

Strategic Analysis Paper

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World Food Day 2018: The State of Global Food Security and Implications for Rural Australia

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Key Points

- Climate change has put food security in peril, by causing an increase in dry conditions along with more frequent and intense natural disasters.
- While nutrition has generally improved, those improvements are unevenly distributed by region, but certain nutritional markers, such as anaemia, have worsened.
- Conflict has been a significant driver of the increase in global food insecurity.
- To promote better food security in rural and remote areas, Australia needs to do more to address income inequality and climate change adaptation.

Summary

A [recent report](#) published by the Food and Agriculture Organization (FAO), indicates that, after a long period of decline, world hunger is on the rise again, for the third consecutive year. The number of people facing chronic food deprivation has increased from 804 million in 2016, to approximately 821 million in 2017, numbers that the FAO notes are similar to those from a decade ago. Food security has declined alarmingly in much of Africa and South America, while decreases in rates of undernourishment appear to have stalled in Asia.

The FAO broadly attributes the increasing trend towards food insecurity to climate-related changes, adverse economic conditions and conflict. The report was undertaken within the framework of the United Nations' [Sustainable Development Goals \(SDGs\)](#), a series of 17 targets that aim to improve social and economic development between 2015 and 2030. Each of these goals has [some relationship to food security](#); they include goals to 'End hunger, achieve food security and improved nutrition, and promote sustainable agriculture.'

Analysis

Climate Change and the Environment

Climate change is one of the most significant drivers of food crises and the recent upward trend in global hunger. Increasingly, food crises will be driven by dry weather conditions, floods and storms. [In 2017, persistent drought in the Horn of Africa](#), floods in Asia and storms in Latin America were all significant contributors to global hunger. Dry weather was so severe in parts of Africa that a famine was declared in South Sudan (although this was exacerbated by ongoing conflict), while Somalia is currently recovering from a serious drought that has left its food security at [crisis levels](#).

While drought creates the most severe immediate impacts on food availability, flooding erodes topsoil in growing areas. Storms, hurricanes and cyclones destroy agricultural infrastructure, including irrigation systems. Households in areas prone to these types of climate shocks often experience successive low harvests, as they are usually [unable to access](#) the inputs they need to rebuild their damaged farms. Disaster-related agricultural damage is likely to increase as climate change continues to create more intense and frequent weather-related disasters. In 2014, [more than 80 per cent](#) of natural disasters were estimated to be related to climate change. Natural disasters have impacted every region of the world [with growing intensity and frequency](#) and have had a particularly strong impact on agriculture. [Between 2005 and 2015](#), floods caused a cumulative agricultural loss of US\$19.5 billion (\$26 billion), drought losses totalled US\$29 billion (\$40 billion) and other climate disasters, such as extreme weather and storms, were responsible for a total loss of US\$26.5 billion (\$36.5 billion).

Africa and South Asia are the regions that experience the highest ratio of food insecurity and the highest absolute rate of food insecurity, respectively. They are also the [most vulnerable regions to the impacts](#) of climate change. These regions depend most heavily on agriculture as a share of GDP and employment. They are also dominated by small-scale farmers, who have limited means to adapt to climate change. In Africa especially, there has been an [ongoing trend towards drought](#) conditions since the 1980s. The Sahel (a semi-arid region that stretches from Senegal to Sudan) now experiences drought every five years, rather than every ten. This pattern of regular droughts is made worse by rainy seasons becoming shorter in many places. A lack of rain also depletes groundwater resources, making irrigation more difficult. South Asia has also faced serious climate-related challenges to its food availability, with each country in the region [experiencing an increase](#) in the number of severe climatic

events, including droughts, storms, floods and cyclones. All of these examples illustrate the severe impact of natural disasters on food security.

As [the climate continues to change](#), rainfall patterns are becoming more irregular and parasites more active, making the role of farmers increasingly difficult. According to the World Meteorological Society, the end of 2018 is likely to bring an El Niño weather event. Ordinarily, El Niño events take place every five to seven years but, if it eventuates, the predicted event will take place shortly after the 2015-16 El Niño. That event led to 2016 creating a record as the hottest year on record and food production plummeting in some parts of the world. Although the coming event is likely to be less devastatingly hot, the recurrence of an El Niño so soon has caused concerns that climate change is responsible for changing the dynamics of the event, causing frequent hotter weather.

