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FOOD SYSTEMS AT RISK

NEW TRENDS AND CHALLENGES

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GENERAL CONCLUSION

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FOOD SYSTEMS' ROLES: FROM FOOD PRODUCTION TO MULTI-PURPOSE

Until recently, food systems have been evaluated based on their capacity to ensure sufficient safe food to meet consumer food demand. At first, the main challenge for agriculture and food policy was to feed a growing population. This meant the priority was to increase agricultural production. The environmental, health and social equity effects of production, processing, trade and consumption patterns were considered externalities, side effects that were not included in performance measurement. In fact, over the past century and until now, food production has grown strongly almost everywhere in the world. Food availability has even outpaced the growth in the world's population. Food has diversified, product quality has improved and 'caloric' food insecurity has decreased, though it can still be considered too high. The planet now produces more than its nutritional needs. These findings could suggest that these ongoing trends will help to eliminate what has been known as "the world's hunger" since the 1950s.

When other food systems outcomes are considered, alongside the risks threatening these systems, three phenomena are challenging this highly optimistic projection:

• First, the future of food production is threatened by both overexploitation or depletion of resources, environmental degradation, climate change and the poverty which is still found in many rural areas. Not all of these threats are exogenous to food systems. Some development models generate or increase these threats. In contrast, other models contribute or can contribute to maintaining biodiversity, capturing carbon and managing resources more sustainably. Environmental effects can no longer be considered as an externality of food systems but have become one of its purposes.

• The second phenomenon is longstanding and was first revealed by Amartya Sen: food insecurity is more a question of access than availability. The challenge of food security is therefore not only to produce enough food but to make it accessible to all, which means combatting poverty and inequality. Again, food systems can make a significant contribution to this objective through price and income stability where stocks (savings and capital, food reserves and seed banks) can play an important role. They can also contribute through income creation. In countries where the rural population is predominant and continues to grow, these systems can play a significant role in facilitating access to food. To this end, development models for food systems should focus on job creation. They must not only create added value but, crucially, ensure it is redistributed more equitably among value chain actors, and governance models must enable the most vulnerable to better defend their interests. And it is on these economic and social functions that food system interventions must be designed and evaluated.

• The third phenomenon is nutritional transition. Although far from being eliminated, nutritional deficiencies are now coupled with excessive malnutrition and new safety risks. Again, depending on the development model, which may or may not promote sustainable, diversified and healthy diets, food systems can contribute to worsening or reducing their effects on nutrition, health and well-being and therefore a country's economic situation.

So, beyond their initial purpose of qualitative food production, food systems must also be assessed on their role in creating jobs, stabilising livelihoods, reducing inequality between stakeholders and between territories, and preserving and improving environmental integrity. The challenge is not only to reduce threats to the future of food production. The challenge is to contribute more broadly to the Sustainable Development Goals, including goals that do not directly address the issue of food security. It is about contributing more broadly to building a sustainable planet in the longer term. Assigning this plurality of purposes to food systems, as has been done with the concept of multifunctional agriculture, leads to a complete rethinking of them, a better understanding of the interconnections between their outcomes and an assessment of them across a plurality of criteria and not only their productive capacity. The way their performance and efficiency are measured must be completely revised.

A COMBINATION OF RISKS

The steady reduction in undernutrition observed since the 1960s seems to have stalled or even gone into reverse since 2015. The number of undernourished people is increasing, both in quantity and in proportion to the world's population. Is this recent evolution accidental or does it mark the beginning of a new era? It is a difficult question to answer, but a number of findings presented in this report are worrying. They reveal that some regions of the world are now subject to a combination of risks of different kinds resulting from climate change, land degradation, collapse in biodiversity, pollution, resource depletion, epidemics, non-communicable diseases driven by unhealthy diets, new health risks, conflicts and civil insecurity, etc. Trend predictions and their consequences for food systems demonstrate a superposition and multiplication of risks in certain parts of the world, especially in LI and LMI countries. These combinations of risks are relatively new.

Some authors emphasise the relationships between droughts, climate change, displacement and conflict (Raleigh, Choi and Kniveton, 2015; Burrows and Kinney, 2016). Others underline the common causes of these risks (Mason and Lang, 2017). Such accumulations of risks bring the world into an unknown period, with levels of uncertainty that raise fears of new food crises. They invite us to go beyond sectorial approaches to risk (climate, demographics, pollution, resources, etc.). Risks cannot be analysed and addressed in isolation. Rather, a systemic approach (cf. Figure 23) is urgently needed. This may explore the effects of interactions between risks, particularly their synergistic effects, and take into account feedback effects, spillovers, tipping points and the irreversibility of vicious circles.

