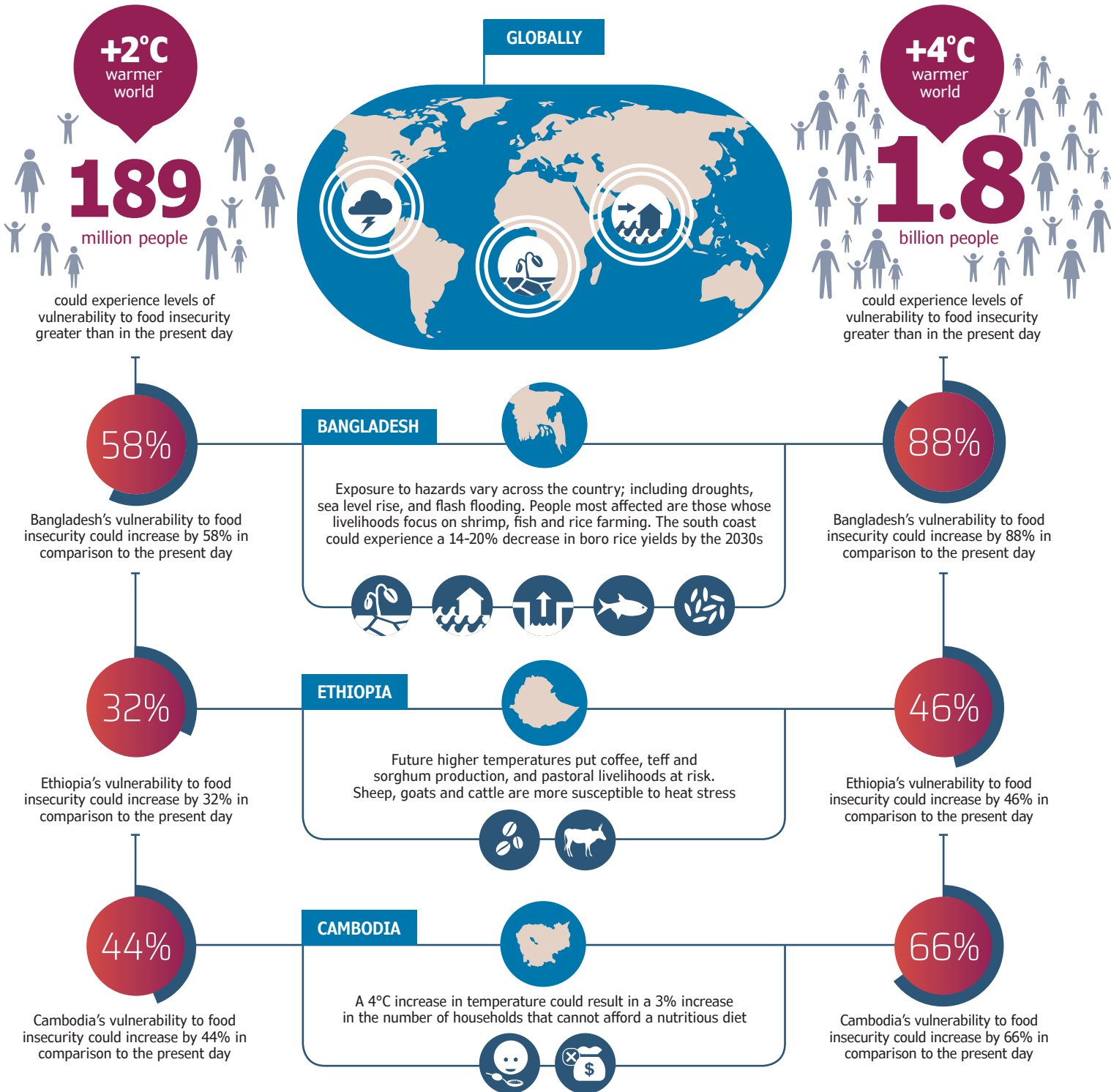


# What a 2°C and 4°C warmer world could mean for global food insecurity

BASED ON RESEARCH ON EXTREME CLIMATE PROJECTIONS FOR FOOD SECURITY



**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](http://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.