STJÓRNMÁL & STJÓRNSÝSLA

Food Security in Iceland

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Abstract:

The concept of food security applies in both poor and rich societies and concerns the steady availability of food in the right quantity and quality, at the right price. Globally, policies to assure it remain confused and world food prices are rising. Despite large exports of fish, Iceland produces only around half of its inhabitants' nutritional needs and relies significantly on imports, also for food production inputs like fodder and seeds. Icelandic supplies are affected by oligopoly in the retail market, and could be put at risk by events in other security dimensions ranging from natural disasters and infrastructure failures to terrorism, neighbouring conflicts and other people's shortages. Icelandic farmers have used the terminology of 'food security' to press their claims for more home-grown production, and more recently also in their campaign against EU membership. The general public however shows little sign of security-awareness in this field. The government possesses suitable non-military security frameworks to address food-related risks and has initiated useful, general and specific, studies. Yet it has not developed a strategy or contingency plan for food security, even following the lessons of the 2008 economic crash and 2010-2011 eruptions. Suitable remedies would include larger emergency stocks and a range of measures to reduce vulnerability and improve resilience in crises. Above all, Iceland needs a balanced and open policy-making process to decide what its general future strategy should be as a food-producing and -importing nation. Food security could then be more precisely defined and pursued with the aim of minimizing threats and risks to that agreed vision.

1. Introduction: what is 'food security', and why Iceland?

Food as a topic has never been absent from the world of defence and security, but it has been viewed differently depending both on prevailing philosophies and actual problems. Under a traditional realist approach, controlling food supplies and denying them to an opponent is a natural weapon of competition and especially relevant in war. Self-sufficiency becomes desirable as a way to limit one's vulnerability, besides being both cause and effect of a thriving agriculture. Since the 20th century, however, views have developed that see food less as a weapon and more as a universal human right. The concept of 'human security' as set out in the seminal UNDP Human Development Report on 1994 (UNDP 1994) has 'food security' as the second of its seven components, arguing that adequate and healthy nutrition is a vital foundation

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for other human freedoms. While this approach, and the activities of the UN's Food and Agriculture Organization (FAO), are targeted largely at the world's poorer populations, food supplies are just as relevant and important for the functioning of developed societies. One aspect, the protection of food from accidental or deliberate contamination, is defined as 'food safety' in European usage[i] and will not be further pursued in this text. Food security proper is concerned, rather, with ensuring an adequate and reliable supply - at the right price - of foodstuffs that satisfy society's needs in terms of quantity, quality, and choice; with minimizing internal and external risks to this supply; and with preparing to overcome any ad hoc challenges that arise (World Health Organization, 2011). Food is interlinked with several other facets of security in a modern state, notably energy supply and transport, but also with the environment and with social factors such as ability to pay; thus emergencies may arise both within the food cycle, and from malfunction in other security fields (Finnish Ministry of Defence 2006).

What is less clear is the correct philosophy of security, and the best framework of international relations, for creating food security for a given country or the world in general. The 'securitization' theory of the Copenhagen School, developed especially in the works of Ole Wæver (1995), reminds us that subjective choices are involved in identifying something as a 'security' matter in the first place. In a country that has not (at least recently) known food shortages or major quality problems, it can seem natural to see food supply as part of economic and social life and to handle it according to calculations of profit, employment, preferred land use and so forth. If the government or any other actor then tries to redefine food as a security issue, there is an opportunity to study their motives and effects: and a case in point from Iceland is discussed below. At global level, however, it has long been clear that food dynamics neither can be, nor have been, handled according to purely economic calculations - and least of all by the rules of a free market. On the one hand, developed countries have gifted food supplies (directly as food aid and through financial and technical support for FAO programmes) to countries in need, to tackle acute risks of starvation and to improve longer-term food output. By doing so they are both reflecting the humanitarian precepts of a liberal international order, and recognizing the strategic reality of global economic interdependence. Starving countries can provide neither profitable export markets nor assured supplies of non-food resources, and food shortage is an acknowledged contributing cause of conflict (Bora et al, 2010). On the other hand, both richer and poorer countries have claimed a need to subsidize their own producers, and to impose temporary import or export bans, when they see their own vital interests at stake.[ii]

These contradictions, and other complex factors, have ensured that today's world is still very far from providing food security for all. Indeed, the last decade has seen the rise of several new challenges to food supply, including the damage done by climate change to cultivable land and marine stocks, and a relative rise in global prices pushed by factors such as short-term harvest failures, growing population demands, and the conversion of a significant part of grain production to bio-fuel production.[iii]

As a small island state that is economically and culturally very open to globalizing forces, and relies heavily on imports in food as well as other sectors, Iceland cannot be immune from such changes in supply and demand on the world market. It has also experienced specific cases of potential risk to food supplies in recent years: notably the economic crash of late 2008 with its impact on trade financing and the value of the Icelandic Króna, and the volcanic eruptions and glacier bursts of 2010-11 which affected the physical lines of external supply and internal distribution. Beyond these ad hoc disturbances lie the near-term issue of Iceland's EU application – would EU membership threaten the farming and fishing sectors and/or food security generally? – and the medium/long-term issue of how climate change may enhance or damage Iceland's level of self-sufficiency.

