

FOODPRINT MELBOURNE



INQUIRY 5

What impact will changes in climate have on Melbourne's food supply?

DATA SHEET 7

Use to complete Worksheet 7

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FIGURE 1: GREENHOUSE GAS (GHG) EMISSIONS FROM MELBOURNE'S FOOD CONSUMPTION BY FOOD TYPE

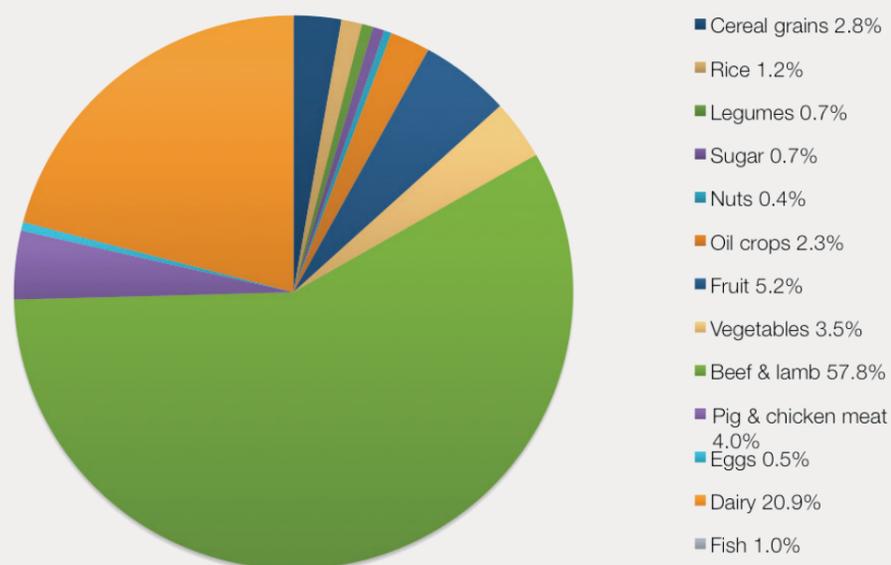


FIGURE 2: GHG EMISSIONS FROM FEEDING MELBOURNE 2015 AND 2050

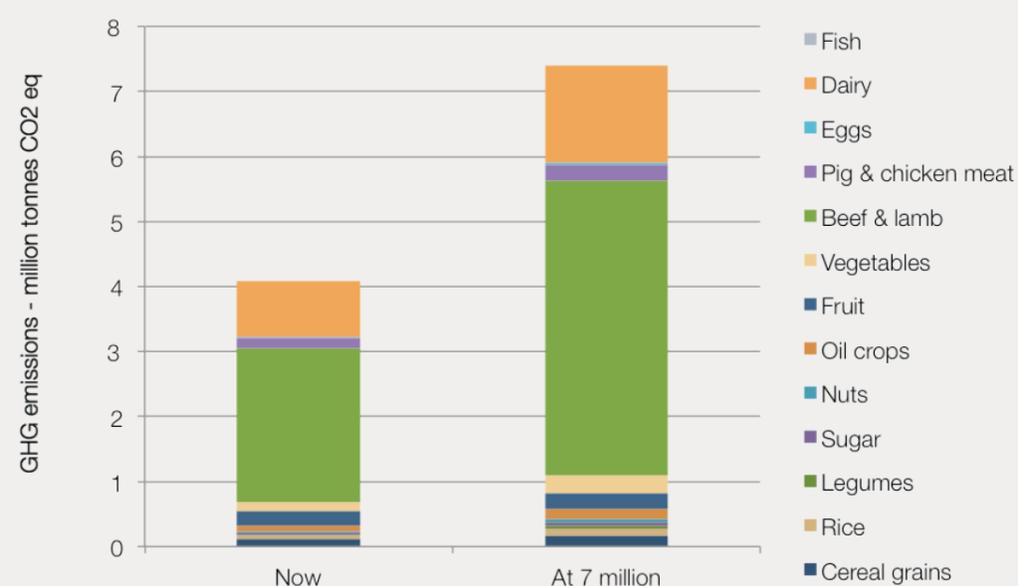
