



Resilience, Food Security and Food Systems: Setting the Scene

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PREAMBLE: WHAT THIS BOOK IS ABOUT

The key questions which underpin the writing of this collective volume revolve around the concept of resilience and the contribution that this concept plays in the international development agenda, specifically in relation to the issue of food security. Put simply: what does resilience bring that is relevant, useful and different from other previous or contemporary concepts that have shaped the food security agenda, such as entitlements (Sen, 1981), vulnerability (Chambers, 1989) or the sustainable livelihoods framework (Scoones, 1998)? How does the concept of

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resilience help in improving our general understanding of the development process, in particular the question of food security, and how is it influencing the way development interventions around food security are now programmed and implemented?

To answer these questions, this edited volume compiles a series of chapters written by a group of international experts recognized for their contributions to a diverse range of development questions. This volume is not, therefore, just advocating for ‘more resilience’. Instead, it proposes to step back, take stock of what has been learned and what is still being debated, and assess rigorously and critically the contribution of this concept in advancing our understanding and ability to design and implement development interventions in relation to food security.

In doing so, and in a resolute departure from the narrow and beaten tracks of agriculture and trade that have influenced the mainstream debate on food security for nearly 60 years (cf. FAO, 1980), the book also proposes to adopt a wider, more holistic and integrative perspective, framed around food systems. Our premise is that in the current post-globalization era, the food and nutritional security of the world’s population at household, community, municipality or even country level no longer depends just on the performance of the agricultural sector and national or international policies on trade, but rather on the capacity of the entire system to produce, process, transport and distribute safe, affordable and nutritious food in ways that remain environmentally sustainable and socially acceptable. In that context, we posit that adopting a food systems’ perspective provides a more appropriate frame for the questions on food security, as it incites us to broaden our conventional thinking and to acknowledge the systemic and interactive nature of the different processes and actors involved (Ericksen, 2008; HLPE, 2017).

The volume comprises 12 chapters that offer a carefully pondered combination of conceptual discussions, historical reviews and empirical analyses. The ambition is that the main questions that drive the reflections around the three concepts central to this volume and their interactions are addressed in a balanced and comprehensive manner, making the discussion relevant to a large audience including researchers, policymakers and practitioners, but also members of UN or bi/multi-lateral development agencies working on food security or related development policy, planning and programming. The book is not designed, therefore, to remain a scholastic exercise or a textbook for academics; neither is it intended to become a practical handbook directed at NGOs looking for ways to

implement resilience activities on the ground. Nonetheless, the relevance of this volume and its timeliness are indisputable, and the impact of the COVID-19 pandemic on food systems' resilience and on people's food security has confirmed this strikingly.

In addition to chapters exploring in greater depth, some of the conceptual aspects of this multi-faceted relationship between resilience, food security and food systems in the context of low- and middle-income countries (LMICs), the book also provides empirical analyses of resilience and food security related to gender, cities, climate change, locality and COVID-19. This choice of specific topics reflects what the co-editors consider as important themes in the current discourse. Of course, this list of themes and topics is not encyclopaedic or all-inclusive. This field of research is growing rapidly, and many other issues could also have been selected, such as nutrition, biodiversity, political economy or comparative analyses.

Beyond this issue of which themes are critical when analysing resilience, food security and food systems, it will soon become evident when advancing through the different chapters of this book that many other questions around those concepts and their interactions remain unsettled and contested. The question of the most effective level at which resilience should be considered is a good illustration of this open discussion. On this issue, a growing body of literature insists that local food systems are preferable over global ones (see, e.g., Colet et al., 2009; FAO, 2020; La Trobe & Acott, 2000). Bruno Losch and Julian May (Chapter 10 in this volume) follow this view and posit that adopting a local approach based on community-led responses to food system management (what they refer to as a “place-based” approach) in a time of crisis is key to build food systems' resilience. At the other end of the spectrum, another group of authors claims on the contrary that the more open and connected our food systems, the better. This view builds conceptually on the idea that multiplicity and flexibility are important priorities to build resilience (Ebata et al., 2020; Reardon & Swinnen, 2020). John Hoddinott, for instance (Chapter 6 in this volume), adopts this line of thinking when he reminds us that inward looking systems (such as Ethiopia in the 1980s or North Korea in the 1990s) are more vulnerable to food system collapse than more integrated systems based on strong trade markets. Yet, as COVID-19 demonstrated, too much connectivity is also likely to expose people to “concatenated shocks” (Biggs et al., 2011). In sum, no consensus has yet emerged on whether privileging

local or global solutions is the way forward. Or perhaps should we consider both simultaneously? This is for instance what Patrick Caron, Ellie Daguét and Sandrine Dury propose when they remark (Chapter 3 in this volume) “Rather than opposing them, articulating local, national and international processes, arrangements and frameworks, and organising inter-dependencies and regulations among scales are key to promote the diversity and the coexistence of context-specific pathways”.

