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# EARLY ACTION ON SUPER-CHARGED EL NIÑO VITAL TO SAVE LIVES



OXFAM

A super-charged weather phenomenon will see millions of poor and vulnerable people face hunger and poverty this year and next, as recent record global temperatures, droughts and erratic rains are compounded by what could be the most powerful El Niño on record. Harvests and livelihoods have faltered as drought has taken hold across parts of Africa, the Pacific, Asia, the Caribbean and Central and South America.

This super El Niño is causing real suffering and pushing people who are already at risk from climate change deeper into poverty, loss and extreme vulnerability.

The Australian Government has recently committed AUS\$9 million and the New Zealand Government NZD\$2.5 million to support Papua New Guinea and other countries in the Pacific to prepare for and respond to the effects of El Niño. The Australian Government has also committed AUD\$4 million to Somalia. While these funding announcements are a welcome start, it is clear that much more will be needed over coming months as the impacts of this potentially unprecedented El Niño event become greater.

This report builds on Oxfam’s recent briefing, “Entering Uncharted Waters: El Niño and the threat to food security”,<sup>1</sup> and calls on the affected governments, regional bodies and the international community to work together in early response and preparedness in the face of an unfolding crisis.

COVER PHOTO: Staff from Oxfam and partner organisations deliver emergency kits to a drought affected community in Womkama, in Simbu Province, Papua New Guinea. Jerry cans and soap that help stop the spread of preventable diseases are distributed after information sessions on water conservation and hygiene.

# THE TIME TO ACT IS NOW – WE MUST NOT REPEAT THE MISTAKES OF THE PAST

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- **This is a crisis on a huge global scale.** The current El Niño is one of the strongest ever measured, which means there will be more extreme weather conditions that will threaten people's food security, lives and livelihoods.
- There is already a crisis in some countries – **around 18 million people need further assistance now.** This comes on the back of poor growing seasons in 2014-15 in many places, and in the absence of support, conditions will worsen as the impacts of El Niño bite. **40-50 million people are expected to face hunger, disease and water shortages in early 2016.**
- **Urgent scale-up now will save lives in the worst-affected places.** These include areas of Papua New Guinea, Ethiopia, Malawi, Guatemala, Haiti and Honduras. Some people have already lost everything and require urgent food assistance.
- **Early response is required to save livelihoods elsewhere.** Many areas of the Pacific, Asia, Latin America and Southern Africa are feeling the effects of El Niño and need assistance. Adequate funding for resilience-building interventions now, such as supporting farmers to adapt to drought conditions and improving existing water supply and storage systems, will safeguard health and livelihoods and prevent a descent into destitution. This is a slow onset crisis – its impacts can be mitigated. **The ultimate humanitarian impact depends on the urgency of the response now.**
- **Urgent international support is required to bolster national government efforts.** Many affected governments have been active in preparation and response, and this is clearly mitigating the impact. But these efforts risk becoming overwhelmed by this powerful El Niño. This global problem requires national governments, donors and the humanitarian community to immediately come together to coordinate and collaborate on responses across the different countries.
- **We must not repeat the mistakes of the past.** The last major El Niño event in 1997-98 led to widespread loss of life, destruction of infrastructure, displacement of communities and outbreaks of disease in many parts of the world. **The humanitarian community said “never again”,** after a late response to the food crisis in the Horn of Africa in 2011 led to 258,000 deaths in Somalia and massive suffering and loss of livelihoods in Kenya and Ethiopia. Leadership is needed now by national governments, the United Nations and donors to ensure adequate and early action responses.
- **Climate change is a key driver of food insecurity, and is super-charging the effects of El Niño.** The impacts of climate change are combining with El Niño to devastating effect, and there is evidence that climate change increases the odds of extreme El Niño events occurring.<sup>2</sup> Governments have reached a landmark global climate agreement this month. However, countries will need to rapidly strengthen their emissions reduction targets if we are to ensure the goal of limiting warming to below 2C or 1.5C can be met, and more funding is required for vulnerable communities to adapt to increasingly unpredictable and extreme weather. To keep the global temperature rise below 1.5C, countries must rapidly transition away from fossil fuels, provide far more in international climate finance and reach zero emissions and 100 per cent renewable energy as soon as possible.
- **Long-term solutions must be found beyond urgent needs.** Ultimately, structural vulnerability and inequality must be reduced, to address long-term and chronic food insecurity in an increasingly unpredictable climate.