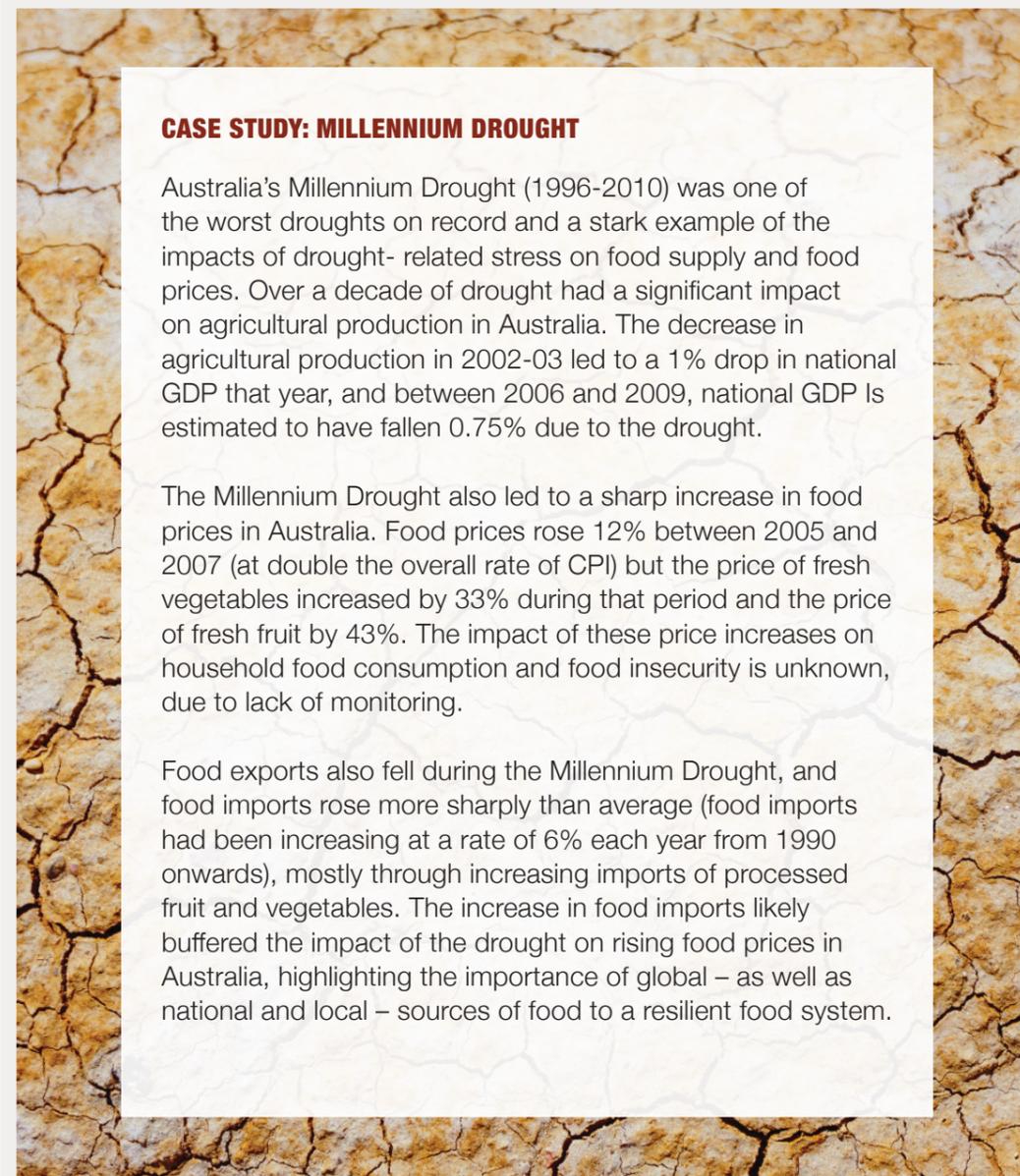


FIGURE 3: THE IMPACT OF CLIMATE CHANGE ON MELBOURNE'S FOOD SUPPLY

The impacts on food production in Melbourne's foodbowl include:

- a reduced capacity for food production
- rising temperatures will dry the soils
- decreasing rainfall will reduce water availability
- extreme weather events are likely to be more common
- pest activity may rise
- seasons will alter, changing the time at which various crops can be grown.