Food Accessibility and Nutrition

‘No poverty’ and ‘decent work and economic growth’ are two of the UN [Sustainable Development Goals](#). Progress on those two goals will help to improve food security, at least in part, because of the key role economic factors play in food security. Globally, [roughly four times as much](#) food is produced as is needed to feed the world population. Even accounting for food that is used as animal feed, or that is lost in the food production and supply chain, there is enough grown currently to meet the nutritional requirements of the world’s population (although global population growth is likely to make an increase in production necessary in coming years). This means that, even when sufficient food is available, food must be both accessible and affordable to provide adequate nourishment.

Although [incomes continue to rise in most countries](#), this has not translated to an increase in food security, as the affordability of food has significantly decreased in many instances. As a result, households are spending a greater portion of their incomes on food. Food safety net programmes in many developing countries have also been strained by climate impacts, such as drought, further impacting the accessibility of food.

As a result of the decrease in food accessibility and availability, anaemia in women has steadily been increasing, with one in three women of reproductive age currently affected. The issue impacts high- as well as middle- and low-income countries. Some progress has been made towards reducing the incidence of stunting (low height for age) in children; but this effort is unlikely to be sufficient to meet the FAO’s 2030 nutritional targets. Additionally, the rate of progress in reducing the incidence of childhood stunting is distributed unevenly between regions, with sub-Saharan Africa registering an [overall increase](#) in the number of stunted children since the 1990s. Africa and Asia carry nearly the entire burden of stunting globally.

Obesity has risen significantly among all economic groups, although in high-income countries, obesity tends to be more prevalent among the poor. While there is little research on the global prevalence of nutritional deficiencies among adults, they are strongly correlated with poverty and low incomes. Around one-tenth of the global population (equal to 767 million people) lives in extreme poverty (defined as a daily income below US\$1.90 (\$2.60)). Those people account for 46 per cent of worldwide stunting. Estimates indicate

that the rate of stunting decreases at a rate of 3.2% for every ten per cent increase in income.

Conflict

Conflict is currently the [main cause of a number of intense food crises](#). In 51 countries that experienced food crises in 2017, 18 were caused by conflict. In 2018, the number of people in need of urgent action has risen by around 11 per cent, a trend the [FAO attributes to](#) worsening conflicts in Myanmar, north-east Nigeria, the Democratic Republic of Congo, Yemen and South Sudan. The impact of violent conflict is more pronounced among children; 75 per cent (122 million) children under five who are stunted, live in areas impacted by conflict.

Of the countries the [FAO classifies as experiencing a “protracted crisis”](#), all are currently experiencing conflict or violence, which tends to be exacerbated by climate-related hazards, such as drought. A protracted crisis [refers to a situation in which](#) ‘a significant proportion of the population is acutely vulnerable to death, disease and disruption of livelihoods over a prolonged period of time. The governance of these environments is usually very weak, with the state having a limited capacity to respond to, and mitigate, the threats to the population, or provide adequate levels of protection.’ In 2017, 19 countries [were in a state of protracted crisis](#) and all but one experienced low-intensity conflict, punctuated by periods of high-intensity violent conflict (i.e. war).

Most modern conflicts have a [disproportionate impact on rural areas](#); approximately 56 per cent of those affected by conflict live in those areas. For countries experiencing protracted crises, the proportion of those affected is even higher, averaging 62 per cent. For many of these countries subsistence agriculture is vital to food security. [Conflict also causes](#) an increase in food prices, by disrupting market activity and causing intermittent food availability. The problem is made worse as conflict interrupts household incomes; this is especially serious in rural areas, where farms stop functioning and employment opportunities for labourers and farm workers disappear. The result is that many people are prevented from purchasing food even when it is available. At a country-wide level, for every three years of conflict, GDP losses are estimated to be between four and nine percentage points per year. This effect is more acute in countries in the Middle East and North Africa, where GDP losses have been estimated at between six and 15 per cent per year.

In 2017, conflict-prone countries, including Kenya, Somalia, Ethiopia and Uganda, experienced steep increases in the price of staple foods. Trade was halted and food storage facilities were destroyed in Syria and Yemen, leading to a serious decline in economic activity. This, in turn, threatened food security. Humanitarian access is often limited in areas with heavy conflict, which further weakens food security.