CLARIFYING THE CONCEPTS

The next step in this introductory chapter is to start clarifying the three concepts that are at its core. The reader will soon observe, however, that this volume and its contributors do not adopt a unique view or definition of “resilience”, “food systems” or even “food security”. On the contrary, one aspiration of this endeavour was to embrace and promote a pluralist interpretation where several different and sometimes divergent interpretations of these concepts co-exist across the different chapters, reflecting the rich but still unsettled and contested nature of these concepts.

Food Security

Among the three central concepts of this book, many would consider food security as the concept that is most firmly anchored in the development literature. Indeed, as Mark Constat reminds us (Chapter 5 in this volume), food security understood in a broad sense is a relatively old concept that can be traced back to Malthus and his *Essay on the Principle of Population* (1798) or perhaps even earlier, to the work of Giovanni Botero (1588) which highlighted the importance of the balance between the capacity of a city to produce food and the size of its population. Thinking around food security remained under the grip of Malthusian productivist interpretations for another two centuries, until Amartya Sen (1981) revisited and challenged this reductionist framing. Sen’s reanalysis of several famines, seen not primarily as the consequence of food shortage but quintessentially as the consequence of the inability of certain groups of people to access or purchase food, was instrumental in expanding the understanding of food security beyond its initial productivist roots and in forging what was to become until very recently the mainstream understanding of food security, represented through its four pillars of availability, access, utilization and stability (FAO, 2006).

This interpretation of food security and its four pillars is what most academics and practitioners would follow today, either implicitly or explicitly. As we shall discuss later in this chapter, building food security around those four pillars is also useful as it will allow us to draw some clear conceptual links with both resilience and food systems. In the meantime, Jess Fanzo (Chapter 2 in this volume) reminds us that even though this concept is well established internationally, it is not cast in stone. “Food security and its framing in international development has historically evolved to adapt to the times”. She explains that this adaptation process has become more nuanced because of our deepening understanding of the social, political, environmental and biological causes and consequences of food insecurity. As recently as 2020, following an extensive international consultation, the Committee on World Food Security (CFS) proposed to expand the current definition of food security by adding two more pillars: agency and sustainability (HLPE, 2020).

The inclusion of agency was justified by the fact that “agency implies the capacity of individuals or groups to make their own decisions about what foods they eat, what foods they produce, how that food is produced, processed and distributed within food systems, and their ability to engage in processes that shape food system policies and governance” (HLPE, 2020, p. 8). In sum, while agency is widely accepted as a key aspect of the development process itself (Kabeer, 1999; Sen, 1985; World Bank, 2005), the CFS saw the necessity to make its link to food security more prominent and explicit.

As for sustainability, its inclusion as a new pillar was proposed on the basis that “Sustainability as a dimension of food security implies food system practices that respect and protect ecosystems [...] over the long term, in their complex interaction with economic and social systems required for providing food security and nutrition” (HLPE, 2020, p. 9). Sustainability was therefore seen as a complement to the stability pillar, which had been added to the original three pillars (availability, access and utilization) in 2006, following the recognition that short-term shocks, such as conflict, natural disasters and market turmoil, can rapidly undermine food security (FAO, 2006). This time, with the inclusion of sustainability, the CFS intended to highlight the longer-term dimension of food security and in particular, the importance of “the linkages between the natural resource base, livelihoods and society to continually maintain systems that support food security and ensure that the needs of future generations are taken into account” (HLPE, 2020,

p. 9). The introduction of sustainability to the concept of food security is a logical extension of the recent emergence of sustainability more generally in the development discourse, as reflected in the Sustainable Development Goals (SDGs) in particular (UN, 2015).

