Cyclone: Do's & Dont's

Before the Cyclone season:

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

Necessary actions

The actions that need to be taken in the event of a cyclone threat can broadly be divided into :

- Immediately before the cyclone season
- When cyclone alerts and warnings are communicated
- When evacuations are advised
- When the cyclone has crossed the coast

When the Cyclone starts

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

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

- Leave early before your way to high ground or shelter gets flooded
- Do not delay and run the risk of being marooned

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

During a cyclone

DO NOT venture out even when the winds appear to calm down. The 'eye' of the cyclone might be passing. Winds might intensify and gush again and cause damage. Be safe inside till it is officially announced that the cyclone has passed.

When Evacuation is instructed

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

Post-cyclone measures

- You should remain in the shelter until informed that you can return to your home.

- You must get inoculated against diseases immediately.
- Strictly avoid any loose and dangling wires from lamp posts.
- If you have to drive, do drive carefully.
- Clear debris from your premises immediately.
- Report the correct losses to appropriate authorities.

Tsunami

 The Earth's lithosphere is broken up into a bunch of discrete pieces, called plates that move around the surface of the planet. There are seven or eight major plates (depending on how they are defined) and many minor plates. This motion is driven by the flow of the mantle rock beneath the plates and by the forces plates exert at their boundaries where they touch each other. Earthquakes happen when plates move with respect to each other because of the friction and stress at the edges of plates prevents them from slipping smoothly at their boundaries. When one plate is forced to dive beneath another plate, there is no way to do it except with some component of vertical motion creating tsunami (please see figure) .

The tsunami that occurred during 2004 Sumatra-Andaman earthquake of Mw 9.3 was primarily caused by vertical displacement of the seafloor, in response to slip on the inter-plate thrust fault. The earthquake and resulting tsunami in the Indian Ocean affected many countries in Southeast Asia and beyond, including Indonesia, Sri Lanka, India, Thailand, the Maldives, Somalia, Myanmar, Malaysia, Seychelles and others. Many other countries, especially Australia and those in Europe incurred casualties due to the tsunami, because they had large numbers of citizens traveling in the region on holiday. This tsunami-genic earthquake was one of the ten worst earthquakes in recorded history, as well as the single worst tsunami in history. Indonesia was the worst affected country. Beyond the heavy toll on human lives, the Indian Ocean earthquake has caused an enormous environmental impact that will affect the region for many years to come. The disaster also caused a substantial geo-physical impact in Indian Ocean. The disaster invited attention of affected countries for setting up effective tsunami early warning system and institutional mechanism for handling disasters.

The Government of India has put in place an Early Warning System for mitigation of such oceanogenic disasters under the control of Indian National Center for Ocean Information Services (INCOIS), Hyderabad. A state-of-the-art early warning centre was established with the necessary computational and communication infrastructure that enables reception of real-time data from sensors, analysis of the data, generation and dissemination of tsunami advisories following a standard operating procedure. Seismic and sea-level data are continuously monitored in the Early Warning Centre using custom-built software application that generates alarms/alerts in the warning centre whenever a pre-set threshold is crossed. Tsunami warnings/watches are then generated based on pre-set decision support rules and disseminated to the concerned authorities for action, as per pre-decided standard operating procedure. The efficiency of this end-to-end system was proved

during the large under-sea earthquake of 8.4 M that occurred on September 12, 2007 in the Indian Ocean.

The 2004 tsunami also prompted NDMA to formulate Tsunami Risk Management Guidelines to outline inter-agency roles and responsibilities, tsunami risk preparedness, mitigation and response.

The Guidelines recommends practical and effective ways for awareness generation, capacity building, education, training and research & development for better tsunami risk management. The Guidelines explore options for effective dissemination of tsunami alert and warning messages generated by INCOIS to the concerned agencies and coastal vulnerable communities exposed to tsunamis in a coordinated manner.