Opportunities to Reverse the Decline

Though the recent downward trend in global food security is concerning, there are ways to slow or even reverse the decline, especially by embracing the SDGs and adopting them as policy. Increasing the quantity of food produced is likely to become increasingly important as

the global population increases and climate change puts greater pressures on food systems. It is vital that national and local governments put in place policies that enhance climate resilience and eliminate policies that [cause long-term environmental degradation](#). For instance, they could reduce support for subsidies that increase demand for chemical fertilisers and fossil fuels. Promoting sustainable agriculture can help mitigate the environmental impacts of agriculture, which can contribute to climate change through the emission of greenhouse gases and the destruction of forests, which currently act as a “carbon sink”. The wider adoption of [conservation and regenerative farming practices](#) would also help in that regard.

It is also important to establish and support transboundary co-operation over issues such as fisheries, forests and water resources. The impacts of climate change are becoming worse, but improving disaster preparedness will help mitigate those impacts. There is a need to increase funding in this area (in 2016, five per cent of humanitarian funding was allocated to disaster risk reduction and only one per cent went to the countries most in need).

More can also be done to improve access to food and boost nutritional outcomes. Income inequality is a [strong driver of food insecurity](#). It not only bars access to food, but, in rural populations, prevents farmers from accessing inputs needed to build more resilience in their properties and prioritise environmentally safe agricultural practices. Poverty reduction is vital to reducing hunger and ensuring that people are able to afford a varied diet that meets their nutritional needs. Many social policies are affordable even for [countries with relatively low income levels](#); for example, projects similar to Bolivia’s universal pensions, which can help relieve the most severe cases of poverty. “Eco-social” initiatives, such as using the savings from reducing fuel subsidies to expand social programmes in Ethiopia and Indonesia, provide intriguing frameworks for improved development. Addressing inequality may also help [reduce the risk of violent conflict](#), but it is also important to change social attitudes, norms and values, which may influence grievances and pose a barrier to fully inclusive poverty reduction.

Implications for Australia

Rural Development and Agriculture

With its wide variety of climate zones, Australia faces a variety of climate change-related problems. In the Australasia region generally, there has been an [ongoing trend towards](#) higher air and sea temperatures, more extremes of heat and fewer extremes of cold, along with decreasing rainfall in much of Australia itself. Increasing average temperatures and extreme weather events are expected to continue through the 21st century. Rainfall too, [has trended towards extreme highs and lows](#) in recent years. In parts of Australia, [especially the north](#), heavy rain has increased since the 1970s, while much of the rest of Australia has experienced increasingly dry weather and recurring droughts.

Other natural disasters, such as storms and fires, have also become more frequent. This poses a significant problem for Australia, which has a particularly low rate of import dependency, as it produces 93 per cent of the food that is consumed domestically. Australia exports around 40 per cent of the world’s dairy, which is likely to be impacted by rising

temperatures – the recent drought in the eastern states [led to a poor wheat harvest and the slaughter of livestock](#). Water intensive crops, such as rice and sugarcane, are also likely to be impacted by drier conditions. Worryingly, the Australian Government has not yet implemented frameworks to manage its exposure to an increasingly volatile climate; which, along with a high sensitivity to the impacts of climate change, drew concern from the [Economist Intelligence Unit's Global Food Security Index](#).

Although Australia boasts a high level of income per capita and high levels of food security, there are still barriers to food security, especially in rural and remote regions. For example, the problem is widespread [among](#): those on low incomes; Aboriginal and Torres Strait Islander (ATSI) people; those in public housing; culturally and linguistically diverse groups; those without access to public transport; and people with disabilities, the ill and the frail. In 2016, between five and eight per cent of Australians ran out of food and were unable to buy more; a figure that has remained stable over the last decade. Australia's Millennium Goal target of halving those suffering from hunger has not yet been met. This figure is far worse among ATSI people, 22 per cent of whom reported being unable to afford more food after running out; a figure that increases to 30 per cent in remote areas.

Low incomes among the most vulnerable rural populations are made worse by the high price of food in remote locations. This makes cheap, calorie-dense food a more affordable option than a healthier diet. Rural areas are especially vulnerable to the impact of climate change, partly due to having higher proportions of elderly and unemployed people than urban centres. Rural incomes tend to be 15-20 per cent lower than in urban areas, making it more difficult to adapt to the economic changes that climate change brings.

As climate change continues to threaten livelihoods in rural Australia, the Government must take action to mitigate its impacts and to provide adequate access to nutritious food for those in rural and remote areas. For Australia, as a relatively wealthy country, it will be possible to reduce food insecurity in rural areas, as long as there is the political will to do so. For countries experiencing extreme levels of poverty or conflict, greater international support and co-operation is crucial to help meet the Sustainable Development Goals.

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