Based on research on extreme climate projections for food security globally, 189 million people could experience levels of vulnerability to food insecurity greater than in the present day.

**Bangladesh**
- Exposure to hazards vary across the country, including droughts, sea level rise, and flash flooding. People most affected are those whose livelihoods focus on shrimp, fish and rice farming. The south coast could experience a 14-20% decrease in boro rice yields by the 2030s.
- Bangladesh’s vulnerability to food insecurity could increase by 58% in comparison to the present day.

**Ethiopia**
- Future higher temperatures put coffee, teff and sorghum production, and pastoral livelihoods at risk. Sheep, goats and cattle are more susceptible to heat stress.
- Ethiopia’s vulnerability to food insecurity could increase by 32% in comparison to the present day.

**Cambodia**
- A 4°C increase in temperature could result in a 3% increase in the number of households that cannot afford a nutritious diet.
- Cambodia’s vulnerability to food insecurity could increase by 44% in comparison to the present day.

**Global**
- 1.8 billion people could experience levels of vulnerability to food insecurity greater than in the present day.

Vulnerability to food insecurity as a result of climate-related hazards is measured by:
- Exposure to climate-related hazards
- Sensitivity of national agricultural production to climate-related hazards
- Adaptive capacity: a measure of capacity to cope with climate-related food shocks

At the global level, vulnerability to food insecurity is measured using the Hunger and Climate Vulnerability Index (HCVI); a scaled index comprising national level information about exposure to climate-related hazards, sensitivity of the agricultural system, and ability to cope with climate-related shocks. The numbers presented here are for a scenario of no adaptation, and use the high-resolution HELIX climate model simulations to drive the HCVI. These results are complementary to those presented on www.wfp.org/climate-food-insecurity-vulnerability-index which use different climate data. The country case studies come from a range of different approaches and methodologies to assess the relationship between climate, climate change and food security, undertaken as part of the HELIX project.

In Ethiopia, HELIX’s high-resolution climate model simulations were combined with an assessment of vulnerability on livelihoods using the HCVI framework to identify the most vulnerable regions in the present day and in the future, in the absence of adaptation. In Bangladesh, HELIX’s high resolution climate models have been used to examine the impacts of extreme climate scenarios on food systems, livelihoods and people’s food security. In Cambodia, WFP is testing the incorporation of results from HELIX’s report on global economic impacts of climate change into WFP’s Fill the Nutrient Gap tool (https://www.wfp.org/content/2017-fill-nutrient-gap) to explore the impacts of a 4°C warmer world on access to a nutritious diet.