## BACKGROUND

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In 2014, record global temperatures disrupted seasons around the world, leading to drought and crop failure in many regions and making people highly vulnerable. In 2015, temperatures have continued to soar and now a strong El Niño has developed. El Niño is the name given to a periodic heating of the eastern tropical Pacific, which alters weather patterns globally.

According to the World Meteorological Organization, the current El Niño is one of the strongest events recorded — more powerful than 1997–98, which caused climate chaos and humanitarian disasters in countries around the world. With the boost of El Niño, unprecedentedly high temperatures are likely to continue into early 2016. It is also quite possible that a La Niña<sup>3</sup> weather event, which causes changes in weather patterns broadly opposite to those of El Niño, will occur in 2016. This is likely to bring further food insecurity and stress to smallholder farmers around the world.

El Niño reaches its maximum strength between October and January, and will then persist through to early 2016. Its maximum intensity will coincide with the rainy season across some parts of South America and Southern Africa, and will influence the strength of the next spring rains in Ethiopia. It may also bring torrential rains to other parts of the world.

## THE SCALE OF THE CRISIS — CURRENT AND POTENTIAL

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El Niño conditions, which have followed a very poor agricultural season for smallholder farmers in 2014–15, are creating a dire situation for many people. Those who are chronically vulnerable are being tipped further into poverty. Already, there are around 18 million people who are facing a lack of food and water and urgently need further assistance.

One of the worst-affected countries is Ethiopia, where 8.2 million people currently need support, due to a drought that has affected farmers in the highlands as well as pastoralists in the lowlands. Rains have been poor and erratic in Southern Africa, with maize production in Malawi and Zimbabwe down by 30 and 35%, respectively. Three and a half million people have been affected in the “dry corridor” of Central America (across Guatemala, Honduras, Nicaragua and El Salvador). And some parts of Guatemala, Haiti and Honduras are in IPC (Integrated Phase Classification — a standardised scale to categorise the severity of food insecurity)<sup>4</sup> Phase Three, which means they are in a food crisis and require immediate food assistance. Harvests have been affected across Asia, with up to three million people needing assistance in Papua New Guinea, as drought and frost have destroyed crops.

The situation is predicted to worsen into early 2016. Data is still poor and it is difficult to accurately predict the scale of need, as this depends on government and donor reactions as well as complex weather patterns.<sup>5</sup> But we expect that by early 2016, some 40–50 million people across the world are likely to be facing hunger, water shortages and disease. According to the UN, 15 million people are likely to need support in Ethiopia alone, alongside 4.7 million in the Pacific.

# THE SUPER EL NIÑO OF 1997–98

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An El Niño happens approximately every three to seven years. Occasionally, an extra-strong or “super” El Niño develops. New research says that as the Earth warms, super El Niños may occur about twice as often as before – every 10 years instead of every 20 years.<sup>6</sup>

This year’s event may be the strongest on record, stronger even than the 1997–98 El Niño that brought record global temperatures and droughts, floods and forest fires on a massive scale. It caused 23,000 deaths<sup>7</sup>, and estimates of losses range between USD\$32 billion and USD\$96 billion.<sup>8</sup>

## Just a snapshot of this impact:

- In the Pacific, the last big El Niño in 1997–98 caused severe drought, major crop losses and hardship in Papua New Guinea, Micronesia, Fiji, the Marshall Islands, Samoa, Tonga and elsewhere.
- Heavy rains brought the worst flooding in 40 years to southern Somalia, as well as parts of north-east Kenya, including large portions of the Dadaab refugee camp and surrounding towns.
- Drought in Indonesia caused a massive cereal shortfall. As a result, food prices sky-rocketed and became prohibitively expensive.
- A large-scale cholera outbreak, aggravated by El Niño, occurred in Southern Africa, with over 200,000 cases and over 12,000 deaths.<sup>9</sup>
- Peru’s fishing industry was devastated, and extreme rainfall caused catastrophic flooding and landslides.