Structural Mitigation measures, as envisaged in the Guidelines, gives a brief guidance on design and construction of new structures as well as strategies for protecting lifeline and priority structures from Tsunamis along the seafront. The Guidelines urge BIS to roll out the pending construction standards entitled 'Criteria for Tsunami-Resistant Design of Structures'. It further recommends a robust techno-legal regime through efficient land use practices, bioshields, shelter belt plantation and mangrove regeneration with community involvement. A strong mechanism has been recommended for effective emergency response by involving local police network, civil defence volunteers wherever available, home guards, State Disaster Response Forces and National Disaster Response Force. Further, the Guidelines explore the provisions of Disaster Management Act 2005 to mainstream concern of Tsunami risk management in disaster management plans of various levels.

Recover and build

- You should continue using a Weather Radio or staying tuned to a Coast Guard emergency frequency station or a local radio or television station for updated emergency information.
- Check yourself for injuries and get first aid if necessary before helping injured or trapped persons.
- If someone needs to be rescued, call professionals with the right equipment to help Many people have been killed or injured trying to rescue others in flooded areas.
- Help people who require special assistance—Infants, elderly people, those without transportation, large families who may need additional help in an emergency situation, people with disabilities, and the people who care for them.

- Avoid disaster areas. Your presence might hamper rescue and other emergency operations and put you at further risk from the residual effects of floods, such as contaminated water, crumbled roads, landslides, mudflows, and other hazards.
- Use the telephone only for emergency calls.Telephone lines are frequently overwhelmed in disaster situations. They need to be clear for emergency calls to get through.
- Stay out of a building if water remains around it. Tsunami water, like floodwater, can undermine foundations, causing buildings to sink, floors to crack, or walls to collapse.
- When re-entering buildings or homes, use extreme caution. Tsunami-driven floodwater may have damaged buildings where you least expect it. Carefully watch every step you take.
- Wear long pants, a long-sleeved shirt, and sturdy shoes. The most common injury following a disaster is cut feet.
- Use battery-powered lanterns or flashlights when examining buildings. Battery-powered lighting is the safest and easiest to use, and it does not present a fire hazard for the user, occupants, or building. DO NOT USE CANDLES.
- Examine walls, floors, doors, staircases, and windows to make sure that the building is not in danger of collapsing.
- Inspect foundations for cracks or other damage. Cracks and damage to a foundation can render a building uninhabitable.
- Look for fire hazards. Under the earthquake action there may be broken or leaking gas lines, and under the tsunami flooded electrical circuits, or submerged furnaces or electrical appliances. Flammable or explosive materials may have come from upstream. Fire is the most frequent hazard following floods.
- Check for gas leaks. If you smell gas or hear a blowing or hissing noise, open a window and get everyone outside quickly. Turn off the gas using the outside main valve if you can, and call the gas company from a neighbour’s home. If you turn off the gas for any reason, it must be turned back on by a professional.
- Look for electrical system damage. If you see sparks or broken or frayed wires, or if you smell burning insulation, turn off the electricity at the main fuse box or circuit breaker. If you have to step in water to get to the fuse box or circuit breaker, call an electrician first for advice. Electrical equipment should be checked and dried before being returned to service
- Check for damage to sewage and water lines.If you suspect sewage lines are damaged under the quake, avoid using the toilets and call a plumber. If water pipes are damaged, contact the water company and avoid using water from the tap. You can obtain safe water from undamaged water heaters or by melting ice cubes that were made before the tsunami hit. Turn off the main water valve before draining water from these sources. Use tap water only if local health officials advise it is safe.

- Watch out for wild animals, especially poisonous snakes that may have come into buildings with the water. Use a stick to poke through debris. Tsunami floodwater flushes snakes and animals out of their homes.
- Watch for loose plaster, drywall, and ceilings that could fall.
- Take pictures of the damage, both of the building and its contents, for insurance claims. Open the windows and doors to help dry the building.
- Shovel mud before it solidifies.
- Check food supplies.Any food that has come in contact with floodwater may be contaminated and should be thrown out.
- Expect aftershocks. If the earthquake is of large magnitude (magnitude 8 to 9+ on the Richter scale) and located nearby, some aftershocks could be as large as magnitude 7+ and capable of generating another tsunami. The number of aftershocks will decrease over the course of several days, weeks, or months depending on how large the main shock was.
- Watch your animals closely.
- Keep all your animals under your direct control.

