

Coping with climate change: seven farming tips

compiled by Bertha Chunda

Climate change can affect weather patterns, and this may have a damaging effect on agricultural production. Difficulties such as drought, flooding or changes in rainfall patterns are particularly serious. People need to understand

what is changing in their situation and consider how to adapt their farming methods. Here are some ideas that may help. Alternative livelihoods, and finding ways of processing agricultural produce to add value, can also help people.

1 Drought-resistant and early maturing crops

Focus on crop varieties that are resistant to drought. These include cereals (such as millet or sorghum), legumes (such as cowpeas, pigeon peas, chickpeas or green gram) and root crops (such as cassava, sweet potato and yams).

Early maturing varieties help communities get through the hunger season before the main harvest.

Cassava is a root crop that can cope well with drought.



PLEASE NOTE: Cassava must be properly prepared or it can be poisonous. Sweet cassava can be peeled and cooked thoroughly to make it safe. Bitter cassava needs more thorough preparation. Here is one way to make it safe: first, peel and then finely chop or grate the cassava. It should then be soaked in clean water for a minimum of three days (but ideally for five days). After this, it should be boiled thoroughly. Any water used for soaking or cooking the cassava must be thrown away

2 Change cropping patterns

Increase the variety of crops grown, because different crops are affected differently by changing weather conditions. Hopefully some crops will do better whatever the conditions that year.

Use **mixed cropping** – growing two or more crops close together in the same field. Plant rows of cereals such as maize, millet and sorghum with rows of legumes such as cowpeas, beans or lablab. This can benefit the cereals, as legumes fix nitrogen in the soil, providing extra nutrients. The legumes help to cover the soil and keep it moist.

Crops from the same family, or crops that need the same nutrients, should not be planted together (as they will compete with each other). For example, maize should not be mixed with sorghum or millet.



3 Stagger planting times

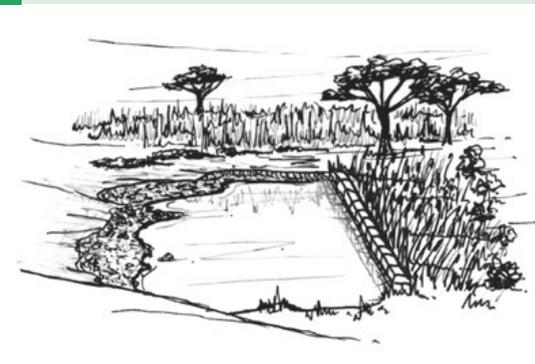
Use long-range weather forecasts whenever possible before planting, to benefit from predicted rains. Plant crops at different times. Plant some after the first rains, some just before the main rains, some immediately after the rains, and some three weeks after the main rains (when planting will help destroy early germinating weeds). This practice will make it more likely that some crops are successful even if rainfall patterns change.



4 Rainwater harvesting

As weather patterns and rainy seasons become more unreliable, there are great benefits in storing rainwater or flood water for use in dry periods. There are several types of rainwater harvesting systems. Some gather rainwater that flows along the ground or from rooftops. Other systems divert the flow of floodwater from watercourses (such as rivers, ditches and dykes), and store the water in ponds.

Practical Action has an excellent free technical brief on building a sunken tank to store run-off rainwater. Visit www.practicalaction.org/run-off-rainwater-harvesting



5 Protect the soil

Keep the soil covered as much as possible. This will shade the soil and help to prevent weeds and soil erosion. Use ground cover crops, such as fast-growing lablab bean, velvet bean, cowpeas or pumpkins, between rows of crops. Leave them to continue growing after harvesting the main crop. Leave crop waste on the soil surface as a compost. Dig the soil as little as possible to avoid water loss. All these practices will protect the soil and help conserve water.

6 Small livestock

Keeping small livestock can provide you with food and income even when crops fail. Small livestock such as poultry (chickens and ducks) and rabbits are easier to feed and manage than larger livestock such as cattle. In areas prone to flooding, ducks cope much better than chickens.

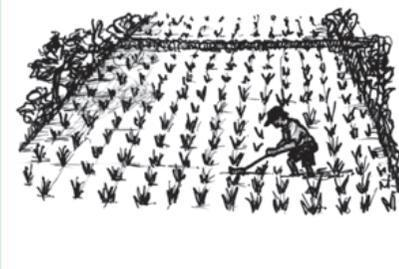


7 System of Rice Intensification (SRI)

System of Rice Intensification (SRI) began in the 1980s as a way of increasing the yield of irrigated rice. It involves transplanting young seedlings to create more space between them. SRI has been used in more than 50 countries and can greatly increase the amount of rice produced. It will reduce the amount of seed required and will halve the amount of water needed.

The rice seedlings should be carefully transplanted at the two-leaf stage, just 8–12 days after sowing. Plant them 25cm or more apart in a square pattern. Use compost if you can (only use chemical fertiliser if it is necessary). Keep the soil moist but not flooded. Start weeding the area after 10 days and repeat this every 7–10 days until the rice is well established.

SRI principles and practices have now been adapted for rainfed rice, wheat, sugarcane and teff.



Bertha Chunda is the Global Food and Livelihoods Adviser for Tearfund

Illustrations: Amy Levene, Weinginger