

Global food security: A grand challenge of the present times

Kirsten Hastrup

Abstract

Food security has been on the global agenda since the 1940s, when the modern UN-system was established. The immediate target was to secure sufficient food for impoverished or starving populations, mainly in the Global South. The chapter discusses the development towards present concerns with *food safety*, embracing also the Global North. A case from Greenland is presented to illustrate the complexities inherent in the notion, and not least in dealing with it.

In this brief presentation, I shall take us through the grand and truly global challenge of food security. With shifting resource bases and environmental changes that do not respect national or even regional boundaries, with major land-grabs by powerful states that introduce mono-crops into diverse agricultural regimes and reduce independent farmers to paid labour, and with the depletion of phosphorus from existing large scale agricultural lands, we have to find new solutions to feed the population of the earth, soon numbering nine billion. Many of the chapters in this volume exude optimism - in the sense that they remind us of the immense inventive powers of humankind. Let us keep that in mind, while I address, first, the global discourse on food security, and, next, give you an example from my own work in Greenland, illustrating some of the local complexities - and not leading to any immediate solutions.

Food security - a changing concept

Food security is no longer an exclusive issue for an impoverished Global South, but a truly global challenge potentially affecting the entire population of

the earth. In relation to the well known issue of there not being *enough* to eat, food security has increasingly become a pervasive issue also of *unsafe* food - resulting in a virulent spread of 'northern' diseases related to obesity, Type II diabetes, and cardio-vascular malfunction. In addition to the globalization of over-eating - or just unhealthy eating - the world also faces a boundless risk of contamination of even the most local and purportedly 'purest' of food.

Let us look back just a couple of generations, to trace the emergence of food security on the international agenda. The United Nations was created in the 1940s to secure an international balance between nation-states, some of which had been at war with each other, while others were emerging in the process of decolonization. Under the new UN umbrella several organizations were designed at looking into particular areas of concern; among them were the World Health Organization (WHO) and the Food and Agriculture Organization (FAO). The concerns of these organizations were, and still are, global health and food security. In the early days of these organizations, it was largely a concern with there not being *enough* food for people in certain regions, mainly in what is now known as the Global South.

While food is a biological necessity, we must realize that hunger is also a hard *social* fact (Hastrup 1993). It deeply affects family life, reproduction, and socio-political relations. While, at first, it may be seen as the outcome of a simple crop failure, owing to drought or something else, at closer inspection it emerges as a comprehensive issue, deeply affecting community life and leaving long-lasting traces in whole societies. A case in point is the Irish famine, allegedly caused by potato blight, starting in 1845 and costing about one million lives and making another million flee the country. Clearly, the issue of causation is not easily narrowed down to the potato, but must also be seen in relation to the state of the Irish people within a larger scheme of history, politics, demographic development, and an increasing dependence on a single crop.

More recently, in the post-colonial era, we have seen how natural disasters, protracted drought, or warfare all of them have contributed to upsetting the balance between land and population. This gradually gave rise to a new awareness of the social and political dimensions of hunger that was eventually to transform the issue of food security from being simply a matter of local food shortages – sometimes simply seen as a means to keeping population numbers in check in a natural way, as Malthus had suggested in 1798 (1970: 242). Yet, in the 1940s when the WHO and FAO were first set up, the priority was still mostly (and importantly) to increase food supply in impoverished regions. People were entitled to life and hence to sufficient nutrition, in line with the Universal Declaration of Human Rights.

The sufficiency perspective still dominated the 1970s, exemplified by the 1974 World Food Conference in Rome. The conference took place in the wake of a devastating famine in Bangladesh, and the government attendees to the conference made the proclamation that “every man, woman and child has the inalienable right to be free from hunger and malnutrition in order to develop their physical and mental capacities,” as stated in the first clause of the resulting *Declaration on the Eradication of Hunger and Malnutrition* (UN Resolution 3348, 1974). The goal was to eliminate hunger, food insecurity, and malnutrition within a de-

cade, and the matter pertained predominantly to the impoverished Global South. This was not to happen, as we know.