For all this, the concept and language of 'food security' as such have only rarely figured in Icelandic political and popular debates so far. They have never been pushed through to any clear policy conclusion, still less led to executive action. The term has in fact been most actively employed by the farmers' lobby, who have made increasing use of 'securitizing' language since 2008 to bolster their demands for boosting and protecting domestic production, and for rejecting entry to the EU. These attempts and their effects will be looked at in more detail in section 3 below. First, however, the authors will carry out their own process of 'securitization' by asking what is known – *inter alia* on the basis of officially published research - about the facts of Iceland's self-sufficiency or interdependence in food terms, and what threats and risks of an acute or longer-term kind might get in the way of an adequate, varied and consistent food supply. The picture of actual security challenges that emerges from this enquiry will then be tested against what various Icelandic actors have said, done, or failed to do in the field. Finally, ideas will be offered on what could be done to bring Icelandic understandings, policies and actions more in line with the *prima facie* needs of food security for the entire nation.

The research questions covered in this article are thus, in sequence:

> What are the factually established characteristics of Iceland's food security situation, including the range of pertinent threats and risks?
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> What evidence is there of existing approaches to food security, whether called by that name or not, (a) within the food sector, (b) in the population at large, and (c) within the government machine? How and by whom is 'securitization' being attempted, and is the attempt successful? Is there any sign of lessons learned from the events of 2008 onwards?
>
> What actions and what more general process would be required to create a stronger and more united understanding, and a better execution, of an effective food security strategy within a balanced overall security spectrum for Iceland?

Sections 2-4 below which cover these issues are supported by factual and policy research, including opinion polling, carried out for the purpose of a thesis presented for an M.A. degree in International Relations at the University of Iceland (Jóhannsson, 2011). The authors' brief conclusions are in section 5.

2. Iceland's Situation

Food consumption in Iceland has changed considerably in the last fifty years: moving gradually towards greater diversity and reliance on imported foods, or food with imported base ingredients, while the role of domestically produced food has proportionally diminished (PHII, 2009; Statistics Iceland, 2009). This development is in large part due to Iceland's steadily relaxing import limitations over the last few decades, the greater purchasing power of individuals, and – not least – a change in lifestyle and dietary habits.

Nevertheless, food production is an important part of the Icelandic economy. In 2010 food and beverage production accounted for 303.1 billion Króna or 45.5% of the total value of manufactured products sold in Iceland. In comparison, the fast growing basic metal manufacture industry counted for 37.1%. Unsurprisingly, the fishing industry is by far the largest sector, creating 71.2% of the total value produced by the food industry and constituting 36% of current visible exports by value. Other agricultural exports are small, at 3.6% in 2010 (Statistics Iceland, 2011a; Statistics Iceland, 2011d).

These numbers confirm the importance of food production in the Icelandic economy, even if the sector is less decisive in terms of employment (5.2% employed in the fishing sector and 5.8% in agriculture in 2010 (Statistics Iceland, 2011e)). To judge their significance for food security, however, we need to know the proportion of domestically produced food in total Icelandic consumption. In 2010, of the 303.1 billion Króna produced, foods to the value of 215.5 billion Króna were exported to other countries (Statistics Iceland, 2011b). That leaves food and beverages valued at 87.6 billion Króna for the domestic market. Meanwhile, imported foods and beverages totalled 47.4 billion Króna (Statistics Iceland, 2011c). Thus of a total consumption of foods and beverages worth 135 billion Króna in 2010, Icelanders themselves appear to have produced an impressive 64.9%. This fits well with earlier studies of food calories required and consumed which, while differing on details, have concluded that Icelanders produce roughly half of their total nutritional needs (see for example, Halldórsson, Snæbjörnsson et al, 2010; Þórisson, 2011; Jóhannsson, 2011).

However, this is still only half the story as it does not tell us what part imports play in domestic production. For example, in 2010 Icelanders produced fresh bread to the value of 5.3 billion Króna and coffee worth 1.1 billion (Statistics Iceland, 2011a). Yet wheat production for human consumption is almost non-existent in Iceland,[iv] and it is obvious that Icelandic coffee is not made from home-grown coffee beans. Ingredients for both – and many other Icelandic food products – have to be imported. In addition to this, the Icelandic food industry is heavily dependent on imported inputs for its operations at every stage. The fishing industry relies on imported diesel as fuel for its vessels; farmers on imported seedstock, fertilizers, fodder materials, animal health requisites and so on. Adding this to the 40-50% of actual foods that come from outside, and which include staples like fruit and cereals as well as luxuries, we can already conclude that Icelanders are heavily dependent on constant and guaranteed access to foreign goods when it comes to food and food production.

Unless totally new solutions could be found for fuel and the other food industry inputs, raising indigenous production would merely raise import requirements by the same degree – not to mention other relevant issues such as pressure on marine resources and the land environment, or the overall desiderata of land use. Further, more domestically produced food could mean higher prices, not just if it replaces items more cheaply available from outside, but also if the price of the foreign inputs to production is relatively higher than the added value of the production itself.

This reliance on imports means that if importation was interrupted for any reason, both the supply of food and the domestic food production would be in jeopardy. This defines the first and most obvious factor of food security risk, and raises issues about diversity of supply, means of transport, ability to pay, and the availability of a safety margin through food reserves and stocks. We shall see in the next section how Iceland has dealt or failed to deal with such aspects. However, a whole variety of other internal and external factors, including both accidental or inherent risks and deliberate human threats, may also threaten the smooth functioning of Iceland's food production, import/export, processing, and distribution system. The major ones will be summarized here, starting from natural events within the country and moving outwards.