Heat wave: Do's & Dont's

Heat Wave conditions can result in physiological strain, which could even result in death.

To minimise the impact during the heat wave and to prevent serious ailment or death because of heat stroke, you can take the following measures:

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

TIPS FOR TREATMENT OF A PERSON AFFECTED BY A SUNSTROKE:

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

Acclimatisation

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

Landslide: Do's & Dont's

We cannot stop disaster but minimize its impact by preparing ourselves better for landslides. The Government of India has made plans to identify the areas where landslides occur repeatedly. This is achieved through Landslide Hazard Zonation (LHZ) maps which shows or demarcates areas by different colors. NDMA has published a guideline on Landslides and Snow Avalanches as given on its website. Following are the precautionary measures for landslides in the form of do's and dont's as given below:

Do's

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

Don'ts

- Try to avoid construction and staying in vulnerable areas.
- Do not panic and loose energy by crying.
- Do not touch or walk over loose material and electrical wiring or pole.
- Do not built houses near steep slopes and near drainage path.

- Do not drink contaminated water directly from rivers, springs, wells but rain water if collected directly without is fine.
- Do not move an injured person without rendering first aid unless the casualty is in immediate danger.

Urban Floods: Do’s & Don’ts

Before floods

- Do not litter waste, plastic bags, plastic bottles in drains
- Try to be at home if high tide and heavy rains occur simultaneously
- Listen to weather forecast at All India Radio, Doordarshan. Also, messages by Municipal bodies from time to time and act accordingly.
- Evacuate low lying areas and shift to safer places.
- Make sure that each person has lantern, torch, some edibles, drinking water, dry clothes and necessary documents while evacuating or shifting.
- Make sure that each family member has identity card.
- Put all valuables at a higher place in the house.

In the Flood Situation

- Obey orders by government and shift to a safer place.
- Be at safe place and they try to collect correct information.
- Switch of electrical supply and don’t touch open wires.
- Don’t get carried away by rumors and don not spread rumors.

After Floods

- Drink chlorinated or boiled water.
- Take clean and safe food
- Sprinkle insecticides in the water ponds/ stagnant water.
- Please cooperate with disaster survey team by giving correct information.

DO's

- Switch off electrical and gas appliances, and turn off services off at the mains.
- Carry your emergency kit and let your friends and family know where you are going.
- Avoid contact with flood water it may be contaminated with sewage,oil,chemicals or other substances.
- If you have to walk in standing water, use a pole or stick to ensure that you do not step into deep water, open manholes or ditches.
- Stay away from power lines electrical current can travel through water, Report power lines that are down to the power company.

- Look before you step-after a flood, the ground and floors are covered with debris, which may include broken bottles, sharp objects, nails etc.Floors and stairs covered with mud and debris can be slippery.
- Listen to the radio or television for updates and information.
- If the ceiling is wet shut off electricity. Place a bucket underneath the spot and poke a small hole into the ceiling to relieve the pressure.
- Use buckets,clean towels and mops to remove as much of the water from the afflicted rooms as possible.
- Place sheets of aluminium foil between furniture wet carpet.

Don't's

- Don't walk through flowing water - currents can be deceptive, and shallow, fast moving water can knock you off your feet.
- Don't swim through fast flowing water - you may get swept away or struck by an object in the water.
- Don't drive through a flooded area - You may not be able to see abrupt drop - offs and only half a meter of flood water can carry a car away. Driving through flood water can also cause additional damage to nearby property.
- Don't eat any food that has come into contact with flood water.
- Don't reconnect your power supply until a qualified engineer has checked it. Be alert for gas leaks - do not smoke or use candles, lanterns, or open flames.
- Don't scrub or brush mud and other deposits from materials, This may cause further damage.
- Never turn on ceiling fixtures if ceiling is wet. Stay away from ceilings those are sagging.
- Never use TVs, VCRS, CRT terminals or other electrical equipment while standing on wet floors, especially concrete.
- Don't attempt to remove standing water using your vacuum cleaner.
- Don't remove standing water in a basement too fast. If the pressure is relieved too quickly it may put undue stress on the walls.

