Sustainable production can end food shortages

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A fundamental re-think is needed to feed the world's rapidly growing population

IF THE food crisis illustrates one thing, it's that there is no such thing as a free lunch. The era of cheap food is at an end. Ahead lies the epic battle to feed a rapidly growing population in a heavily degraded, water-stressed world. It would however be a mistake to describe the current crisis as an absolute world shortage of food; your local supermarket shelves are no doubt still bulging. Rather, sharp rises in the price of commodities like wheat and rice have put them beyond the reach of tens of millions of desperate people.

In Rome later today, the UN Food and Agriculture Organisation's (FAO) high-level summit on world food security, climate change and bio-energy is due to issue a declaration. This will seek to mobilise food aid, cut trade barriers and invest in farming in poor countries. It has also just published an agricultural outlook, covering 2008-2017. It blames weather conditions in major grain-producing regions (mainly Australia and Canada) for the spike in prices. It also fingers population growth, higher oil prices, changing dietary habits as well as demand for biofuels.

While we grumble about price hikes on our weekly shopping bill, the reality is that food is a relatively minor part of most Irish people's total weekly outgoings. The acute pain is being felt in low-income countries, where upwards of 50 per cent of all income may be spent on food.

High and volatile food prices will, the FAO says, "push more people into undernourishment". The report remains upbeat, arguing that "prices will resume their decline in real terms". This assessment is, to say the least, optimistic. It assumes oil prices will peak in 2017 at around $104 a barrel. Given current prices of around $135, the UN team may need to revisit this assumption.

No single factor has been more important in maintaining cheap, plentiful food production in recent decades than cheap, abundant oil. In the US for example, every calorie of food energy created requires the input of 10 calories of (fossil fuel) energy. Food crises are not new. In the 1950s, with the world population in the region of 2.5 billion, the green revolution was launched to head off the risk of mass starvation. New high-yield varieties of wheat and rice and highly mechanised agricultural methods were developed.

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This produced dramatic yield increases, but at a cost. Unlike the traditional strains they replaced, the new intensive monoculture crops required huge inputs – in the form of artificial fertilisers, pesticides, irrigation and oodles of fossil fuel energy. Much of this fertiliser finds its way into watercourses, leading to water pollution and eutrophication of lakes and coastal areas. Every year, an area 1½ times the size of Ireland is permanently lost to desertification, which threatens one-third of the world's land area, with over ¼ of a billion people already affected.

Intensive agriculture requires vast fresh water usage for irrigation and for farm animals. Two-thirds of all world fresh water usage is accounted for by agriculture. Irrigation has led to substantial land destruction through salinisation – the build-up of salt in the soil.

Additionally, much irrigation involves tapping underground aquifers for water, which is effectively non-renewable. In the US, farmers can buy around 1.2 million litres for as little as $15. This irrational pricing of precious resources leads to waste on an epic scale, and means that the true cost of food in many first-world countries is actually far lower than it should be. This is at the root of western obesity and diabetes epidemics, which are the flip side of grossly unequal food production and consumption.

Worldwide, it is estimated that governments pay over $500 billion annually in agricultural subsidies. These allow the EU and US to dump heavily subsidised products on to world commodity markets. This depresses prices and pauperises farmers in the developing world. We then use punitive import tariffs to protect our own domestic markets.

The current model of allowing global food production to be almost totally market-driven has delivered huge increases at a fearsome cost. Pollution, monoculture, species extinctions, eco-system degradation and loss of genetic diversity are among the legacies of the green revolution.

By 2030, population increases combined with the growing consumption by the vast new middle classes of Asia, mean food production must increase by 50 per cent over today's levels. By then, an estimated 2.5 billion people will experience persistent water shortages, as the effects of climate change intensify.

A fundamental re-think on how to feed the world is needed, with sustainability, biodiversity, water management, effective pollution control and soil protection becoming key priorities. Promotion of locally produced, seasonal foods would also help.

We are not powerless. Spending less in supermarkets and supporting local shops is an effective way of signalling our desire for a sustainable future.

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