



Food and Agriculture Organization  
of the United Nations

## 2015–2016 El Niño

Early action and response for  
agriculture, food security and nutrition

Report

WORKING DRAFT (2 February 2016)

Update #5





## What is El Niño?

El Niño is the warming of sea surface temperature in the tropical Pacific, which occurs roughly every 2 to 7 years, lasting from 6 to 24 months. While the main threat to food production is reduced rainfall and drought in some regions, El Niño can also cause heavy rains and flooding in other regions. Climate change can make its impact more severe. Climatologists are predicting that the 2015–2016 El Niño event is likely to be stronger than that of 1997–1998 – currently the worst on record – and may persist until second quarter of 2016.

## Background and purpose

The Food and Agriculture Organization of the United Nations (FAO) has as its Strategic Objective 5 to “Increase the resilience of livelihoods to threats and crises”<sup>1</sup>. In support of its national counterparts, FAO aims to address the current and future needs of vulnerable people affected by the 2015–2016 El Niño event. It is widely recognized that by striking before a crisis has escalated into an emergency, disaster losses can be reduced and emergency response costs significantly decreased. Early actions strengthen the resilience of at-risk populations, mitigate the impact of disasters and help communities, governments and national and international humanitarian agencies to respond more effectively and efficiently.

Sea surface temperatures in the El Niño region 3.4<sup>2</sup> have continued to increase, reaching a record weekly average of 3 °C in the second week of November. However, while most models predict that this El Niño will likely stay above the + 1.5 °C “strong” threshold, it is difficult to assess if the current event will surpass the effects of the 1997–1998 El Niño, as it is a slow onset phenomenon and each occurrence can differ from the others. Even if this El Niño will not be as strong as that of 1997–1998, it will be one of the strongest registered, which is already impacting several regions.

The increase in climate-related disasters from an El Niño event is particularly important for FAO’s mandate. A recent ten-year analysis led by its Climate, Energy and Tenure Division showed that 25 percent of all damage caused during natural disasters is in the agriculture sector. In drought alone, agriculture is the single most affected sector, absorbing around 84 percent of all the economic impact (The Impact on Natural Hazards and Disasters on Agriculture, FAO 2015). This report provides a global analysis of the current and expected evolution of El Niño-related disasters and its impact on agriculture, food security and nutrition. It aims to give a consolidated outlook of the situation and the early actions being taken by governments, partners and FAO. Countries were selected based on a combination of analysis of the El Niño event and FAO priorities for strengthening the resilience of livelihoods to threats and crises. In view of the rapid evolution of the phenomenon, the report will be subject to regular updates.

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<sup>1</sup> [www.fao.org/about/what-we-do/so5/en/](http://www.fao.org/about/what-we-do/so5/en/)

<sup>2</sup> Various models are taken into account for monitoring, and eventually declaring, the potential occurrence of El Niño and La Niña events. Among the many, one of the most relevant systems is managed by the U.S National Oceanographic and Atmospheric Administration, which through buoys monitors key data (sea surface and sub-surface temperatures, atmospheric conditions, currents and winds) across the equatorial Pacific Ocean. This large stretch of Ocean waters is subdivided into different regions, and the one named Niño 3.4 provides some of the most important information and accurate predictions of the likely consequences of El Niño and La Niña events.

## Country profiles

For each country, based on available and up-to-date information, the following pieces of evidence have been collated to inform decision-making:

♦ **Country rank within the Index for Risk Management – INFORM.**

- INFORM is a global, open source risk-assessment index for humanitarian crises and disasters in support of prevention, preparedness and response. It is a collaboration of the Inter-Agency Standing Committee (IASC) and the European Commission. ([www.inform-index.org](http://www.inform-index.org)).

♦ **Outlook for the El Niño event** within the country. If the El Niño has already begun having a significant effect on the country, an update on current status is given. (*Global, Regional and national forecast and food security analysis centres, FAO GIEWS country updates*).

♦ **Major disasters that have occurred in previous El Niño years**, specifically 1997–1998, 2002–2003 and 2009–2010, and the **highest population and economic impacts** recorded. These figures are only for a single disaster (unless otherwise indicated). For example, if multiple floods occurred during an El Niño year, only the impacts of the most severe event are indicated. ([www.emdat.be/database](http://www.emdat.be/database)).

♦ **Planned and ongoing early actions and response actions** carried out by FAO and partners. This information is based on available data and does not aim to be exhaustive (*FAO, government statements, UN/NGO reports*) as such it will evolve as the situation progresses.

Based on this evidence, the countries described in this report are organized into two groups: 1) High priority countries and 2) other countries that are affected, or at risk of being affected, by El Niño.

### Regional highlights

#### Africa

- Ethiopia – an estimated 15 million people will need food assistance by March 2016. Crop and livestock production has dropped by 50 to 90 percent in some areas and failed completely in others; 2 million farmers need immediate humanitarian agricultural production support.
- Lesotho – 20 000 cattle have died due to the effects of drought.
- Zimbabwe – 16 percent of the rural population is likely to be food insecure by early 2016 – nearly 1.5 million people.
- Somalia – with floods already affecting agricultural production, FAO, the Government and NGOs have been improving river defenses and protecting seeds.
- Southern Africa – climate forecasts point to the likelihood of the continuation of drier-than-normal conditions in early 2016 increasing serious impacts on production across many areas of the subregion.

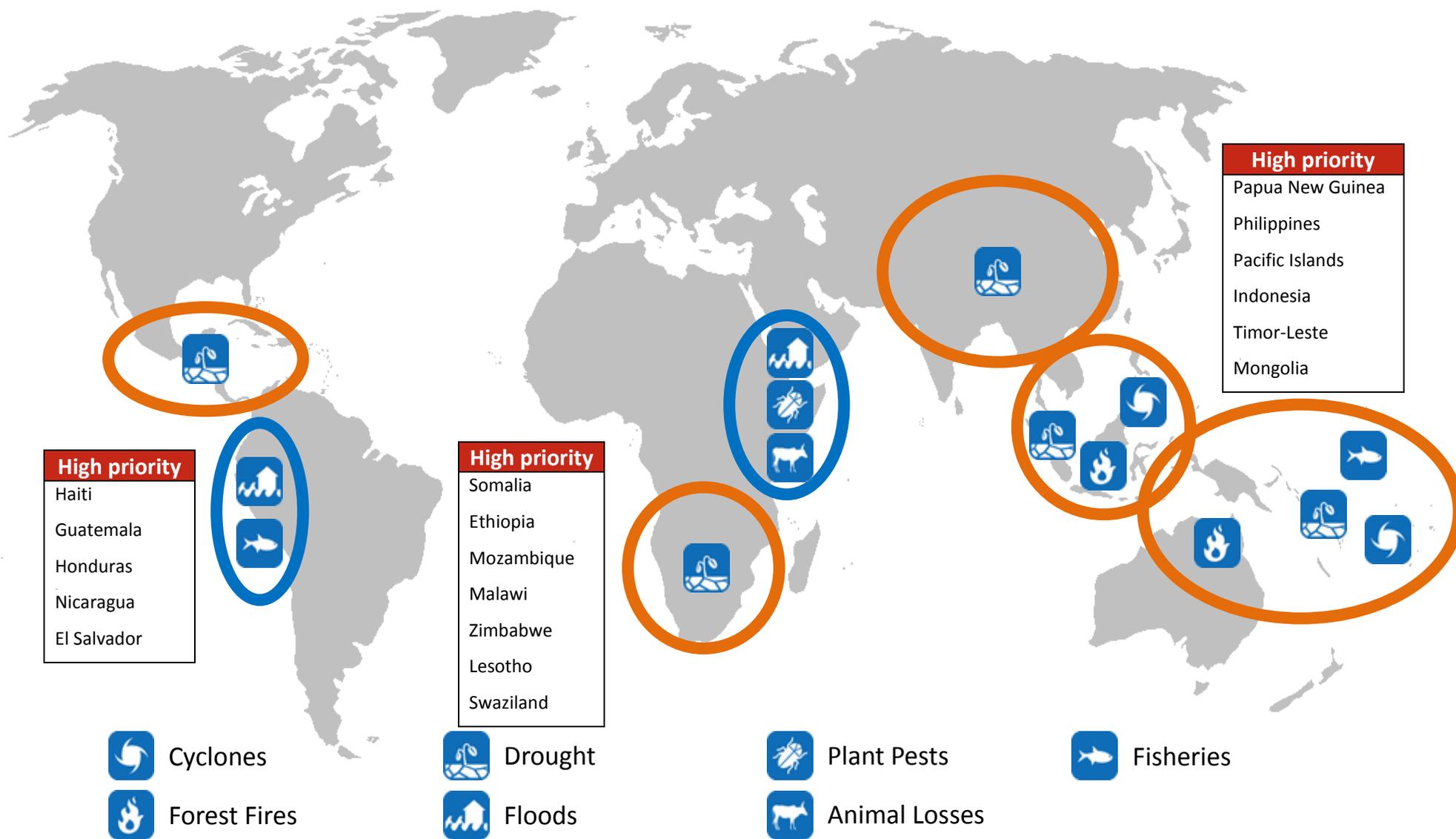
#### Latin America and the Caribbean

- Haiti – drought has resulted in a 50 percent decrease of the 2015 spring season harvest, which normally covers 60 percent of the total agricultural production.
- Central America – currently experiencing the worst drought in decades, it is affecting food insecurity for a second consecutive year with over 3.5 million people food insecure and in need of humanitarian assistance after suffering major crop losses due to prolonged drought conditions.
- At an estimated 3 million tonnes across the subregion, this year's maize harvest is expected to be far below average and some 8 percent below last year's already compromised harvest. Losses range from 96 to 100 percent in several areas of the Dry Corridor.
- Central America's Dry Corridor – FAO's subregional programme to strengthen resilience to disaster risk is targeting 50 000 vulnerable small-scale farming households. It requests USD 12.2 million of which USD 6.7 million has already been mobilized.