There is no certainty that impacts this year will be the same, as there are many factors affecting weather, and the impacts on agriculture will vary. But the events from 1997–98 send a loud and clear warning of what might take place, and the preparation required.

## URGENT SCALE-UP NOW WILL SAVE LIVES IN THE WORST-AFFECTED AREAS

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Some countries, such as Papua New Guinea, Ethiopia, Malawi, Guatemala, Haiti and Honduras, are already at crisis point, with millions of people classified as being in “Crisis” (IPC Phase Three) and some in “Emergency” phases of food insecurity (IPC Phase Four). These countries need urgent assistance now to protect lives. Ethiopia is appealing for international support,<sup>10</sup> and several countries, including Honduras, Guatemala and Haiti, have declared national emergencies due to drought and food insecurity. Papua New Guinea, South Africa, Indonesia, Colombia and Bolivia have declared some provinces to be in a state of emergency or disaster.

Millions of people are suffering the acute pain of hunger and a deep fear and distress for their future: getting

deeper into debt; selling off important assets; taking children out of school; watching their families suffer; and migrating to try and find work and assistance. Lives are being lost.

Women are often those worst affected, as they generally eat last and least. And these impacts are not just short term — hunger in pregnant and breastfeeding women impacts on birth outcomes and babies’ health, and malnutrition in young children leads to reduced cognitive development, with concomitant impacts on development opportunities at a personal and societal level. Failure to act therefore has the effect of actively discriminating against women and children.

# EARLY RESPONSE IS REQUIRED NOW TO SAVE LIVELIHOODS ELSEWHERE

Elsewhere — across the Pacific, Southern Africa, much of South America, the Horn of Africa and parts of Asia — there is the spectre of a worsening situation, with forecasts of weak rains and ruined harvests in some areas, and huge floods in others. These people require an early response to protect their livelihoods and prevent a slide into destitution. While the situation is not currently life-threatening, people are under severe pressure to make ends meet, nutrition is suffering, and they are taking out loans and buying food on credit. The signs are there of a deterioration which will result in suffering and loss of livelihoods. There are now good warnings systems and forecasts, and these must lead to determined action.

Governments and the entire humanitarian community need to learn lessons from the 2011 food crisis in the Horn of Africa. In that case, humanitarian actors did not react on the basis of forecasts, but waited until the rains had definitively failed before significantly scaling up.<sup>11</sup> This led to famine and 258,000 deaths in Somalia,<sup>12</sup> and shattered livelihoods across Kenya and Ethiopia. Australia's Office of Development Effectiveness found that "many deaths could have been avoided with earlier action."<sup>13</sup> An evaluation by the UK Disasters Emergency Committee of the response in Ethiopia and Kenya referred to a "system-wide failure" and found that "far more children and adults became dangerously malnourished, and more damage was done to livelihoods than would have been the case with more concerted preventive action and early relief."<sup>14</sup>

Drought is a slow onset disaster: it is predictable and its consequences can be diminished through early warning and early action. Equally, preparations can be made for severe flooding as early warning systems can now forecast their location. There is uncertainty in the forecasts, as there always is in weather forecasts, but there is sufficient information to suggest

a high probability of a high impact event both in terms of drought and flooding. Managing this humanitarian risk is crucial. Otherwise it is borne by poor people who are now acutely vulnerable. It is not acceptable to only scale up significantly when the situation is at Emergency level (IPC Phase Four). When a slow onset disaster such as drought turns into a humanitarian crisis, it is due to a lack of capacity or will to prevent it.