A. *Natural disasters*. Volcanic eruptions, earthquakes, avalanches, violent storms, mudslides, floods from the sea, rivers and lakes, tidal waves, and glacier bursts are considered the largest threats posed by Icelandic nature (CPD, 2005). Extreme cold has also caused human, agricultural, and financial catastrophes in Iceland. The impacts on food production vary: extreme cold, volcanic eruptions and earthquakes can have a far-reaching impact on large areas, but others, like mudslides and avalanches, only affect small areas and will hardly threaten the overall food situation. Volcanic eruptions are probably most threatening of all for food security, with ash falls, lava flows, glacier bursts and flash flooding, along with toxic fumes and other fatal compounds, being only some of the hazards affecting agriculture, transport and communications, and the health of people, animal and crops. The recent Eyjafjallajökull eruption, though small on a geological scale and having little lasting impact on food security, was a perfect lesson in the multiple dangers volcanic eruptions can pose for food security both within the country and in terms of external transport links.

B. *Energy shortage* can also have severe consequences for all functions of Icelandic society, including food security. Any internal energy threat such as a large-scale failure or malfunction of basic facilities in the electric power system would create big problems in food production and refrigeration. In addition, financial transactions and coordination of food distribution would be difficult as telecommunication equipment would not work (Prime Minister's Office, 2006). Natural disasters and harsh winter weather are considered the principal threats to the energy system, though long-term geographical changes and possible acts of terrorism or sabotage are also relevant. The situation is not helped by the inherent weak points of the electricity system. As the country is thinly populated and the market is small, electric lines are few and very long. Safety surveillance is infrequent and only carried out in few areas, making it easy to sabotage transmission lines. Other outdoor equipment is also easy to access and

could be vulnerable (Ministry for Foreign Affairs, 2009; CPD, 2005).

Shortage or interrupted supply of external energy sources, most notably oil, would be very bad for food security. Without oil, it would not be possible to power fishing vessels, various machines in agriculture, or vehicles used in food distribution. Presently, import routes are clear and fast, but damages to oil refineries in Northern Europe could interrupt Icelandic supplies (CPD, 2005). Various other factors such as world market prices, global supplies, the status of the Króna, and credit facilities influence the access to oil. The present reserve stock of oil and petroleum in Iceland is estimated to be sufficient for 30-45 days (National Energy Authority, 2011) - considerably less than the ninety-day supply that EU countries and members of the International Energy Agency (IEA) are obligated to store (CPD, 2005; National Energy Authority, 2011). Currently there are no obligations on the oil companies, or the state, to keep minimum stocks of oil and there is no contingency plan concerning application and rationing of fossil fuels in time of crisis. However, this could change soon as a draft of an Icelandic energy policy (the first of its kind) is proposing improvement in this field (National Energy Authority, 2011).

c. *Failure in distribution:* nearly all domestic distribution in Iceland goes through the country's simple and vulnerable road system. Recent volcanic activities in Southern Iceland and ensuing road damages due to flooding are a reminder of how easily important road connections can be severed and how fast shortages are felt in villages in the countryside, due to lack of commercial stocks ('Brauðskortur orðinn', 2010). In addition, long-term road closures can lead to higher food prices as food would be distributed through other – and longer – channels.

Food imports arrive principally by air, given the flexibility and speed of delivery. Despite its conveniences, air transport is sensitive to disruptions like strikes, weather, or natural disasters. As noted, after the Eyjafjallajökull eruption started it took little time for shortages of certain goods to be felt in Europe ('Ash cloud', 2010; Hanlon, 2010). Any prolonged paralysis of air traffic would affect not only certain key foods but also key ingredients for food production.

D. *Financial factors* such as economic/monetary crises and increasing food prices on the international market have considerable effect on Iceland as an import-dependent small state, with a currency that has experienced some extreme exchange rate fluctuations in the past. Developments since autumn 2008 have underlined this threat: just when prices of imported food increased sharply because of international market trends,[v] Icelandic firms' and individuals' purchasing power lessened due to the devaluation of the Króna. In addition, the international financial crisis closed down the credit market, which made import financing difficult. All banking contacts with financial establishments abroad were paralysed for a while, resulting in a shortage of currency and disruption in trade. These events showed how hazardous a currency shortage combined with over-reliance on (expensive) imports could be for food security.

E. *Pollution* is another potential threat that can have wide-ranging effects on food security. Further expansion of heavy industry in Iceland, together with an anticipated

increase in shipping and tourism (cruise ships) in the North Atlantic, will without doubt lead to increases in pollution in the coming years (Ministry for Foreign Affairs, 2009). Radioactive chemicals are also a possible danger, especially from the considerable traffic of nuclear submarines and other military vessels around the country, together with international flights and naval exercises (Pálsson and Holm, 2010). The consequences of any nuclear accident near the country would be catastrophic for the fishing grounds, and even the slightest suspicion of radioactive emission into the sea would have devastating economic effects for a nation that is known for its pure and clean fish. According to a report from the Civil Protection Department (CPD) of the National Commissioner of the Icelandic Police Iceland is ill equipped to handle pollution accidents and society lacks the necessary shock absorption capacity for major accidents (CPD, 2005).

F. *Animal disease* in livestock or fish could have devastating effect on food security as well. The status of animal health in Iceland is very good compared other countries, thanks largely to Iceland's geographic isolation combined with extremely strict and long-standing import controls on live animals and animal products (MAST, n.d.a). Yet animal diseases have affected Icelandic food production badly in the past, and could well do so in the future.