An important step towards a more comprehensive understanding of famine and entitlement was taken by Amartya Sen, later a Nobel Laureate in economics, who challenged the proposition that famine was a simple outcome of food shortage. Some famines, he argued, occurred during periods of peak food availability for the economy as a whole, as was actually the case for the 1974 famine in Bangladesh (Sen 1987:7). As he succinctly suggested, “starvation is the characteristic of some people not *having* enough food to eat. It is not the characteristic of there *being* not enough food to eat” (Sen 1981:1).

Food sufficiency remained at the core of the concern with food-security, but politics and distribution were henceforth seen as an integral part of the problem. This recognition precipitated a process during which the hard fact of hunger gradually moved beyond measuring individual intakes of calories to the social experience of wellbeing and belonging as related to food and nourishment in a wider sense. In addition to the matter of basic sufficiency of food, an explicit acceptance of entitlement to *safe* and nutritional food emerged.

While hunger and poverty have still not been obliterated from the world, the connotations of food-security (and its opposite: food-insecurity) have multiplied and now reflect a global situation that radically departs from the post World War II scenario. On a truly global note, it is increasingly clear that climate change has serious implications for food safety, and always has been (FAO 2008a,b; Hassan 2002; Ringler et al 2010). Part of the problem is related to demographic changes and environmental migration, part of it to shifting resource bases in large areas and also the depletion of nutrients in the soil (Hastrup and Olwig 2012; Lobell and Burke 2010).

All of this has entailed an expansion of the definition of food security; it is now seen as “the reassurance that all people at all times have both the physical and economic access to the food they need for an active, healthy life. This means that food itself is safe,

nutritionally adequate and culturally appropriate and that this food can be obtained in a way that upholds basic human dignity” (WHO 2006). This is a very comprehensive definition, indeed, and one that certainly transcends any idea of a simple minimum intake of calories. The shift from food security to food safety is significant, and is in line with the definition provided by FAO (2001: 58), stressing people’s “access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life”.

This shift reflects the increasing challenge to food-safety from environmental contaminants, as well as changing micro-biological regimes, including genetically modified organisms, chemical additives to processed food, and new microbiological health hazards presented by quite ordinary (processed) food-items. Along with manifest global health problems of obesity and Type II diabetes, all of these developments move the problem of food security from being mainly a problem in the Global South to also embracing the Global North. We are in it together, and it is not simply a matter of being able to extract enough and safe food from the land, but also from the sea, being another important source of nutrition across the globe, yet increasingly contaminated.

I shall examine a case that illustrates how the spectrum of uncertainty about food safety expands. In turn, this may contribute to the charting of new areas of concern, and hence of new avenues for action. The case is that of a hunting community in Northwest Greenland facing a series of worrying developments with respect to their traditional dietary habits, as well as the access to resources. The case emphasizes health and food preferences as comprehensive social, cultural and historical facts, now under siege by environmental changes and contamination whose effects are barely known as yet.

Local challenges: An arctic case

On the fringe of the Nordic welfare states, some of their Arctic populations already face some of the direr consequences of the global development. One could

say that the bill for industrial development, mainly but no longer exclusively in the Global North, has been distributed for all to pay, not least in terms of environmental degradation even in the most isolated regions. The *Arctic Monitoring and Assessment Programme* (AMAP), for example, regularly publishes rather disturbing findings about diet and contaminants. In 2009, AMAP documented that sweet and fatty store-bought food had become the main source of energy for children in the region (especially in North America, but also in the Arctic more generally), and that “the decreasing proportion of traditional foods in the diet has had negative impact on the intakes of most nutrients,” while still contributing positively to the intake of vitamin C, folate, and possibly calcium (AMAP 2009: 21).