A series of studies by the United Kingdom's Department for International Development (DFID) have demonstrated unequivocally that early intervention is far cheaper and more cost-effective than waiting for a crisis to occur and then providing relief. Researchers calculated that in Kenya and southern Ethiopia, savings per capita could be more than US\$1,000 (AUD\$1,390) and early intervention could be up to five times cheaper than responding when the situation had become an emergency. In Ethiopia, for every \$1 spent on commercial destocking and early response, \$311 of benefit could be gained in the forms of avoided aid distribution and animal losses.<sup>15</sup> The studies conclude:

*Early humanitarian response should become the dominant paradigm for responding to crises. Early humanitarian response is far more cost effective than late humanitarian response, and a shift to early response does not incur any additional cost, and therefore benefit to cost ratios are infinite.<sup>16</sup>*

**PHOTO:** Smiley Jacob watches as her 9-month old daughter Grace is measured during a nutrition assessment in Tugumpaso Village, in Henganofi Province, Papua New Guinea. Grace is severely underweight with her upper arm diameter measuring just 11cm, 4 – 5 cm less than it should be for a child of her age. Smiley says drought destroyed her garden leaving her with nothing to feed her child.

Because the planting season was delayed in this region, the harvest will not be for another four months and it is likely more children will become malnourished.





## NATIONAL AND INTERNATIONAL EFFORTS NEED TO BE URGENTLY SCALED UP

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It is clear that resources will be an issue, both for cash-strapped governments and humanitarian donors who are under pressure from crises around the world. But failing to provide funding now is a false economy. As described above, the models unequivocally show that early response is cheaper. And we know this from our own experience — cash now is more cost-effective than therapeutic feeding later; rehabilitation of water points is cheaper than water trucking.

It is also worth remembering that the impact of El Niño is not always negative. According to the International Monetary Fund (IMF), the United States, Europe and China experience a net economic impact.<sup>17</sup> The super El Niño of 1997–98 boosted the US economy by USD\$15 billion, due primarily to reduced heating costs during the winter and a lack of spring flood and hurricane losses.<sup>18</sup> Countries that benefit should consider their obligation to those who suffer.

A perceived risk in responding early is that humanitarian funds will be released on the basis of forecasting, and the situation will turn out not to be a disaster. This could appear to be wasted funding. However, these fears are unwarranted. DFID's modelling finds that early responses could be implemented two to six times for crises that do not materialise, before the cost of a single late response is met.<sup>19</sup>

## LONG TERM SOLUTIONS ARE REQUIRED

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Changes to the climate are already contributing to the likelihood and severity of storms, floods, droughts and shifting weather patterns that cause unpredictable growing seasons, crop failures, and food price spikes. These underlying changes are reinforced by the effects of El Niño, which brings more extreme weather and acts to strengthen those patterns. This year's El Niño is likely to be followed by record temperatures in 2016 and La Niña, whose impacts can vary widely, but which contributed to the massive flooding in Mozambique in 2000 and the 2011 Horn of Africa drought. Hence this current crisis is not a short term one; it's likely that these types of "super" El Niños will become much more common and our understanding of "normal" needs to be reset.

Food insecurity has deep, structural and multicausal roots. Assistance and livelihoods recovery is absolutely necessary to save lives and livelihoods, but it will not be enough to reduce the vulnerability of the population to these cyclical events in a significant and sustainable manner. Long term, actions must be taken to reduce vulnerability and exposure, and the inequality that drives this, and to strengthen the capacities of communities at risk in order to be prepared for and respond to these events.

The crisis was a backdrop to this year's major international climate change conference in Paris. While the negotiations brought the world's powers together around the issue, the final agreement did not guarantee that the poorest and most vulnerable people will receive sufficient funding to cope with the burgeoning reality of rising sea levels, floods and drought.

Governments must return to the negotiating table before the agreement takes effect from 2020 to strengthen emissions cuts to ensure that the global goal of limiting warming to below 2C or 1.5C is met, and agree to new finance goals for developing countries.

The international community must rapidly transition away from fossil fuels, and reach zero emissions and 100 per cent renewable energy as soon as possible.

# COUNTRY AND REGIONAL SNAPSHOTS

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The situation is complex and fluid, across countries and boundaries. What follows here is just a snapshot of the worst-affected areas at this time. But there are many other places that are at risk. See Oxfam's "Uncharted Waters"<sup>20</sup> for a more detailed analysis.



