

Strategic Analysis Paper

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Food and Water Crisis: Fact or Fiction?

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Summary

Future Directions International (FDI) is embarking on a significant study into food and water crises that exist around the world. Before beginning this task it is useful to determine if we presently have global food and water crises or if there is a potential for such crises. That is the aim of this preliminary paper. This paper will set the framework for further study as outlined in FDI's 20 January 2010 Strategic Analysis Paper *Food and Water Crises: Research Process*.

Analysis

The Food and Water Crisis: Research Process begun with the overarching question:

How can Australia best display a global leadership role in improved and sustained agriculture productivity and landscape regeneration in the event of a global food and water crisis?

While the above scoping question suggests one event or crisis, FDI recognises that the issue is far more complex. Rather than being universal in its nature, a crisis may occur only in certain parts of the world at different periods of time.

A crisis is also subjective and philosophical: what one person or nation might term a crisis may be considered normal to other people. There is no sliding scale which is universally recognised which could help researchers to determine if there is a crisis and the extent of such a crisis. The difficulties in determining whether a crisis, or a number of crises, exists need to be recognised in any study on the issue of food and water security. A useful starting point then is to consider the definition of a crisis.

So what is a crisis?

Adopted from the Greek word 'krisis', the Oxford Dictionary provides two variances to the word by referring it to:

1. A decisive moment, a time of danger or great difficulty, or
2. The turning point.

Depending on what version of crisis is meant, synonyms to the word may include emergency, predicament, meltdown, critical situation, plight, critical point, climax, turning point, culmination, and moment of truth. It could be argued that evidence of land and water degradation, climate change and a rising population could be individual crises. Combined they can make a super crisis.

The Theory

While a number of economists and population experts have sought to understand food and water constraints, arguably the most useful articulation of population and its relation to food production was achieved by Thomas Robert Malthus who lived from 1766-1834.

In 1803 he wrote an essay on the 'Principles of Population'.

He argued in this essay that the standard of living of the masses could not be improved because the power of population is indefinitely greater than the power of the earth to produce subsistence for men.

Unless the population was checked by famine, disease or war, Malthus argued that mankind was doomed. Central to this theory is that the population increases by a geometric ratio. His theories are based on the Law of Diminishing Margin Returns.

The Law of Diminishing Returns says that when additional quantities of labour are applied to work on a fixed quantity of land and capital, then, while output would grow, it would do so at progressively smaller rates. Malthus believed that population growth was the obstacle to human progress. Concerns about excessive population, methods of birth control and problems of feeding the world's poor hark back to Malthus. His application of the Law of Diminishing Returns, however, has been discredited because it failed to adequately allow for technological advances.

History of Crises

History indicates famine and drought have often been a factor that humans have dealt with. We read of numerous famines and droughts in the Bible. More recently we can point to the Chinese famine that existed from 1958 to 1961 which killed up to 40 million people. The Irish potato famine of 1845-1851, during which time an estimated one million people died, is another example. In the African country of Ethiopia many famines have devastated the country including the 1984 famine when an estimated one million perished.

Under communist rule, the Ukraine Famine 1932-3 resulted in a death toll that has been estimated at between six million and seven million - approximately 20 per cent of the population.

From this historical context it is difficult to determine if the crisis is worse now than in previous generations. Indeed, the percentage of the world population suffering from hunger could be significantly lower than in previous generations although, in absolute terms, the number of people suffering from hunger has increased.

The point of the FDI study is not to question the depth of the crisis in historical terms but to recognise that hunger still does exist and to consider the reasons for this in order to seek solutions.

Current situation

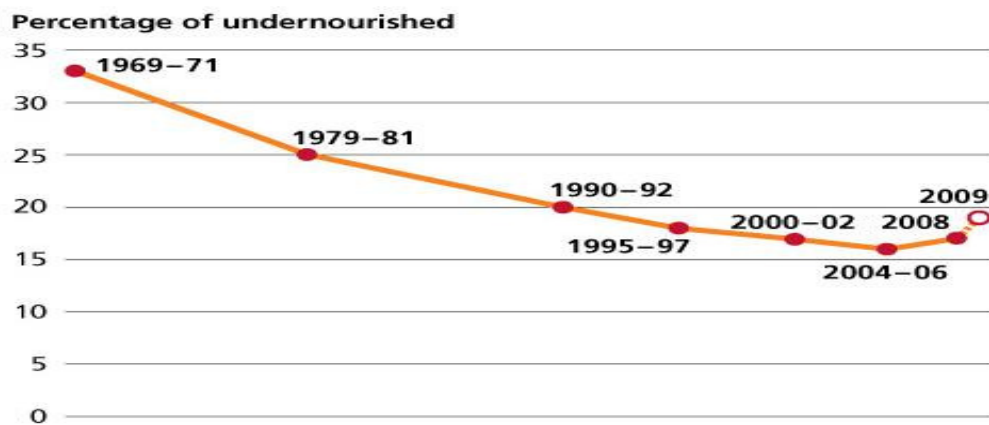
The Food and Agriculture Organization (FAO) of the United Nations estimates that in 2009 1.02 billion people were undernourished worldwide. The number of undernourished people has been increasing steadily over the past decade. (Figure 1)

There are more hungry people than at any time since 1970s - the earliest year when comparable statistics are available. Of these 642 million live in Asia and the Pacific, while 265 million live in Sub-Saharan Africa. In percentage terms the number of people in hunger in Sub-Saharan Africa is 32 per cent - the highest relative to its population size in the world. In 1969 an estimated 878 million, or 24 per cent, of the world were undernourished.