FIGURE 4: EXAMPLES OF EXTREME WEATHER EVENTS THAT HAVE IMPACTED FOOD SUPPLIES



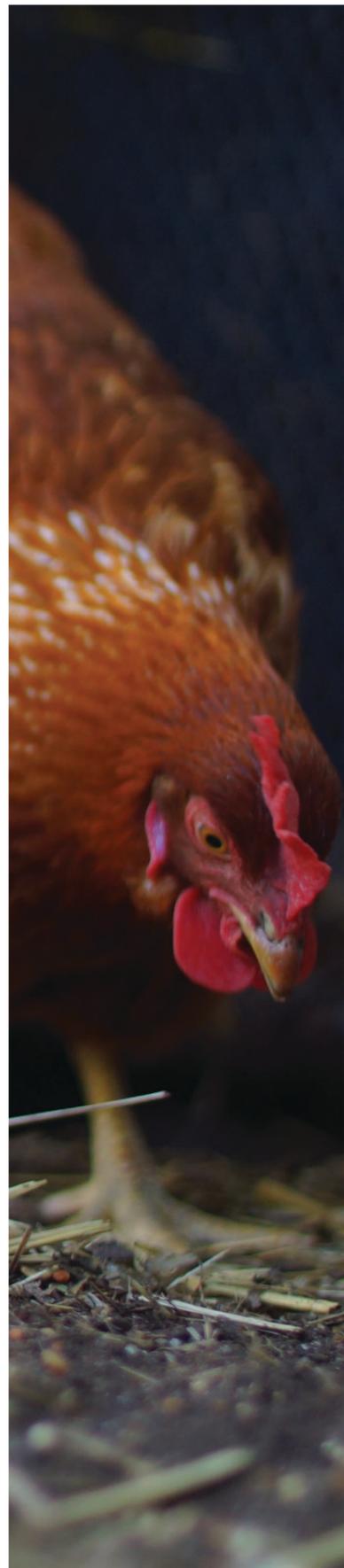
CASE STUDY: MILLENNIUM DROUGHT

Australia's Millennium Drought (1996-2010) was one of the worst droughts on record and a stark example of the impacts of drought-related stress on food supply and food prices. Over a decade of drought had a significant impact on agricultural production in Australia. The decrease in agricultural production in 2002-03 led to a 1% drop in national GDP that year, and between 2006 and 2009, national GDP is estimated to have fallen 0.75% due to the drought.

The Millennium Drought also led to a sharp increase in food prices in Australia. Food prices rose 12% between 2005 and 2007 (at double the overall rate of CPI) but the price of fresh vegetables increased by 33% during that period and the price of fresh fruit by 43%. The impact of these price increases on household food consumption and food insecurity is unknown, due to lack of monitoring.

Food exports also fell during the Millennium Drought, and food imports rose more sharply than average (food imports had been increasing at a rate of 6% each year from 1990 onwards), mostly through increasing imports of processed fruit and vegetables. The increase in food imports likely buffered the impact of the drought on rising food prices in Australia, highlighting the importance of global – as well as national and local – sources of food to a resilient food system.

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FIGURE 4: EXAMPLES OF EXTREME WEATHER EVENTS THAT HAVE IMPACTED FOOD SUPPLIES (CONTINUED)