In an increasingly interdependent world, the threat of human *pandemics* is also real. Influenza pandemics are especially dangerous as the average age of victims is usually low, hitting young working people. This endangers productivity and distribution in the food sector, as elsewhere, as noted in a recent government study (the so-called 'influenza report') (Prime Minister's Office, 2006). Advances in medicine and the ability to come up with a vaccine relatively fast after an outbreak, as seen in the swine 'flu pandemic in 2009, diminish the chances of a catastrophic death toll. Nevertheless, pandemics remain a threat to food security as well as the wellness of nations.

G. *Climate Change* has a potentially massive impact on Icelandic food security. Whether it will be a good impact, a bad impact, or both, is complicated and far from clear. A Scientific Committee on Climate Change that produced a comprehensive report on climate change and its influence on Iceland in 2008 drew attention inter alia to the likely rise in sea level and its influence on low-lying agricultural areas; the increase in rain and higher temperatures during winter; glacier retreat with increased ice melting and flooding and its potential detrimental impact on farmlands; and the likely increase in tempests with its damaging influence on agriculture, especially on wind-sensitive grain farming. However, in general the Committee reports that climate change will reinforce agriculture in Iceland. Harvests will increase, herbs and plants that have barely prospered in the country so far will be more robust, and new ones will have a much greater chance of surviving. Animal husbandry should also benefit because of better fodder and a shorter period of artificial feeding as the livestock would stay longer outside (Björnsson et al, 2008).

It is also generally believed that climate change and rising sea temperatures will enhance the productivity of the fishing grounds around Iceland. But there are also negative signs, as changes in acidity of the ocean caused by increased carbon dioxide

in the atmosphere could affect diatoms and other organisms in the ocean and decrease the productivity of the biosphere (Björnsson et al, 2008; Ministry for Foreign Affairs, 2009). There are also more indirect threats to the biosphere of the ocean. As noted in the pollution context above, a warmer climate will open waterways that were closed before: and the inevitable more frequent accidents could have a deleterious influence on fishing grounds.

H. Turning to human and intentional factors: *Market distortions* such as oligopoly (in this case, the dominance of a few supermarket chains) can bring serious risks especially in a community as small as Iceland's. These buyers can greatly influence price and other market factors, thus undermining both healthy competition and food security. As all Icelandic importation of food is in the hands of private companies, it is in the interest of food security to have as diverse an ownership pattern as possible (and/or some possibility for corrective state intervention). Any kind of business failure, operating error, negligence or accident involving a predominant actor in retail, distribution, importation, or transportation could cause serious problems both in physical supply, and through its impact on the financial position of producers and households – not to mention the image of Iceland with external customers/suppliers.

I. *Terrorism and sabotage* pose more obvious threats to food security, especially if they are targeted at food itself (deliberate contamination) or at infrastructure important for food production, distribution, or storage. Iceland's participation in NATO operations, high profile visits of Western leaders, or the hosting of controversial international conferences are examples of what could spark unwanted interest from dissidents or terrorists. The danger of such actions in Iceland has been assessed as low by police authorities (NCIP, 2010) and in the Risk Assessment prepared by an independent commission at government request in 2008-9 – of which more below (Ministry of Foreign Affairs, 2009). As recent events in Norway have shown, however, the danger can come from unexpected quarters, and the impact could be magnified given the low level of security alertness in many fields of Icelandic life (Jóhannsson, 2011).

J. *External pressure* from other countries could also be a threat to food security. If conditions for food production in larger nations deteriorate for some reason, they might press to buy Icelandic products for inflated prices, overbidding the domestic market. Farmers and fishers might enter into long-term contracts to supply foreign parties with Icelandic products, creating a situation where the Icelandic public would get second-rate food, or in a worst-case scenario, nothing. This is all the more of a threat so long as imports of meat are highly restricted while farmers are able to export as they like; prices on the international market are temptingly high; and there is no mechanism to compensate directly for such exports with increased foreign supplies.

K. *War and conflicts* lie at the most extreme and violent end of the threat spectrum. The chance of an outbreak of open warfare that jeopardises food security in Iceland is surely low. As things stand, Iceland's largest trading partners are in Europe, and with the ever-closer integration of that continent war is unlikely. A smaller skirmish or intrastate conflict is a more realistic scenario, but such conflicts would not have any

measurable effect on food security unless they were to take place in key trading countries. Even then it would in all probability be possible to change trading partners.

3. Attitudes and action on food security: farmers, people, parliament and government

To set the scene for this section, it can bluntly be stated that discussion and understanding of food security in Iceland have been virtually absent until very recently. Aside from a few references inspired by global developments and debates, the most deliberate and consistent examples of usage cited below come from 2008 or later. This may surprise those who are aware of Icelanders' suffering in the past from inadequate and unhealthy food or actual famine, resulting from both man-made and natural causes. In terms of human attitude the likely explanation is the steady improvement during the later 20th century in both the quantity and quality of food supplies, together with a flowering of restaurant cuisine supported by tourist demand. Rapid urbanization has also removed most of the population from direct contact with food making or acquisition processes, and thus from awareness of connected risks. It is symptomatic that traditional foods designed to eke out dwindling supplies at winter's end are now enjoyed as a special treat and part of cultural tradition, notably at the Þorrablót festival.

At political and policy level, meanwhile, the way to acceptance of a concept like food security has long been blocked by a prevailing security discourse that focussed almost exclusively on traditional military threats, and sought distinctly realist solutions for them. For more than fifty years after Iceland declared full independence in 1944, and chose to remain a non-military state, it was the United States that assessed possible threats to Icelandic security and made the necessary arrangements. Even when US forces finally withdrew in 2006, Icelandic policy makers at first remained tightly focussed on re-providing the visible elements of 'hard' military security, such as airspace policing (Ómarsdóttir 2009). Iceland's lateness, compared with most other states in the world, in explicitly addressing food security is therefore equally true of economic security, energy, infrastructure and many other 'softer' dimensions (Bailes and Gylfason 2008).