Resilience

Even today, it is not uncommon when one mentions “resilience” in a conversation with academics or development practitioners, to see the “R-word” received with signs of exasperation or even annoyance. This reality certainly has something to do with the fact that, for several years in its early ‘career’ in the development community, resilience was severely misused and abused, often presented as the panacea to every ailment, and instrumentalized as a way to sell old wine in new bottles (Béné et al., 2012; Cannon & Muller-Mahn, 2010). The term was so ubiquitous that some saw it as the new buzzword of the development industry (Béné et al., 2014; Hussain, 2013), generating legitimate scepticism and suspicion. Ten years later, the term has not totally managed to shake off this reputation, and it is still often used as a ‘hook’ word that is included in the title of project proposals, academic papers or even politicians’ discourses, without necessarily any associated substance. Alex De Pinto, Mofa Islam and Pamela Katic (Chapter 7 in this volume) show, for instance, how in many resilience projects funded under the UK Adaptation Fund, the concept is still presented as an ‘antidote’ to vulnerability and, as such, proposed as an end-goal of the projects themselves. Yet, as De Pinto et al. point out, the monitoring and evaluation approach generally used by practitioners to evaluate project impacts hardly ever includes any measurements of resilience.

Reiterated rigour and scrutiny are therefore still required when it comes to resilience, if one wants to avoid conceptual confusion and contribute to rehabilitating its reputation. That said, resilience is now widely recognized as both a suitable conceptual lens and an operational concept through which to rethink the complex relationships between society and environment and, within this (and more specifically), between food security and development. While the wider relationship between society and environment has been abundantly debated for more than three decades, essentially with resilience conceptualized from a socio-ecological perspective (see, e.g., Berkes & Folke, 1998), the interest in the second, more specific and more recent, exploration between resilience

and development is growing. In this regard, there is little doubt that our understanding of what resilience is and how to use it in relation to development has improved very steeply in the last decade (Ansah et al., 2019; Béné et al., 2014; Conostas et al., 2014). As a result, many now see resilience as part of the discourse currently used by bi- and multi-lateral development agencies. Karl-Axel Lindgren and Tim Lang (Chapter 4 in this volume) even compare resilience to a “‘scaffolding’ used by these agencies to support their development frameworks”.

This positive trend does not mean, however, that the road has not been bumpy and winding. As is often the case with the appropriation of a new concept by a particular community, the first years have been characterized by an ‘explosion’ of definitions and interpretations. In that regard, Joanna Upton and her co-authors (Chapter 9 in this volume) refer to it as an “amorphous concept”. Historical accounts of science tell us that this unsettled discussion is part of a normal process of appropriation and is set to continue until some form of paradigm or consensus emerges. In the case of resilience, this consensus is yet to materialize even though several contributions towards it have been made, starting with DFID and USAID both publishing a series of seminal position papers in the early 2010s (DFID, 2011; USAID, 2012). Soon after, the Resilience Measurement Technical Working Group was set up by FAO and WFP in 2013 as an attempt to provide clarity and a normative element to the debate.¹ Internal politics and conflicting individual and institutional ambitions, however, led the group to an early ‘retirement’. Its legacy is now reduced to a series of working papers. As a result, no consensus exists and several different views of how resilience should be defined in relation to development still prevail among academics, development agencies and NGOs. For instance, from their review of how resilience has been integrated in the development discourse in relation to climate change, De Pinto and his co-authors (Chapter 7) conclude: “Even though the concept of resilience is better understood among practitioners than in the past, there is a lack of consensus regarding its definition and metrics”. This conclusion is echoed by Lindgren and Lang, who refer to a “fractured consensus” to describe a situation where “the malleability and lack of strong consensus on how to concretely define [and measure] resilience” is still the reality today.

¹ See <https://www.fsinplatform.org/resilience-measurement>.

Although this fractured consensus is probably one of the main reasons why many are still able to misuse and abuse the term, we believe that this situation does not necessarily refute the idea that some form of common understanding can emerge from this discordant debate. For us, across all these contested and disputed definitions is the proposition that resilience is simply and broadly about the capacities of individuals, households and communities to deal with adverse events (shocks, stressors) in a way that does not affect negatively their long-term well-being, and in particular their food security.