The largest percentage increase in the number of hungry people in the developing world occurred in the Near East and North Africa. The FAO refers to the Near East as being the countries of Iran, Jordan, Kuwait, Lebanon, Saudi Arabia, Syria, Turkey, United Arab Emirates and Yemen, while North Africa region includes Algeria, Egypt, Libya, Morocco and Tunisia. In these regions, the number of those undernourished increased by 13.5 per cent. An additional 100 million people have been added to those undernourished in the past year.

While the number of hungry or undernourished people increased since the 1990s, the number of undernourished was actually in decline in the 1970s and 1980s. From the mid 1990s, however, and especially in the past year, the number of undernourished has risen. Undernourishment or hunger occurs when the food intake is less than the minimum energy requirements.

The declining trend in the proportion of undernourished in developing countries has been reversed



Source: FAO.

Figure 1

The United Nations claims that the current crisis is historically unprecedented, with several factors converging to make it particularly damaging to people at risk of food insecurity.

The FAO released in December 2009 the report *The State of Food Insecurity in the World*. This report indicates a significant worsening in global food security since 1996. 2009 was described as a devastating year largely due to the global economic slowdown. As the graph below indicates, the number of people undernourished has increased significantly in the past year.

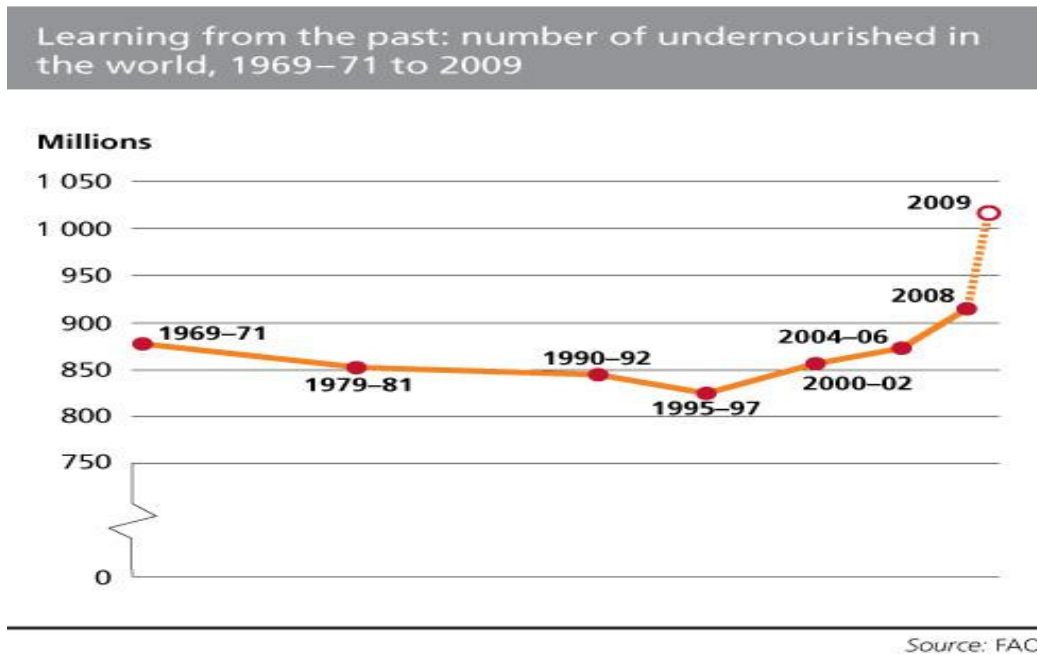


Figure 2

Reasons behind Crises

The global financial crisis is viewed by Oxfam and the United Nations as one of the significant factors behind the sharp increase in food insecurity and vulnerability in the past year.

The financial crisis led to a substantial decline in remittance inflows into developing countries. Concurrently, the price of food remained higher than average. At the end of 2008, domestic prices for staple foods remained in developing countries 17 per cent higher in real terms than two years earlier.

The FAO also points to the linkages between energy markets and food as a factor in greater food insecurity. Biofuels and the new linkages between agricultural and energy markets have been an additional complexity. This is particular so as the energy market is significantly larger than the world grain market, so that grain prices may be determined by oil prices as opposed to being set by the supply of grain.

Conclusion

In future studies FDI will continue to examine the nature of food and water crises, when and where it will occur, what form they will take and what the global, regional and national implications might be. FDI will also be looking at the potential for future intra and inter-state conflict as a result of food and water insecurity. Perhaps most significantly, FDI will demonstrate ways that such crises can be averted and what leadership role Australia can play in providing solutions to the crisis.

If you would like to take part in this evolving debate please contact the author on +61 (0)8 9486 1046 or email gkleyn@futuresdirections.org.au