## ASIA/PACIFIC

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**Urgent support is needed for Papua New Guinea, with careful monitoring elsewhere.**

In the Pacific, as many as 4.7 million people have been affected by worsening droughts, erratic rains and frosts. Papua New Guinea has been severely affected, particularly in the Highlands, with widespread drought and frost affecting up to 3 million people<sup>21</sup> and destroying crops and livestock. Drought has also affected Vanuatu, Fiji, the Solomon Islands, Samoa and Tonga, damaging crops and water supplies.

More intense rain is likely in the equatorial Pacific, increasing the risk of flooding, as well as higher sea levels in central Pacific Island countries such as Kiribati and Tuvalu. El Niño also increases the probability of a longer Southern Hemisphere tropical cyclone season, which officially began on 1 November, and a greater proportion of severe cyclones (Category Three or higher), particularly for countries in the eastern Pacific such as the Cook Islands and Samoa.

Monsoon rains in Asia have been poor across the region, but the worst-hit country is currently Indonesia, where drought conditions are affecting millions of people and exacerbating huge forest fires. The forecast for the Philippines is poor, with 85% of the country expected to be in drought by March 2016.

A number of Pacific governments and humanitarian agencies, including Oxfam, have scaled up preparedness and early response activities, including training farmers in adapting to drought conditions, improving existing water supply and storage systems, and distributing of jerry cans, water purification tablets and soap. However, further scale-up and improved coordination is urgently needed, particularly in Papua New Guinea where the impacts are most severe. Donors have reported challenges in providing funding in the absence of official invitations from national governments.

We are looking for USD\$3.5 million to scale up our preparedness, mitigation and resilience building work in the Pacific, including in Papua New Guinea, Vanuatu, and the Solomon Islands. To find out more about what we are doing, and to support these efforts, please visit [www.oxfam.org.au/elnino](http://www.oxfam.org.au/elnino)



## HORN AND EAST AFRICA

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**Ethiopia needs international support now; flooding expected elsewhere.**

Drought has hit Ethiopia and neighbouring areas (Somaliland, Eritrea, north-east Sudan). Vast areas of the country have been affected. Around 450,000 livestock have already died due to the drought in Afar and Somali Regions, and most surface water sources have dried up — some communities have to travel seven hours in search of water. The next rains are not due until around March 2016.

The numbers of people needing relief assistance in Ethiopia this year has jumped from 2.9 million in January, to 4.5 million in August, and then to 8.2 million in October.<sup>22</sup> In December the Ethiopian Government said it would support 7.9 million people in need of assistance through its existing emergency systems, but that a further 10.2 million people would need help in 2016.<sup>23</sup> Parts of the country are in IPC Phase Two ("Stressed") or IPC Phase Three ("Crisis") stages.

The government response has been well coordinated and effective, but needs help to scale up further. Humanitarian funding requirements for 2016 have increased to USD\$1.4 billion. There is an urgent need for lifesaving relief, including for supplementary feeding and therapeutic feeding for children, as well as support for livelihoods.

Oxfam has undertaken some early response and is now seeking USD\$38 million to scale up in order to assist more than 750,000 people in the worst-hit zones of Ethiopia. Elsewhere in the region, countries at risk of flooding are Somalia, Uganda, Kenya, Tanzania and South Sudan. This is likely to cause a loss of crops, an increased incidence of disease (particularly Rift Valley fever, which affects domestic animals) and destruction of infrastructure, leading to increased market prices. During the 1997–98 El Niño, the price for a litre of milk in Wajir, northern Kenya went up from KSh 50 to KSh 400, and the price of sugar went up from KSh 48 to KSh 500 per kg.

