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Food Insecurity

The *National Security Statement* made by the prime minister to the Australian Parliament on 4 December 2008 broadened the scope of national security to encompass non-traditional threats, including the security implications of demographic and climate changes, among them food insecurity. It was prescient. The waves of unrest that have been sweeping North Africa and the Middle East this year have been fuelled in part by food security fears triggered by global food prices which in February reached their highest level (inflation adjusted) since the 1845 potato famine and exceeded the previous record set in 2008, which led to food riots in 18 countries. Russia and the Ukraine have banned food exports and Algeria (800,000 tonnes of wheat) and Indonesia (800,000 tonnes of rice) have bought extra grain to make sure they can feed their own people. Saudi Arabia, Libya and Bangladesh are trying to secure extra grain supplies. Over the past year, the price of maize has risen 52 per cent and wheat 49 per cent. According to the World Bank, rising food prices pushed an extra 44 million people into poverty over the seven months to February.

A population enjoys food security when it has ongoing access to sufficient, affordable, safe, nutritious food. Thomas Malthus, in his *Essay on the Principles of Population* (1798), explained the relationship between food and population. Population will tend to increase more rapidly than food production unless population is reduced by war, disease, natural disasters and the like. In his 1805 revision, he advocated reducing population growth by sexual abstinence and birth controls. In the first half of the 20th century, we saw two world wars and disease pandemics reduce the rate of population increase. Then, beginning in the 1950s, the 'green revolution' in agricultural science dramatically increased food production, particularly in India, while birth control in the West (voluntary) and in China (compulsory) reduced the population growth rate. These developments ensured that there would be no global food crisis in the 20th century, although many regions experienced food insecurity either for short periods or chronically – generally as a consequence of political and economic factors and failures, rather than an inability to produce enough food at the global level.

At the start of the 21st century, the world is again experiencing food insecurity caused by both food shortages in several regions and high food prices. Indeed, as already observed, food insecurity has

been a driver of the current political unrest in North Africa and the Middle East. This combination of events and factors has led many knowledgeable observers (e.g. Bob Zoellick, President of the World Bank, February 2011) to describe the current situation as a 'global food crisis' of more serious and intractable proportions than the recent 'global financial crisis'. Today, there are some 1 billion people globally who experience food insecurity, but there are also 1.5 billion who are obese.

The immediate trigger of the current global food crisis was the worst drought in Russia and the Black Sea region in 130 years, compounded by late rains in Canada, La Niña interruptions in Argentina and a series of acreage downgrades in the United States. The deeper causes include: an increasing global population (currently 6.8 billion, growing by 73 million a year, and projected to reach 9.2 billion by 2050) skewed towards developing countries; competition for, and shortages of, water and land suitable for food production (exacerbated by land degradation, water pollution, urban sprawl, and a switch in United States crop growing from food production to biofuel production – a third of the United States corn crop has been diverted to ethanol production); scientific knowledge generation, and consequently agricultural technology innovations, unable to keep pace with the need for enhanced food production (caused by reduced investment in agricultural research and education globally over the last 30 years); climate change, leading to some traditional food production areas becoming less suited to food production without sufficient areas elsewhere becoming more suited in compensation; increasing affluence in countries like China, India and Brazil leading to increased demand for meat protein and forcing a shift to grain production for animal, rather than human, consumption (3-5 kg feed grain are required for each kilogram of meat produced); economic factors, including protectionism in Europe, the United States and Japan, speculation in food on global commodity markets, and the high price of oil (an ingredient in most agricultural chemicals and used directly in food production and transport); among other factors.

While a food crisis is occurring at a global scale, some regions are affected much more than others. Australia is unlikely to experience a food crisis at a national scale, notwithstanding that some members of our society suffer chronic food insecurity. The global food crisis, however, is an opportunity for Australian agriculture to increase production to target emerging

areas of food insecurity in other countries and this is likely to be driven by economic opportunities. If, however, Australian agriculture does not rise to the challenge to address food insecurity in our region in particular, then, as foreshadowed by the 2008 *National Security Statement*, we may have to face the challenges of conflicts and population migration on our doorstep.

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