As briefly noted above, however, recent events have rung what would normally be considered a loud warning bell both for politicians and the people. The collapse of the country's main banks in October 2008 led to a sudden and unexpected currency shortage. For a while that autumn, it looked as if all food importation would cease as companies could not pay foreign suppliers, and credit facilities were cut ('Hagar fengu', 2008; Björnsson, 2008; Ómarsdóttir, 2008). Next, the prolonged volcanic eruption in Eyjafjallajökull glacier in 2010 not only decimated air transport in and out of Iceland, but caused local farmers such severe problems with ashfall that some of them considered taking a break from farming, or quitting altogether ('Neyðist til að bregða búi', 2010; 'Gerir hlé á ræktun', 2010). Given that the affected area is one of

the finest agricultural regions in the country, there was a flurry of discussion about the meaning of the eruption for the danger area, as well as for the food security of the nation. In May 2011, many of the same farms were hit again by ash from the Grímsvötn eruption.

What evidence is there of lessons learned in Iceland from such events, and from the growing publicity given to more general food security threats in world media and institutional discussions? The short answer is that the only extensive use made of the food security concept so far has been by those who see most to gain from it: the *Icelandic farmers,* mainly represented through the Farmers Association of Iceland (FAI). It can be argued that the first meaningful dialogue on food security begun in March 2008 at the FAI's yearly *Búnaðarþing* convention, and continued at the *Búnaðarþing* in 2009, where food security was one of the key issues on the official agenda. Since then the issue has been kept alive by the FAI through subsequent conventions, the media, and its own publications. As an example of the latter, an FAI brochure published in 2009 under the title of *Landbúnaður skiptir máli* ('Agriculture Matters') set out to enlighten the public about the status of Icelandic agriculture, to underline the security role of domestic production, and to urge politicians to put food security high on their agenda (Bjarnason, 2009). The brochure did not add any valuable information to the dialogue, but the fact that it was published at all is indicative of the FAI's intentions to keep the food security discourse going. The issue has continued to be discussed within the farming industry, as is evident from the volume of articles and opinion pieces appearing in nearly every publication of the biweekly farmers' paper, *Bændablaðið*.

The FAI's conception of food security involves maximising domestic food production on the most favourable terms possible, by maintaining state subsidies and, if need be, protectionist tariffs. Farmers have argued not unreasonably that threats to their sector such as the diversion of cultivable land for building, possible fodder shortages, higher prices of imports, and higher operational costs should be taken more seriously in security terms, rather than just as agricultural or economic issues. They have however spread the argument more widely - and onto powerful emotive ground - by associating home production with notions of Icelandic sovereignty, independence and self-sufficiency: and by branding imported foodstuffs as unreliable and even unclean. If these claims are hard to reconcile with the farming sector's own high dependence on imports, and the impossibility of Icelandic production for many elements in a standard modern diet, the farmers' use of language has become even more extreme and controversial when they (or some of them) have attacked the importing of meat as 'unpatriotic'. Further, since Iceland tabled its application for EU membership in 2009, the FAI has become one of the strongest anti-EU voices and has explicitly claimed that full exposure to European competition and the need to revise existing subsidy systems would be fatal for food security (FAI, 2011). The Federation of Icelandic Fishing Vessel Owners (LIU) has voiced equally strong concerns, also using language related to national independence and identity, on behalf of the fishing industry (LIU, n.d.a.).

Despite all the efforts devoted to it by the FAI, and to an extent the LIU, an

issue like food cannot be successfully 'securitized' without an audience that pays attention and agrees to handle the matter according to security logic. Exactly this stage of the process is what has arguably been missing (so far) in Iceland. Although Icelandic *popular opinion* currently shows a clear majority against EU entry (only 35.5% were found in favour in an August 2011 poll),[vi] it is hard to detect the specific impact of the FAI's arguments among the many other concrete and psychological factors in play. Most people know that agriculture and fisheries are the most likely sticking-points in Icelandic accession talks, but the casting of these issues in explicit security terms has left little trace in political and public debates. Indeed some serious media commentators have responded critically to the FAI campaign, for instance by stressing the need to consider consumer interests and the ultimate economic costs of protectionism.

This impression of limited public security awareness was confirmed by the findings of an opinion survey carried out in Spring 2011 as part of the research in Jóhannsson (2011), and answered by 112 respondents, representing both urban and rural populations and different generations. First, the respondents were asked if they had heard of the concept 'food security', and only 54% of them had ever heard of it. Next they were asked to write down in one sentence what they thought the concept meant, and just 55% were able to define food security in terms compatible with those used in this article. Respondents were then given the standard international definition of the term (as discussed above) and were asked to answer more detailed questions in the remainder of the survey. In response to one of these, 88% admitted they had seldom, very seldom, or never thought about food security. In addition, 61% thought the nation's food situation was secure, and 61% believed the nation could cope even if all outside supplies were closed off. Interestingly, however, only 26% of participants trusted the authorities to safeguard the food security of the nation. Finally, a large proportion of the respondents, or 78%, claimed to store only enough food at their homes to last for one week or less and 30% had only enough for 3 days or less (Jóhannsson, 2011). These figures do not portray a picture of a highly concerned populace, nor of any serious individual reflection on the connection between food and the latest national crises.

