FOOD SECURITY ON THE ISLAND OF IRELAND: ARE WE SLEEPWALKING INTO A CRISIS?

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Food security is back on the global agenda. The drivers are complex and interconnected and include increasing energy prices, climate change, demography, urbanisation, changes in dietary habits, loss and degradation of natural resources such as soil and water, and difficulties in maintaining agricultural viability. As food prices in major world markets continue to rise there is increasing concern about food security - the ability of the world to provide healthy and environmentally sustainable food for all its people. This is of course a critical problem for low income countries but is it relevant for the island of Ireland?

This article highlights the need for new ways of thinking and acting which recognise that population health, food systems and agricultural production are intimately linked at global, national and local levels. Critical thinking is urgently needed to bring together different perspectives, but the debate in Ireland is low key and disconnected and ignores the key issue of health. Yet evidence shows that health is and must be central to food and agricultural policy.

A new surge in food prices is likely to cause food riots, geo-political tension, global inflation and increasing hunger among the world's poorest people. The UN index of food prices, based on an international basket comprising wheat, corn, dairy produce, meat and sugar, stands at its highest level since the index started in 1990. We are entering dangerous territory, says the UN Food and Agriculture organisation's chief economist¹.

The impact of this is already being seen in rising food prices in Ireland and the UK. Whereas the biggest impact will obviously be felt in low income countries where staple items demand a much larger share of household incomes, low income families in wealthier countries will also be affected. This is likely to be of increasing importance as there is little sign of food prices stabilising, and cereal and sugar prices are expected to continue rising.

In 2009 the number of undernourished people in the world reached one billion, in part due to soaring food prices and the financial crisis. The Director General of the Food and Agricultural Organisation (FAO), Jacques Diouf, called this a "tragic achievement." ² In 2009 world leaders convened at the headquarters of FAO in Rome for the World Summit on Food Security and unanimously adopted a declaration pledging renewed commitment to eradicate hunger from the face of the earth.

But government policies such as the ban on food exports introduced by the Indian and Russian governments exacerbate the problems in world markets. The burgeoning

economies of East and South Asia and the pressure to turn over agricultural land to biofuels (especially in the US) are adding to pressure on world food supplies. And there is increasing concern about speculation as investors climb onto the food price bandwagon.

A perfect storm?

In a recent lecture³ in Belfast on food security and sustainability, the UK Chief Scientist Sir John Beddington outlined a 21st century agenda for food security. He highlighted the importance of long term trends in demography and urbanisation. Approximately six million people a month are being added to the world's population, and there is a dramatic move to urban centres with a resultant impact on farm production. As well as the issue of peak oil, he stressed that freshwater security is one of the looming challenges across the world. Alongside the warnings of climate change and unpredictable weather activity, he described the situation as a 'perfect storm'.

In 1985 it was noted that 2 billion of the population of the world lived in urban centres compared to 3 billion living in rural area.⁴

By 2015 it is estimated that 6.5 billion of the population of the world will be living in urban centres compared to 2.5 billion in rural areas.⁵

The UK food policy expert Professor Tim Lang has been calling for a 21st century food policy to address this new set of fundamentals. In a recent paper⁶ he urged action to radically alter the policy mix we have inherited, a mix that is largely based on the idea of addressing supply by increasing output and reducing prices. He describes today's challenge as even more complex - the need to address the coexistence of under-, over- and malnutrition.

In the emerging economies of the developing world more people are choosing to consume more meat and poultry, just as people in the Western world did when their economies grew dramatically in the 19th and 20th centuries. The combination of urbanisation and the globalisation of the food systems is leading to a rapid transition to a high-fat and high-sugar diet which is having a marked and disturbing effect on disease patterns, with a dramatic rise in chronic diseases including heart disease and diabetes in the developing world.

The World Health Organization predicts that non-communicable diseases such as heart disease and diabetes will increase by 17% in the next 10 years. The greatest increase will be in Africa.⁷

From a health perspective, the challenges have been spelled out in several international reports which point to the harm done by the global shift in our diets. They also point to the impact food has on social inequality^{8,9}. This shift in diet also has considerable environmental impact. Meat and poultry consume at least three times the level of resources of grain, and urbanisation means not only large concentrations of populations to be fed but less yield on the farms producing the food.