#### Asia and the Pacific

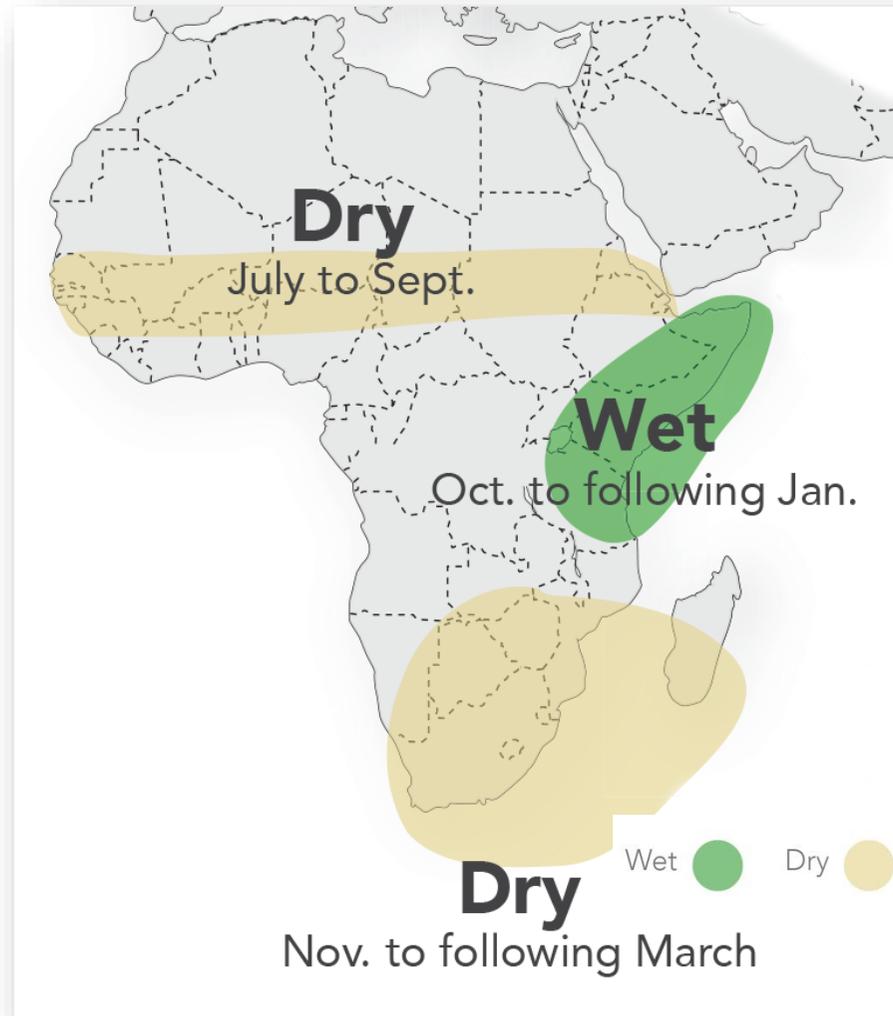
- Indonesia – in the most drought-affected areas in eastern Indonesia, paddy planting was up to 80 percent lower than normal. The 2015 fires burnt 2.6 million ha of forest and agricultural land.
- Papua New Guinea – a third of the population – 2.7 million people – are affected by drought, frost and forest fires.
- Timor-Leste – 220 000 of the rural population is likely to be impacted by reduced maize and rice production.
- Mongolia – 16 of Mongolia's 21 provinces are experiencing *dzud* with many areas facing temperatures of -38 °C during the night.

## 2015–2016 El Niño FAO priority countries



### El Niño regional forecast for Africa

El Niño conditions in the tropical Pacific are known to shift rainfall patterns in many parts of the world. Although they vary from one El Niño to the next, the strongest shifts remain fairly consistent in the regions and seasons shown here.



For more information on El Niño and La Niña, go to: <http://iri.columbia.edu/enso/>

Sources:

1. Ropelewski, C. F., and M. S. Halpert, 1987: Global and regional scale precipitation patterns associated with the El Niño Southern Oscillation. *Mon. Wea. Rev.*, 115, 1606-1626;
2. Mason and Goddard, 2001. Probabilistic precipitation anomalies associated with ENSO. *Bull. Am. Meteorol. Soc.* 82, 619-638



# Somalia

INFORM Rank: 1



Floods in south-centre



Drought in north



Animal Losses

## Outlook

- ◆ El Niño conditions brought increased rainfall to large areas of southern and central Somalia and below-average rains in a few areas of the south and north. The rains peaked in the second half of October with a significant reduction in the second half of November. Heavy rains in some southern and central areas led to flash floods and riverine flooding, affecting more than 145 000 people.
- ◆ Coastal areas of Puntland also experienced heavy rains in early November caused by the passage of Cyclones Chapala and Megh. Despite some relief from rains in November, most of western Somaliland received low rainfall compared with the long term average.
- ◆ FAO managed the Food Security and Nutrition Analysis Unit (FSNAU) which estimates that more than 1 million people face acute food security – crisis or emergency. Another 3.9 million people are at risk of slipping into acute food insecurity. In total, 4.9 million people require humanitarian assistance.
- ◆ Farmers and herders are the most affected by El Niño, since it came on the heels of a poor 2015 *Gu season* cereal harvest (25 percent below the last five-year average). In the north-west, many communities face a fourth consecutive season of poor rains. Cereal production in these areas was even lower (63 percent below the last four-year average) and livestock herds have diminished.

Disaster associated with El Niño in 1997–1998, 2002–2003 or 2009–2010	Highest impacts recorded for a single disaster event	
	Total people affected	Total damage (USD)
Flood	1 million (1997)	(No data)

## Somalia early action and response

### Government and other partners

- El Niño contingency plan for preparedness and immediate response finalized.

### FAO

- Implementing an El Niño Preparedness and Early Response Plan. The Department for International Development (DFID) committed GBP 1 million to strengthen riverbanks, build flood barriers, pre-position grain and seed protection bags and support livestock health.
- Re-programmed USD 300 000 for cash-for-work activities, involving 2 800 households, which focused on repairing river breakages in over 50 locations.
- The return on investments of these interventions has been extremely high as thousands of acres of cropland and millions of dollars in food have been protected.
- Disseminated early warning messages to farmers and established community-based early warning systems.
- 11 000 households received material and training to build elevated storage platforms.
- Priorities for action are:
  - Floods: repairing infrastructures and flood control measures; desilting irrigation canals; livelihoods diversification and rehabilitation;
  - Drought: livestock emergency treatment and vaccination; restocking of livestock and improving water management at community level.

### Funding requirements

USD 57.6 million required to fully implement the FAO El Niño Plan, of which 2.6 million already mobilized.



# Ethiopia

INFORM Rank: 13



Drought in northeast



Floods in south



Animal Losses

## Outlook

- ◆ Strong drought (very severe in Northern Pastoral Zone, severe in Eastern Highlands Agricultural Zone) condition emerged due to the combination of failed spring rains and El Niño induced failed summer rains.
- ◆ Crop and livestock production has dropped by 50 to 90 percent in some areas and failed completely in others; 2 million farmers need immediate humanitarian agricultural production support and seed reserves are severely depleted following unsuccessful planting and re-planting (50 percent increase in identified seed requirements for nearly 838 000 households).
- ◆ Poor grazing resources in southern Afar and northern Somali regions due to erratic July to September "karan/karma" rains. High livestock mortality rates, worsening animal body conditions and declining milk productivity. Current estimates indicate 869 000 households require animal feed support.
- ◆ The Ethiopia Humanitarian Country Team (HCT) projections for 2015–2016 include a rise in the number of people in need of food assistance from 10.2 million (December 2015) to 15 million people in March 2016. Moreover, 400 000 children and 700 000 expecting and recent mothers are likely to face severe malnutrition.

Disaster associated with El Niño in 1997–1998, 2002–2003 or 2009–2010	Highest impacts recorded for a single disaster event	
	Total people affected	Total damage (USD)
Drought	12.6 million (2003)	15.6 million (1998)

## Ethiopia early action and response

### Government and other partners

- Government prepared an EL Niño Disaster Preparedness and Response Road Map, allocated USD 192 million and 220 000 tonnes of food.
- The Ethiopia HCT prepared a disaster appeal in September, identifying USD 237 million to preposition supplies for the first quarter of 2016.
- Government and humanitarian partners prepared the 2015 National Flood Contingency Plan for the bega season, which highlights prone areas, key interventions and partners.

### FAO

- Supported the Agricultural Task Force in developing the Ethiopia El Niño Response Plan (ENRP 2015–2016).
- Raised USD 1 million through the underfunded window of the Central Emergency Response Fund of the United Nations (CERF) to support the livelihoods of pastoralist, agropastoralists and smallholders affected by the drought in Afar and elsewhere.
- Reprogrammed USD 700 000 from different projects and released USD 500 000 in SFERA funding for immediate support to the livestock sector (emergency feed).
- Developed the ENRP, which encompasses a diverse set of initiatives, such as: emergency seed distribution; vegetable home-gardening; destocking of weak animals and survival feed provision to core breeding animals; cash-for-work and livelihoods diversification.

### Funding requirements

FAO Ethiopia seeks USD 50 million to assist 1.8 million pastoralists, agropastoralists and smallholder farmers affected by El Niño through coordinated support to agriculture and livestock production, and resilience-building interventions.



# Mozambique

INFORM Rank: 20



Drought



Floods in the North

## Outlook

- ◆ Delayed (up to 40 days) and insufficient rains across most regions result in below average vegetation condition and lowered 2016 production prospects. Drought is affecting mostly southern and central regions of Mozambique.
- ◆ Strong rains in the north have resulted in several deaths and affected around 19 000 people.
- ◆ An estimated 600 000 people are food insecure across the country, out of which around 175 000 are in need of urgent assistance, mostly in four provinces (Gaza, Inhambane, Sofala and Niassa).
- ◆ Weather forecasts predict a continuation of below-average rains and increased likelihood of higher temperatures until the harvest period (April – May 2016).

Disaster associated with El Niño in 1997–1998, 2002–2003 or 2009–2010	Highest impacts recorded for a single disaster event	
	Total people affected	Total damage (USD)
Drought	600 000 (2002)	(No data)
Cyclone	23 000 (2003)	3 million (2009)
Flood	400 000 (1997)	(no data)

## Mozambique early action and response

### Government and other partners

- Government has a contingency plan in place for 2015–2016 which includes El Niño response activities.
- Government has put in place a varied set of measures to prevent, mitigate and respond to the current crisis, such as:
  - Disseminate forecast and adaptation messages;
  - Distributing improved seeds and conducting animal disease surveillance.