The issue has not been prominent during *parliamentary* discussions either, although most

political parties had food security, or at least the importance of agriculture, on their manifestos before the general elections in 2009. A search on Alþingi's webpage shows that the term food security (*fæðuöryggi*) appears for the first time in 1991 in a discussion on the ecological development of Icelandic agriculture. From 1991 and onwards the term is seldom used, and when used, relates mainly to specific agricultural issues or foreign policy. Never is it elaborated, justified, or further discussed in its own right. In fact, the first reference to food security as a distinct concept or policy area came as late as March 2010 when Sigurgeir Sindri Sigurgeirsson, a farmer and a parliamentarian for the Progressive Party, asked Jón Bjarnason, Minister for Fisheries and Agriculture, if there was any public policy in place regarding food security. This

move, clearly linked with the FAI's information campaign, led to a short discussion about the issue but only four parliamentarians out of sixty-three (the enquirer and the minister included) deemed the issue important enough to enter the debate and ask questions. The whole debate lasted just 15 minutes (Þingskjal 682, 2009-2010).

The issue was twice brought up again in 2011: first, when Sigurður Ingi Jóhannsson (also a Progressive Party member and former farmer and veterinarian) raised it in the context of reports of an imminent global food crisis and asked the Minister for Fisheries and Agriculture, Jón Bjarnason, about Icelandic policy. This time, eight parliamentarians contributed to the following discussions which took exactly 30 minutes. (Íslensk matvælaframleiðsla og matvælagerð, 2011). On the next occasion in July 2011, Þorgerður Katrín Gunnarsdóttir, a parliamentarian for the Independence Party, attacked minister Bjarnason over his policy of increasing tariffs on imported food to protect Icelandic production and to secure a monopoly for Icelandic products. She accused the Minister of using the term food security as a pretext for maintaining an outdated system of high tariffs and economic restrictions. On this occasion a total of ten parliamentarians took part in the discussion, which ended after 37 minutes (Matvælaöryggi og tollamál, 2011). All in all, discussion in parliament on the meaning and implications of food security in its own right has taken 82 minutes to date. It is also interesting to note that in all of these three instances the discussion was prompted by a parliamentarian's question outside the regular programme, rather than a scheduled and systematic debate.

The *government* of any state today holds ultimate responsibility for all facets of security including food and water supplies. In Iceland, the Ministry of Fisheries and Agriculture answers for the proper functioning of the food sector, including food *safety*. It has no department/agency directly addressing food *security*, although several agencies have competences touching on relevant issues such as development, natural resources, or land supervision (Jóhannsson, 2011). Nor does any other entity cover this topic as such within the Icelandic administration (Friðriksson, 2011). Historically, food and fuel supplies have been lumped together as aspects of *hagvarnir,* or 'economic defence', in the context of civil protection. In a 1985 revision of the Civil Defence Law from 1962, an Economic Defence Council, or *Hagvarnarráð,* was established to advise and give support to the government (*Lög um almannavarnir* nr. 94/1962). However, this Council never used its authority to have contingency plans drawn up and only ever met once ('Birgðastaðan góð', 1991). History repeated itself when the civil defence structure was reviewed in 2008: a new Civil Defence and Security Affairs Council (*Almannavarna- og öryggismálaráð)* was created under the PM's office, with both policy making and emergency coordination powers across the range of non-military defence and security, and the new Law also defined governmental powers relevant to food crises such as cooperation with the private sector, preparation of contingency plans, and actions to directly control supplies (*Lög um almannavarnir* nr. 82/2008). But the new Council has so far only reportedly met once in 'crisis mode' - in June 2010 to review preparedness for the H1N1 influenza pandemic (NCIP, 2009) - and the current official policy is to use it more as a framework for planning.

Meanwhile, there is no administrative contingency plan for food security in Iceland (Friðriksson, 2011). Aside from the reasons for a relaxed approach mentioned earlier in this chapter, this may also reflect the priorities of a small, non-specialized and over-stretched administration, plus a well-known Icelandic aversion to forward planning in general. It means however that Iceland diverges significantly from the handling of such matters in other Nordic states, which have arranged to hold official crisis stocks of food plus fuel and other essentials.

Here, it has already been noted that private households (with exceptions particularly in the countryside) hold very limited reserves; while commercial companies like to keep small inventories to keep the goods fresh and to minimise operational costs. Food stocks are therefore small and would only last for few weeks in case of an emergency.[vii] This problem has been brought to official notice notably by the above-mentioned 'influenza report' (on possible problems arising from a potential worldwide influenza pandemic) published by the Prime Minister's Office in 2006, where likely disruption of food supplies and distribution was one consequence explored. The authorities consequently looked at ways of working with private companies on an emergency plan, including increased reserves of certain foods and emergency protocols within the companies themselves (Prime Minister's Office, 2006). But the discussions led nowhere, because – according to company sources (Gunnarsson, 2011) - the authorities became indecisive when the question of costs was raised.

While Iceland has live stocks of food animals, notably sheep and cattle, reserves of slaughtered meat are also lower than previously because animals are slaughtered around the year instead of at a particular season. Further, reserves of grains, imported fodder and other materials for animal feed are low, estimated by experts as only enough for some 30 days. Fodder storage space is only adequate to raise this by about half (Sigurdórsson, 2008). The farmers have demanded that at least a three-month supply should be available at any given time; the experience of the financial crisis in autumn 2008 showed that stocks had been too modest for comfort (Búnaðarþing, 2008; Búnaðarþing, 2009). Limited stocks of imported fuels for the fishing fleet, machines and delivery vehicles are a further weak point. However, no government action has been reported so far in this field either.