The impact of this shift has been summarised by the 2009 UN Environment Programme (UNEP) in its report on food's impact on the biospher¹⁰. In addition the influential 2006 Stern Report on climate change¹¹ highlights the fact that that agriculture and food production are considerable sources of greenhouse gas emissions (GHGs).

Beside GHG emissions, diet has other significant environmental effects on water, waste and energy. The food and drink industries are high users of water and some foods are extremely high in embedded water. For example 1 kg of beef requires 10-20,000 litres of water and a cup of black coffee represents 140 litres of embedded water. Waste is another important issue: approximately one third of UK purchased food is thrown away by consumers.

World food production must rise by 50% by 2030 to meet increasing demand 12

World energy demands are predicted to rise by 40% by 2030³

Food security in UK and Ireland

The issue of food security is clearly a matter of life and death for low income countries, but no country, including those in the advanced world, can avoid the issues it raises. In both the UK and Ireland our current approach to food policy emerged in the aftermath of World War Two, where the combination of privation, rationing, malnutrition in countries such as India and the impact of the American depression meant there was agreement on the need to increase production and build a science base to support this.

But the picture today is very different⁶. For the first time there is a concurrence of under-, mal- and over-nutrition, and an urgent need to address serious and emerging environmental and structural challenges. In the UK, discussion about what food security means and how it can be delivered have increased in the last five years, leading to major government statements including *Ensuring the UK's Food Security in a Changing World* (2008)¹³, *Food Matters: Towards a Strategy for the 21st Century* (2008)¹⁴ and most recently *The Future of Food and Farming.*¹⁵

These aim to review the main trends in food production and consumption, analyse these for their economic, environmental and social impact, assess the robustness of the current policy framework and determine objectives for future food policy. *Food Matters* identifies challenges such as including rises in global commodity prices; impacts on health, including an estimated 70,000 premature deaths per year that could be avoided if UK diets matched nutritional guidelines; the need for continued vigilance in safety; and the huge environmental impacts of the food chain. A clear vision is set out with the objectives of securing fair prices, choice, access to food and food security through open markets, continuous improvements in food safety, a further transition to healthier diets, and a more environmentally sustainable food chain.

The most recent Foresight report¹⁵ aims to explore pressures on the global system between now and 2050, and identify decisions policy-makers need to take to ensure the global population can be fed sustainably and equitably.

These policy frameworks represent a considerable shift in thinking from the rather complacent tone of earlier years. For example in 2006 Department of Environment Food and Rural Affairs (DEFRA)¹⁶ documents sounded confident about the state of food security in the UK, claiming that the UK was relatively fortunate in that 'we are food secure and have the ability to access a wealth of nutritious food from abroad as well as enjoying domestically produced food......National food security is hugely more relevant for developing countries than the rich countries of Western Europe¹⁶.

Policy direction in Ireland

As the UK food security debate has moved away from complacency it is timely to try and get a sense of policy direction on the island of Ireland. Here it is probably fair to say that the term food security is still seen as largely relevant to low income countries and the debate is almost entirely about international efforts at feeding the world. The memory of the impact of the Irish famine is emphasised in Ireland's approach and there is pride in the work of organisations dedicated to responding to world hunger.

Food Harvest is the Irish government's most recent vision for the food sector¹⁷. Launched in July 2010, it calls for the agricultural sector to lead the way in the Irish economic recovery. As Ireland's largest indigenous industry, employing over 150 thousand people and responsible for generating 24 billion euro for the economy, the issue is clearly of the utmost importance. The report's emphasis is on strengthening and safeguarding the export sector and within this the key focus is on meat, dairy, infant formula, soft drinks, fortified foods and alcoholic beverages. There is a strong emphasis on 'becoming green' and the importance of this as a 'branding issue' as well as a commitment to a more sustainable world.