### FAO

- Supporting coordination efforts with the HCT.
- Developing a programme targeting the Gaza province with crop and livestock support

### Funding requirements

FAO requires USD 5 million for interventions focused on droughts and floods.



Drought in south

Outlook

- ◆ In late December, dry conditions led to crops experiencing moisture stress, particularly in the southern areas. However, there is still chance for recovery if rains return by mid-January 2016. Pastures were reported to be in good condition, and water for livestock sufficient.
- ◆ Drier than average conditions are expected to continue with national and regional forecasts showing erratic and lower rainfall patterns than normal. Increased shortfalls in maize production is likely. According to international forecasts, rainfall between January and March is likely to be below-average in southern and central Malawi.
- ◆ 2.8 million people are predicted to be food insecure when the lean season is at its peak from January to March 2016. Over 47 percent of children under the age of five are currently malnourished.
- ◆ Maize staple prices in Karonga and Mzuzu increased by about 15 to 30 percent between October and December, remaining well above last year and the five-year average.

Disaster associated with El Niño in 1997–1998, 2002–2003 or 2009–2010	Highest impacts recorded for a single disaster event	
	Total people affected	Total damage (USD)
Drought	2.8 million (2002)	(No data)

Malawi early action and response

Government and other partners

- Government declared a state of emergency in September 2015 and will import 56 000 metric tonnes of maize to stabilize local markets.
- HCT supported preparation of a Food Insecurity National Response Plan, which appealed for USD 146 million to cover urgent food security, agriculture, nutrition and protection needs in the coming months.
- CERF has approved USD 16 million in response to the early-2015 floods and current food insecurity needs caused by the recent dry spells.

FAO

- Co-leads the Agriculture Cluster, which supported the Ministry of Agriculture and other stakeholders in designing the Agriculture Response Plan for El Niño. The total value of the agriculture component in the national response plan is USD 44 million.
- Received funding from DFID to support affected farmers with small livestock and vaccination in preparation for the impact of El Niño.
- Mobilized nearly USD 2 million from CERF for urgent assistance to vulnerable farmers for the next planting season which starts by mid-November.
- Particular emphasis has been given to provide early maturing varieties, drought resistant cereals and irrigation support to around 42 000 households in the six districts more prone to erratic rainfall and dry spells.

Funding requirements

The Agriculture Response Plan is still widely underfunded. At least USD 18 million is required to complete the most urgent activities such as seeds, irrigation and livestock.



# Zimbabwe

INFORM Rank: 71



Drought



Animal Losses

## Outlook

- ◆ Drier than average conditions are expected to continue, increasing the possibility of reduced maize production in 2016, compounding the effects of an estimated 50 percent reduction in 2015 harvests.
- ◆ In many southern parts of the country, the rainfall was insufficient to allow planting, while it was more favourable in the north. In many areas where planting did occur, the crop suffered moisture stress due to the dry conditions and high temperatures. It is forecast that in January–March 2016 rainfall will be normal to above-normal in the north and northeast.
- ◆ Over 8 000 cattle have died due to the effects of drought.
- ◆ Rural food insecurity was estimated by the Zimbabwe VAC as 10 percent of the rural population from October to December 2015.
- ◆ The committee’s 2015 evaluation indicates that 16 percent of the rural population – 1.49 million people – will be food insecure during the peak hunger period of January to March 2016.

Disaster associated with El Niño in 1997–1998, 2002–2003 or 2009–2010	Highest impacts recorded for a single disaster event	
	Total people affected	Total damage (USD)
Drought	1.6 million (2010)	(No data)

## Zimbabwe early action and response

### Government and other partners

- Government has given advice to farmers on how to mitigate the effects of El Niño, such as the types and quantities of crops to plant.
- Government is in the process of importing 500 000 to 700 000 metric tons of maize.
- A Food Insecurity Response Plan was developed by the Zimbabwe Humanitarian Country Team in late September 2015, which aims to cover the emergency needs of an estimated 1.5 million food-insecure people in 52 affected districts. The response plan seeks USD 132.2 million, for which CERF has allocated USD 8.1 million.
- The UNCT and the HCT have endorsed the development of an El Niño-specific Inter Agency Contingency Plan. This will address all sectors and be aligned with the El Niño contingency plan being developed by the Government of Zimbabwe.

### FAO

- Prepared a drought mitigation programme to address the combined impact of the drought earlier in the year with the anticipated effects of El Niño. USD 2.1 million, out of USD 32.5 million, has been raised from CERF. The following activities have been proposed for this programme:
  - Subsidized drought-tolerant seeds (small grains and legumes)
  - Subsidized survival stock feed;
  - Rehabilitation of 280 water points;
  - Foot-and-mouth disease and anthrax vaccination;
  - Strengthened early warning systems.
- Supporting 8 000 households to access livestock survival feed and drought tolerant seeds of sorghum and cowpeas in Mangwe, Matobo, Beitbridge, Gwanda and Chivi.

## Funding requirements

Current funding gap of USD 30.4 million for FAO drought mitigation programme.



# Lesotho

INFORM Rank: 76



## Drought

### Outlook

- ◆ Late planting, frost damages, insufficient range cover and water shortages have already been reported in many areas of Lesotho. After two successive crop failures, more than 650 000 people face hunger.
- ◆ Low rainfall was insufficient for planting and crop development, and resulted in water shortages, poor pasture conditions, large numbers of drought-related cattle deaths, and low expectations for the 2015–2016 harvest. Forecasts suggest average to below-average rainfall is likely during much of the agricultural season. This is likely to affect agricultural activities and reduce labor income during the peak of the lean season. Staple food prices will likely remain high through the lean season due to rises in food prices in South Africa, which is the main source of food for Lesotho.
- ◆ There are acute water shortages, poor rangelands, and fodder for livestock in short supplies.
- ◆ Average- to below-average rainfall is anticipated countrywide from October to March 2016. A drought is deemed likely with resulting food insecurity.

Disaster associated with El Niño in 1997–1998, 2002–2003 or 2009–2010	Highest impacts recorded for a single disaster event	
	Total people affected	Total damage (USD)
Drought	500 000 (2002)	(No data)

### Lesotho early action and response

#### Government and other partners

- On 22 December, the Government declared a state of drought emergency.
- Government activated the Drought Preparedness and Mitigation Plan, estimating funding needs at USD 18 109 546 for implementation of activities in 2015–2016.
- Disaster Management Authority has released a National Drought Emergency Response Plan estimating a total of USD 12 million required for the agriculture and food security sector to respond effectively to the drought effects.

#### FAO

- Prioritizing strengthening national capacity for response while providing overall coordination support. In addition, at household level, FAO intends to support communities affected by drought in the adoption of Climate Smart Agriculture technologies such as conservation agriculture, home gardening and nutrition and sustainable land management through the provision of inputs and training.

#### Funding requirements

USD 7 million is required for drought mitigation and response activities including capacity building to strengthen national El Niño response and coordination support.



**Drought**

**Outlook**

- ◆ Swaziland is currently facing food insecurity affecting 200 000 people, but this figure can be expected to double during the lean season of 2015–2016 to 400 000 people (over 30 percent of the population).
- ◆ The lack of rainfall in certain parts of the country is expected to reduce the cereal production. There is currently already a reduction of maize production of 31 percent compared with the 2014–2015 harvest.
- ◆ After the poor rains received earlier in the season, Swaziland received near-normal rains in the first 20 days of December, allowing some farmers to plant.
- ◆ Due to low rains received in the third decade of the month, combined with the high temperatures, many planted crops are experiencing some moisture stress.
- ◆ Reports indicate approximately 20 000 cattle have died due to the effects of drought.

Disaster associated with El Niño in 1997–1998, 2002–2003 or 2009–2010	Highest impacts recorded for a single disaster event	
	Total people affected	Total damage (USD)
Drought	(No data)	(No data)

**Swaziland early action and response**

**Government and other partners**

- Government has put in place water restrictions, reflecting lower-than-normal rainfall and reservoir levels.