On the one hand, such an approach should seek to avoid crises, for example, by reducing the pace of negative drivers or by stabilising the environment. On the other hand, it should lead to developing resilience trajectories that make it possible to resist and recover from unavoidable

Dealing with risk: the need for a better assessment of resilience factors

While this study has focused on risks, further work is needed on the resilience factors in food systems, in all their components and functionalities. All societies, organisations and human communities have a greater or lesser ability to cope with unexpected events, to adapt and to transform. They have human, social, economic and diversified resources (knowledge and skills, stocks and capital, etc.) that can be mobilised to deal with shocks. People can more or less easily change their production methods or consumption patterns, migrate and share risk through solidarity systems, etc. Depending on the way they produce, exchange and consume, food systems themselves can more or less adapt to situations of instability or crisis. Assessing the risks in each situation is not enough. It is also necessary to be able to assess the resilience factors in societies and their food systems. However, paying more attention to resilience does not mean giving up on ways of mitigating risks. In its most comprehensive sense, resilience also includes the ability of societies to mitigate risks.

Assessing risks and resilience factors on a case-by-case basis

In some cases, a territorial scale analysis may be relevant. Within large countries, the risk mix can vary significantly from one region to another and between rural and urban areas. Moreover, it is at the territorial level that risk management practices and innovations implemented by stakeholders to change food systems can be identified. Recognising these capacities, evaluating their performance, identifying the obstacles to their wider implementation and supporting the development of these capacities requires a break in the way food risks are managed. To take into account the specific combinations of risk factors particular to each territory, universal solutions for a single purpose are of little interest. Such solutions are often promoted by a few large powerful actors with an economic or political vested interest. These actors tend to marginalise local actors, to neglect the capacities of the latter to mobilise their resources and invent their own solutions, often combining solutions from other territories and adapting them to local contexts. One of the ways to manage risks in food systems is therefore to also reconsider their governance. The challenge is to reconfigure the balance of power, giving more weight to those who suffer most from food insecurity and not to those who seek to benefit from it.

The potential severity of the combinations of risk to which LIC and LMIC food systems are exposed requires a change in their transformation pattern. It is not a question of replacing one model with another but rather of envisioning, with all the actors in the territories, a diversity of transformation trajectories built on new performance criteria that integrate concerns about food security, environmental integrity, job and income generation and the reduction of inequalities.