Food Harvest is outward looking and perhaps this is why there is so little consideration of the wider needs of Irish people in terms of resilience to food shocks such as supply chain problems or oil and water shortages. There is no mention of population health or the importance of dietary change and the emphasis is almost entirely on potential economic benefits. No one with any public health background or expertise appears to have been involved. There is no formal policy statement outlining Ireland's assessment of its food security; and no reference to the impact of the recession, which is almost certain to drive down food quality as people on low incomes purchase cheaper, lower quality food.

Similarly there appears to be no clear statement of a distinct policy on food security for Northern Ireland from the NI Executive or any of its departments, although the four devolved administrations have recognised the need for UK-wide collaboration in food matters and have agreed a range of issues where this would be beneficial such as sustainable food production and cost-sharing in research and development. They have also agreed to regular 'food summits' to discuss the health and well being of UK citizens and international food security¹⁸.

Overall, the absence of policy direction that considers all aspects of food security in Ireland, North and South, lends weight to those who question whether countries like the UK and Ireland are sleepwalking into a crisis ^{6,19,20}. We are vulnerable to unexpected factors such as supply chain collapse and need to put in place actions to increase our resilience.

Major drivers affecting the global food system have been well summarised in a recent series of papers²¹. They include the demand for food (including what is changing in consumption patterns, what can people afford, and the effects of urbanisation on food production); trends in future food supply (what sort of crops are being grown, and future plans for livestock and fisheries); external factors affecting the food system such as climate change; competition for water, energy and land; and cross-cutting themes such as health, food wastage, and the economics of food demand and supply.

In both parts of the island we are turning a blind eye to many of these issues. Many of them are controversial and will require some very radical thinking to deal with. Among the difficult issues we as Irish people will have to face in the future are: Is food security relevant in rich countries like Ireland? What are the drivers of agricultural change in Ireland? What is the impact of changing dietary patterns on health? What would a sustainable food system in Ireland mean? Could less meat mean more food? Is a radical rethink of our eating habits required?

These represent deeply political questions that Government, North and South, need to face and respond to. Each needs to be thought through and all require important changes in government policy and individual behaviour globally, nationally and locally. But a policy response which views the issues as completely separate from one another makes no sense. The knock-on effects of such interconnected issues are clear: climate change will reconfigure what is grown, how, where and by whom; urbanisation and demography will place heavy demands on food production, and changes in the state of soil will determine what can be grown; changing agricultural policy will affect health; and so on.

Changing our diet

The 20th century change from largely plant-based diets to energy-dense diets high in fat and animal foods has played a key role in the upsurge of diet-related preventable health problems such as heart disease, diabetes, some cancers and obesity²². In 2007 an extensive UK Foresight Report pointed out that nearly 60% of the UK population could be obese by 2050, with substantial health and economic implications²³. A similar picture exists in Ireland, with over 62% of the population already overweight or obese and significant resulting costs to individuals and society.

The dramatic rise in obesity matters because it is an important risk factor for a wide range of serious conditions such as heart disease, stroke, high blood pressure and diabetes. Recent reports from the all-island Institute of Public Health in Ireland (IPH) forecast, for example, that over the period 2007 to 2020 there will be a 55% increase from 211,000 to 327,000 in the levels of diabetes²⁴. Further examples of increases forecast in non-communicable diseases are listed in the table below.

Table 1
Chronic Diseases: number of cases and prevalence rates in 2007 and 2020 in
Northern Ireland and the Republic of Ireland **

	2007		2020	
	No.	%	No.	%
Hypertension				
Northern Ireland	395,529	28.7	481,867	31.7
Republic of Ireland	851,658	25.1	1,192,415	28.3
Angina and heart attack (CHD)				
Northern Ireland	75,158	5.4	97,255	6.4
Republic of Ireland	130,703	3.8	195,243	4.6
Stroke				
Northern Ireland	32,941	2.4	42,457	2.8
Republic of Ireland	58,778	1.7	86,845	2.1
Diabetes (Type 1 and	Type 2 combin	ned)		
Northern Ireland	67,262	5.3	94,219	6.6
Republic of Ireland	143,618	4.5	232,644	5.9

The case for action has been spelled out in several recent government reports including *Fit Futures in Northern Ireland*²⁵ and the *Taskforce on Obesity Report*²⁶ in Ireland. But implementation is limited and patchy. The Northern Ireland Assembly Health Committee in its report on obesity (October 2009) called it 'a problem with enormous impact that threatens to engulf the entire health service and will have a serious impact on society and the economy'.

