Food security and sustainability: should we add a sustainability dimension to food security?

Since the World Food Summit held in Rome in 1996, the concept of food security has been at the heart of the combat against hunger. As the United Nations plan to organise a new Food Summit, twenty-five years later, it may be worth examining again this key concept.

A robust, flexible and comprehensive concept

Defined in 1996 as being achieved "when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life" [read], food security is an extremely rich and broad concept that:

- includes four fundamental dimensions - availability, access, stability and utilisation;
- considers the quantity, safety and nutritional quality of food, and
- can be applied at various levels - global, regional, national, local, household, individual. [read].

This concept offers a solid and comprehensive analytical framework that encourages specialists to go far beyond a critical review of the agriculture sector and the food system,

to encompass in their work all factors that determine the food situation and, on that basis, formulate policies and programmes required to achieve food security.

While being exhaustive, the framework provided by the concept is sufficiently general to be adaptable to a variety of conditions and periods and it avoids proposing recipes that would not be applicable in a variety of contexts and at different times.

Some major shortcomings

Despite the qualities of the guiding concept that were just listed, one has to acknowledge that the combat against hunger and food insecurity has not been successful.

The objective of reduction fixed during the World Food Summit of 1996 and that, less ambitious, agreed in the framework of the Millenium Development Goals (MDG) were not achieved [read here and here], and this mostly because of very different readings made by various people of what food security actually is: conceptual confusion [read], diverging interests [read], questionable indicators describing the situation [read], had made us compare, back in 2013, humanity with a drunken boat [read] where everyone is acting according to their wish and interests, rather than with in mind the priority to reduce hunger.

The experience of these last twenty-five years shows that this concept has (at least) three major shortcomings.

The **first shortcoming** is directly linked to the confusion and divergence in perceptions and actions that have just been mentioned. It is a consequence of the general and adaptable characteristic of the concept of food security. This feature is at the same time a quality and a source of problems. It leaves the concept open to very diverse interpretations by different people who can pick in it what is most relevant to their own logic and suitable to the objectives they pursue. This creates conditions that will lead to each and everyone proposing “their” solution to the food security issue. From this point of view, the concept may be too flexible and open to be really helpful to achieve consensus among key players concerned by food security (producers, consumers, government, private companies, etc.).

For the sake of providing one example, political leaders will typically be mostly worried about avoiding instability that could arise from a situation of food insecurity and they will be interested in ensuring conditions conducive to them remaining in power. With this in view, they will be generally seeking to making sure that there is a constant availability of cheap food supply, whether produced locally or imported from abroad, to guarantee access to a majority of the population. They will also be concerned by creating whatever facility required to be able to offer food assistance to those who do not have the resources to get the food they need, while limiting as much as possible its cost, because of budget constraints. For the same reasons, they are likely to give priority to urban areas, particularly the national capital where eventual food riots could have potentially deleterious consequences on political stability [read here and here].

The **second shortcoming** is the absence in the food security concept of the time dimension. This absence is well illustrated by the food security statistics regularly produced by the UN Rome-based agencies that provide a series of snapshots of the food security situation for successive years or two-year periods. Considerations on trends or factors affecting food security in the medium or long term are generally not discussed (this has improved to some extent in recent times because of the sudden concern with climate change).

This lacuna may be seen as surprising, in a way, considering that the World Food Summit definition of food security was coined a few years only after the Earth Summit held in Rio de Janeiro that had put sustainability on the development agenda.

A later formulation of the concept of nutrition security did, to some extent, bring into the debate some kind of time dimension, knowing that a particular nutritional status (e.g. stunting or wasting) defined by anthropometric measurements can be linked to a history of the individual to whom they refer. But this is not sufficient as it does not envisage the future.

The food security concept as coined in 1996 does not include the dimension of sustainability, and significantly not the dimension of environmental sustainability. This gap explains to a large extent the shortcomings found in the quick-fix solutions proposed to address the hunger issue - unless it is the reverse, i.e. that this dimension was left out because it would have challenged the dominant way of approaching the food and agriculture system and the (unsustainable) recipes that are being promoted for its development.

The **third shortcoming** is the absence of political considerations, even though it is known that food is a highly sensitive political issue that would need to be governed in a manner that protects the interests of the poor and vulnerable. The revamping of the Committee on World Food Security (CFS) was a step into the right direction in terms of governance, as was the recognition of the Right to food, but much more needs to be done to improve the political management of the food system at various levels [read] in order to ensure food sovereignty.

Threats to food security

They are many, but we will limit our considerations here to four main points.

