed with caution. Avoid bridges, elevated roadways, ramps and tunnels that might have been damaged by the quake.
After the main shaking stops, expect aftershocks	<ul style="list-style-type: none"> • 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. • Follow the same guidance for an aftershock as you would for any earthquake.
After the main shaking stops, if you are indoors, move cautiously and evacuate the building	<ul style="list-style-type: none"> • 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 buildings. Notice any damage as you exit. • 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.' • Take your evacuation 'go-bag' with you when you evacuate. • Make sure school buildings are evacuated and have been visually inspected before people are allowed to go back inside. • 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.
Check for damage and stay out of damaged buildings	<ul style="list-style-type: none"> • Use extreme caution. Move cautiously and check for any unstable objects and other hazards around you. Open cabinet and closet doors with care. • 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. • Watch out for and avoid fallen power lines or broken gas lines.
Extinguish flames and put out small fires	<ul style="list-style-type: none"> • 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.
If you are in a coastal area or near a tributary, move away from water to higher ground	<ul style="list-style-type: none"> • If you are in a coastal area and there is an earthquake, drop, cover and hold on. When the shaking stops, move quickly away from the coast or tributaries, to higher ground, avoiding buildings, bridges and downed power lines. Take your animals with you, if you can. If you cannot get inland, go up to higher floors of the strongest buildings available. Do not return to the shore, as waves may continue to arrive for hours. • 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. • 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. • 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.

<p>If you are in a mountainous area, stay alert</p>	<ul style="list-style-type: none"> • If you are in a mountainous area or near unstable slopes or cliffs, be alert for: <ul style="list-style-type: none"> – falling rocks and other debris – unusual sounds, such as cracking trees – sudden increase or decrease of water in streams – local dams, dykes, or levees that may be prone to damage or destruction. • Tune into your early warning system. • Be alert for earthquake-induced landslides and avalanches, which can dam streams or rivers or cause outbursts from glacial lakes. Even weeks after an earthquake, breakage of dams can put downstream areas in danger of flooding.
<p>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"> • Listen for landslide or flood warnings. • Consider leaving the area if it is safe to do so. • If a warning includes evacuation, evacuate immediately. • If there is a landslide warning and there is a sudden burst of rain, evacuate immediately to your safe haven. • Watch for flooding and be alert when driving near embankments or along swollen waterways.
<p>Look for and prevent fire hazards</p>	<ul style="list-style-type: none"> • Extinguish all flames immediately. • Do not light any match, candle, lighter, flame or cigarette until you are sure there is no danger of a gas leak. • Check for gas leaks and turn off any gas connections. If there is any doubt, shut off main connections. • 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. • 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. • Stay away from downed power lines. Do not touch wires that are lying on the ground or hanging, or any objects touching them. • Shut off power at the main electrical switch if you suspect any damage to household electrical wiring. • Do not re-fuel or operate generators indoors. Take care when handling flammable fuel.



Key messages for FLOODS

Please note that the foundation messages are contained in

Key Messages for All-Hazards Household and Family Disaster Planning.

Separate messages are also available for earthquakes, floods, pandemics, tropical cyclones, and wildfires.

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, sudden melting of snow or ice, sudden release of water held or diverted by ice or debris jams, 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, urban cement and asphalt cover.

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 levee 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** water 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 on-shore 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 or glacial breakage.
- **Urban flooding** may be caused by 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 (10–20ft), 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.

