



## DROUGHT

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*Please note that the foundation messages are included in the previous section: Key messages for all-hazards household and family disaster planning. Separate messages are also available for other specific hazards.*

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Drought is a long-lasting event triggered by a lack of precipitation. It is a slow-onset phenomenon consisting of an extended period of time characterized by a deficiency in a region's water supply that is the result of constantly below average precipitation (low rainfall, snowfall or snowmelt). The shortages of water for drinking, sanitation and irrigation have an impact on ability to sustain agriculture, livestock and livelihood, 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 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"> <li>Learn about monthly, seasonal and long-term weather outlooks and what they may mean in your area.</li> <li>Understand the optimal weather conditions for different agricultural practices and water requirements, and compare with current practices.</li> <li>Find out about communication channels for early warning about drought in your community.</li> </ul>
Work with your neighbours and community to present drought impacts	<ul style="list-style-type: none"> <li>Participate in community risk mapping, capacity mapping and drought monitoring.</li> <li>Work with local authorities to develop a drought mitigation plan.</li> <li>Work with local water suppliers to develop a water conservation plan.</li> </ul>
Participate in planning for rationing of water and food	<ul style="list-style-type: none"> <li>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"> <li>a basic staple such as rice, corn, wheat flour or corn-soy blend)</li> <li>a concentrated source of energy (oil or another fat)</li> <li>a concentrated source of protein, such as beans, peas, lentils.*</li> </ul> </li> <li>Learn about the most vulnerable people in the community, including who and where they are and how you can help them.</li> </ul>
Approach water as a community resource, and plan accordingly	<ul style="list-style-type: none"> <li>Work with local authorities wherever possible to plan for and reduce the impacts of water shortages.</li> <li>Identify water resources and learn how to conserve and extend them.</li> <li>Plan your own land use with water conservation in mind.</li> </ul>
Assess epidemic risks and plan for prevention	<ul style="list-style-type: none"> <li>Stay in contact with your primary health care providers and learn about: <ul style="list-style-type: none"> <li>how to keep water clean or purify it</li> <li>good sanitation and hygiene practices</li> <li>available immunization programmes</li> <li>the air-, water- or vector-borne risks you may face</li> <li>what kinds of information requires communicating.</li> </ul> </li> </ul>
Plan to improve your household food security	<ul style="list-style-type: none"> <li>Buy crop insurance.</li> <li>Plant backyard gardens.</li> <li>Set up seed banks.</li> </ul>





## Mitigate risks: physical or environmental

Key messages	Context-specific details
Participate in community water resource management	<ul style="list-style-type: none"> <li>Protect water catchment areas from evaporation and contamination (for example by using pesticides), and minimize waste.</li> </ul>
Prevent deforestation and practise reforestation	<ul style="list-style-type: none"> <li>Protect water catchment areas from deforestation.</li> <li>Re-forest water catchment areas.</li> </ul>
Conserve water in soil through sustainable agriculture and landscaping practices	<ul style="list-style-type: none"> <li>Plant trees – especially species that need little water – and mulch around them.</li> <li>Use mulching and other crop covers to capture or retain water and reduce evaporation.</li> <li>Recycle irrigation water.</li> <li>Avoid waste of irrigation water due to poor-quality irrigation canals.</li> <li>Identify and cultivate early maturing, drought-tolerant crops.</li> <li>Reduce run-off and improve rainwater infiltration by planting barriers such as vetiver, lemongrass or agave.</li> <li>Implement crop diversification and inter-cropping to improve yields by having plants complement and support each other.</li> <li>Avoid slash and burn agriculture.</li> <li>Practise conservation agriculture. This involves: <ul style="list-style-type: none"> <li>ensuring minimum mechanical soil disturbance ('no-till' techniques) to maintain minerals, stop erosion and prevent water loss</li> <li>managing topsoil to create permanent organic soil cover, allowing for growth of organisms</li> <li>practising crop rotation with more than two species.</li> </ul> </li> <li>Increase soil fertility and water retention by using animal compost and plant manures to add nutrients and organic matter to soil.</li> <li>Replace sprinkler systems with drip irrigation, applied close to plant roots to prevent waste.</li> <li>Use a soil moisture indicator to see when watering is needed. Water the garden or ground cover early in the day, and not on windy days.</li> <li>Lay green driveways and water-permeable asphalt rather than concrete.</li> </ul>