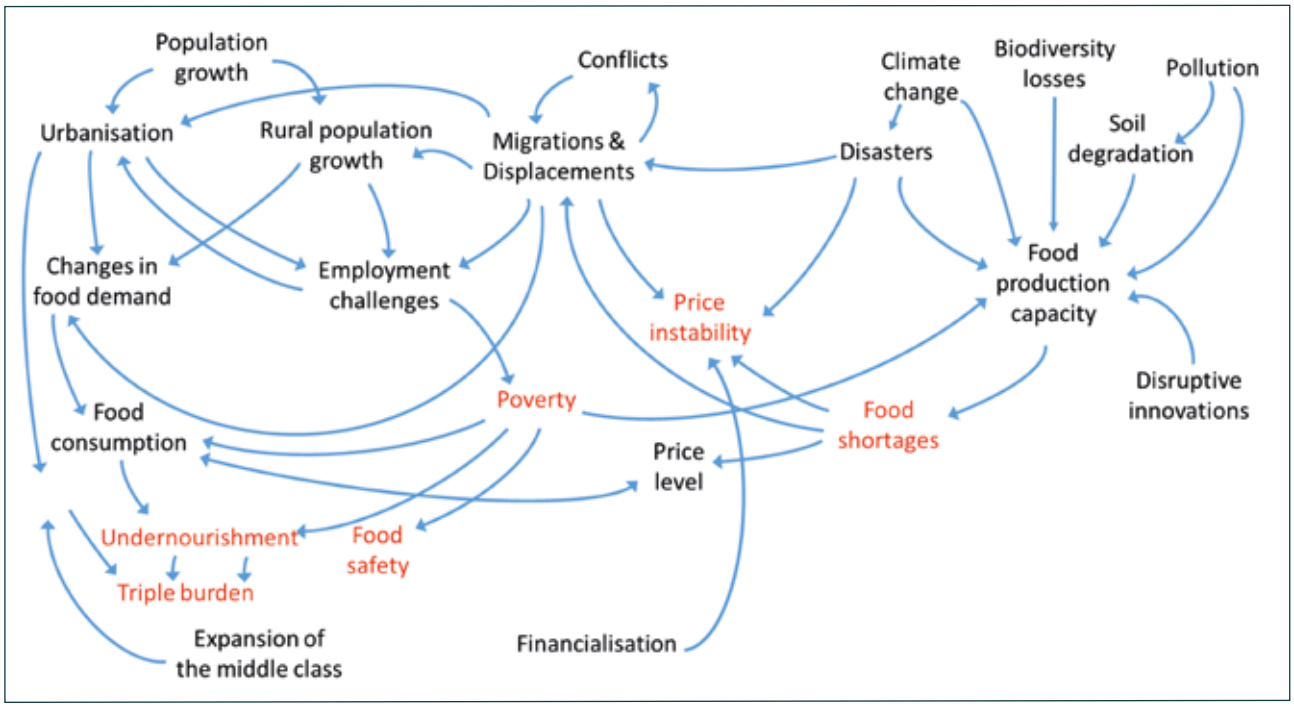
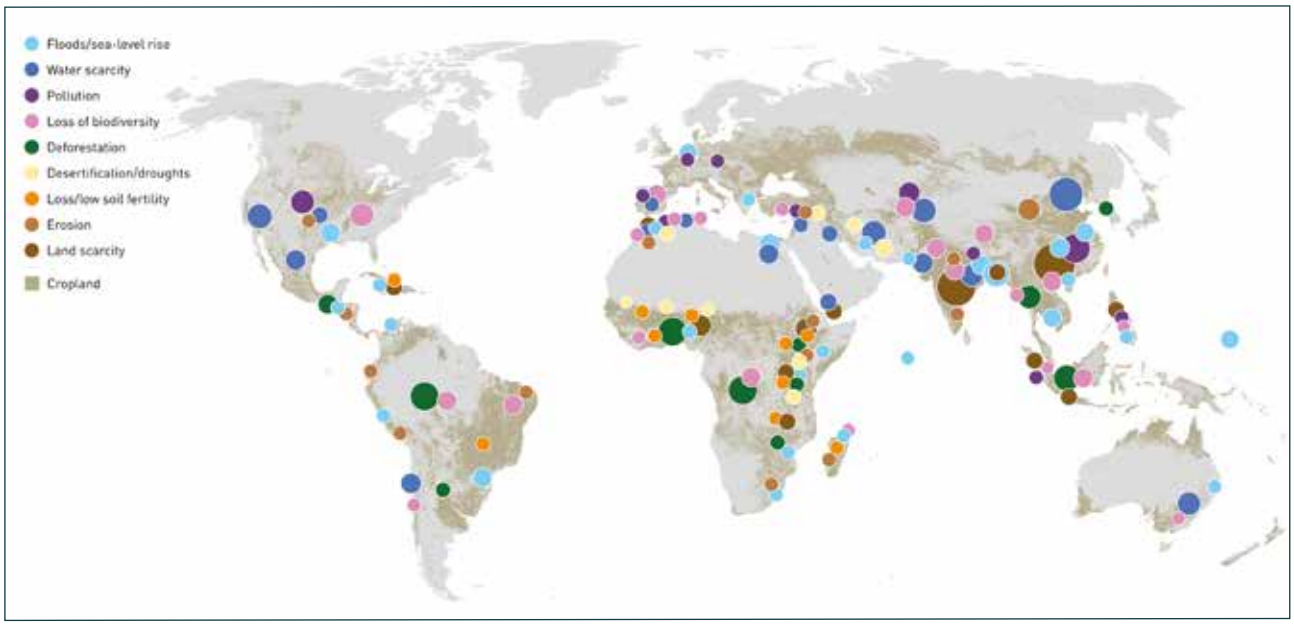


Figure 23: *Food system drivers combine and generate cumulative risks. Source: Authors.*



Map 13: *Schematic overview of risks associated with main agricultural production systems. Source FAO, Fisheries and Aquaculture Department (fishery and aquaculture statistics).*

TOWARDS A COMPREHENSIVE FRAMEWORK FOR ASSESSING AND TRANSFORMING LOCAL FOOD SYSTEMS

Just as food systems face locally specific combinations of risks, they also have to meet locally specific objectives of food security and nutrition, decent job creation and inequality reduction, as well as environmental integrity. Faced with high level of uncertainties, food system actors have to anticipate. First and above all, this calls for the cooperation of key political, economic, and social actors to be fully invested in the codesign of the assessment

and future options. This calls also for the development of operational and forward-looking methods for diagnosing food systems, which fully integrate food systems' long-term contribution to environmental and socio-economic outcomes. Based on this analysis, this food system diagnosis framework must meet a set of indispensable requirements: it must be systemic (and not value chain centred) to embrace the locally specific features and combination of risks food systems face; applicable at different scales depending on inner features of food systems; dynamic to unravel past evolutions and imagine future scenarios and their main drivers; and operational to identify the potential policies, projects and programmes – and the critical stakeholders – which could radically transform food systems in the future. Such a diagnosis framework does not yet exist, but is urgently needed.

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