ASSESS AND PLAN

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

MITIGATE RISKS: physical or environmental

KEY MESSAGES	CONTEXT-SPECIFIC DETAILS
Select a safe site for your building	<ul style="list-style-type: none"> • Avoid building or living within 200m (650ft) of a high-tide coastline. • 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).
Build and maintain your home with floods in mind	<ul style="list-style-type: none"> • If you live on a flood plain, build an appropriate foundation and elevate your home. • Construct wells and latrines in safe places, above expected flood levels. • If you are advised to for your specific conditions, install back-flow valves in plumbing to prevent floodwater from backing up into drains. • When you make renovations or alterations, wet-floodproof the construction. Choose flood damage-resistant materials for areas that usually get wet, raise electrical circuits 1.2m (4ft) above the floor, put appliances on pedestals, and design walls so that cavities drain.
Maintain water channels	<ul style="list-style-type: none"> • If you change the natural course of a river or stream, make sure its water-carrying capacity is not reduced. • Keep water channels, drainpipes and gutters clear of debris.
Provide a raised plinth for animals	<ul style="list-style-type: none"> • If you have livestock or large animals that cannot be transported, create a raised plinth, with access, so that the animals can move to higher ground in the event of flooding.
Construct barriers to prevent floodwater from entering buildings	<ul style="list-style-type: none"> • Construct levees, berms or flood walls in accordance with local building regulations, to prevent floodwater from entering your building. • 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. • 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. • If you plan to fight floods with barriers, decide in advance when you will abandon the fight and save your life. Know how to get out of the flooded area, if it is flooded.

PREPARE TO RESPOND: develop skills and store provisions

KEY MESSAGES	CONTEXT-SPECIFIC DETAILS
Practise evacuation routes	<ul style="list-style-type: none"> • Make sure household members know where to evacuate to, what route to take, and where to meet if they have to leave.
Stay informed: monitor weather, listen to the radio and follow instructions	<ul style="list-style-type: none"> • Monitor the weather closely. If there is a flood watch, 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. • If you are advised to evacuate, or if you think you are in danger, evacuate immediately. • If you are instructed, or if you have time before evacuating, disconnect heating and cooking or gas tanks and unplug electrical appliances.
Keep supplies to protect your home	<ul style="list-style-type: none"> • 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.
Keep supplies to protect people from drowning and as floating transportation	<ul style="list-style-type: none"> • Buy or make a personal flotation device for each household member. • Keep a ladder and rope for escaping to the roof. • Keep an inflatable boat or make an improvised group flotation platform (for example, with capped water bottles).
Bring your pets and service animal indoors	<ul style="list-style-type: none"> • Maintain direct control of your animals and take them with you if you evacuate.
When you hear a flood warning, store extra water	<ul style="list-style-type: none"> • Fill plastic bottles with clean water for drinking. • Fill bathtubs and sinks with water for all other cleaning and sanitation needs.
During rainy season and flood conditions, keep your vehicle fuel tank filled	<ul style="list-style-type: none"> • If you have a vehicle, keep its fuel tank filled in case you need to evacuate.
During a flood 'Turn around, don't drown.' Stay out of floodwater and evacuate vertically	<ul style="list-style-type: none"> • 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. • Do not expect to outrun floodwater, as it may flow at 10–20km per hour (6–12mph). • 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.
During a flood, if you are in a vehicle, avoid unsafe conditions	<ul style="list-style-type: none"> • Never attempt to cross any flowing water or water-covered roads or bridges. • Do not drive around barricades: they are there for your safety. Turn around and find another route. • Stay away from underpasses, as the depth of water there is not obvious. Underpasses can fill with 1.5–2m (5–6ft) of water. • Standing water may be electrically charged from underground or downed power lines. • Avoid travelling at night. • Move to higher ground, away from rivers, streams, creeks and storm drains. • 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. • 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. • If your vehicle stalls in water, abandon it and climb to higher ground. Restarting your engine may cause irreparable damage. • If your vehicle is being submerged, open the windows to escape.
After a flood, take care around floodwaters	<ul style="list-style-type: none"> • Stay away from low-lying areas. • Do not drink from, play or swim in water left by floods. • Watch out for poisonous snakes – especially around trees and bushes. Use a stick to poke through debris. • Avoid touching electrical that is wet or any water that is in contact with electrical wires.