Food Systems

As with resilience, ‘food system’ still lacks a universal definition. Yet, like resilience, this lack of a generic definition does not mean there is not some degree of common understanding. In that regard, the work of the High Level Panel of Experts (HLPE) on Food Security and Nutrition of the Committee on World Food Security is often cited as a good entry point. In their reports, the HLPE describes a food system as “all the elements (environment, people, inputs, processes, infrastructures, institutions, etc.) and activities that relate to the production, processing, distribution, preparation and consumption of food, and the outputs of these activities, including socio-economic and environmental outcomes” (HLPE, 2017, p. 11). This description has clear similarities with one of the earliest definitions proposed by Polly Ericksen in her seminal paper (2008), where she defined a food system as being made up of four elements: (i) the interactions between and within biogeophysical and human environments; (ii) a set of interconnected and interdependent activities ranging from production all the way through to consumption; (iii) the outcomes of those activities, including contributions to food security, environmental security and social welfare; and (iv) some other determinants of food security stemming in part from the interactions mentioned in point (i).

Thus, although complex because of their interactions and interdependence (Béné et al., 2019; Fanzo et al., 2021), many recognize that the elements that constitute food systems are also relatively clearly defined (HLPE, 2017). What is missing, perhaps, in all these definitions is a more explicit mention of some of the most important attributes of food systems and of their actors. Two of those attributes are particularly relevant in the context of this book: informality and vulnerability.

Informality: One of the critical characteristics structuring food systems, especially in LMICs, is the fact that for the most part the daily and seasonal labourers and self-employed men and women who are engaged in various income-generating activities in food systems typically operate in the informal sector (Resnick, 2017; Roever & Skinner, 2016; Young, 2018). This informality starts at the production level, with entire groups of smallholder farmers, pastoralists or fisherfolks generally working informally (Lowder et al., 2014; McCullough et al., 2010). If they do not commercialize their production themselves on local markets, these producers sell it to middlemen/women (aggregators, wholesalers and brokers) the vast majority of whom are also working in the informal sector (Porter et al., 2007; Veldhuizen et al., 2020). This would involve, among others, women who smoke and process fish directly at home (Akintola & Fakoya, 2017), young men who transport chickens and vegetables every morning on their bicycles to the nearby city or men who collect mangoes produced by their neighbours and transport them with their old pickups to town. Further along the supply chains, the retailing segment is also often dominated by a high degree of informality, both in its structures (open markets, street vending and corner stores) and in its transactional arrangements (informal contracts) (Cadilhon et al., 2006; Kawarazuka et al., 2018; Roever & Skinner, 2016; Smit, 2016). Overall, all these small-scale, informal or semi-formal businesses are sources of revenue and income for a very large number of poor but economically active people for whom these activities often represent a last resort livelihood activity.

Vulnerability: With informality comes invisibility in official statistics, exclusion from public programmes, and vulnerability, be it in small-scale fisheries for instance (Kolding et al., 2014) or in urban fruit and vegetable retailing (Steenhuijsen Piters et al., 2021a). In LMICs, those small-scale producers and food suppliers typically operate under extremely difficult conditions. They usually face poor or obsolete infrastructure including inadequate roads, power supply, irrigation, market facilities, etc. (Maloney, 2004), insufficient access to financial services (in particular, credit and insurance) (Oviedo et al., 2009) and high dependence on weather conditions (Harvey et al., 2014). In addition, the informal nature of their activities, combined with insufficient cash flow, economic marginalization and even in some cases discrimination and harassment (Kawarazuka et al., 2018), are exacerbated by the absence of labour protection and laws preventing exploitation, forced and child labour

(Marschke & Vandergeest, 2016), leading to extreme physical, economic and social vulnerability.

In these circumstances, any unexpected shock can have catastrophic implications. The COVID-19 pandemic provides a vivid illustration. In Ethiopia, for instance, Hirvonen et al. (2020) document how the imposition of mobility restriction and lockdowns led to disruptions in informal traders' business practices, including increased costs of transport, decrease in downstream demand and subsequent loss of income. Similar disruptions in the activities of traders, processors and other food system actors were observed in many other countries in 2020, including India (Varshney et al., 2020), Bangladesh (Termeer et al., 2020), Senegal (Toukara, 2020) and Colombia (Burkart et al., 2020). In some cases, the hardship that followed the imposition of lockdowns led to serious social unrest, like protests which erupted in March and April 2020 in South Africa and Malawi, where informal traders took to the streets, brandishing banners with slogans such as: "Lockdown more poisonous than corona" and "We'd rather die of corona than of hunger" (Aljazeera, 2020), demonstrating that ignoring the economic function played by food systems for millions of informal actors in LMICs is politically risky.