As well as the strong evidence on food's impact on health, it is closely linked to the issue of social inequalities. Availability of healthy food is often worse in deprived areas due to the mix of shops in these areas. Low income groups are most likely to eat fat spreads, non-diet soft drinks, processed meats, whole milk and table sugar than people who are better off. Ensuring that people have sufficient income to access an affordable, sustainable and healthy diet is a key step in food security.

In Ireland, two key reports dealing with food poverty have been produced by community and public health interest groups. They show that across the island low income households are most affected by the relatively high cost of food. Low income households spend a relatively higher proportion of their income on food and despite this have a poor diet in terms of food and nutritional intake. People in low income households tend to shop at convenience stores where prices are high and variety is poor^{27,28}. Both financial and physical barriers limit the opportunity of many lowincome household to purchase healthy food.

In 2009 Healthy Food for All (HFfA)*, an all island initiative which seeks to ensure that everyone on the island has enough of the right foods necessary for health, published a policy briefing²⁹ on the cost of a healthy diet which highlights the huge challenges posed for households, and particularly those with children. Low income households are twice as likely as the whole population to experience food poverty, and almost 50% of lone parent households and 36% of unemployed people experience some sort of food deprivation.

Almost 1 in 5 schoolchildren report going to bed hungry.³⁰
Almost 10% of the population were unable to afford to have family or friends around for a meal or a drink once a month.³¹
Around 20% of people in Northern Ireland live in low income households with around 25% of children living in poverty.³²

A strong all- island network has been developed by HFfA, with key partner and funding organisations, to support practical local food initiatives. Examples include Dundalk's Garden Project, supporting marginalised and vulnerable people to prepare and cook fruit and vegetables; Limerick's Seed to Plate Project which encourages organic home gardening; the East Belfast Eating Education Programme; Footprints Womens Centre's Building a Transition Community; and Food for Life in Derry. The initiatives are managed by HFfA, and funded by the North/South body *safe* food with the aim of creating successful and sustainable models to make healthy and affordable food available to all. The work of HFfA and other local initiatives are an important part of any efforts to improve food security.

Current policy in Ireland and Northern Ireland is not delivering sustainably for food security and health. A food security policy is needed in both parts of the island to shift food production and eating behaviour. Single issue approaches waste time, resources and energy. We need to make sense of the complexities of food security, sustainability and health, and this can only be done by open discussion and debate.

There seems to be a view that we can eat what we like, and that this choice is a purely personal one. Yet surely all the evidence suggests that there are huge public issues associated with our choices: ranging from global hunger and starvation (the world cannot eat as we in the rich countries do) to the social, economic and health care costs of illness associated with under- and over- nutrition. Leaving this all to the market and individual choice seems to absolve governments of responsibility to manage and reorient the market, gain public support for healthy and sustainable eating, and promote constraint over choice in consumer food advice.

There is a clear need for government to set in place processes which bring together different interests, and to think about who is 'at the table'. For example, the recent plans of the UK government to bring food companies into the frame by giving them responsibility for programmes to tackle obesity need to ensure that public health does not get lost in the economic interests of these companies' shareholders. While no one would deny the importance of business in creating conditions for health, we need to

recognise that food systems are dominated by very powerful vested interests that do not necessarily act in the interests of good health or sustainability.

The evidence for better integration of food production, agricultural policy and health is irrefutable. A clearer picture of the links between population health and the agriculture and food system will ensure that health becomes a driver of agricultural change. There is recognition that as well as the clear benefits to health, dietary change can play a key role in mitigating climate change and adaptation strategies as well, as promoting health by reducing the consumption of saturated fat from meat and dairy foods.

Food systems clearly need to be more sustainable, but we need clarification about what makes for a sustainable diet and what would this mean in Ireland. A recent report from the UK Sustainable Development Commission³³ highlighted the changes likely to have the most significant and immediate impact on making diets more sustainable, and in which health, environmental, social and economic impacts complemented each other. These were reducing consumption of meat and dairy foods, reducing consumption of food and drinks of low nutritional value (i.e. fatty and sugary foods), and reducing waste. Clearer direction is also needed from government and public agencies to let people know how to meet their nutrition needs and how these fit with requirements for environmental sustainability.