<p>After a flood, pump out floodwater from basements gradually</p>	<ul style="list-style-type: none"> • 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.
<p>After a flood, start clearing out and drying your home when rain stops and water recedes</p>	<ul style="list-style-type: none"> • Drying may take weeks, and complete restoration may take months. Sewage and toxic contamination is difficult to clean. • Move everything that is wet outside (weather permitting). • Drain away water under the house. • Keep doors and windows open on dry days. On wet days, leave windows ajar. • Turn on heaters when possible. • 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. • Remove mildew.
<p>After a flood, take sanitation precautions</p>	<ul style="list-style-type: none"> • Service sanitation systems as soon as possible. • Check drinking wells for contamination before using the water. • Use protective equipment for all tasks (including tall boots, long pants, long sleeves, eye protection and gloves). • Wash hands before eating, drinking or smoking. • Use disinfectant when cleaning. • Disinfect any cuts and protect them with a waterproof dressing. • Keep children away during the clean-up. • Bury human waste matter quickly.
<p>After a flood, clean up carefully</p>	<p>Follow these instructions for cleaning specific items:</p> <ul style="list-style-type: none"> • Paper and photographs: <ul style="list-style-type: none"> – 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. – 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. – Photocopy the items as soon as possible. – As soon as the pages are thawed or unsealed, dry them with a blow dryer or blotting paper. – Don't force pages apart – dry them until they come apart easily. – Seek professional help for rare and heritage books, photographs and stamp collections. • Computer disks: <ul style="list-style-type: none"> – Rinse disks, place them in a plastic bag and refrigerate them until you can get professional help. • Clothing and linens: <ul style="list-style-type: none"> – Shake out mud, hose off dirt and wash items in a washing machine with hot water and disinfectant. • Furniture and appliances: <ul style="list-style-type: none"> – 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 and air dry. – Remove the backs of furniture to allow air to circulate. – Do not force open wooden drawers and doors: let them dry first.



Key messages for PANDEMICS

Please note that the foundation messages are contained in

Key Messages for All-Hazards Household & Family Disaster Planning.

Separate messages are also available for earthquakes, floods, pandemics, tropical cyclones, and wildfires.

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.

HIV – the virus that causes AIDS – is a current pandemic. By 2009 AIDS had killed and estimated 30 million people, and it continues to kill almost two million people annually (UNAIDS, Global Factsheet, 2010). Concerns exist about possible future pandemics include viral hemorrhagic fevers, antibiotic resistance in ‘superbugs’ such as MRSA, and infections such as SARS and H5N1 avian influenza.

ASSESS AND PLAN	
KEY MESSAGES	CONTEXT-SPECIFIC DETAILS
Protect sources of clean water	
Vaccinate children against killer diseases	<ul style="list-style-type: none"> • Maintain vaccination cards for babies and children. • Keep vaccinations up to date. • Participate in vaccination campaigns • Vaccinate against polio, diphtheria and measles. • Do not re-use needles.
Identify pandemic threats	<ul style="list-style-type: none"> • Think about your household as well as your neighbourhood and community.