Threat 1. Climate change and degradation of natural resources

Everyone is now very much aware of this major threat that will affect both quantity and quality of food available, and that will hit particularly strongly areas and population groups who are already at risk of food insecurity. This has been documented in several reports published in recent years by the Intergovernmental Panel on Climate Change (IPCC) [read here and here], the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) [read here and here],

In some areas, agroecological conditions are likely to degrade to the extent that changes will probably trigger massive migration [read] while, with rising temperature, some research suggests that the nutritional content of food will possibly be characterised by more carbohydrates and fewer proteins and minerals [read].

It is important to know that both climate change and natural resource degradation are largely a result of the use of unsustainable agricultural technologies [read] that can be linked to the absence of any consideration for sustainability in the food security definition.

Threat 2. Urbanisation of food insecurity

Until recently, food insecurity was mostly seen as a rural phenomenon. This is less and less true as the world population is more and more urban (30% in 1960, 50% today, more than 65% in 2050) [read].

In Indian megalopolises, back in 2001, 72.2% of children were anaemic and 30% stunted [read]. Similar circumstances arise elsewhere in the world as rural migrants arriving in urban areas are particularly vulnerable: they are resourceless and unskilled, face great difficulty in finding stable and well-remunerated jobs, while they often spend more than 60% of their budget on food. In Africa, the situation may turn extremely worrying as there is a time gap between rural-urban migration and the development of urban employment opportunities in the formal sector.

Threat 3. Technology-based quick-fix solutions for food insecurity

It has become quite frequent among many political leaders throughout the world to adopt a strategy for achieving food security based on boosting food production in the immediate by using green revolution-type technologies (improved seeds, irrigation, chemical fertiliser, pesticides and mechanisation) and relying on public-private-partnerships with large agrifood multinationals and so-called philanthropist foundations. This strategy is supported at global level by the Davos-based World Economic Forum [read] and in Africa by the African Development Bank [read] and the Alliance for a Green Revolution in Africa (AGRA), among others, and strongly endorsed by several lobbies such as the Mamopanel.

This strategy constitutes a major threat to sustainable food insecurity in so far as it promotes technologies that have proven to be unsustainable and disseminates them through programmes that are designed in a way that excludes the mass of small and marginal farmers, driving them out of rural areas to migrate in poverty to towns. The solution proposed is capital-intensive and relies on patented seeds and inputs that require financial resources that small family farmers do not have.

Political leaders are encouraged to follow this unsustainable track by being promised large private investments which usually do not materialise [read] and by benefitting media coverage that helps them gain a positive image among potential electors.

Even though this may be a last attempt to save an approach that is failing in rich countries, it is likely to be of extreme importance because of the strength of its influential promoters who have succeeded in infiltrating the United Nations [read], and due to the deleterious consequences it will have both socially and environmentally (natural resource degradation and climate change).

Threat 4. Digitalisation of food and agriculture

Closely related to Threat 3, the « farm-tech revolution » is taking place quietly. Data volumes, computational power and connectivity are growing everywhere through the rolling-out of connected machines or devices (Internet of Things), the improvements in transferring digital instructions to the physical world and other changes that set the basis for the flowering of analytics and business-intelligence capabilities via artificial intelligence [read].

This trend is likely to increase imbalances between family farms and the companies that dominate the food system. These companies themselves are bound to be the object of further mergers in order to create giants that will be controlling entire value chains, and ultimately the food system itself [read], a situation that would give them an intolerable power over the population unless new regulations are implemented.

Adding a new dimension to food security: sustainability

In order to counter effectively some of the threats identified, a fifth dimension should be added to the four existing dimensions of food insecurity: sustainability.

This additional dimension would provide a more favourable context for implementing changes addressing some of the dangers highlighted above.

Change 1. Base food production on sustainable and accessible technologies

Nowadays, private interests are guiding technological development. This implies that the ultimate findings of research have to be embodied in goods that can be sold (e.g. seeds, agrochemicals, machinery, buildings and other infrastructure) in order to make profit, part of which will help fund further research efforts. The result of this approach is the invention and diffusion of capital intensive, input intensive, energy-intensive and "artificialised" technologies with deleterious effects on the environment and the climate [read].

In the future, public resources will need to be allocated to research into local-specific knowledge-intensive technologies relying on the use of natural processes, crop diversity and complementarities, and for their dissemination through extension and training. Because these technologies will be mostly knowledge-based and will not require a great deal of financial resources to be implemented, they will be easier to adopt for poor producers than currently promoted technologies.

