

**What is it?**

Recommendations for addressing the food security effects of El Nino events by adopting adaptation and mitigation activities

**Why use it?**

The consequences of the periodic warming of surface waters around the equator, referred to as El Nino, includes both droughts and heavy rains/flooding - leading to disruptions in agricultural production, livestock management and crop damage. This tool is designed to provide ideas for addressing these challenges.

**How to use it?**

As a general rule, diversification of crops and animal management will help mitigate against the effects of El Nino. However, the following are a few specific examples by thematic area to illustrate the addition of activities to strengthen resilience to possible El Nino-related impacts.

Storms/ Heavy Rains

- Connect with local weather forecasts and advisories
- Clear storm drains and field drainage and strengthen riverbanks to prevent inundation of fields
- Plant seed varieties with resistance or tolerance to heavy rains
- Ensure adequate spacing when planting crops so that each plant has more room to grow stronger root systems.
- Ensure animals have protected housing
- Vaccinate animals against rainy season diseases

Flooding

- Connect with local government early warning systems
- Conduct training on how to deal with flood disasters
- Connect with local government networks for available social protection for farmers, including insurance options or emergency food relief
- Flood-proof community water sources or provide alternative water sources for emergency situations
- Move stored grain and seed to a safe place
- Build flood barriers and strengthen riverbanks to prevent flooding of fields
- Plant flood-resistant varieties or alternative crops
- Relocate crops or change cropping patterns
- Secure animal housing or relocate animals to a safe place

Landslides

- Plant trees on hillsides to stabilize slopes
- Promote erosion control and soil protection through trees, managing natural regeneration of land, and use of cover crops
- Improve soil water retention through use of compost and tree planting
- Dig storm drains to carry away rainwater from slopes
- Secure animal housing or relocate animals to a safe place

Drought

- Connect with local government networks for available social protection for farmers, including insurance options or emergency food relief
- Conduct training with farmers on how to deal with drought

- Plant drought-resistant crop types or crop varieties such as millet, sorghum, cassava or drought-tolerant legumes
- Improve soil water retention through use of compost, fertilizers and crop rotations
- Improve soil water retention through increasing tree cover through Farmer-Managed Natural Regeneration and tree planting
- Conduct community watershed level analysis to create maps and plans for improving management of runoff at a larger scale
- Adopt conservation or lower tillage farming methods to conserve available rainwater and increase yields
- Increase amount of crop residue left on fields, reduce burning of residues and grasses, and protect fields with hedging or fencing
- Dig in-field planting pits to optimize rainwater collection
- Develop water retention pond systems or natural reservoir systems
- Construct small-scale irrigation systems, build boreholes or deepen wells
- Collect water and animal fodder in advance when possible
- Negotiate animal grazing management at a community-level before drought conditions develop and incorporate planting of fodder trees where possible
- Choose drought-tolerant/local animal breeds for management

**This tool was developed and field-tested in:** Burundi, Tanzania, Liberia, Zimbabwe, Nicaragua and India

**Where to go from here?** Tool 9: Prioritizing Activities  
Tool 16: Risk Reduction (for integrating into development programs)

**References:**

- Venton P and Hansford R (2006) *ROOTS 9: Reducing risk of disaster in our communities*, Tearfund
- FAO (2014) *Understanding the drought impact of El Nino on the global agricultural areas*, Rome
- FAO (2016) *2015-2016 El Nino: Early action and response for agriculture, food security and nutrition; Update #5*