MITIGATE RISKS: physical or environmental

KEY MESSAGES	CONTEXT-SPECIFIC DETAILS
Use clean and protected water sources	<ul style="list-style-type: none"> • Use water sources with care and maintained them in a good condition. • Risk factors include: <ul style="list-style-type: none"> – unprotected water sources – leaking septic tanks and latrines – contaminated surface water run-off entering wells and springs – animals using the same source as people – objects falling into a well.
Keep water clean	<ul style="list-style-type: none"> • Protect water from contamination. • Use clean vessels and closed containers for transportation and storage. • Keep water clean during collection, transportation and storage. • Take drinking water from storage vessels using a clean dipper or ladle so that hands, cups and other objects cannot contaminate water. • Remove standing water that may attract insects and become contaminated.
Purify water	<ul style="list-style-type: none"> • Learn and practise reliable methods for purifying water for your household.
Wash hands very well with soap	<ul style="list-style-type: none"> • Learn how to wash your hands very well, using clean water and soap. • Always wash your hands after using the toilet, and before and after handling food and eating.
Dispose of human waste safely	<ul style="list-style-type: none"> • Dispose of waste safely for humans, animals and the environment. • Use latrines rather than open defecation, to prevent spread of dangerous diseases. • If latrines are not available, defecate well away from houses, water sources and places where children play. Bury faeces immediately or cover with earth, sand or ash. • Locate trench and pit latrines away from water sources (raised, where there is a shallow water table) and keep them clean. • Make sure pit latrines are emptied or replaced regularly by trained people with mechanical and protective equipment, rather than manually.
Practise good sanitation	<ul style="list-style-type: none"> • Dispose of any waste that attracts flies and insects. • Dispose of waste properly without contaminating water or soil.
Keep food clean	<ul style="list-style-type: none"> • Keep food safe for eating.
FOR AIRBORNE DISEASES:	
Wash your hands very well	<ul style="list-style-type: none"> • Wash your hands very well using clean water and soap. • This is of critical importance before and after you have contact with people who are sick.
Cover your mouth	<ul style="list-style-type: none"> • Always cover your coughs and sneezes. 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.
Keep your distance	<ul style="list-style-type: none"> • 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.
Dispose of your waste	<ul style="list-style-type: none"> • Dispose of your waste and exposed materials safely. • Throw out used masks and tissues properly by placing them in a bag and sealing it, before burning or burying them.
Use good ventilation	<ul style="list-style-type: none"> • Open windows to let fresh air in and to let the airborne germs out.

Separate and care for your sick	<ul style="list-style-type: none"> • In order to limit the spread of the illness within the household: <ul style="list-style-type: none"> – Separate family members who are sick into one room or corner of the house, or outside if the weather allows. – 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. – 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.
FOR BODY-FLUID BORNE DISEASES:	
Wash your hands very well	<ul style="list-style-type: none"> • Wash your hands very well using clean water and soap. • Washing your hands is of critical importance before and after you have contact with people who are sick.
Practise safe sex	<ul style="list-style-type: none"> • Do not engage in unprotected sexual activity. Use a condom. • Do not introduce other people's body fluids into your mouth.
FOR VECTOR (ANIMAL) BORNE DISEASES:	
Be careful handling and slaughtering animals	<ul style="list-style-type: none"> • Never touch sick or dead animals without protection.
Sleep under mosquito netting	<ul style="list-style-type: none"> • Sleep under mosquito netting to reduce exposure to malaria-carrying mosquitos.
PREPARE TO RESPOND: develop skills and store provisions	
KEY MESSAGES	CONTEXT-SPECIFIC DETAILS
Use personal protection equipment	<ul style="list-style-type: none"> • Personal protection equipment includes: <ul style="list-style-type: none"> – masks – protective glasses or goggles – gloves – apron – soap or disinfectant in alcohol base, for washing hands.
Take care of yourself	<ul style="list-style-type: none"> • Maintain good personal hygiene. • Build up your immunity with a good diet, regular exercise and adequate rest. • Reduce stress and avoid smoking. • Wear an appropriate face-mask when you need to be in close proximity to someone who is ill or may be contagious. • If you have contagious symptoms, stay at home.
Manage fever	<ul style="list-style-type: none"> • Cool the body down and drink lots of fluids.
Prepare oral rehydration solution to treat dehydration and diarrhoea	<ul style="list-style-type: none"> • Oral rehydration solution consists of: 1 litre water, 8 level teaspoons sugar, and 5 level teaspoons salt.
Breastfeed	<ul style="list-style-type: none"> • Breastfeed babies rather than bottle feeding them, to provide them with non-contaminated nutrition.
Use latrines	<ul style="list-style-type: none"> • Use proper and clean toilets for to prevent illness and disease.
Bathe regularly	<ul style="list-style-type: none"> • Bathe often, using clean water and soap or clean sand.
Share your knowledge with others	<ul style="list-style-type: none"> • Teach others how to take care of themselves and maintain healthy practices. This will help to avoid the spread of diseases and epidemics.
Seek medical attention for anyone who cannot be treated at home	<ul style="list-style-type: none"> • If someone needs medical care, go to the nearest health clinic or hospital to get help.