This is not to say that the government has been entirely unresponsive to the lessons of recent emergencies and the global food debate. Even before the economic crash, it commissioned a comprehensive risk assessment from an independent commission, the results of which were published by the Ministry of Foreign Affairs in March 2009 (Ministry of Foreign Affairs, 2009). This Icelandic Risk Assessment Report (IRAR) took a major step forward on food security, as on other 'softer' topics, by addressing it within a broad and balanced security spectrum. It sketched the country's position much as in the analysis above and suggested rational improvements in stocks and reserves, strategies, contingency plans, and general preparedness, along with the suggestion of an overall review of food security status in Iceland (Ministry for Foreign Affairs, 2009). Further, the contingency plan for an influenza pandemic that was adopted in 2008 following the aforementioned study (CPD, 2008) contains

appropriate guidelines on likely food production, supply, distribution, and safety problems in such a crisis and on the ways that preparation and response could be improved. Methodologically it offers a good model for more general food contingency planning.

Finally, the government has set up more specific ad hoc working groups and task forces on strengthening specific production sectors within agriculture. Examples include a group to examine and propose ways to strengthen pig farming (Halldórsson, Steinbjörnsson et al, 2010), a group to strengthen poultry farming (Ministry for Fisheries and Agriculture, n.d.b), a committee to revise laws on land use (Halldórsson, Snæbjörnsson et al, 2010), and a group to work on a plan for advancing grain farming (Ministry for Fisheries and Agriculture, n.d,a). These ad hoc studies, as well as the larger ones mentioned, provide useful inputs for a more general food security policy and preparedness strategy – when and if Iceland can achieve such a thing. Ways to do so are the subject of the next section.

4. Improving Food Security

There are three main dimensions in which a modern government and society can work to improve a nation's food security. The first stage is to have a properly researched and debated policy on how much food (and what kinds) the country itself should produce, how much it should import – as self-sufficiency is rarely if ever realistic - and how both sources can be made reliable, diverse and cost-effective. Factors to consider here include obviously the capacities and interests of producers but should also take account of consumer interests, environmental responsibility, balance and risk management in the overall economic structure, and the kind of relationship the country needs and wants with the world outside. A supplementary discussion is then needed on what tools and policies should be used to steer things in the right direction, including such tricky choices as the use of subsidies and trade controls. It is clear that Iceland has some way to go in reaching a full democratic consensus on such questions: although the intensifying debate over EU entry (and perhaps the lessons of the negotiations themselves) will provide at least in principle an opportunity to move forward.

The second step that needs to be taken is to add security explicitly to the equation: to identify the relevant weaknesses, vulnerabilities and risks in the food sector, including the way they inter-link with other functional areas of security, and to consider how they could be minimized and best managed. This article does not fulfil the purpose because it has merely listed risks rather than quantifying and prioritizing them, and has not considered all aspects of the other side of the equation – the resilience and robustness or 'shock absorption' capacity of the nation. The abovementioned official studies have gone some way in this direction, but without reaching conclusive and comprehensive results.

Thirdly, concrete measures should be taken on the basis of such findings – plus lessons learned from actual events, and from good practice in neighbouring states

(e.g. the Nordics) – to meet short-term needs for risk reduction and emergency response, but also to steadily improve the nation's food security profile over time. Some ideas, not exhaustive, for useful actions in both these contexts may be noted here, and will be found more fully developed and documented in Jóhannsson 2011:

For short-term vulnerability, by far the most obvious and multi-purpose measure would be to find a low-cost way – possibly with private sector help - to build up non-perishable food stocks for six months; increase fodder stocks and fertilizer stocks (perhaps also reconsidering domestic fertilizer production); and enlarge the stocks of imported fuel for both fisheries and agriculture. Nordic neighbours can offer models for keeping the costs of such schemes down, e.g. by rotating the products out of storage before expiry dates and selling them (albeit at discounted prices), while actual storage costs should not be disproportionate in a country with Iceland's climate. The next priority, which in itself costs little, is to prepare plans for food rationing and/or officially assisted distribution in an emergency. Further contingency plans should be made on a whole-of-government basis for specific incident types, including for epidemics which need special measures to ensure 'business continuity' in the private sector, inspection and monitoring systems, storage of vaccine and other drugs, and building a twelve-month reserve of key pharmaceuticals (Ministry for Foreign Affairs, 2009). Possible disruption to import/export and domestic distribution can be addressed notably by seeking more emergency alternatives to the dominant air, sea and road vectors: e.g. coastal shipping might be used to overcome road breaks, and the quality of alternative/parallel tracks could be improved (Ministry for Foreign Affairs, 2009). Similarly, safety, resilience and redundancy in the electricity generation and distribution system need strengthening to guard against energy cut-outs. Contingency plans against various kinds of pollution accidents by sea and land and toxic spills, including radioactive incidents, need reinforcing and could be pursued in cooperation with neighbouring countries (Ministry for Foreign Affairs, 2009). Arctic Council members have already agreed on a cooperative approach to search, rescue, and monitoring of pollution in the High North ('Samningur um', 2010). The IRAR further suggests strengthening *Vaktstöð siglinga* (Vessel Reporting Centre) so it can better maintain surveillance over ship traffic and pollution in the sea around Iceland.