Floods: Do’s & Don’ts

What to do before a flood

To prepare for a flood, you should:

- Avoid building in flood prone areas unless you elevate and reinforce your home.
- Elevate the furnace, water heater, and electric panel if susceptible to flooding.
- Install "Check Valves" in sewer traps to prevent floodwater from backing up into the drains of your home.
- Contact community officials to find out if they are planning to construct barriers (levees, beams and floodwalls) to stop floodwater from entering the homes in your area.
- Seal the walls in your basement with waterproofing compounds to avoid seepage.

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

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

If you must prepare to evacuate, you should:

- Secure your home. If you have time, bring in outdoor furniture. Move essential items to an upper floor.
- Turn off utilities at the main switches or valves if instructed to do so. Disconnect electrical appliances. Do not touch electrical equipment if you are wet or standing in water.

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

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

Earthquakes: Do’s & Don’ts

What to Do Before an Earthquake

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

Have a disaster emergency kit ready

- Battery operated torch with extra batteries
- Battery operated radio
- First aid kit and manual
- Emergency food (dry items) and water (packed and sealed)
- Candles and matches in a waterproof container

- Knife
- Chlorine tablets or powdered water purifiers
- Can opener.
- Essential medicines
- Cash and credit cards
- Thick ropes and cords
- Sturdy shoes

Develop an emergency communication plan

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

Help your community get ready

- Publish a special section in your local newspaper with emergency information on earthquakes. Localize the information by printing the phone numbers of local emergency services offices and hospitals.
- Conduct week-long series on locating hazards in the home.
- Work with local emergency services and officials to prepare special reports for people with mobility impairment on what to do during an earthquake.
- Provide tips on conducting earthquake drills in the home.
- Interview representatives of the gas, electric, and water companies about shutting off utilities.
- Work together in your community to apply your knowledge to building codes, retrofitting programmes, hazard hunts, and neighborhood and family emergency plans.

What to Do During an Earthquake

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

If indoors

- DROP to the ground; take COVER by getting under a sturdy table or other piece of furniture; and HOLD ON until the shaking stops. If there is no a table or desk near you, cover your face and head with your arms and crouch in an inside corner of the building.
- Protect yourself by staying under the lintel of an inner door, in the corner of a room, under a table or even under a bed.
- Stay away from glass, windows, outside doors and walls, and anything that could fall, (such as lighting fixtures or furniture).
- Stay in bed if you are there when the earthquake strikes. Hold on and protect your head with a pillow, unless you are under a heavy light fixture that could fall. In that case, move to the nearest safe place.
- Use a doorway for shelter only if it is in close proximity to you and if you know it is a strongly supported, load bearing doorway.
- Stay inside until the shaking stops and it is safe to go outside. Research has shown that most injuries occur when people inside buildings attempt to move to a different location inside the building or try to leave.
- Be aware that the electricity may go out or the sprinkler systems or fire alarms may turn on.

If outdoors

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

If in a moving vehicle

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

If trapped under debris

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

Emergency Response Support System

Emergency Response Support System (ERSS) is the vision of Govt. of India to launch an integrated emergency response system with a single emergency number 112, to address different emergencies of citizens. ERSS is designed to address all emergency signals received from citizens through voice call, SMS, e-mail, panic SOS signal, ERSS web portal etc.

A mobile App called ‘112 India’ is introduced by Govt. of India, to quickly raise a request for help when a person is in emergency, by pressing a button to send alert messages with location data and make emergency call to 112. This facility will aid the concerned service agencies to reach out the requestor quickly.

The automated facility being setup for this purpose in the capital cities of all States and UTs, called Public Safety Answering Point (PSAP), will handle all these emergency signals and provide assistance available to the people in distress within the best possible time with the help of Police, Fire & Rescue, Health services etc.

ERSS tracks the rescue and service vehicles of all services (Police, Fire , Health etc) in real-time on a digital map of the State/UT and hence it will be possible to direct the right vehicle(s) to reach the service requestor and provide necessary support immediately.

Henceforth, all the existing emergency numbers like 100 (police), 101 (Fire and Rescue) and 108 (ambulance), 181 (Woman and Child Care) etc. will be integrated to unified number 112.