Meanwhile, the persistent organic pollution of the Arctic seas is not diminishing (AMAP 2002). What is also apparent is that “dietary exposure to persistent contaminants and metals in Arctic indigenous communities is higher than in neighbouring non-indigenous communities. The main explanation is that indigenous populations consume tissue from marine top-predators that are not normally eaten in other parts of the world” (AMAP 2009: 21-22). With the rather dramatic environmental changes in the Arctic, living conditions are further deteriorating with new problems of storage, now the natural deep-freezer switches off, of more obviously sick and polluted animals, and of intensified zoonotic disease frequencies (see e.g. Hovelsrud et al. 2012). This, again, is related to the general environmental changes in the region, including the thinning of sea-ice, the reduction of snow cover, the thawing of permafrost and the related changes in floral and faunal distribution.

This takes us to a community in Northwest Greenland (Avanersuaq), where we find the last truly High Arctic hunting community, numbering some 700 people in a vast territory, until recently ice-covered for most of the year, but now melting down rather rapidly and complicating access to the living resources. While in some – maybe not too distant – future, the warming may open up entirely new economic possibilities, at present the economy is still totally dependent on the

living resources and hunting, which is becoming increasingly precarious.

For the past nine years I have followed the development closely, visiting the community every year, going out with the hunters on their dog sledges, or following them when narwhal hunting, and spending a lot of time conversing with men and women concerned about their future – but also imaginative and demonstrating that the basic ingredient in social resilience is human agency and social flexibility (Hastrup 2009). The hunters and their families are all too aware of their shrinking opportunities and of the need to monitor the sea-ice very closely, whenever they go out; a proper reading of the ice is a matter of life or death, and they must use all the acquired skills at reading and reasoning about the passable routes towards the known, if shifty hunting grounds (Hastrup 2013). The shrinking sea-ice and the decline in food accessibility has contributed to more general concerns about remaining self-sufficient, and about the implications for health in general.

Greenland now has self-rule but is still part of the Danish kingdom, and is closely monitored in terms of health and well-being; generally, the country finds itself between a traditional subsistence economy based on hunting (mostly in the north) and fishing. This has been supplemented by some sheep rearing (in the far south), and not least by a more widespread modern economy based mainly on large-scale fishing and fish processing for export, having been supplemented by uneven booms in shrimp- and crab-harvesting and processing.

Social life and expectations in Greenland are very much shaped by Nordic values and the horizons of a welfare state. It is estimated (by the Greenlandic Board of Nutrition and Environment) that on average one quarter of the food intake in Greenland consists of traditional food, while the remaining three quarters are imported; in small towns and even smaller settlements, the proportion of traditional food is much higher, but everywhere there is a fragile balance between two health regimes to maintain – and not much choice where supplies are limited (Bjerregaard and Mulvad 2012).

Generally, local traditional food is deemed healthy – in spite of the problem of heavy metal contamination in both marine mammals and in polar bear – the latter now a less prominent part of the local food than before. The point is that among the food options available, local food is the most nutritional, if in important ways apparently less ‘safe’, and not compliant with the fibre recommendations (Jeppesen and Bjerregaard 2012). There is thus a tension between food preferences and food safety, and a potential loss of self-reliance if the hunters are advised against seeking to sustain their own subsistence as they have done since times immemorial – dwelling within a forbidding landscape.

The questionnaire-based *Survey of Living Conditions in the Arctic* (SLiCA) shows how a large proportion of people in the Arctic still perceive traditional food as an important part of their diet, not only in terms of nutrition as such but also as part of general well-being (Poppel et al. 2007). It will be recalled that this is now part of the FAO definition of food-safety. The SLiCA project actually offers some quantitative observations, based on questionnaires, by which we may underpin this. Avanersuaq is not singled out in the statistics, but we find it within the category of North Greenland along with a couple of other small towns and settlements. If anything, Qaanaaq and the North-Western-most part of Greenland would be in the higher end of the traditional food-intake scale within this larger region.