# COUNTRY AND REGIONAL SNAPSHOTS



## SOUTHERN AFRICA

**Scaled up livelihood support is needed now in advance of the lean season starting earlier, particularly in Malawi.**

Drought is affecting huge areas across Southern Africa. Maize harvests have been significantly reduced, including in South Africa, the region's main exporter. Markets are under pressure and prices are expected to rise as the next regional rains are forecast to be below average. So far, the forecasts are correct — early season rainfall has been poor and some areas have experienced one of the poorest October rains in over 30 years. Up to 3 million people in Malawi and 1.5 million people in Zimbabwe are likely to face a food security crisis by February next year. Already, many people have reduced food consumption and are selling assets. Malawi is expected to be particularly affected — assistance planned for October has not yet begun due to a lack of funds, and it is not known when this will start.

Early action is required now to strengthen and scale up existing food security interventions, and to support farmers through careful monitoring, providing forecasts and access to appropriate seeds and inputs. This must be done before the end of December; otherwise, the 2015-16 growing season will be lost.

We are a core member of the Zimbabwe Vulnerability Assessment Committee, which supports vulnerability and market assessments. We will be working with local partners to implement cash transfer programs in food insecure areas, keep livestock healthy and raise awareness of the underlying causes of chronic food insecurity. In Malawi, we are supporting a large-scale cash transfer program. Links will be made to long-term development programs such as support to savings groups, fuel-efficient cooking stoves and messaging about nutrition to ensure a joined-up approach.



## LATIN AMERICA

**Small farmers and day labourers in Central America and Haiti are currently the worst affected, and there is also potential for worsening drought and major flooding in South America.**

Farmers across the “dry corridor” of Central America have been hit by drought for two years running, or more in some areas. The primera harvest was almost a total write-off in many parts of Honduras and Guatemala. From an Oxfam survey in parts of Honduras, the buying power of subsistence farmers and agricultural daily labourers has been reduced by up to 75%, and 23% of households are reducing their number of meals per day or going full days without eating.<sup>24</sup> In Haiti, subsistence farmers have lost 75–100% of their maize and bean harvests.

FEWS NET (the Famine Early Warning Systems Network) estimates that up to 3.5 million people across Central America and the Caribbean will need assistance by early 2016, with particularly severe problems in Guatemala, Honduras and Haiti. Recent rainfall, partly due to Hurricane Patricia,<sup>25</sup> may ameliorate this situation: the *postrera* harvest next year is likely to be better than forecast, although the continuing heavy rains may also bring their own problems, including crop damage, fungus and insect infestations.

In South America, the situation is a mix of drought and floods. Bolivia, Peru and Colombia have already declared emergencies due to drought in some areas. Forecasts predict that extensive areas of these countries will face major flooding. Despite government initiatives, most of the vulnerable communities are not well prepared to face the compounding effects of El Niño.

We are providing emergency response to food insecurity in Guatemala, Honduras, Nicaragua, El Salvador and Colombia, and intend to help communities become more resilient in the face of ongoing droughts. Initiatives will include cash for work to conserve and improve soils and water supply, agro-forestry and crop and livelihood diversification. However, lack of funding is seriously limiting our work.