Change 2. Remove the advantage given to unsustainable technologies

Unsustainable technologies lead to costs that are not being immediately borne by those who use them (soil degradation, loss of biodiversity, water pollution, health hazards, climate change) but by other people (consumers, neighbours…) or only later, in the future (diseases, lower yields…). This makes these unsustainable technologies apparently more profitable and gives them an advantage when compared to sustainable technologies that often require more labour and are sometimes less productive, but who generate positive non-remunerated externalities (i.e. carbon storage, improved resistance to erosion and drought).

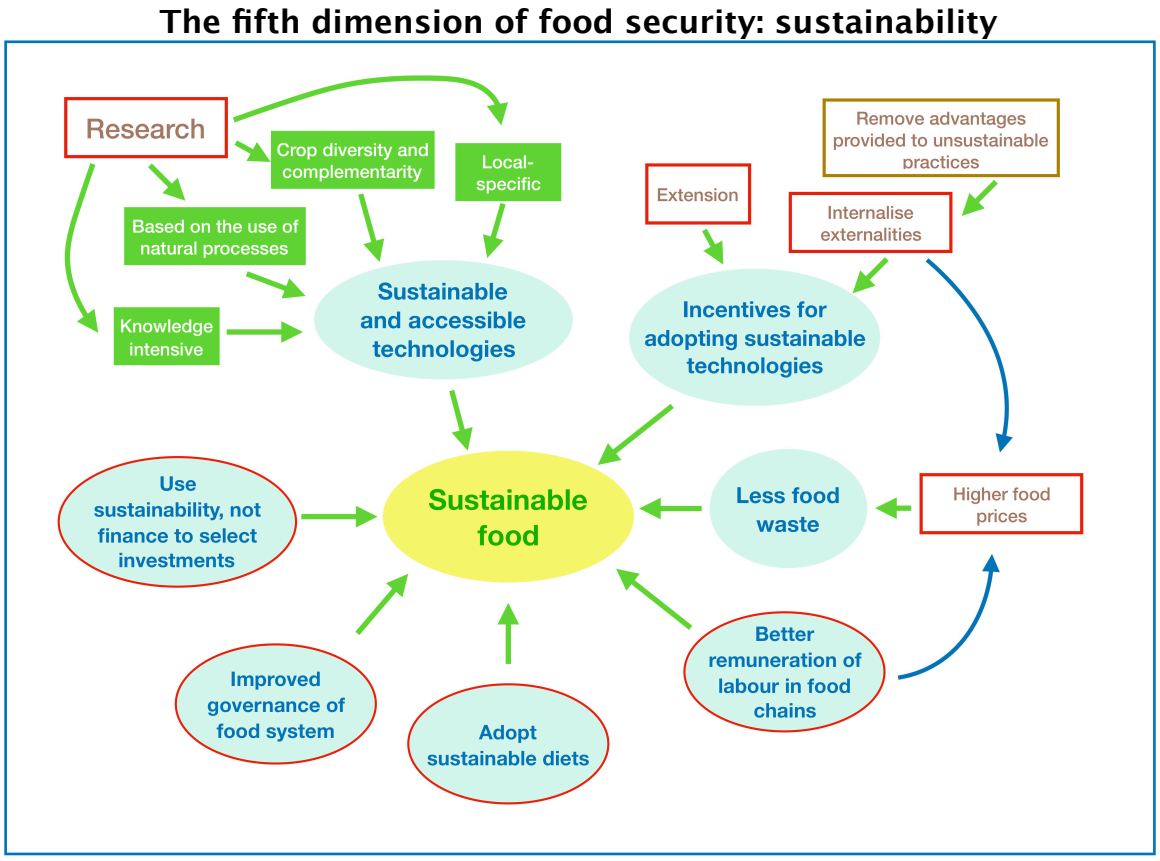
The internalising of negative as well as positive externalities is likely to lead to higher food prices, as will a better remuneration of labourers throughout food value chains (read here and here). But this will not be enough: specific regulations and financial support to those producers in the process of adopting sustainable technologies, will also be required.

Reduced waste is a probable collateral benefit of higher food prices, while a collateral cost will be more difficult access to food by vulnerable population groups who will need additional food assistance and an adjustment of low salaries.

Change 3. Use all dimensions of sustainability as criteria for guiding investment, not just finance

Using financial profitability as the criterion to select investments when prices do not reflect the real costs is likely to lead to suboptimal decisions. This has been the case in the past where investments chosen had deleterious impacts on natural resources, greenhouse gas emissions, social conditions, some of which prove irreversible.