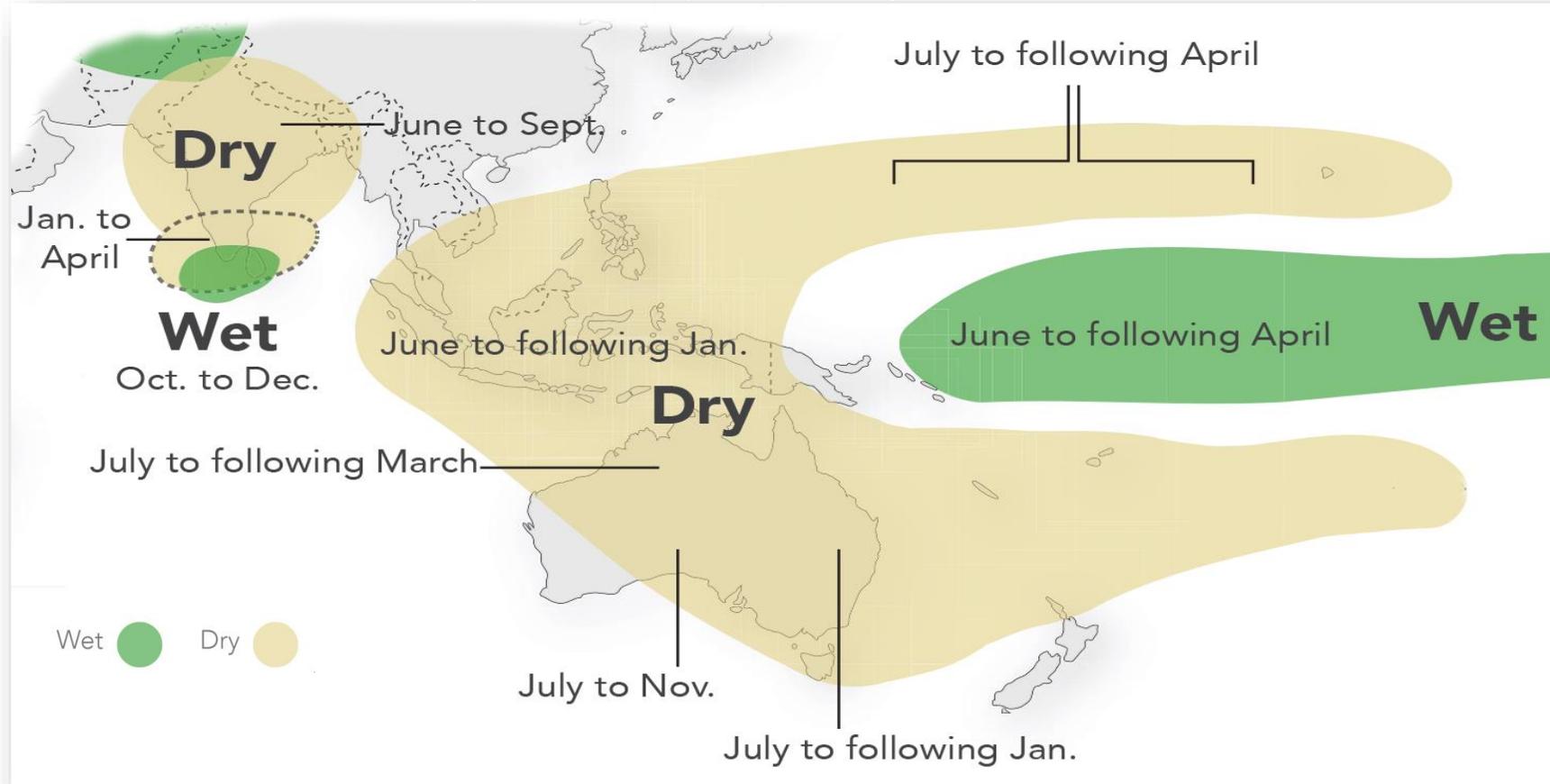
**Funding requirements**

Currently being assessed

## ASIA AND THE PACIFIC

### El Niño regional forecast for Asia and the Pacific

El Niño conditions in the tropical Pacific are known to shift rainfall patterns in many parts of the world. Although they vary from one El Niño to the next, the strongest shifts remain fairly consistent in the regions and seasons shown here.



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# Papua New Guinea

INFORM Rank: 31



Drought



Cold wave

## Outlook

- ◆ 2.7 million people are affected by drought, frost and forest fires in Papua New Guinea. The Prime Minister’s office says 1.3 million are classed as being in Category 4 (out of 5), due to drought.
- ◆ Reduced access to clean drinking water and reduced water availability for agricultural activities has affected vulnerable communities. In the Highland provinces, food gardens have been severely affected by frost and drought and two provinces have already declared a state of emergency.
- ◆ Crop yields are declining and diseases are increasing. Reduced food availability due to crop losses and accessibility of food (drastic increase in basic food prices in markets) has resulted in reduction of meals to 1 per day in the most affected areas.
- ◆ Insect and animal infestation of crops reported in some areas in the southern region.

Disaster associated with El Niño in 1997–1998, 2002–2003 or 2009–2010	Highest impacts recorded for a single disaster event	
	Total people affected	Total damage (USD)
Drought	1 million people suffered from food insecurity (1997–1998)	USD 21 million for food aid (1997–1998)

## Papua New Guinea early action and response

### Government and other partners

- Government allocated USD 8.5 million to drought response for four inter-agency rapid assessments and initial emergency relief to the most affected provinces in the Highlands.
- Department of Agriculture and Livestock (DAL), National Agriculture Research Institute, and National Agriculture Quarantine and Inspection Authority are closely monitoring the situation. Plan and funding proposal put forward to donors.

### FAO

- Providing sectoral coordination support for drought relief and mitigation to the newly established task force on the 2015–2016 El Niño led by the DAL.
- Assisting 80 000 subsistence farming families in the four worst-affected provinces Enga, Chimbu, Southern Highlands and Morobe through: dissemination of drought messages to affected farmers, including farmer field demonstrations; provision of drought-tolerant crops, early maturing varieties; and provision of smart irrigation support material (e.g. drip-irrigation systems).
- Deployed an assessment mission to develop a preparedness and response strategy for the food security sector, jointly with the WFP.
- Developed an El Niño Early Action and Response Plan for which USD 600 000 has been committed from internal sources.
- Increasing FAO Staff in country for food security coordination

### Funding requirements

USD 4.9 million needed to assist 560 000 subsistence farmers out of which USD 600 000 has been mobilized.



# Philippines

INFORM Rank: 34



Drought



Cyclone



Fisheries

## Outlook

- ◆ Probability of below-normal rainfall conditions in most parts of the country is most likely from January to April which may lead to drought conditions.
- ◆ 34 percent of the country will likely experience drought by end of February, 40 percent by end of March, and 85 percent by end of April.
- ◆ The Department of Agriculture reported in August 2015 that 144 100 ha of farms are affected, involving 65 855 farmers; 218 379 metric tonnes of crops lost, worth an estimated USD 70.8 million.
- ◆ Typhoon Koppu, which made landfall on 18 October, is estimated to have resulted approximately to USD 180 million in agricultural damage.

Disaster associated with El Niño in 1997–1998, 2002–2003 or 2009–2010	Highest impacts recorded for a single disaster event	
	Total people affected	Total damage (USD)
Drought	2.6 million (1998)	(No data)
Cyclone	3.9 million (1998)	71 million (1998); 585 million (2009)

## Philippines early action and response

### Government and other partners

- Government is preparing the Roadmap to Address the Impact of El Niño (RAIN) which was approved by the President on December 2015. It aims to address lower food production, higher prices and lower farm income.
- Department of Agriculture (DA) has implemented activities to help farmers cope, such as cloud seeding, seed distribution, promoting crop diversification/rotation and water saving.

### FAO

- Assisting the DA in preparing a disaster risk reduction strategy for agriculture and has supported regional field offices in mitigation and rehabilitation planning for El Niño.
- Conducted regional climate fora for agriculture on El Niño together with the DA and Astronomical Services Administration (DOST-PAGASA) and providing the UNCT and UNHT with updates on the projected impact.
- Supported a needs assessment and subsequent emergency interventions in El Niño affected communities southern provinces.
- Supported climate information dissemination through farmer field days and training agricultural extension workers in enhanced climate risk management.
- Developed with DOST-PAGASA, DA and a partner state university, visualization and analysis tools for the national meteorological agency’s nine-day weather forecast for farm operations.
- Supported Government in Rapid Damage and Needs Assessment (RDNA) and provided farmers affected by Typhoon Koppu and El Niño with certified rice seed and fertilizer for planting in December 2015 – January 2016.

### Funding requirements

FAO needs USD 3 million to implement field-based activities, restoring the livelihoods of affected farming and fishing communities. An additional USD 2 million is required to strengthen the capacities of the DA regional field offices and local government units to prepare people for adaptation and mitigation strategic measures. These funds would also set up early warning systems for drought and disseminate information such as farm weather bulletins.

## Pacific Islands (Fiji, Solomon Islands, Tonga, Vanuatu)



Drought



Cyclone



Fisheries

### Outlook

- ◆ Drought is forecast for northern and western Pacific threatening the livelihoods and well-being of 4.7 million people across the Pacific.
- ◆ Reduced rainfall in Fiji, Tonga, the Solomon Islands and others affecting crops and drinking water.
- ◆ In Fiji, during October, Ono Island in southern Lau reported just nine millimeters of rain, or about 10 percent of the average for October. Sugar cane crop is 25 percent down.
- ◆ In Tonga, drought has been declared and further low rainfall is expected.
- ◆ In Vanuatu, the Ministry of Agriculture carried out an El Niño's impact assessment, which identifies also key short and medium terms interventions

Disaster associated with El Niño in 1997–1998, 2002–2003 or 2009–2010	Highest impacts recorded for a single disaster event	
	Total people affected	Total damage (USD)
Drought	(No data)	46 million damage to agriculture and infrastructure (Fiji, 2010)
Cyclone	4 000 (Fiji, 2009); 3 000 (Tonga, 1997); 2 400 (Vanuatu, 1998)	39 million (Fiji, 2010)

### Pacific Islands early action and response

#### Government and other partners

- In Tonga, emergency water supplies distributed to the outer islands and water desalination services made available.
- In Fiji, 67 000 people are currently targeted with government water deliveries in villages and schools, especially on the outer islands. Devastation caused by a category five cyclones being compounded in Fiji by drought. Government is distributing rice and tinned fish to affected communities.
- Samoa has declared a metrological drought and asked people to conserve water.
- Vanuatu's Ministry of Agriculture estimates a requirement of USD 935 000 for immediate response to El Niño's impact on agriculture

#### FAO

- Sub-regional office for Pacific is already implementing the El Niño Drought Preparation and Monitoring in Micronesia and Melanesia, for which USD 400 000 have been received from OFDA. It focuses on assisting governments to mitigate risks to the food and nutrition security of vulnerable households.
- Training farmers in Vanuatu on food preservation methods through a Belgian Trust Fund project on Emergency Support to Re-establish Agricultural Production in Communities Affected by Cyclone Pam.
- Targeting vulnerable communities in Fiji, Tonga and Vanuatu to enhance national and local capacities for integrating disaster risk reduction in agriculture in national services and community practices, in partnership with Disaster Preparedness Programme of the European Commission's Humanitarian Aid department. Factsheets covering primary mitigation approaches including what types of food crops to plant, water management and crop site selection are being developed.

#### Funding requirements

USD 500 000 required for El Niño drought food insecurity monitoring, preparedness and support in Micronesia and Melanesia.



# Indonesia

INFORM Rank: 55



Drought



Wildfire

## Outlook

- ◆ Drier than normal conditions and late onset of the monsoon season caused major delays in planting of the 2015–2016 main season crops.
- ◆ National level paddy planting was 25 percent lower than usual between October and December 2015. In the most drought-affected areas in eastern Indonesia, paddy planting was up to 80 percent lower than normal. This will mean late crop harvesting and extended lean season. Lower than usual production levels of rice and maize are expected in February and March 2016.
- ◆ Continued erratic rainfall in eastern Indonesia, negatively affecting condition of the main season crops, will likely result in localized production losses.
- ◆ Reduced income and record high prices of main staple - rice - are rising concerns for large number of vulnerable and subsistence farming households.
- ◆ An estimated 3 million people living below poverty line have been affected by severe drought between October and December 2015, of which 1.2 million are reliant on rain-fed agriculture.
- ◆ Increased probability of floods in the rainy season can stress the food security situation of the most vulnerable groups further.
- ◆ The 2015 fires burnt 2.6 million ha of forest and agricultural land. Underground fires that continue to smoulder in the deep peatlands are expected to re-emerge in the end of the rainy season in April–May 2016.

