



Climate Change and
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Food prices: what next?

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Thank you very much for the invitation to speak here today.

In this short presentation, I'm going to skip over the reasons why food prices suddenly emerged as such a major issue during 2007 and 2008, as I think we're all by now familiar with the list – and instead zoom out a bit, and look to the medium and longer term. Are recent food prices rises just a blip that's already starting to subside as the downturn gathers pace, or are we looking at a long term structural shift? And if it is the latter, then what does that mean for the future of agriculture, and prospects for feeding a population set to reach 9 billion people by 2050?

So let's start with the first question, of whether the recent food price spike was just a blip. One fairly robust answer was given by the OECD and the Food and Agriculture Organisation in a report they published earlier this year. They argued bluntly that the recent high prices will not last and would gradually come down, even if on average they remain higher than before the recent spike.

So far, commodity markets seem to bear their point out. While prices do remain much higher than pre-spike levels, the FAO food price index peaked in June last year, stayed level through the summer, and is now back to where it was in mid-2007. This is very much in line with a wider trend in commodities since the credit crunch and economic downturn have gathered pace – a trend seen most dramatically in oil, which has fallen from a peak of \$147 a barrel last July to around \$45 today.

So have the OECD-FAO report's upbeat projections been proved right? Can we all start to heave a sigh of relief about global food security?

Unfortunately, the answer to those questions is an emphatic no. And the reason why not is because of three very important assumptions that emerge if you delve into the detail of the OECD-FAO report.

- First, it took *no* account of climate change in its projections, because of the extent of uncertainty about its impacts.
- Second, water scarcity was also omitted.
- And third, it assumed that oil prices would stay between \$90 and \$105 for the next decade.

In fact, there are good reasons to suppose that these three resource scarcity issues will, together with competition for land, in fact be critically important in determining the long term outlook for food. So let's take a look at each of them.

Start first of all with **climate change**. Some climate sceptics will tell you that a bit of global warming will over the next few decades improve crop yields, at least in higher latitudes; and in fact, the IPCC agrees.

Unfortunately, though, lower latitudes – where most developing countries are situated – will start see lower crop yields more or less immediately. That's before we consider other impacts that will also have a negative impact on food supply: water availability and extreme weather events (like droughts, floods and hurricanes) being just a few examples. Overall, the IPCC reckons that climate change will cause an increase of 40 to 170 million undernourished people.

On top of that, there's the fact that agriculture itself is a major emitter of greenhouse gases – depending on how you count them, up to 32% of global emissions. So as well as coping with the impacts of climate change, agriculture will also need some dramatic reforms to reduce its own contribution to climate change. So there's one very significant issue largely overlooked by OECD and FAO.

Second, there's **energy** – which matters for food not only because of the growing trend of turning food into biofuels, but also because (as you know) we do the opposite too: we turn fuel into food. We depend on fossil fuels to plough the land, harvest the crops, then process, refrigerate, freight and distribute them. And we also rely on fossil fuels to make much of our fertiliser, of course - so as oil prices rose over the last few years, fertiliser costs rose too, even faster than food prices.

Now, as I mentioned, thanks to the current global economic downturn, recent weeks have seen oil prices fall to about a third of their peak level, well below OECD and FAO's projected range. But look to the longer term, and the underlying supply fundamentals remain tight. Global production has kept stubbornly to around 85

million barrels a day in recent years, even when demand was soaring; the International Energy Agency's most recent World Energy Outlook noted that output from existing fields is falling faster than thought, and not being replaced fast enough by new finds.

Looking ahead, massive investment is needed in new oil production – around \$8.4 trillion between now and 2030, according to the IEA – but even before the downturn it wasn't happening fast enough. With oil prices as low as they are now, investment in new production has fallen off a cliff. And without it, the IEA has warned, we could be looking at another oil supply crunch as soon as we emerge from the downturn – and perhaps another food spike too.

Third, there's **water** – where demand has tripled in the last fifty years. As population grows and per capita consumption rises, less is available per person. Already, half a billion people live in countries chronically short of water; by 2050, this will rise to more than 4 billion. Climate change will make matters worse. Of the four scarcity issues, water will probably be the one that makes most difference in the next ten years, as rivers and lakes run dry, as groundwater from aquifers and water tables becomes depleted, and as climate change impacts are increasingly felt in earnest.

Finally, there's **land availability**. Analysts say that to meet a 50 per cent demand increase, we'll need to expand not just agricultural productivity, but acreage too. Unfortunately, that's easier said than done. The FAO thinks that there's only 12 per cent more usable arable land in the world – and there are plenty of demands for it from other uses besides food.

One example is biofuel, which could use up a third of the US corn crop this year. Then there's

- fibre, like paper and timber;
- carbon sequestration, and the need to plant new forests to take carbon out of the air;
- forest conservation;
- and of course urbanisation, a particular challenge given that cities tend to grow on the most productive land.

All this is before we take into account erosion and desertification – FAO reckons 16 per cent of the land we use now is already degraded.

So there are four resource trends – water, land, energy and climate change – that matter hugely for world food supply between now and 2030. Because of them, I think we

can expect prices to rise further over the long term - and a lot of turbulence in agricultural production and world food markets.

So what needs to be done?