# NOTES

- <sup>1</sup> Oxfam (2015) "Entering Uncharted Waters: El Niño and the threat to food security" <http://policy-practice.oxfam.org.uk/publications/entering-uncharted-waters-el-nino-and-the-threat-to-food-security-578822>
- <sup>2</sup> Cai, W., et al. (2014) "Increasing frequency of extreme El Niño events due to greenhouse warming" *Nature Climate Change* <http://www.nature.com/nclimate/journal/v4/n2/full/nclimate2100.html>
- <sup>3</sup> A cooling of the water in the equatorial Pacific, associated with widespread changes in weather patterns broadly opposite to those of El Niño, but usually less extensive and damaging in their effects.
- <sup>4</sup> IPC refers to Integrated Phase Classification. This is an international standard to classify food insecurity. Phase Two is stressed, Three is crisis, Four is emergency and Five is famine. See <http://www.ipcinfo.org/>
- <sup>5</sup> Weather patterns are highly complex; El Niño is just one phenomenon. Also note that increased cyclones in the Pacific can provide much needed rain to drought-affected areas — e.g. Koppu in the Philippines, Patricia in Central America.
- <sup>6</sup> Cai, W., et al. (2014) op. cit.
- <sup>7</sup> Ibid.
- <sup>8</sup> UNEP, NCAR, UNU, WMO, ISDR (2000) 'Lessons Learned from the 1997–98 El Niño: Once Burned, Twice Shy' [http://www.preventionweb.net/files/1864\\_VL102131.pdf](http://www.preventionweb.net/files/1864_VL102131.pdf)
- <sup>9</sup> FNSWG (2015) Southern Africa Food & Nutrition Security Update November 2015 <http://reliefweb.int/sites/reliefweb.int/files/resources/wfp279330.pdf>
- <sup>10</sup> UN (2015) Press release from Ethiopian Humanitarian Country team, 13 October 2015 [https://www.humanitarianresponse.info/en/system/files/documents/files/eth\\_hct\\_press\\_release\\_151013\\_final\\_.pdf](https://www.humanitarianresponse.info/en/system/files/documents/files/eth_hct_press_release_151013_final_.pdf)
- <sup>11</sup> Oxfam, SCF (2012) "A Dangerous Delay: the cost of late response to early warnings in the 2011 drought in the Horn of Africa" <http://policy-practice.oxfam.org.uk/publications/a-dangerous-delay-the-cost-of-late-response-to-early-warnings-in-the-2011-droug-203389>
- <sup>12</sup> FAO/FSNAU and FEWS NET (2013) Mortality among populations of southern and central Somalia affected by severe food insecurity and famine during 2010–2012 <http://www.fsnau.org/in-focus/study-report-mortality-among-populations-southern-and-central-somalia-affected-severe-food->
- <sup>13</sup> Office of Development Effectiveness (2014) Evaluation of Australia's response to the Horn of Africa Humanitarian Crisis, 2011 <http://www.alnap.org/resource/12634>
- <sup>14</sup> Disasters Evaluation Committee (2012) Real Time Evaluation — East Africa Crisis Appeal, Synthesis Report <http://www.alnap.org/resource/6301>
- <sup>15</sup> Cabot Venton, C. et al. (2012) "The Economics of Early Response and Disaster Resilience: Lessons from Kenya and Ethiopia", DFID, [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/67330/Econ-Ear-Rec-Res-Full-Report\\_20.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/67330/Econ-Ear-Rec-Res-Full-Report_20.pdf)
- <sup>16</sup> DFID (2013) op. cit.
- <sup>17</sup> Cashin et al (2015) "Fair Weather or Foul? The Macroeconomic Effects of El Niño" IMF working paper WP/15/89, April 2015 <https://www.imf.org/external/pubs/ft/wp/2015/wp1589.pdf>
- <sup>18</sup> Stanley Changnon (1999) "Impacts of 1997–98 El Niño-Generated Weather in the United States", *Bulletin of the American Meteorological Society* [http://www.atmos.washington.edu/~davidc/ATMS211/articles\\_optional/El\\_Nino\\_cost.pdf](http://www.atmos.washington.edu/~davidc/ATMS211/articles_optional/El_Nino_cost.pdf)
- <sup>19</sup> DFID (2013) op. cit.
- <sup>20</sup> Oxfam (2015) "Entering Uncharted Waters: El Niño and the threat to food security" <http://policy-practice.oxfam.org.uk/publications/entering-uncharted-waters-el-nino-and-the-threat-to-food-security-578822>
- <sup>21</sup> The Fiji Times: <http://www.fijitimes.com/story.aspx?id=330137>
- <sup>22</sup> Government of Ethiopia estimates in Ethiopia Humanitarian Country Team press release, Addis Ababa, 13 October 2015.
- <sup>23</sup> Ethiopia 2016 Humanitarian Requirements Document, December 2015
- <sup>24</sup> Oxfam Damage Assessment and Needs Analysis, Honduras Drought, August 2015.
- <sup>25</sup> The most powerful tropical cyclone ever measured in the Western Hemisphere, which hit Mexico on 23 October 2015. The exceptionally active tropical cyclone season in the North Pacific Ocean is a feature of strong El Niño episodes.

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## **OXFAM**

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