Disaster associated with El Niño in 1997–1998, 2002–2003 or 2009–2010	Highest impacts recorded for a single disaster event	
	Total people affected	Total damage (USD)
Drought	5 million affected (FAO/WFP 1998)	88 million (FAO/WFP 1998)
Wildfire	32 000 (1997)	8 billion (1997)

## Indonesia early action and response

### Government and other partners

- A UNCT Focus Group for El Niño, co-led by FAO and WFP, has been monitoring impacts and identifying actions for response. In cooperation with ACAPS, the group will conduct a humanitarian scenario building exercise in February 2016.
- The Government has allocated USD 258 million to improve rice state reserves and stabilize the prices of staple foods. Rice imports totalling 1.5 million tonnes were authorized, with expected delivery by March 2016.
- The Ministry of Social Affairs provided an additional two month rice ration for the Rice for Family Welfare program beneficiaries in October.
- The Ministry of Health is conducting a national nutrition survey for under five years old, with preliminary results expected in February 2016.
- The Government has established the Peatland Restoration Agency to manage peatland restoration of 2 million ha in seven provinces within five years

### FAO

- Food security analysts, deployed in November 2015, have continued to support interagency collaboration and the development and implementation of an El Niño Early Action Plan. This includes food security monitoring and analysis, scale-up of drought resilient agriculture cultivation practices, fire prevention and forest and peat-land management.
- Collaborating with the Ministry of Agriculture and WFP in the production of a monthly Food Security Monitoring Bulletin.

### Funding requirements

USD 2.7 million is estimated for the upscale of drought resilient agricultural practices in the most drought-affected areas - NTT and NTB provinces.



## Timor-Leste

INFORM Rank: 69



### Drought

#### Outlook

- ◆ Most of the country received insufficient rainfall particularly the central, east and south areas from October 2015 to January 2016.
- ◆ Springs are drying up and animals struggling to find water and fodder, resulted to some animal losing weight and dying in the most affected areas.
- ◆ Main staple crops (maize and rice) under water stress, farmers who planted maize early are seeing the plants wilting or dying.
- ◆ The onset of the main rainy season, which normally begins in October was delayed, with key maize and rice growing areas faced delayed planting, will significantly affects food availability in March and April.
- ◆ The implications for maize and rice production forecast that around 40 percent and 57 percent respectively of the overall production area will be affected by El Niño, likely impacted 220 000 rural people.
- ◆ The worst case scenario would have an additional shortfall in the rice and maize needs of 48 363 metric tonnes.

Disaster associated with El Niño in 1997–1998, 2002–2003 or 2009–2010	Highest impacts recorded for a single disaster event	
	Total people affected	Total damage (USD)
Flood	600 (2003)	(No data)

### Timor-Leste early action and response

#### Government and other partners

- Ministry of Agriculture and Fisheries, with support from the inter-ministerial Food Security and Nutrition coordinating body issued 14 key messages to farmers and households to raise awareness of El Niño and possible actions to mitigate potential impact. Prime Minister office took action on communication.
- HCT conducted desk analysis and rapid field assessment and produced situation report of which the government preparedness plan on El Niño was developed. The Government and HCT have put in place regular monitoring and coordination mechanisms.

#### FAO

- Maintaining interagency collaboration and leading the HCT El Niño desk analysis, regularly monitoring, circulating and advising the government and HCT members on weather information and seasonal crops indicators generated from GIEWS.
- Provided technical support to the Ministry of Agriculture through the District Food Security Officers in conducting field monitoring on the impact of El Niño in villages, while conservation agriculture (CA) project conducted regular monitoring on the impact of El Niño to CA programme participants for immediate mitigation and response.
- Will continue to provide technical support to the Ministry of Agriculture and Fisheries to publish the quarterly Food Security Bulletin and the monthly Agrometeorology Monitor.
- In the process of distributing additional maize and cover crops seeds to CA programme participants to replace those El Niño affected fields.

#### Funding requirements

The Government anticipates USD 2.8 million for mitigation and response activities.



# Mongolia

INFORM Rank: 116



## Cold Wave

### Outlook

- ◆ 16 of Mongolia’s 21 provinces are experiencing *dzud* (harsh winter preceded by drought) conditions following a drought.
- ◆ According to the National Emergency Management Authority, snow has covered 90 percent of the total territory with conditions getting more severe, with the thickness of snow cover between 10 to 40 cm.
- ◆ Continuous snowfall, snowstorms and temperatures are expected to persist on average of below -25 degrees Celsius during daytime and -38 degrees during night in the coming weeks affecting more than 965 000 people.
- ◆ Summer drought resulted in a 40 percent reduced wheat harvest and reduced grazing pasture.
- ◆ In previous severe dzuds, 25 to 35 percent of all livestock (up to 10 million heads) in Mongolia has been lost
- ◆ Oversaturation of livestock and livestock products in the national market has caused price decreases of 40 to 60 percent exacerbating household debt.

Disaster associated with El Niño in 1997–1998, 2002–2003 or 2009–2010	Highest impacts recorded for a single disaster event	
	Total people affected	Total damage (USD)
Cold Wave	770 000 (2009)	USD 62 million (2009);

## Mongolia early action

### Government and other partners

- Government plans to allocate USD 5.3 million to support herders and is urgently trying to export meat to Viet Nam, China and Russia as well as up to 10 million live animals to China.
- Government, in early January 2016, released an assessment report claiming 50 soums (districts) in 16 aimags (provinces) are currently categorized as experiencing Dzud while 120 soums in 20 provinces are on the edge of entering Dzud condition.
- The UN HCT met on the dzud to exchange assessments and updates from government ministries and FAO.
- The International Federation of the Red Cross released CHF 158 000 (USD 157 686) from its Disaster Relief Emergency Fund to assist 1 500 pastoral families (7 500 people) in Mongolia who are at risk of losing all their livestock to extreme sub-zero temperatures and heavy snowfall.

### FAO

- Compiling winter preparedness information to highlight gaps in areas where winter may be difficult.
- Deployed a mission to support the development and implementation of an early action plan.

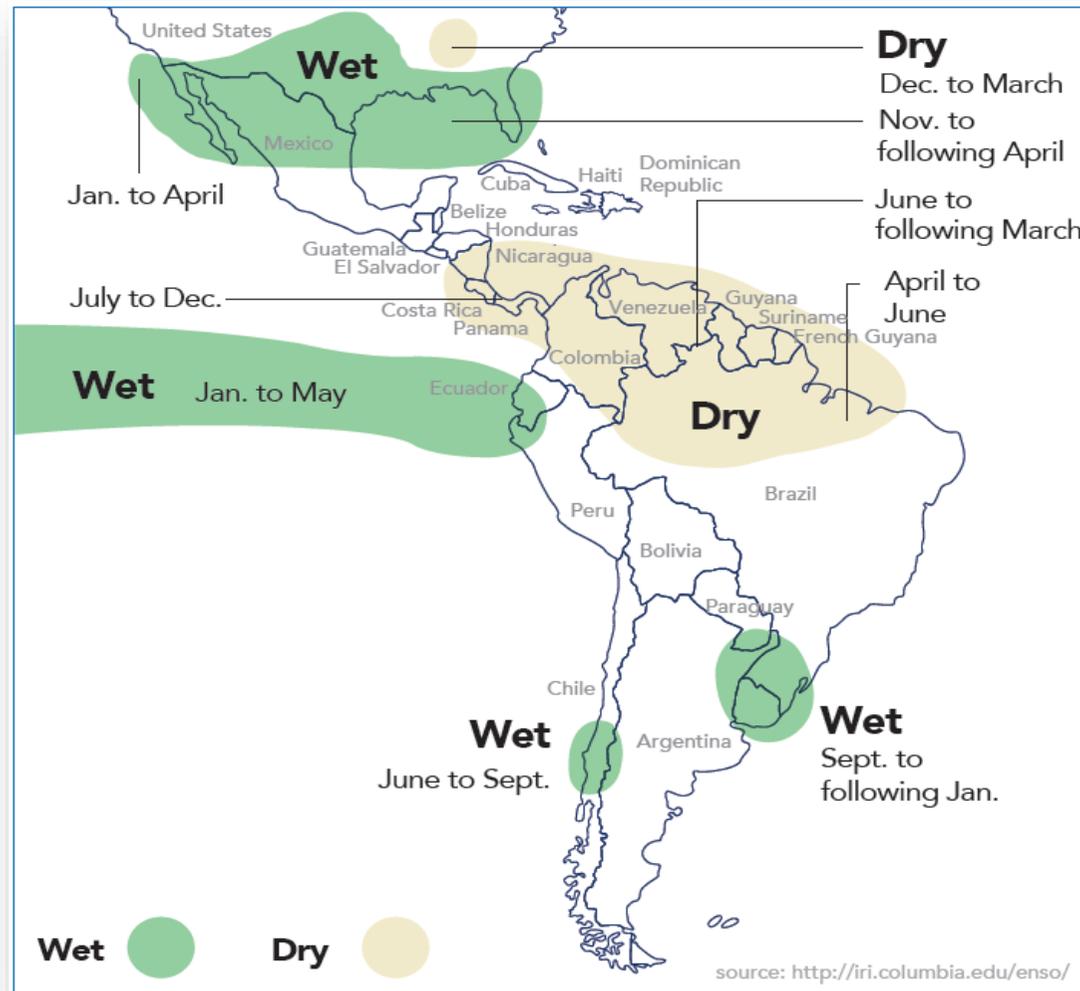
## Funding requirements

The cost of partial commercial destocking to preserve the livelihoods of the most vulnerable households (approximately 6 500 families) is estimated just over USD 8 million. USD 200 000 from SFERA has been committed.

## LATIN AMERICA AND THE CARIBBEAN

### El Niño regional forecast for Latin America and the Caribbean

El Niño conditions in the tropical Pacific are known to shift rainfall patterns in many parts of the world. Although they vary from one El Niño to the next, the strongest shifts remain fairly consistent in the regions and seasons shown here.