Well first, we need to recognize that the challenge we face isn't just to increase yields. We also need to make food production and supply more **sustainable**, given that it's too often part of the environmental problem rather than the solution; more **resilient**, given the shocks and stresses that are likely to come our way; and more **fair**, given that the problem today isn't that there's insufficient food to go around, but rather that a billion of us are undernourished even as another billion are overweight or obese.

Second, we need to **invest a lot more in agriculture** – in particular in the developing countries that missed out on the Green Revolution first time around, where the largest potential productivity gains are to be found. The proportion of development assistance going to agriculture fell from 17% in 1980 to 3% in 2006; we need to reverse that. We also need to invest *much* more in research and development, which was so crucial in driving the 20th century Green Revolution, where spending has halved over the last 15 years.

Third, I think we need to **focus on small farmers**. The development expert Paul Collier argues that poor countries need to shift to large commercial farms, let go of what he calls a romantic attachment to peasant agriculture, and encourage poor people to relocate to cities. But in fact, the last World Development Report makes clear that the fall in poverty during the 1990s took place mainly in *rural* areas – not because of migration *out* of them, but because of better conditions *within* them. Small farms are the largest employer in the world; 2.5 billion people depend on them. Countries like Vietnam show that small farms can work, and be part of export success – we need to make that happen globally.

Fourth, of course, there's **trade policy**, and it's worth pausing here to note the seismic changes we've seen over the last few years. Not so long ago, of course, we were in a long term commodities slump. Now, with the prospect of limits to supply growth, we're moving into a whole new context: from a *buyer's* market, where the subject of most trade squabbles was *market access*, to a *seller's* market, where the arguments will instead be about *security of supply*.

We're already beginning to see signs of what we can expect in this changing context. One telling example was the news late last year that a South Korean company had

signed a lease agreement for fully *half* of Madagascar's arable land – an area half the size of Belgium: a sign that key food importing countries are already preparing for the point when food prices resume their upwards march. Many more deals like this are in the pipeline, with China and a number of Gulf countries also in especially acquisitive mood.

Other import-dependent countries, meanwhile, are going for autarchy strategies. The Philippines, one of the world's largest importers of rice, is aiming for self-sufficiency in rice production within just five years. The opposite strategy; the same underlying concern.

Now as yet, there are no neat answers about what kind of strategies will protect us all from the kind of volatility we saw in food trade earlier this year, when over 30 countries had export restrictions in place. But I think we can start to sketch out a few ideas.

First, we're discovering that as we've turned the world food system into the highly efficient, just-in-time supply web that it is today, we've also made it less resilient. We've stripped out too many of the buffers that prevented shocks from ricocheting across the world, and made it too easy for local or regional perturbations to spread.

One thing we can do about that now is to build up buffer stocks of food – whether at village level, country level, regional level or indeed global level. Today, stocks are at a historically low level; it's one reason why prices have risen so fast. With prices now easing, it's a good moment to build stocks up again – if you recall Joseph's dreams of seven lean years in the book of Genesis, you'll recall also that he was an enthusiast for strategic grain reserves.

Secondly, it's still essential that we push ahead with agricultural liberalization and reform of EU and US farm support policies. These policies structurally and systematically disadvantage developing country farmers, and work against poor countries' food security by unfairly undercutting domestic producers.

Third, we urgently need international aid agencies like FAO and the World Bank to get geared up to offer assistance to developing countries undertaking negotiations like the one Madagascar just concluded with South Korea.

Alarmingly, reports suggest that South Korea acquired its land in Madagascar for *free* – the only upside for Madagascar being the promise of extra jobs. Yet deals like these

don't have to be exploitative. If we get them right, they can bring much-needed investment and improve poor farmers' access to capital, markets, infrastructure, know-how, risk management and so on. But to secure that outcome, developing countries need support in undertaking these complex negotiations.

Most fundamentally of all, a major global debate is now needed about the kind of trade system we want in the 21st century.

Last year's US National Intelligence Council report on global trends to 2025, which signaled the risks of increasing resource scarcity, flagged the potential for damaging resource nationalism to become the norm.

But at the same time, the reality of global interdependence means that we really are all in this together: a trade system which only works for some of us, and which deepens global inequalities rather than resolving them, is not only morally repugnant; it also stores up instability, radicalization and conflict for the future. We need to think very hard about whether that's really the world we want to bequeath to our children, because one way or another we *are* going to make that choice over the next 10 years.

And that leads me to my last point. **We – people in developed countries – need to recognize the huge impact that our lifestyles have on the rest of the world, especially in the context of global food markets.**

Probably the single most important driver of rising prices has been biofuels, which we're using to reduce our dependence on foreign oil. On top of that, our diets, full of meat and dairy products, are massively inefficient in terms of water, energy and grain use, and emit more CO₂ as well.

We don't all have to become vegetarians, but we do need to realize the global impacts of what's on our plates and fuelling our engines – and that there are some fundamental questions of fair shares at stake. Gandhi's observation that there's enough for everyone's need, but not for everyone's greed, is truer than ever.

I'll stop there, other than to add a quick plug just to say the text of this talk, plus lots of other material about food prices and development more generally, are all available at www.globaldashboard.org, the foreign policy blog that I co-edit. Thanks very much.