Stockpile essential foods

- Consider which of the following three levels of food security or insecurity you may face:
 - **Self-sufficient** maintaining a sustainable income and other means of living, and sustainable access to sufficient food
 - **Food insecure** sustainable income and other means of living, but without access to enough food due to disruptions in the market
 - **Food and livelihoods insecure** without a sustainable income and at the same time unable to access and/or afford enough food. This is the most vulnerable level.



Key messages for TROPICAL CYCLONES

Please note that the foundation messages are contained in **Key Messages for All-Hazards Household and Family Disaster Planning**. Separate messages are also available for earthquakes, floods, pandemics, tropical cyclones, and wildfires.

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 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**.

ASSESS AND PLAN	
KEY MESSAGES	CONTEXT-SPECIFIC DETAILS
Know your area’s risks related to cyclone, hurricane or typhoon	<ul style="list-style-type: none"> • Learn about the risks and potential impacts of severe tropical storms that can impact your location (especially winds, storm surge and flooding).
Make an evacuation plan: know your shelter destination, evacuation route and transportation method	<ul style="list-style-type: none"> • If evacuation is necessary, work with your network to determine various transportation options. • If you do not know the different options, ask your local emergency manager about plans for people without private vehicles, or for anyone requiring assistance. • Make sure everyone in your household knows where to go if they have to leave the area.
Work with your community to identify local cyclone shelters	<ul style="list-style-type: none"> • Work with your community to identify safe local cyclone shelter locations for anyone who will need them. • Make sure each household member knows the location and route to the agreed shelter.
Work with your community or strategic placement of water and food	<ul style="list-style-type: none"> • Strategically place drinkable water, food, cooking equipment, and blankets. This can save lives. • Work with employers, school and community leaders and organizations to stockpile and store these provisions in safe places.
Store valuables up high	<ul style="list-style-type: none"> • Keep important papers in a waterproof bag, and store equipment, feedstocks and other valuables in a location high above potential floodwater. Keep copies of important documents in another place, out of your area.

MITIGATE RISKS: physical or environmental

KEY MESSAGES	CONTEXT-SPECIFIC DETAILS
Build and maintain your home with severe tropical storms in mind	<ul style="list-style-type: none"> • Install permanent external storm shutters on windows and doors wherever possible, to protect from flying debris. • Be sure that roofs are securely fastened to the frame structure. Minimize roof overhangs, as winds can catch and uplift them. • Where possible, elevate furnaces, water heaters and electrical panels. • Install check valves in plumbing to prevent floodwater from backing up into drains. • Consider building a safe room, for tornado safety.
Inspect and repair your roof annually	<ul style="list-style-type: none"> • Inspect your roof at the beginning of the storm season and make repairs, such as fixing loose tiles, as needed. The roof is often the most vulnerable part of the house. Fix any loose tiles. • For wooden structures, brace the roof to the main structure and add hurricane straps to secure the roof. • For lightweight roofs, secure sandbags on top, to increase stability. • Clear rain gutters and downspouts, and fix any that are loose.
Keep trees and bushes well trimmed	<ul style="list-style-type: none"> • 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).

PREPARE TO RESPOND: develop skills and store provisions

KEY MESSAGES	CONTEXT-SPECIFIC DETAILS
Practise your evacuation routes	<ul style="list-style-type: none"> • Make sure household members know where to evacuate to, what route to take, and where to meet each other, if they have to leave.
Stay informed	<ul style="list-style-type: none"> • Monitor the weather closely. • If you are advised to evacuate, or if you think you are in danger, evacuate immediately away from the storm's direction of movement. • Make sure you understand the difference between a watch and a warning in early warning weather reports: <ul style="list-style-type: none"> – A watch means there is a threat of cyclone, hurricane or typhoon conditions within 36 hours. This is the time to check your preparations. – A warning means that the conditions are expected within 24 hours or less.
Keep supplies to protect your home	<ul style="list-style-type: none"> • 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.
Keep vehicle fuel tanks filled	<ul style="list-style-type: none"> • During the storm season, refill vehicle fuel tanks before they are half empty, in case you need to evacuate.