In all these cases - plus other relevant ones such as natural disasters (which are likely to multiply with climate change), possible financial and credit crises, possible sabotage and terrorist attack - all studies conducted so far have stressed the need to clarify emergency powers, procedures, and the roles of various actors (central/local, public/private), and to test them rigorously through exercises. The apparent original intention of the 2008 Civil Protection Law (*Lög um almannavarnir* nr. 82/2008) was to strengthen central authority and coordination in complex emergencies; but since the possibilities offered by that law were hardly tested and government plans have since evolved, it is hard to be confident that adequate attention has yet been given to the 'crisis response' aspect of food security. The IRAR for instance recommended giving the police even greater powers in terrorist cases, on a par with Nordic neighbours, and suggested that the natural disaster response system is too dependent on a

volunteer rescue organization (ICE-SAR) which in turn relies on public donations (Ministry for Foreign Affairs, 2009). These are delicate and decidedly political issues, but the nation needs to find some answer to them if future crisis responses are not to continue over-relying on improvisation and luck.

For longer-term resilience, fundamental issues to address include how much land needs to be reserved for agriculture; by what means; and how the balance of different crops and animal farming should develop – something that can only be approached within a good overall agricultural strategy as discussed above. If the same or an even higher level of domestic production is the agreed goal, long-term planning is needed to make it less reliant on imported inputs, e.g. by resurrecting domestic fertiliser production (preferably with Icelandic substances as ingredients), or reducing reliance on synthetic fertilisers altogether by more sustainable and organic cultivation. Fodder supply and the fishing fleet's dependence on diesel raise parallel issues. The next question is how to reduce the safety risks of oligopoly in the Icelandic food market. Fining companies that distort competition is little use as costs are simply passed on to the consumer. Rather, the Competition Authority needs more power to break up, or prevent, unhealthy monopolies. Moving to factors beyond Iceland's direct control, the medium and long term impacts of climate change (including their impact on external suppliers and customers) clearly need more thought, along with increasing international food prices, other global market trends, the impact of armed conflicts, and external policy pressures.

5. In Conclusion

Food security in Iceland is not about starvation. In most realistic contingencies, while one aspect of security would be damaged other resources could come to the rescue. The worst scenario would be a total shut-down of imports, not only of food but also of materials and fuels for fishery and food production; but even this could be endured for a while. However, in a civilised democracy, food security should set higher aims than simply not starving. It includes basic aspects of human security and dignity such as being able to afford, or otherwise procure, healthy and nourishing food for one's family, and to do so in a clean environment free of coercion and fear. Even the brief analysis above of food security basics, recent crisis lessons, and foreseeable trends and risks in Iceland has illuminated some basic gaps in the Icelandic state's ability to guarantee such conditions for its citizens at all times.

At a more theoretical level, this article has shown that attempts to 'securitize' the issue of food in Iceland have thus far come only from one constituency that uses it as a tool to promote sectoral interests and influence, while playing on deeper chords of concern about national independence and purity. Though 'failed' in the sense that neither people at large nor the government have been impressed enough to change their ways, this securitization is problematic so long as it remains the only one available. A more strongly based and balanced securitization would need to be grounded in the facts; should reflect all the interests concerned within the nation (as

well as consideration for Iceland's international standing); and should encourage and facilitate a professional, coordinated, and cost-effective focus on the actual threats and risks. If this approach has been lacking so far in the case of food, it is also needed for several other dimensions of Iceland's non-military security: so that the best approach of all would be to look at, compare, and balance all parts of the country's 21st-century security profile concurrently.

In practical terms, some of the first steps – like an emergency stocks programme – needed for basic food security are already clear, and there are good models in Norden and elsewhere on how to take them. A far greater issue is how to get there from here in terms of political process, given the low profile of the issue in Icelandic governance so far, the conflicting interests involved, and the weight of the élite's other preoccupations. Moreover, the Icelandic people are not natural 'securitizers' and a backlash might be expected against what looks like state interference in an aspect of normal family life. What, if anything, could tip the balance against such formidable obstacles? One answer would be the burgeoning EU debate – but depending on what arguments are put forward and who believes them, this might merely increase polarization and further distort the picture. Another answer would be to rely on a really damaging food crisis coming along one day as a wake-up call. But the cost of learning lessons that way has already been clear and painful enough in Iceland's economic crash. It is not a solution that any friend of Iceland could wish for, or that any half-way responsible government within Iceland should wait for, in the case of food security.

Notes

[i] See for example the European Union (EU) food safety webpage 'From farm to fork' at http://ec.europa.eu/food/index_en.htm.

[ii] The USA and EU, for instance, both have their own financial support systems for agriculture and retain powers to block imports they see as low-price 'dumping'. Russia in 2011 banned grain exports to safguard its own needs after a poor harvest.

[iii] According to the *FAO Food Price Index*, international food prices have risen 157 percent between the start of 2002 and January 2011 (Food Price Indices 2010).

[iv] Icelandic grain farming consists nearly exclusively of the growing of barley used for fodder (Intellecta, 2009).

[v] According to the *FAO Food Price Index*, international food prices have risen 157 percent between the start of 2002 and January 2011 ("Food Price Indices", 2010).

[vi] Gallup Capacent poll carried out for the Icelandic organization *Heimsyn,* reported on 11 August 2011 at http://www.mbl.is/frettir/innlent/2011/08/11/vaxandi_andstada_vid_adild_ad_esb/.

[vii] In general dry foods last for few weeks (4-8) but fresh food lasts for considerably shorter time, in some cases only a week (Þórisson, 2011; Prime Minister's Office, 2006; Thomas, 2008).

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