Building a secure food system in Ireland

What is needed in Ireland, North and South, is a clear set of policy priorities and wide agreement on action. New ideas are needed and a clear framework on food security (non-existent at the moment) which cuts across party lines. This represents an opportunity for cooperation between North and South in thinking, science, research and creativity and the sharing of limited resources.

Food provides a link between the population health, food security and environmental sustainability agendas. A broader view of food security is needed in the 21st century: one that judges the food system for its social value, nutritional quality and impact on the environment. The reduction in consumption of animal source foods can improve food security and reduce the levels of chronic disease, including cardiovascular disease and some cancers. There is a major opportunity here to improve both our population health and our environment.

A recent example of the opportunity to learn from northern and southern approaches on the island, and to share information on what works, is Health Well³⁴, an all island interactive web-based information tool and its obesity hub. Health Well is an initiative of the Institute of Public Health in Ireland which builds on its work with the Health Research Board's Centre for Health and Diet Research at University College Cork and the UK Clinical Research Collaboration Centre of Excellence for Public Health (NI) at Queen's University Belfast. In recognition of its importance to an all-island research infrastructure, this work has been supported by a grant from the Department for Employment and Learning (DELNI). It is now being extended to the development of food poverty indicators for the island.

As well as food poverty indicators, it is important to have clear and coherent indicators of a sustainable food system and food security. These would set out various dimensions of how we understand food security and would help demonstrate how the food system should be judged.

Before the highlighting of global food security warnings in 2008, the concerns in Europe were mainly about excess food production and waste. Food reserves are now low and many are wondering if this situation is here to stay. We need to be aware of the possible impact of 'shocks' to the international system in interrelated food, health and environmental areas such as climate change, supply chain management, health threats (like avian flu), fuel price rises, power supplies and storage problems.

Specific sectoral assessments are needed on the island of Ireland for grain, meat, dairy, fruit, vegetables and fibre, assessing them for their contribution to home consumption, the environment, employment, economy and health, with indications of how to deliver optimum production sustainably.

We have the opportunity to build on the thinking and lead being shown elsewhere, including in the UK in general and Scotland in particular, and to create a common vision for food security on the island. It is vital that our politicians now argue for moves to make the Common Agricultural Policy (CAP) into a common EU sustainable food policy, and to explore with fellow member states ways in which the CAP can be shifted in this direction.

The governments in Ireland, North and South, need to make clear statements of policy intent in the vital food security area. Their emphasis needs to be on policy coherence and increased awareness, and understanding of the fit between sustainable development, food security and population health. What is good for sustainability is good for health.

No food policy will deliver what is needed in the 21st century unless it reshapes food systems in line with sustainable development. Food security is in danger of being submerged in demands for single issue solutions. Secure, safe and sustainable food systems that meet the needs of people globally and across the island of Ireland require informed discussions about food security and the wide participation of people from all aspects of society in these discussions. We need to get out of the sectoral silos we have built and find ways of connecting and communicating. No one sector holds the key to unlock the problems we are facing now and which will clearly increase in the future.

We need a coherent, cross-border approach which enables and encourages people to eat a healthy and sustainable diet; ensures a resilient and competitive food system; and increases food sustainability. A sustainable food system that supports the wellbeing and health of people is worth working for. With courage and persistence more food can be produced sustainably and used to feed those who need it most, at home and abroad.

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- * Healthy Food for All (HFfA). The core work of Healthy Food for All is funded by the Department of Community, Equality & Gaeltacht Affairs, Food Safety Authority of Ireland, HSE and *safe* food. This all-island multi-agency initiative seeks to address food poverty by promoting access, availability and affordability of healthy food for low-income groups.
- ** Higher prevalence in Northern Ireland than the Republic of Ireland is due to differences in their demographic, lifestyle and socio-economic profiles. In particular, Northern Ireland has an older population than the Republic of Ireland.