IF YOU RECEIVE A CYCLONE, HURRICANE OR TYPHOON WATCH

Prepare your property for high winds and surge waters	<ul style="list-style-type: none"> • When you get a cyclone, hurricane or typhoon watch, you need to: <ul style="list-style-type: none"> – remove any debris or loose items, and bring indoors anything that can become a flying object – securely close permanent storm shutters or fix wood or other protective materials outside to protect windows from wind – prepare sandbags, flood washboards or plastic sheeting, to stop water getting in through doors, lower windows or vents.
Keep your pets and service animals indoors	<ul style="list-style-type: none"> • Bring your pets and service animals indoors well before the storm. • Maintain direct control of your pets and service animals, and take them with you if you evacuate.

Stay informed	<ul style="list-style-type: none"> • Listen to the radio or TV for information. • Close storm shutters or board up windows from the outside. • Secure outdoor objects or bring them inside. • Fill bottles with drinking water, and fill the bathtub and any large containers with water for sanitation. • Check your personal supplies, including prescription medications. • Turn the refrigerator thermostat to coldest setting and keep it closed.
Attend to utilities	<ul style="list-style-type: none"> • Turn off electricity, gas supply and water, if you are told to do so. • Disconnect any small appliances.
Prepare to evacuate	<ul style="list-style-type: none"> • 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.
Know when and where to evacuate	<ul style="list-style-type: none"> • You need to evacuate if you live on the coast, on a flood plain, near a river or on an inland waterway. • If you live in a temporary or lightweight structure, evacuate early. • Evacuate if you are directed to do so by local authorities. • Evacuate down to 2nd or 3rd floor if you live in a high-rise building, as winds are much stronger higher up. • Evacuate to designated shelters based on prior planning. Evacuate if you feel you may be in danger but do not evacuate during the storm.
If you don't evacuate, shelter in place	<ul style="list-style-type: none"> • If you are not advised to evacuate, secure and brace all exterior doors and close all interior doors. Keep curtains and blinds closed. • Stay indoors, away from windows, skylights and doors. • Remain on the floor least likely to be affected by strong winds as well as storm-surge floodwaters. • Take refuge in a small interior room, hallway, or closet. • Be aware that the 'eye of the storm' is deceptively calm and quiet. The storm is not over. If things seem calm, it is probably the lull at the center of the storm, so maintain your secure position and do not go outside as the winds will get stronger again. • Be prepared for tornadoes.
If you are in a building	<ul style="list-style-type: none"> • 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 storm is far more severe at around the tenth floor and above.
Turn off utilities and gas tanks and unplug small appliances	<ul style="list-style-type: none"> • If you are instructed, or if you have time before evacuating, turn off all utilities and cooking or heating gas tanks. Unplug small appliances.
After the storm passes, check on neighbours and help anyone who is injured or trapped	<ul style="list-style-type: none"> • Give first aid where appropriate. • Do not move seriously injured people unless they are in immediate danger of further injury. • Seek professional medical help for serious injuries.
After the storm passes, stay safe	<ul style="list-style-type: none"> • Check for building damage and stay out of damaged buildings. • Beware of ground-level and above-ground hazards – especially flood and electrocution hazards. • Practise good hygiene and avoid potentially contaminated food or water.



Key messages for WILDFIRES

Please note that the foundation messages are contained in

Key Messages for All-Hazards Household and Family Disaster Planning.

Separate messages are also available for earthquakes, floods, pandemics, tropical cyclones, and wildfires.

Like all fires, a wildfire (also known as a forest fire, brushfire or bushfire) 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). 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.

ASSESS AND PLAN

KEY MESSAGES	CONTEXT-SPECIFIC DETAILS
Regularly inspect your home and property for fire hazards	<ul style="list-style-type: none"> Learn about the risks and potential impacts of severe tropical storms that can impact your location (especially winds, storm surge and flooding).
Report hazardous conditions	<ul style="list-style-type: none"> If evacuation is necessary, work with your network to determine various transportation options. If you do not know the different options, ask your local emergency manager about plans for people without private vehicles, or for anyone requiring assistance. Make sure everyone in your household knows where to go if they have to leave the area.
Make your property for fire teams to easily find and access	<ul style="list-style-type: none"> Work with your community to identify safe local cyclone shelter locations for anyone who will need them. Make sure each household member knows the location and route to the agreed shelter.