In their empirical analysis conducted in eastern and southern Africa, Joanna Upton and her colleagues (Chapter 9) also observe important disruptions induced by the pandemic on food system actors, but these authors provide a slightly different interpretation than what is usually stated in the literature. For them, the pandemic should still be seen as "a major new shock, but [one that] impacted households (...) through recurring processes of structural deprivation activated by the myriad shocks and stressors faced in low-income, rural communities", thus suggesting that adverse events do not occur in isolation but often as part of a continuous and incessant "multi-stressor multi-shock environment". Upton and her co-authors also make the important point that in food systems, "shocks often have indirect impacts that far exceed their direct impacts"—a remark that resonates well with some principles of resilience analysis, precisely because of the "multiple mechanisms that link individuals to features of the social-ecological systems in which they reside, and endogenous, multi-scalar behavioural responses by many people and organizations". With this remark, Upton and her co-authors reinforce the idea that in a food system the ultimate impacts of shocks may have less to do with their frequency or severity than with the types of responses (coping strategies, adaptation, transformation) put in place by the different actors to mitigate them, a

concept that is referred to in the resilience literature as a “ripple effect” (Ivanov et al., 2019).

What we see emerging here, therefore, is a series of empirical observations that highlight the significance of some lessons and principles that had initially been discussed while conceptualizing resilience at the household and community levels—such as the importance of better understanding the actors’ various sources of vulnerability, or documenting the types of responses that those actors put in place when they are hit by a shock and the impacts that these responses have on other actors—and how some of those principles become even more relevant when the scale of analysis is expanded from the household or community to the whole food system level. These points will be revisited in greater depth in the next section.

LINKING RESILIENCE, FOOD SECURITY AND FOOD SYSTEMS—SOME INITIAL REMARKS

Food Security, Shocks and Resilience...

Since the 1980s, a growing body of evidence has pointed to the debilitating impacts that seasonal or unexpected shocks can have on the livelihoods and food security of poor people in low-income countries (Dercon & Krishnan, 2000; Morduch, 1995; Yamano et al., 2003). Small events such as individual illness and delay in monsoon rainfall, or more severe idiosyncratic or covariant shocks such as disability or two consecutive harvest failures, can have severe impact on people’s lives, affecting their income and food security, sometimes with long-term irreversible effects. We know, for instance, that women who are pregnant during a hunger gap give birth to smaller babies (Rayco-Solon et al., 2002) and that poor nutrition during the first 1000 days of life can have irremediable effects on the physical and mental development of those children. Longitudinal studies have shown for instance that height gain among young children displays seasonal variations that are closely linked to the annual hunger season (Maleta et al., 2003). In parallel, the detrimental impact of local or regional armed conflicts on food security and nutrition is increasingly recognized (Breisinger et al., 2014; Quak, 2018). Data show, for instance, that people living in conflict-affected areas are up to three times more likely to be food insecure than those who are living in more stable developing countries (Holleman et al., 2017). Globally, about 60% of

the 800+ million undernourished individuals in the world live in regions affected by violent conflict (Martin-Shields & Stojetz, 2018).

The importance of being able to avoid or reduce the detrimental impacts of different types of shocks and stressors on the food security and nutrition of people is therefore critical. It is at this interface between shocks and food security that the relevance of the concept of resilience is probably the strongest. If, as mentioned earlier, resilience is basically the idea that individuals, households and communities are able to deal with adverse events in ways that reduce the long-term negative consequences of those shocks on their well-being and their food security, then supporting those individuals, households and communities to become more resilient should surely be the main objective of any development agency interested in food security. This observation is undoubtedly one of the reasons why FAO, WFP, USAID, DFID and several other development agencies decided, in the early 2010s, to engage in the ‘resilience journey’ (see Lindgren and Lang in this volume).

Food security is indeed, by its very definition and in particular its fourth pillar (*stability*), very closely linked to household’s resilience. Put in simple terms, a household, which is not able to *stabilize*, protect and buffer its own food security pillars (access, availability and quality of food) against the impact of shocks and stressors, will not be food secure. In essence, this means that the experts who suggested adding stability as the fourth pillar to the original three were already embracing the idea that resilience is instrumental to food security. Likewise, many of the empirical studies in the 1980s and 1990s that documented the effects of idiosyncratic or covariant shocks on the food security and/or nutrition of households (see Dercon & Krishnan, 2000; Morduch, 1995; Rayco-Solon et al., 2002; Yamano, et al., 2003; etc.) were already implicitly demonstrating the relevance of the concept of resilience in this discussion of food security and nutrition, even if they did not use the term explicitly at that time. Instead, the discussion was framed around the concepts of risk and risk aversion, in line with the dominant neoclassical narrative of the 1990s where poor farmers were presented as both victims and culpable of causing their own predicament. They were victims, of course, because of the undisputed negative impact that these different adverse events can have on their livelihoods. But they were also ‘guilty’ because they were adopting ‘risk-averse’ strategies—a behaviour which from a theoretical economic standpoint is flawed as it is traditionally presented as one of the reasons why poor people don’t invest in the ‘right’ innovations—those