<b>Conserve water by minimizing outdoor usage</b>	<ul style="list-style-type: none"> <li>• Inspect pipes and outdoor taps for leaks, and repair them.</li> <li>• Store water at the household level.</li> <li>• Cover wells to reduce evaporation.</li> <li>• Harvest rainwater in aboveground or belowground tanks. (<b>Note:</b> the water may need purification treatment before it is safe to drink.)</li> <li>• Use alternatives to water (for example, sand for washing).</li> <li>• Avoid over-grazing and manage the stocking rate.</li> <li>• Recycle household grey water for toilet, and for irrigation and home gardens. Recycle fish tank water for plants.</li> <li>• Reduce water consumption by landscaping with low-water plants and rock gardens. In rainy conditions, turn off automatic sprinklers.</li> <li>• Conserve water outdoors by cleaning pathways with a broom (not water), washing cars with a bucket, and covering pools to reduce evaporation.</li> <li>• Insulate hot water pipes.</li> <li>• Where livestock use the same source as people, explore alternative methods of water usage.</li> </ul>
<b>Conserve water by minimizing indoor usage</b>	<ul style="list-style-type: none"> <li>• Inspect pipes, taps and toilets for leaks, and repair them.</li> <li>• Conserve running water at home. For example:               <ul style="list-style-type: none"> <li>• turn off taps when brushing teeth or shaving</li> <li>• take shorter showers</li> <li>• install aerating taps and low-flow showerheads</li> <li>• clean vegetables in a basin rather than under running water</li> <li>• clean greasy hands with waterless hand cleaner</li> <li>• install composting toilets or low-volume toilets, or place a brick or sealed bag of water into toilet cistern to reduce flush water</li> <li>• wash dishes using two basins rather than doing it under running water</li> <li>• in washing machines, match the load setting to amount of laundry, or wash full loads only.</li> </ul> </li> </ul>
<b>Protect yourself in your home</b>	<ul style="list-style-type: none"> <li>• Close windows and doors to keep heat outside.</li> <li>• Create natural ventilation flows inside the house.</li> <li>• Drink plenty of water.</li> <li>• Limit use of fire stoves and cookers.</li> </ul>

\* Kadihasanogu A. Guide on how to secure food and livelihoods of communities in a pandemic influenza. Geneva: IFRC, 2009.



## Prepare to respond: develop skills and store provisions

Key messages	Context-specific details
Stockpile essential foods	<ul style="list-style-type: none"> <li>Consider which of the following three levels of food security or insecurity you may face: <ul style="list-style-type: none"> <li>self-sufficient</li> <li>food insecure</li> <li>food and livelihoods insecure.</li> </ul> </li> </ul>
Preserve and store food year round	<ul style="list-style-type: none"> <li>Preserve and store dry food, tinned food and grains that last 3–12 months.</li> <li>Store dried yeast, sugar, jams, chutneys, sauces, tealeaves, peanut butter and biscuits.</li> <li>Store products to produce fresh food at home, such as, yoghurt (milk powder, water and yoghurt culture), herbs, germinated seeds (bean sprouts, onion seeds).</li> </ul>
Learn principles of good nutrition	<ul style="list-style-type: none"> <li>In average conditions, an adult should drink about 2 litres of water per day, although this amount may increase or decrease under different conditions.</li> <li>Plan for a basic food ration 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"> <li>a basic staple such as rice, corn, wheat flour or corn–soy blend)</li> <li>a concentrated source of energy (oil or another fat)</li> <li>a concentrated source of protein, such as legumes, beans, peas, lentils.*</li> </ul> </li> <li>Learn about the most vulnerable people in the community, including who and where they are and how you can help them.</li> <li>Expand diets by cultivating foods in backyard gardens and foraging.</li> <li>For good nutrition, eat from each of these four food groups, every day:</li> </ul> <p><b>Group 1</b></p> <ul style="list-style-type: none"> <li>dried vegetables and fruits</li> <li>tinned/canned vegetables and fruits</li> <li>bottled vegetables and fruits</li> <li>vegetable and fruit juices</li> <li>dried herbs</li> <li>tomato paste</li> <li>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.</li> </ul>

	<p><b>Group 2</b></p> <ul style="list-style-type: none"> <li>• peas, beans and lentils</li> <li>• tinned/canned beans</li> <li>• milk powder (full fat)* or evaporated or long-life milk</li> <li>• cheese that does not require refrigeration</li> <li>• dried meat and dried fish</li> <li>• tinned/canned meat and fish.</li> </ul> <p><b>Group 3</b></p> <ul style="list-style-type: none"> <li>• grains such as sorghum, millet, rice, corn or wheat</li> <li>• cassava, yam or plantain</li> <li>• pasta, cereals or flour</li> <li>• bread of all kinds</li> <li>• crackers</li> <li>• noodles</li> <li>• instant products, such as dried mashed potato.</li> </ul> <p><b>Group 4</b></p> <ul style="list-style-type: none"> <li>• oil</li> <li>• seeds, including sesame and sunflower.</li> <li>• If no fresh food is available, vitamin supplements are recommended.</li> <li>• Use salt and condiments to make food tasty.</li> </ul>
Mitigate loss of livestock	<ul style="list-style-type: none"> <li>• Manage pastures or rangelands to protect livestock.</li> <li>• Decide the optimal number of animals that the household can maintain.</li> <li>• Plan de-stocking of animals before the crisis affects them seriously.</li> <li>• Use fodder to sustain the most important animals: mothers and kids, and other productive asset animals.</li> <li>• Keep part of the income from the de-stocking for re-stocking after the drought crises.</li> <li>• Use veterinary services to ensure the health of your livestock.</li> </ul>

\* Kadihasanogu A. Guide on how to secure food and livelihoods of communities in a pandemic influenza. Geneva: IFRC, 2009.