Proportion of traditional food consumed in households (meat and fish):

	<i>North Greenland</i>	<i>Greenland in general</i>
None	<1%	< 1%
Less than half	38%	33%
About half	23%	27%
More than half	39%	40%

Proportion of traditional food harvested by households (meat and fish):

	<i>North Greenland</i>	<i>Greenland in general</i>
None	18%	25%
Less than half	36%	38%
About half	18%	15%
More than half	27%	21%

Households received traditional food from others:

	<i>North Greenland</i>	<i>Greenland in general</i>
Received traditional food from others . . .	81%	77%
Received traditional food in exchange for assisting others . . .	25%	39%
Received traditional food in exchange for other traditional food . .	11%	23%
Received gift of traditional food . . .	96%	90%
Paid for traditional food in last 12 months . . .	41%	71%

(Source: SLiCA, Poppel et al 2007: p 72-77).

What transpires from these numbers is, first, that within Greenland in general, the North does not depart significantly from the country as a whole when it comes to consumption; second, a similar pattern is found for actual harvesting of traditional food; third, in terms of receiving traditional food from others, the two columns show a similar pattern, yet one item stands out, namely the lesser propensity to *pay* for traditional food in the North. Comparing with the other named regions in Greenland, there is no doubt that the consuming, harvesting, and sharing traditional food is a strong feature of social life in Greenland, while the kinds of meat and fish may differ.

The quantitative data provided by the SLiCA sur-

vey supplement the qualitative material from fieldwork in Avanersuaq, where for all festive occasions traditional Greenlandic food is served and offered to anyone from the community who cares to come. Eating this food gives people a sense of continuity, by celebrating their traditional hunting life and also, significantly, by the deeply social act of *sharing*. Traditional food *makes* the community. It also contributes to wellbeing in another way; people would say to me that they needed to have *mattak* (narwhal skin and blubber) stored for the winter as a remedy against depression (Hastrup 2009); we know that the *mattak* is vitamin rich and understand the need – in spite of the contamination. The locals know about this, having been targeted by health campaigns over many years, warning about the accumulation of heavy metals in the marine mammals, and advising people to eat variedly and to avoid older seal and bear where the contaminants are more concentrated than in younger animals. This public health advice is most emphatically directed towards pregnant women.

However, even here the case is not as clear as one would think. While the accumulation of heavy metals etc. may have some harmful effects, it seems that the particular kind of fat in these animals goes a long way toward protecting people against cardio-vascular diseases (Hansen 2000). Also, in actual fact the alternatives are few. The further north one gets, the less choice of diet there is, because all provisions beyond the local resources have to be flown or sailed in from far away and are consequently priced beyond the economic capacity of most households. This effectively leaves large groups of people at a loss; if no longer able to hunt, they have to resort to industrialised food, with loads of sugar and low levels of protein and vitamin, at next to prohibitive prices.

The challenge, which is professionally addressed in Greenland, is to design health campaigns with an innovative approach to traditional foods in combination with a new ‘cuisine’ (Bjerregaard and Mulvad 2012). This is truly delicious, but anyone who has spent time in the far north will know that ‘finesse’ is maybe not a prime cooking skill, and that money is short. You may have your walrus steak or your boiled

seal, if you are lucky or know someone who is, or indeed some guillemots, arctic char, or halibut. Sheer subsistence takes the driver's seat in this distant and isolated region, not innovative dishes.

If we zoom even closer in on the health of the population in Avanersuaq, one notes a significant development in local perceptions of health and risk. This development is heavily influenced by an event that took place in 1968, when an American B-52 plane crashed in the region and went through the sea ice with four plutonium bombs. This caused a degree of anxiety in the region, where hunters were called in to help removing the contaminated snow. People's subsequent fear of radiation negatively affected their sense of self-reliance and safety; this example testifies to the oft-noted point that singular dramatic events can contribute to long-term anxieties (e.g. Harries 2008). This was one of the reasons behind a recent (2010) study of health in the region, centring on the town of Qaanaaq with some 600 inhabitants (Bjerrregaard and Dahl-Petersen 2010). The study was based both on qualitative and quantitative methods, and resulted in some highly interesting finds on the issues of safety we are discussing here.