For more information on El Niño and La Niña, go to: <http://iri.columbia.edu/enso/>

Sources:

1. Ropelewski, C. F., and M. S. Halpert, 1987: Global and regional scale precipitation patterns associated with the El Niño Southern Oscillation. *Mon. Wea. Rev.*, 115, 1606-1626;
2. Mason and Goddard, 2001. Probabilistic precipitation anomalies associated with ENSO. *Bull. Am. Meteorol. Soc.* 82, 619-638



# Haiti

INFORM Rank: 22



## Drought

### Outlook

- ◆ Haiti is forecast to continue experiencing extremely warm and dry conditions through to May 2016. Drought has resulted in a 50 percent decrease of the 2015 spring season harvest, which normally covers 60 percent of total agricultural production.
- ◆ Vulnerable households in the South, South-East, North-East, North-West and Artibonite are affected by food insecurity due to the combination of failing harvest and rising food prices.
- ◆ With very high levels of chronic food insecurity, the impact of El Niño is to rapidly increase the number of acute food insecure people. At the end of 2015 some 37 communes were in phase 3 of IPC, and this number is expected to further increase during early 2016.
- ◆ The influx into Haiti of over 50 000 people of Haitian descent from the Dominican Republic has aggravated the humanitarian situation and has pressurized scarce water and food supplies along the border.

Disaster associated with El Niño in 1997–1998, 2002–2003 or 2009–2010	Highest impacts recorded for a single disaster event	
	Total people affected	Total damage (USD)
Drought	35 000 (2003)	(no data)
Cyclone	73 000 (2010)	180 million (1998)

## Haiti early action and response

### Government and other partners

- Early warning has been led by the National Committee for Food Security (CNSA), Ministry of Agriculture, FEWSNET and GIEWS. Initiatives are in place for the reinforcement of monitoring and surveillance mechanisms and to improve coordination among stakeholders.
- The government and humanitarian community, with the involvement of technical agencies (national and departmental), are targeting rural communities, focusing on food and water distribution, rehabilitation of water supply systems, cash for work activities.
- ECHO has included in the Humanitarian Implementation Plan for 2016 a dedicated response to the drought coupled with the effects of El Niño.

### FAO

- FAO and WFP Haiti agreed that a CFSAM is needed and are in the process of consulting the Ministry of Agriculture and CNSA (national food security coordination).
- Seed and tools distribution going on in the most drought affected Departments (South East and North West) through the UN's CERF system.
- Contribution to the provisional assessment of spring agricultural season carried out by the CNSA.
- Strengthening the community adaptation capacity and improving the resilience of the agro-ecosystems through training, farmer field schools, implementation of good practices and techniques such as agroforestry, conservation farming, integrated production models.

### Funding requirements

The CNSA estimates that 430 000 people are in phase 3 of IPC and USD 36.1 million would be required for their assistance (FCW, food vouchers, agricultural inputs, etc.).



**Drought**

**Outlook**

- ◆ Recent joint assessments indicate that some 1.5 million people are in need of humanitarian assistance.
- ◆ According to the Ministry of Agriculture, Livestock and Food (MAGA) and the Secretariat of Food Security and Nutrition (SESAN), around 175 387 families have reported between 50 to 100 percent loss of maize and bean harvests in the Dry Corridor.
- ◆ Total financial losses for maize are reported by MAGA in the amount of USD 30.8 million for around 82 000 metric tonnes. For black beans, total losses are reported in the amount of USD 102.3 million for around 118 182 metric tonnes.

Disaster associated with El Niño in 1997–1998, 2002–2003 or 2009–2010	Highest impacts recorded for a single disaster event	
	Total people affected	Total damage (USD)
Drought	2.5 million (2009)	(No data)
Cyclone	400 000 (2010)	748 million (1998)

**Guatemala early action and response**

**Government and other partners**

- WFP, in conjunction with the Ministries of Agriculture, Livestock and Food and Food and Nutrition Security, is providing food assistance to 83 000 families.
- Through a food-for-work programme, the Government is supporting the creation of water reservoirs and improving local water management and soil conservation practices.

**FAO**

- Implementing an emergency response programme targeting 20 000 families.

**Funding requirements**

Overall, USD 55.4 million are required to respond to humanitarian needs, out of which USD 48.1 million for initiatives related to food security, livelihoods rehabilitation and agriculture.



**Drought**

**Outlook**

- ◆ Recent estimates indicate that 1 350 000 people are affected and in need of immediate humanitarian assistance.
- ◆ El Niño conditions forecast to last until the spring of 2016.
- ◆ Preliminary estimates indicate crop losses are in excess of 60 percent in the maize growing areas and 80 percent in the bean growing ones.
- ◆ Food prices were 20 percent higher than in August 2014.
- ◆ Poorest households most affected by drought-related harvest losses are expected to be severely food insecure from September.

Disaster associated with El Niño in 1997–1998, 2002–2003 or 2009–2010	Highest impacts recorded for a single disaster event	
	Total people affected	Total damage (USD)
Drought	82 000 (2002)	(No data)
Cyclone	2 112 000 (1998)	3.8 billion (1998)

**Honduras early action and response**

**Government and other partners**

- Government declared a state of emergency and is implementing a Drought National Action Plan for food assistance and support to production.
- 178 770 families have received food assistance
- WFP is already providing direct assistance to 29 percent of the affected population.

**FAO**

- Implementing an emergency response programme and designing a new project to support affected farmers.

**Funding requirements**

In total, USD 45.8 million are required for providing humanitarian assistance and rehabilitating the livelihoods of 50 585 vulnerable households living in the Dry Corridor region. Within this overall programme, USD 3.4 million are FAO’s specific requirement for funding immediate livelihoods restoration activities.



**Drought**

**Outlook**

- ◆ Vulnerable farmers in the Dry Corridor have lost up to 100 percent of the main maize harvest (Primera). Moreover, the compounding effects of previous poor agricultural seasons and weakened livelihoods, and the unfavourable dry weather forecast for the first quarter of 2016, might aggravate their situation. If no humanitarian assistance is provided, there is a high likelihood that vulnerable farmers will face severe food insecurity from March 2016.
- ◆ Wholesale prices of white maize in late 2015 were 40 percent higher than the previous year.
- ◆ Due to El Niño conditions, below average rainfall are forecast to last until at least March 2016 and it is unlikely that households will be able to recover quickly from their losses.

Disaster associated with El Niño in 1997–1998, 2002–2003 or 2009–2010	Highest impacts recorded for a single disaster event	
	Total people affected	Total damage (USD)
Drought	290 000 (1997)	2 million (1997)
Cyclone	868 000 (1998)	987 million (1998)

**Nicaragua early action and response**

**Government and other partners**

- Government is implementing a Drought National Action Plan including distributions to 27 000 households and the delivery of 23 000 technology packages which include seeds for planting.

**Funding requirements**

Currently being assessed.



## El Salvador

INFORM Rank: 96



### Drought

#### Outlook

- ◆ El Niño has caused decreased rainfall and drought in most parts of El Salvador.
- ◆ 192 000 households are facing severe acute malnutrition.
- ◆ Ministry of Agriculture and Livestock estimates that 85 858 ha of maize have been lost or damaged (equal to 4.7 million hundredweight of production). Due to irregular rainfall during 2015, 60 percent of the maize crop was destroyed. Drought has affected 161 180 farmers, mostly maize producers.
- ◆ The current drought's impact on the economy has increased with respect to 2014 drought to approximately USD 100 million in 2015. This includes investment losses, which are estimated at USD 29 million in seeds, fertilizers, pesticides and land preparation.
- ◆ River levels are 20 to 60 percent lower than normal. In the eastern areas, rivers are up to 90 percent lower and below average rainfall, as well as above average temperatures, are forecast to last until at least March 2016.

Disaster associated with El Niño in 1997–1998, 2002–2003 or 2009–2010	Highest impacts recorded for a single disaster event	
	Total people affected	Total damage (USD)
Drought	(No data)	170 million (1998)
Cyclone	90 000 (2009)	939 million (2009)

### El Salvador early action and response

#### Government and other partners

- Government has distributed maize and bean seeds to farmers affected by shortages and has given assistance such as pumps. It has also authorized imports of 14 000 tonnes of maize and 550 tonnes of beans at zero tariffs to mitigate price increases.
- It also distributed drought and rust resistant coffee plants and trained producers on the use of irrigation techniques to cope with drought

#### FAO

- Supporting the Ministry of Agriculture in its long-term strategy to adapt local agriculture to the effects of climate change. Support is focusing on local capacity development, agro-climate risk management and support for research, innovation and transfer of new technology for climate change adaptation. Help is also being given for sustainable management of local basins and land tenure, outreach and education and resource mobilization for adaptation, mitigation and resilience to climate change.
- USD 500 000 through SFERA has been committed to the Corridor Seco to promote actions aimed at reducing vulnerability and to increase livelihoods resilience in the agriculture, forestry, livestock and fisheries sectors.

#### Funding requirements

FAO requires USD 6.6 million to assist affected subsistence farmers through distribution of seeds, inputs, irrigation systems and water collection-storage systems.