New decision-making methods, inspired from multicriteria analysis should be promoted and used in order to evaluate a particular investment on the basis of all its impacts, not just its impact on financial profitability.



Change 4. Adopt more sustainable diets

Approximately half of the world grain output is used, nowadays, for producing animal products, mainly meat, milk and eggs. Knowing that the transformation ratio between grain and animal products is much greater than 2, this situation contributes to making the food system inefficient and it therefore intensifies the pressure exerted on our environment, making it unbearable and unsustainable.

Consuming off-season food and food originating from far away has increased over time and it is a source of inefficiency, particularly from the point of view of energy (transport, greenhouse heating, greenhouse gas emissions, etc.). This trend should be combatted.

Encouraging more sustainable diets (by education, price incentives and other means) will create more favourable conditions for the emergence of a sustainable food production. Adopting diversified eating habits based on fresh products will also have a positive impact on health.

Conclusion

To ensure a food security for all and eradicate sustainably hunger in the world will require to integrate sustainability in our vision of what food security is.

This text attempted to explore what this means in concrete terms: developing research and creating conditions for adopting more accessible and sustainable agricultural production technologies, modifying our diet to increase the efficiency of the food system and reduce its impact on our environment, while guaranteeing a better remuneration and a good social situation to those who work and live from it.

These changes will be conflicting with the interests of those who now dominate the food system (large agrifood companies) and those who get ready to dominate it (digital companies).

These changes will need an improved governance of the food system to give more weight to the most legitimate stakeholders (consumers, mass of family farmers, governments) to the detriment of giant multinational corporations that, through the lobbyists they employ, influence policy decisions in their favour, and of so-called philanthropists who attempt to buy their legitimacy with their wealth, while increasing it further. The amazing leverage of these forces is currently illustrated by a three-pronged initiative: the creation of an International Digital Council for Food and Agriculture, the consolidation of the Consultative Group on International Agricultural Research (CGIAR) and the joint organisation with the UN Secretariat of the World Food Systems Summit in 2021 [read].

In this last case, it is quite clear that the UN intends to give a central role to private interests in this important event. Indeed, the Summit will be jointly organised with the Davos World Economic Forum and the UN Secretary General's Special Envoy to the summit will be none other than the president of the Alliance for a Green Revolution in Africa (AGRA) [read], two decisions that have triggered unfavourable reactions from civil society organisations [read]. Let's remind our readers here that the Davos World Economic Forum and AGRA are among the most active advocates of the agrochemical green revolution recipes in Africa and that AGRA, funded by the Gates and Rockefeller foundations and by the largest fertiliser producer, Yara, among others, works in close collaboration with several agrifood multinationals who are convinced promoters of the unsustainable technologies that must be replaced.

It may be that the issue of sustainability of the food system (and of food security) should be put high on the agenda of the planned 2021 Summit. This could be an objective that civil society organisations allied with a few responsible governments could fix to themselves.

It is clear, therefore, that this will not be an easy struggle and that its result is at best uncertain. However, it is indispensable to win in order to ensure a sustainable food security to all, a goal that our leaders have been supporting for long in their speeches but not yet in their decisions and acts.

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To know more :

- Three Big Battles for Global Food Policy Looming - World Food Systems Summit is part of a three-pronged corporate food policy power grab, ETC, 2020.
- S.K.Dehghan and K. Ahmed, UN under fire over choice of 'corporate puppet' as envoy at key food summit, The Guardian, 2020.
- Rome Declaration on World Food Security, World Food Summit, Rome, 1996.

Selection of past articles on hungerexplained.org related to the topic:

- Urbanisation of hunger: the rural drift drives hunger to the cities, 2019.
- In the global food system, the "farm-tech revolution" could shift the balance of power to the detriment of the weakest, 2019.
- Ensuring world food security in a changing climate will require us to modify our diet, develop appropriate technologies and implement conducive policies, 2019.
- Life plagued by human madness: we must change our paradigms, objectives and values, 2019.
- The global food crunch: myth or reality? 2018.
- The impacts of global warming of 1.5oC above pre-industrial levels: the IPCC's Special Report of October, 2018.
- Land degradation: a serious consequence of human activities with dramatic implications on food, health and well-being of the world population, 2018.
- Food and climate change : it is up to us, as consumers and producers, to change our food system! 2017.
- The World Economic Forum's "New Vision for Agriculture" is moving ahead on the ground… 2017.
- Food Security Governance: empowering communities, regulating corporations, by Nora McKeon, 2015.
- 1,000 days before the hunger MDG deadline: Humankind on a drunken boat, 2013.
- Food security: definition and drivers, 2013.