MITIGATE RISKS: physical or environmental

KEY MESSAGES	CONTEXT-SPECIFIC DETAILS
Prevent wildfires	<ul style="list-style-type: none"> Never discard cigarette butts on the ground. Never leave an outside fire unattended. Always ensure that campfires are completely extinguished after use. Clear outdoor areas of broken glass which can reflect sunlight and start a fire. Dispose of glass bottles in closed recycling bins.
Select a safe location for your building	<ul style="list-style-type: none"> Build on level ground. Fire spreads more rapidly even on minor slopes. Set single-storey structures at least 10m (30ft) from any ridge or cliff. For taller buildings, increase the distance. Ensure that there is enough distance between buildings, following local or international standards (see Sphere standards for emergency shelter).

Design, build and maintain your structures with wildfires in mind	<ul style="list-style-type: none"> • Plant low-flammability landscaping to reduce fuel for a wildfire. • Design and construct buildings to limit their flammability. • Use fire-resistant or non-combustible building materials whenever possible. • For roofing, use terracotta, clay, metal, slate, cement, or asphalt (Class A), tiles. • For exterior walls, use stucco or masonry rather than vinyl or wood. • Treat wood or combustible materials with fire retardant. • Use only thick, tempered safety glass in large windows and sliding glass doors. • Install electrical lines underground if possible. • Install and maintain a lightning rod. • Install spark arrestors in chimneys to prevent large particles from escaping and starting a fire. • Provide at least two ground-level doors, for easy and safe exit, and two means of escape from each room (doors or windows).
Clear flammable materials away from your property	<ul style="list-style-type: none"> • Regularly clean roofs and gutters, removing twigs, dead leaves, needles and other debris. • Remove all dead wood and dense vegetation within at least 7m (30ft) around your home. • Prune trees and shrubs so that the lowest limbs are 2–3m (6–10ft) from the ground. • Dispose of cuttings and debris. • Avoid using wooden lawn furniture.
Maintain water sources for fire fighting	<ul style="list-style-type: none"> • Maintain an irrigation system. • Identify and maintain outside water sources such as ponds, cisterns, wells, swimming pools and hydrants. • Keep hoses long enough to reach any part of any buildings. • Create a separate pump hydrant or use swimming-pool circulation pumps for dowsing properties. • Install freeze-proof exterior water outlets on two sides of the home and additional outlets 15m (50ft) from home for fire fighters to use.
Take precautions with flammable materials	<ul style="list-style-type: none"> • Avoid open burning, especially during fire season. • Site above-ground propane tanks at least 9m (30ft) from buildings. • Dispose of ashes in a metal bucket, saturate them in water for two days, then bury them in mineral soil.

PREPARE TO RESPOND: develop skills and store provisions

KEY MESSAGES	CONTEXT-SPECIFIC DETAILS
Plan and practise two ways out of your neighbourhood	<ul style="list-style-type: none"> • Plan a secondary way out in case your primary escape route is blocked.
Monitor conditions, stay informed, listen to the radio and follow instructions	<ul style="list-style-type: none"> • Listen to local radio and television regularly for updated information and instructions. • Stay in touch with neighbours if possible.
Respond to early warnings	<ul style="list-style-type: none"> • Stay alert for emergency warnings and respond to them immediately. • Know the alarm system that will be used, and practise your response. • If you are advised to evacuate, leave immediately. • Take your pets or service animals with you. • Call your out-of-area contact to notify them where you will be going.
Leave if you think you should, or if authorities tell you to	<ul style="list-style-type: none"> • 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. • If you are not trained and equipped to fight a wildfire, don't risk your life. • Leave right away: delay could be deadly. • Make sure all fire tools are outside and easy to access.