CASE STUDY: BRISBANE FLOOD

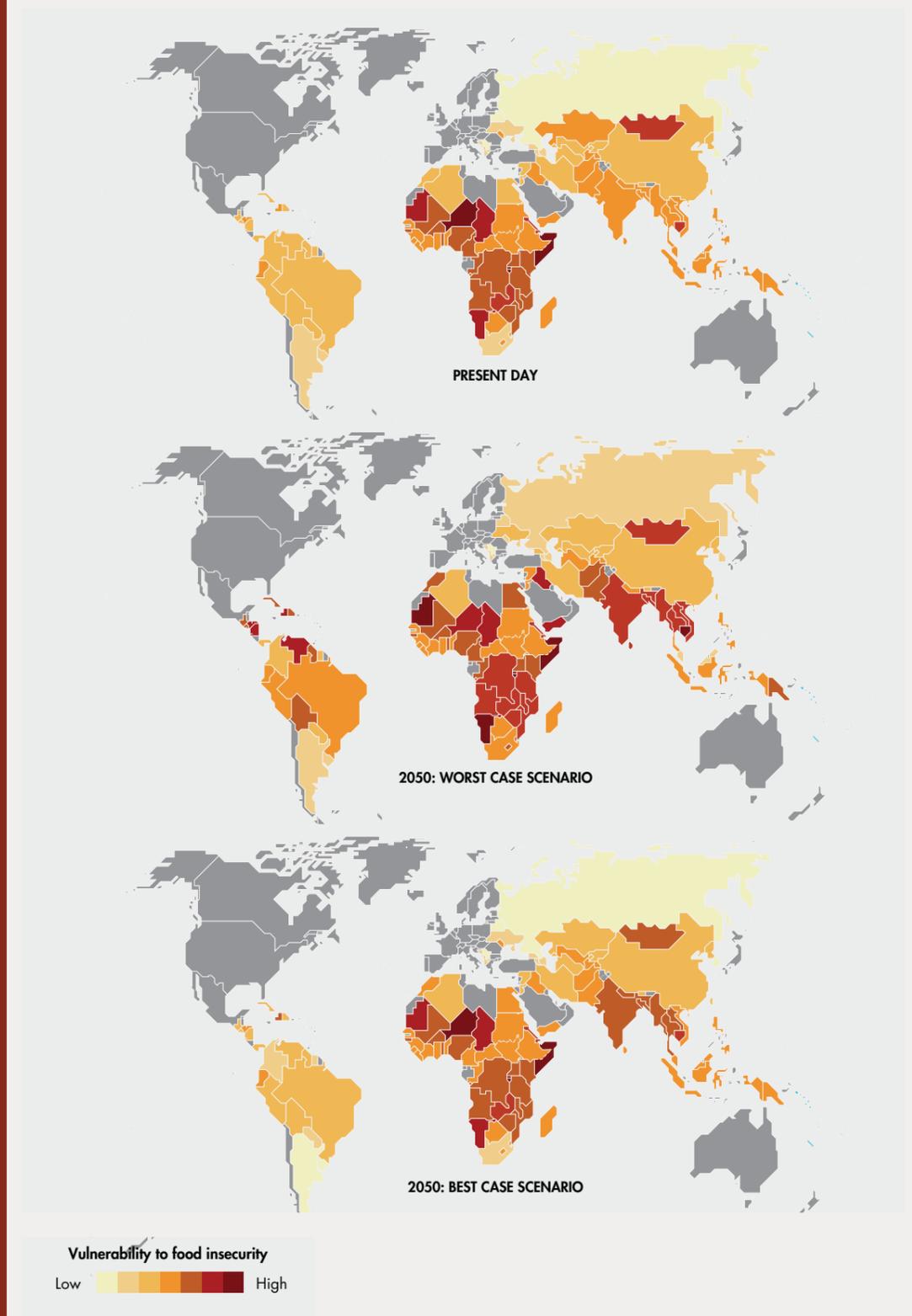
The Queensland flood in December 2010-January 2011 was one of the worst in Australia's recent history, affecting three-quarters of the state, including Brisbane. This acute shock tested the food system's resilience. Food supplies were affected through inundation of farming areas, distribution centres, supermarkets and Brisbane's main fresh produce market. All modes of transport were also affected, and flooded roads cut off major food supply routes.

There were shortages of some essential items in supermarkets, including bread and milk, which were exacerbated by panic buying. However, there is evidence that the resilience of the system was improved by diversity in the supply chains. Short, more localised supply chains and long, just-in-time supermarket supply chains each had their own strengths and weaknesses.

Short, localised supply chains, such as community-supported agriculture box schemes, were able to respond rapidly to identify solutions to food shortages. They were able to connect local farmers and consumers, opening up their cold storage to local farmers who had produce to sell, and quickly finding alternative routes for their small distribution vehicles to reach consumers.

Longer, more centralised supply chains, such as those of the supermarkets, were quicker at detecting supply chain issues and responding to them by changing suppliers. This had positive outcomes for consumers, as shelves were restocked quickly, but negative impacts for some local producers, as large retailers were more inclined to source produce from elsewhere, rather than finding ways to get local produce to market.

FIGURE 5 – GLOBAL VULNERABILITY TO FOOD INSECURITY DUE TO CLIMATE CHANGE NOW AND IN THE FUTURE



Source: <http://www.fao.org/3/a-i6030e.pdf>, page 37