## Additional El Niño affected countries

NEAR EAST AND NORTH AFRICA					
Country (INFORM rank)	Potential disaster(s)	Outlook/current situation	Early action and response	Highest impacts recorded for a single disaster event in 1997–1998, 2002– 2003 or 2009–2010	
				Total people affected	Total damage (USD)
<b>Sudan (7)</b>	Drought; Animal disease	El Niño has significantly impacted on pastoralist, agropastoralists and sedentary farming population whose livelihoods mainly depends on rainfed crop production and livestock rearing. Rainfall was predominantly late and intermittent with long dry spells throughout the country, which affected significantly the cultivation and planting of crops as well as pasture and water for the livestock. However, certain areas of Kassala State have benefited in late 2015 of Al Gash River's floods, triggered by heavy rainfall in the highlands of Ethiopia. Based on the joint analysis made by FAO and the Ministry of Livestock about 8.4 million heads of livestock require immediate support with inputs and services including fodder and supplementary feeding, water, and veterinary services to mitigate the impact of El Niño. The 2016 lean season is anticipated to commence earlier than normal. Livestock and water needs are currently quite critical, and the lean season needs could even be higher.	<b>Government and other partners:</b> Closely monitoring the situation; preparing to conduct a post-harvest assessment. HCT has prepared a three-month Multisectoral Mitigation and Response Plan. <b>FAO:</b> Supported the realization of various assessments and the elaboration of response plans. A CFSAM has been conducted in December 2015, which results are currently being endorsed by the Government. USD 27 million are required to assist 2.1 million people through livelihoods support and rehabilitation initiatives, which mostly include: provision of curative and preventive animal health services; provision of fodder and animal supplementary feeding; water trucking and rehabilitation of water points; fire line construction to protect pastures; provision of inputs for the dry season farming and small-scale irrigation devices; livelihood training and start-up kits; community mobilization and sensitization to promote dialogue between herders and farmers.	4.3 million (Drought, 2009)	(no data)

EAST AND SOUTHERN AFRICA					
Country (INFORM rank)	Potential disaster(s)	Outlook/current situation	Early action and response	Highest impacts recorded for a single disaster event in 1997–1998, 2002–2003 or 2009–2010	
				Total people affected	Total damage (USD)
Kenya (18)	Flood Animal Losses	<p>October to December short rains ceased normally at the end of December and have been above-average leading to regeneration of pasture especially in north-western pastoral areas. Production prospects of short-rains crops are to be harvested by February are generally favourable due to increases in planted areas and average yields.</p> <p>Localized floods were reported in parts of north-western and northeastern pastoral areas and south-eastern and coastal marginal agricultural areas. Kenya Red Cross reports that heavy rains resulted in approximately 70 deaths and 50 000 displaced households.</p>	<p><b>Government:</b> Developed a multisectoral El Niño Preparedness and Response Plan with specific needs for agriculture, irrigation, livestock and fisheries, and set up an inter-ministerial El Niño Task Force. The Plan is budgeted at EUR 143 million. To date, county and national budgets have reportedly committed EUR 112 million, although funds have yet to be released. Government-led Hunger Safety Net Programme has been designed, with a scalable component to address the additional needs of vulnerable families affected by new crises. It has been activated for over 190 000 additional vulnerable families, as a preventive measure. Through the overall coordination of the Zoonosis Technical Working Group and the Zoonotic Disease Unit a national task force for high-risk animal diseases has been instituted</p> <p><b>FAO:</b> Providing support to the Government in coordinating food security activities. Rolled out its animal disease contingency plan and has trained people in seven counties to conduct surveillance.</p>	900 000 (Flood, 1997)	11.8 million (1997)

EAST AND SOUTHERN AFRICA					
Country (INFORM rank)	Potential disaster(s)	Outlook/current situation	Early action and response	Highest impacts recorded for a single disaster event in 1997–1998, 2002–2003 or 2009–2010	
				Total people affected	Total damage (USD)
<b>Madagascar (37)</b>	Flood (north); Drought (south)	A food insecurity crisis is affecting 1.89 million people, particularly in the south, due to a third year of drought and a locust plague and 450 000 people are severely food insecure. Given the early exhaustion of main food stocks, limited labor opportunities, and well above-average staple food prices, poor households in several districts will face Crisis (IPC Phase 3) from November through at least March 2016. The 2015 rice crop is estimated at 6% below the previous year while maize and cassava are at 10% below the previous year. Above-normal rains are expected in the centre and north (with the risk of flooding) and normal to below-normal in the south, exacerbating the drought. Towards the end of the rainy season (March–April 2016) rainfall will improve but remaining slightly below normal in the south, southwest and far north.	<p><b>Government and other partners:</b> Madagascar has reviewed and updated the Food Security and Nutrition contingency plan, including a review of cluster members' capacity for response (logistics, prepositioning of food stocks, seeds and other inputs).</p> <p><b>FAO:</b> Conducted, jointly with WFP, a Crop and Food Security Assessment mission</p>	600 000 (Drought, 2002); 20 000 (Flood, 1998)	150 million (Flood, 2003)
<b>Djibouti (46)</b>	Drought	Heys/Dadaa rains have regenerated pasture and increased water availability in parts of the country, but pasture conditions remain poor in southeastern, northwestern and Obock pastoral areas where rains started late and have been below average thus far. Approximately 120 000 people (about 15% of the population) are estimated to be severely food insecure.		200 000 (Drought, 2010)	

EAST AND SOUTHERN AFRICA					
Country (INFORM rank)	Potential disaster(s)	Outlook/current situation	Early action and response	Highest impacts recorded for a single disaster event in 1997–1998, 2002–2003 or 2009–2010	
				Total people affected	Total damage (USD)
Eritrea (49)	Drought	There's a severe drought in pastoral and coastal pastoral areas. Rainfall in June and July 2015 was 30-35% below average. Some areas, including Foro, Gel'alo and Massawa, had almost no rain in the first two months of the wet season. The average to above-average rainfall received in August 2015 did not offset this and grazing severely deteriorated.		(no data)	(no data)
United Republic of Tanzania (53)	Flood	Increased rainfall expected to be most beneficial in northern Mount Kilimanjaro, Arusha, Lake Zone and eastern Tanzania. Most areas have been planted, and were reported to be in good condition. In the bimodal areas in the northern and eastern parts of the country, crops were reported to be in the ripening stage, while in the uni-modal areas, crops were at the vegetative stage of development. Pastures and grazing lands are reported to be in good condition, and water supply for livestock is sufficient. A good harvest is expected, with a bumper. A good harvest is expected, with a bumper one in the northeastern highlands as 90% of food is grown in this <i>Vuli</i> season. Crop failure and animal disease are expected in the lowlands due to flooding.	<p><b>Government and other partners:</b> An Inter-agency Contingency Plan is in place for July 2015 to June 2016, including floods, drought, epidemics, population influx from neighboring countries and electoral unrest.</p> <p><b>FAO:</b> Deploying needs assessment mission.</p>	50 000 (Flood, 2009); 1.9 million (Drought, 2003)	

EAST AND SOUTHERN AFRICA					
Country (INFORM rank)	Potential disaster(s)	Outlook/current situation	Early action and response	Highest impacts recorded for a single disaster event in 1997–1998, 2002–2003 or 2009–2010	
				Total people affected	Total damage (USD)
Angola (68)	Drought	<p>Crop conditions in the main central producing provinces are generally adequate. However, in southern areas, especially in south-eastern parts, which are prone to frequent dry spells, conditions are very poor, particularly as these areas have experienced successive years of reduced harvests and inadequate pasture conditions. Reports indicate livestock deaths and outbreaks of Foot and Mouth Disease. The situation is more severe in three southern regions, among which the Cunene Region, where about 755 000 people (72% of the total population) are affected by drought and there is an estimated loss of 80% in production. In the Huila Region, estimated losses average 60% and 460 000 people (25% of population) are at risk of food insecurity.</p>	<p><b>Government and other partners:</b> Civil Protection is distributing food and water to affected communities. UN Agencies are implementing various programs in the framework of the National Development Plan 2013 – 2017.</p> <p><b>FAO:</b> The focus is on providing immediate livelihood assistance and water availability to affected communities, while monitoring and tackling the outbreaks of Foot and Mouth Disease. USD 40 million is required to carry out: trainings for farmers and pastoralists; livelihood rehabilitation; rehabilitation of water sources for livestock; strengthen veterinary services.</p>	<p>331 700 (Flood, 2009); 105 000 (Drought, 1997)</p>	(no data)

EAST AND SOUTHERN AFRICA					
Country (INFORM rank)	Potential disaster(s)	Outlook/current situation	Early action and response	Highest impacts recorded for a single disaster event in 1997–1998, 2002–2003 or 2009–2010	
				Total people affected	Total damage (USD)
Zambia (70)	Drought	<p>Southern, eastern and central areas were the driest areas, although some respite came in mid-December due to good rains that were received at that time. Planting rains were generally late in many areas, with some areas being delayed by approximately 1 month. The combination of higher than normal input prices and a slow start to the first half of the rainy season is likely to result in later and possibly reduced planting. Additionally, with the expected prevailing El Niño conditions for the second half of the season, seasonal production is expected to fall below recent five-year average levels. Maize prices have escalated due to increased market demand from both local consumers as well as neighboring countries especially Zimbabwe and Malawi. Wholesale prices have risen by at least 50% in October with respect to the height of the marketing season in August. Prices are expected to be high until the next harvest in 2016.</p>	<p><b>Government and other partners:</b> Government input support programmes are targeting 1 million farmers to improve input access. At the same time the Disaster Management and Mitigation Unit (DMMU) is updating the Development of the Zambia Rural Livelihoods Baselines, which have become unreliable as the changes in weather patterns (including floods and droughts) have resulted in changed livelihoods. The (DMMU) has prepared a Draft 2015/2016 National Contingency Plan.</p> <p><b>FAO:</b> USD 2.3 million is required for legume seed production, upscaling of Climate Smart Technologies and dissemination of climate messages to farmers.</p>	(no data)	(no data)

EAST AND SOUTHERN AFRICA					
Country (INFORM rank)	Potential disaster(s)	Outlook/current situation	Early action and response	Highest impacts recorded for a single disaster event in 1997–1998, 2002–2003 or 2009–2010	
				Total people affected	Total damage (USD)
Namibia (75)	Drought	<p>Namibia experienced an extended delay in the effective onset of rains, with little to no rainfall being received in October and November. In many areas, the onset was delayed by between 20 to 40 days. This extended dryness, combined with very high temperatures, and a poor 2014–2015 rainfall season, resulted in significant impact on grazing lands and water resources. Veld fires have also contributed to a reduction in the availability of grazing. A recent assessment indicated that many farmers in the northern, central and southern parts of the country had lost many of the cattle to the drought. In most areas, livestock are in poor to very poor condition.</p> <p>December welcomed the onset of rains in most parts of the country, which received above-normal rains during this time. The rains allowed farmers to plant and helped to improve water availability in some areas. However, many dams are still at low levels, and much more rainfall will be required. Vegetation conditions had not started showing a marked improvement in most areas by the end of December, as significant rainfall and some time will be required for vegetation to recover from the drought which started in the 2014–15 season.</p>	<p><b>Government and other partners:</b> Government has however provided drought relief for the most vulnerable in all the 14 regions of the country. Parliament also provided an additional N\$530m (US\$37m) for drought relief for the period November 15 to March 2016.</p> <p><b>FAO:</b> The Ministry of Agriculture with support from partners including FAO has been involved in rehabilitation of boreholes, training farmers on conservation agriculture and rangeland management.</p>	(no data)	(no data)