Protect your animals	<ul style="list-style-type: none"> • If you have livestock or horses, sweep hay and other combustible feed away from the barn or stable. • Close windows and doors to prevent embers from entering buildings. • Consider opening barn doors and corrals to let animals escape.
Confine pets and service animals	<ul style="list-style-type: none"> • Confine pets and service animals to one room. • If you are evacuating with animals, leave early.
Keep your vehicle fuel tank full and ready to go	<ul style="list-style-type: none"> • Face your vehicle in the direction of escape. • Shut your car doors and close the windows. • Have your key ready, or leave it in the ignition.
Wear protective clothing	<ul style="list-style-type: none"> • Wear sturdy shoes, long cotton or woollen trousers/pants, long-sleeved shirts and gloves. • Carry a damp handkerchief to protect your face. • 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.
Prepare your home for a fire, if you have time	<ul style="list-style-type: none"> • Shut off the gas at the meter. • Close the valves on propane tanks. • Open fireplace dampers. • Close windows, vents, doors, blinds and non-combustible window coverings. Use wet cloths to block any other openings. • Remove lightweight or combustible window coverings. • Move combustible furniture to the centre of the home away from windows and doors. • Place in a pool or pond any valuables that will not be damaged by water. • Remove combustible items from around the home. • Connect hoses to outside taps. • Gather your fire tools.
If your area has a 'stay or go' policy, and if you are trained, you may decide to stay	<ul style="list-style-type: none"> • If you plan to stay, make sure that you keep and know how to use fire suppression tools, including a rake, an axe, a handsaw or chainsaw, a bucket, a shovel, a ladder and sand buckets. • You may have to fight small fires before professional help arrives. • Remember that normal water pressure may not be available to you.
If you are trapped by fire, crouch in a pond, river or pool	<ul style="list-style-type: none"> • 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. • You cannot outrun a fire.
After a wildfire be aware of hazards	<ul style="list-style-type: none"> • Look out for smouldering hot spots or items, and be alert to the possibility of re-ignition. • Beware of hazards such as burnt trees and power poles or fallen wires and ash pits. • Seek permission before re-entering the area. • Check for damage and stay out of damaged buildings.
After a wildfire, take precautions while cleaning your property	<ul style="list-style-type: none"> • 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. • Keep children away from clean-up sites. • 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. • Use rubber gloves when cleaning. • Check for assistance when cleaning up and disposing of hazardous materials.

The Fundamental Principles of the International Red Cross and Red Crescent Movement

Humanity The International Red Cross and Red Crescent Movement, born of a desire to bring assistance without discrimination to the wounded on the battlefield, endeavours, in its international and national capacity, to prevent and alleviate human suffering wherever it may be found. Its purpose is to protect life and health and to ensure respect for the human being. It promotes mutual understanding, friendship, cooperation and lasting peace amongst all peoples.

Impartiality It makes no discrimination as to nationality, race, religious beliefs, class or political opinions. It endeavours to relieve the suffering of individuals, being guided solely by their needs, and to give priority to the most urgent cases of distress.

Neutrality In order to enjoy the confidence of all, the Movement may not take sides in hostilities or engage at any time in controversies of a political, racial, religious or ideological nature.

Independence The Movement is independent. The National Societies, while auxiliaries in the humanitarian services of their governments and subject to the laws of their respective countries, must always maintain their autonomy so that they may be able at all times to act in accordance with the principles of the Movement.

Voluntary service It is a voluntary relief movement not prompted in any manner by desire for gain.

Unity There can be only one Red Cross or Red Crescent Society in any one country. It must be open to all. It must carry on its humanitarian work throughout its territory.

Universality The International Red Cross and Red Crescent Movement, in which all societies have equal status and share equal responsibilities and duties in helping each other, is worldwide.

**For further information on this IFRC
publication, please contact:**

*Community Preparedness and
Risk Reduction Department*
International Federation of Red Cross and Red
Crescent Societies
Email: secretariat@ifrc.org