The study documented that while people in Qaanaaq generally felt more exposed to contamination and subjectively considered themselves to be more afflicted by illness than people further south, there were no epidemiological indications that they were in fact more affected by either radiation or diseases related to earlier exposures than their compatriots. Yet there were significant differences in their perceptions of health; the northerners saw themselves as much more vulnerable, not only because of their own health-condition, which they evaluated negatively, but also because of a greater prevalence of infected and therefore inedible game that was added onto it. The environmental threat was conspicuous in the appearance of malformed fish and game, which suddenly emerged as a theme for concern, as did the continued presence of the US airbase, since 1953 a very sore point, indeed, in the history of the hunters. All of these anxieties merged into a general sense of insecurity, where the individual factors precipitated others.

The pervasive sense of fear links up with the new global realities of invisible contamination and long-distance effects of industrial (including military) developments. In a follow-up study in 2011, based on a new set of interviews with people in Qaanaaq, the findings of the previous study were confirmed and elaborated in terms of policy issues (*Den Individuelle Helbredsundersøgelse* 2011). One conclusion was that more reliable information from the authorities was needed to empower people and to downscale their, partially unfounded, worries about contamination; this information should range from actual dietary and life-style factors on the one hand to larger issues of wildlife management and environmental changes on the other. While the local food options are few, a measure of trust in food governance may still be established, alleviating individuals from making an impossible choice.

What I am getting at here is the fact that people across the globe are living with multiplying 'liquid fears' (Bauman 2006). They are *liquid* because they seep into the everyday and greatly affect the sense of self and safety; as *fears* they are distinct from risk as I, following Bauman, use these terms here. Risks are identifiable and something to be managed – at least theoretically – while fear derives from unknown sources and have unknown scopes. The concept of risk makes sense only in a routinized world, where one may calculate risks with reference to precedents (Bauman 2006: 10, 98ff). Beyond the presumably calculable risks are those dangers that are non-calculable, because they belong in a setting that is irregular in principle, and where non-repetition is the rule. This is part of the perceived framework of food safety, so very tenuous in many places.

Concluding remarks: food safety in changing environments

In this chapter I have wanted to discuss emergent challenges to food safety worldwide, through the lens of the Arctic case. These challenges are multiplying as well-known landscapes and resources are destabilized, resulting in emerging 'food wars' in the global

community (Lang and Heasman 2004), and in increasing uncertainties about food safety in peoples' everyday lives.

While food security, in the sense of all people getting sufficient nutrition to lead active and healthy lives, has not even nearly been achieved in spite of long-term international efforts, an even more complex issue of safety is creeping in on the global community, North and South alike. New patterns of disease, including dramatic increase in Type II diabetes, in obesity, in certain forms of cancer, and in cardiovascular problems, testify to a global malaise that is not easily countered by simple advice because of its very complexity. Meanwhile, people's general fears of unknown dangers multiply, as scientific knowledge deepens and the hidden threats from microbiological realities surface, yet remain incomprehensible. Such is the case of the shattering sense of food-safety in Avanersuaq, despite the continued relish in traditional food in the community – even partly because of it. So far there are no real alternatives, anyway.

It is apt to return to FAO here and relate a recent call for a new management of food safety: “Emerging food safety risks may require a change to the ‘old’ way of doing things – both in terms of industry food safety management programmes and public sector food safety activities, including the development of guidance of industry on ‘good practice’. A better understanding of changes that might arise is an essential first step to ensuring preparedness for those changes” (FAO 2008: 6).

In the larger scheme of global food security, it is expedient to rethink issues of safety with a view to new environmental challenges that affect the entire world and give rise to a liquid fear – of invisible and largely unknowable threats to human health. As I intimated in the introduction, we may take heart from the fact that the human powers of invention seem inexhaustible, even as lands and oceans now suffer conspicuously from exactly that.

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