EAST AND SOUTHERN AFRICA					
Country (INFORM rank)	Potential disaster(s)	Outlook/current situation	Early action and response	Highest impacts recorded for a single disaster event in 1997–1998, 2002–2003 or 2009–2010	
				Total people affected	Total damage (USD)
South Africa (88)	Drought	The El Niño induced drought has significantly affected crop and livestock production and there are indications that food prices are beginning to rise. Over the last 3 months, some central parts of South Africa received their lowest October-December rainfall totals in at least 35 years. Seven provinces in South Africa, which constitute the country's main cereal producing regions, have been declared disaster drought areas. Preliminary planting intentions for the 2016 maize crop indicate a 4% year-on-year decrease. The first official area-planted estimate is scheduled to for release on 27 January. The Minister of Water and Sanitation said that 2.7 million households were affected by the drought, with 6 500 rural communities facing critical water shortages	<b>Government and other partners:</b> Government has set aside ZAR 236 million (approximately USD 14.5 million) to alleviate the impacts of the drought.	(no data)	(no data)
Botswana (100)		Good rains received in central and western Botswana have helped to slightly reduce, but not eliminate rainfall deficits in the area. However, the majority of the country continues to be severely affected. Due to the dry conditions, crops in many planted areas are in poor condition, while in others, the crops have succumbed to permanent wilting. There is still a chance for replanting, as the planting window in some areas closes between end of January and mid-February.	<b>Government and other partners:</b> In response to the drought impacts on livestock, the Ministry of Agriculture has increased subsidies on certain livestock feeds to 50 per cent.	3 789 (Flood, 2009)	(no data)

ASIA AND THE PACIFIC					
Country (INFORM rank)	Potential disaster(s)	Outlook/current situation	Early action and response	Highest impacts recorded for a single disaster event in 1997–1998, 2002–2003 or 2009–2010	
				Total people affected	Total damage (USD)
Myanmar (10)	Drought; Flood in Ayeyarwady and Sagaing regions	Drier than average conditions, since November, have remained with recent storms providing only temporary relief. As the peak of El Niño and the post flood situation are coinciding with the beginning of the dry season, there is a serious risk of water shortages before the next rain season. Rising water levels of Ayeyarwady and Chindwin rivers pose renewed flood risk after heavy flooding in July/August. Prices of emata rice, the most consumed variety, in October were almost 40% higher than a year earlier - near-record levels. Despite a 6% fall in October with the beginning of the 2015 main season harvest, prices remained well above their year-earlier levels due to the floods. Unusually, heavy rains in July and August 2015 caused rivers and creeks to overflow with rainwater, flooding low lying lands, killing dozens, and displacing thousands at the peak of the rainy season in 2015. Over 1.5 million people have been critically affected by monsoonal floods and landslide.	<p><b>Government and other partners:</b> Government advised people living near rivers to leave their homes if water levels have risen beyond danger points. The international humanitarian community continues to provide assistance to people affected by the July/August floods.</p> <p><b>FAO:</b> In the aftermath of Cyclone Komen, a joint FAO-WFP crop and food security assessment mission is underway to determine how to improve farmers' resilience and reduce overall food insecurity.</p>	137 000 (1997)	

ASIA AND THE PACIFIC					
Country (INFORM rank)	Potential disaster(s)	Outlook/current situation	Early action and response	Highest impacts recorded for a single disaster event in 1997–1998, 2002– 2003 or 2009–2010	
				Total people affected	Total damage (USD)
<b>Democratic People's Republic of Korea (72)</b>	Drought	FAO forecasts 2015 rice production at 2.3 million tonnes, 12% below last year's drought-affected output and 2015 maize production at 2.2 million tonnes, a drop of 15%.	<b>FAO:</b> Committed USD 440 000 from TCP Emergency funds for emergency assistance to vulnerable farmers to mitigate the drought in north and south Hwanghae provinces. The project aims to reduce the impact on crop production while promoting complementary risk prevention and mitigation measures for more resilient farming systems.	(No data)	(No data)
<b>Viet Nam (86)</b>	Drought	Reports from the main meteorological and oceanic institutions suggest that El Niño conditions will strengthen and persist through winter 2015–2016. Following considerably reduced rains since early 2015, concerns are arisen over low water levels in the Mekong River. The low water levels for irrigation coupled with less alluvial deposits in the fields and intensified salinity intrusion, could have a negative impact on the yield potential of the 2016 main winter/spring crop. Rice exports in 2015 are forecast slightly below last year's low level.	<b>Government and other partners:</b> Government issued alerts to raise awareness among at-risk communities. Partners remain on standby to help with threats of flooding and landslides.	3 million (Drought, 1997)	407 million (Drought, 1997)

LATIN AMERICAN AND THE CARIBBEAN					
Country (INFORM rank)	Potential disaster(s)	Outlook/current situation	Early action and response	Highest impacts recorded for a single disaster event in 1997–1998, 2002–2003 or 2009–2010	
				Total people affected	Total damage (USD)
<b>Colombia (25)</b>	Drought	El Niño climatic conditions are aggravating the chronic drought situation which is affecting different areas of the country. The situation is more severe for the semi-nomadic herders living in the northern of the country, in departments such as La Guajira, which have registered a rain deficit ranging from 40 to 78% the average. Vulnerable herders have lost between 50 to 90% of their livestock, and the closure of the Venezuelan border is aggravating their situation.	<b>FAO:</b> Focusing its intervention in the most drought-affected departments, such as Guajira. Activities mostly focused on protecting livestock assets, constituting seed banks, recovering farming assets livestock assets of indigenous communities.	100 000 (Drought, 1998)	(no data)
<b>Peru (48)</b>	Flood Cold Wave Fisheries	The National Institute of Civil Defense reports that freezing temperatures and snowfall left more than 1 200 people homeless in nine departments, as well as 487 600 people affected in Puno and Pasco. It is estimated that 221 120 cattle are lost and 392 920 affected. The cold wave damaged 128 970 ha of crops.	<b>Government and other partners:</b> Authorities assisting with beds, mattresses, hygiene kits and food. A strong response mechanism has been put in place. <b>FAO:</b> FAO is planning the establishment of South-South Cooperation on El Niño response.	236 000 (Flood, 2009); 1.8 million (Cold Wave, 2003)	
<b>Ecuador (67)</b>	Flood Fisheries	Above-average rainfall is anticipated in south-west Ecuador in January–May 2016		54 000 (Flood, 2002)	271 million (1997/1998)
<b>Bolivia (89)</b>	Drought	Below-average rainfall predicted in the plains region. August 2015 WFP assessment indicated 15 000 people in need of assistance in the five most affected municipalities. Floods destroyed 60 000 ha of crops, 402 houses, roads and bridges leaving 33 000 people isolated.		625 000 (Drought, 2010); 12 000 (Cyclone, 2002)	100 million (Drought, 2010)

LATIN AMERICAN AND THE CARIBBEAN					
Country (INFORM rank)	Potential disaster(s)	Outlook/current situation	Early action and response	Highest impacts recorded for a single disaster event in 1997–1998, 2002–2003 or 2009–2010	
<b>Dominican Republic (93)</b>	Drought	1.6 million people have been affected by drought in the Dominican Republic. In some areas, rain deficits have led to a 60% decrease in crop production as well as livestock deaths.	<b>FAO:</b> In October-December 2015, FAO conducted a mapping of the effects of the drought on the agricultural and livestock sectors and the livelihoods of producer's families in Monte Cristi.	(no data)	(no data)
<b>Guyana (112)</b>	Drought	Below average rainfall anticipated to continue into March 2016.		607 000 (Drought, 1997)	29 million (Drought, 1997)
<b>Paraguay (142)</b>	Floods	Intense rainfall during November and December 2015 led to flooding of Paraguay, Parana and other minor rivers. Flooding has impacted across several departments. Several departments have been affected, of which four (Concepcion, San Pedro, Presidente Hayes, Ñeembucú) have registered livelihoods and production losses across farming communities (approximately 7 300 farmers affected, according to government sources).	<b>Government:</b> In January 2015, the Government of Paraguay assisted nearly 16 000 households affected by floods. <b>FAO:</b> Following a request of assistance from the Government, FAO is in the process of allocating USD 500 000 from TCP emergency funds to assist affected farmers in the Presidente Hayes department.	200 000 (Drought, 2009)	(no data)
<b>Dominica (153)</b>	Cyclone	Damage from Tropical Storm Erika in August cost USD 3.6 million in crops and over USD 1.5 million in farm equipment, livestock and fishing. Farming practices that require moisture such as transplanting of vegetables and weeding were delayed due to limited rainfall during the first half of December.	<b>FAO:</b> Committed USD 300 000 from TCP Emergency funds for immediate assistance to restore agricultural productivity. Fields will be restored and tools distributed.	(no data)	(no data)

LATIN AMERICAN AND THE CARIBBEAN					
Country (INFORM rank)	Potential disaster(s)	Outlook/current situation	Early action and response	Highest impacts recorded for a single disaster event in 1997–1998, 2002–2003 or 2009–2010	
Eastern Caribbean	Drought	<p>The El Niño event is expected to continue to limit rainfall in the eastern Caribbean until March 2016. Forecasts are predicting a particularly severe dry season during January–March 2016.</p> <p>In Antigua and Barbuda, the main reservoir supply water for agriculture (Potworks Dam) is dry. Currently, 92% of water used is desalinated because of the low surface supply. Severe drought has been experienced for two years. In Barbados, the parishes of St George and St Phillip have been without water. Restrictions were placed on the use of irrigation systems and washing of cars. Farmers were urged to conserve water. In August 2015, St Kitts and Nevis reported that the country is in “a full blown crisis situation” with respect to water supply. Rationing is being implemented as all aquifers on the island are being pumped at maximum capacity. Severe drought conditions and record high temperatures have affected farmers in Jamaica and water is being rationed. In St Vincent and the Grenadines, extended drought conditions experienced by farmers in 2014/15. Because of the lack of rainfall, water conservation measures are enforced.</p>			

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