innovations which may be riskier in the short run but are presented as the long-run solution to their problem. In this neoclassical understanding of the world where risk is conceptualized essentially as a statistical concept, everything is reduced to probabilities.

A resilience version of this probabilistic vision of poverty has been developed. In that interpretation, resilience is defined in terms of a conditional expectation function or, less technically, as the statistical probability of remaining above the poverty line in the near future. John Hoddinott, in line with others (e.g., Barrett & Conostas, 2014; d’Errico et al., 2018; Knippenberg et al., 2019), follows this probabilistic path when he proposes to define resilient food production as the “reciprocal of the probability of total crop failure” (Chapter 6 in this volume). As he concedes, however, applying a statistical frame to resilience in relation to food production or, as a matter of fact, to any more complex issues such as food security is limited as it “does not attempt to disaggregate or disentangle how the outcome has come about”. As such, this probabilistic approach may leave many frustrated, as resilience has often been praised for the analytical or conceptual insights that it can offer around these questions of food security in the context of shocks (Ansah et al., 2019; Béné et al., 2016; Conostas et al., 2014).

Importantly, conceptualizing resilience as an analytical tool rather than just the “probability to avoid poverty over time” (as in Barrett & Conostas, 2014) also allows us to move away from the poor and risk-averse farmers conveyed by the 1990s interpretation of the problem. Resilience analysis understood as an analytical tool, indeed, puts emphasis on the absorptive, adaptive and transformative *capacities* of people (Béné et al., 2012; Vaughan & Frankenberger, 2018). Applied to food security, this more positive and realistic interpretation stresses the *active* choice that people make when faced by shocks and stressors and links this to the observed long-term outcomes, through a clear impact pathway that allows for deconstructing the process and identifying specific entry points for interventions. A particularly concrete example of this more interactive/agency-led interpretation of resilience is the work of Elizabeth Bryan, Claudia Ringler and Ruth Meinzen-Dick (Chapter 8 in this volume). These authors expand a recent gender and resilience framework (Bryan et al., 2017; Theis et al., 2019) with a food systems lens and show how such an approach can be used to identify key entry points to strengthen women’s and men’s food security and nutrition outcomes in the face of climate change.

Importantly, this interpretation of *people* as agents of their own resilience and the subsequent use of clear impact pathways associated with it allows analysts to go beyond the econometric black box of the relation {shock => change in food security} and start explaining the degradation in food security as a result of, not just the severity of the shocks or its duration—or even the level of assets or endowments characterizing the households—but as the outcome of the decisions or responses that people adopt in the face of those shocks. As such, resilience analysis shows that, yes, people make decisions in the aftermath of disasters which in the long-run may have negative consequences—like when they decide for instance to sell their productive assets or to reduce their food expenditures—and, yes, those decisions generally end up having detrimental long-term repercussions on their food security or the nutrition status of their children. But it also highlights that those “bad decisions” have little to do with risk aversion and instead are more often than not the result of a no-choice situation. People don’t *choose* to reduce their food consumption. They do so because they don’t have other choices. This point echoes what Haysom and Battersby refer to as “negotiated resilience” to describe the choices that food system actors have to make, recognizing that these choices often “involve having to make challenging trade-offs between immediate needs and the consequences of those choices, a form of negotiated resilience” (Chapter 11 in this volume).

Applying this ‘agency-based’ or ‘people-centred’ resilience approach (Bohle et al., 2009) also allows us to identify which interventions could help poor people reduce the risk of adopting those detrimental coping strategies and which interventions could, on the contrary, help them to engage in more positive adaptive or transformative strategies—so that the next time they are hit by a similar shock, they *have choices* and can better protect their food security and the nutrition of their children while, at the same time, recover from that shock. At this point, the justification for the introduction of human agency as one of the new pillars in the HLPE definition of food security comes back to mind. As explained by the HLPE report on Food Security and Nutrition, “agency [applied to food systems] implies the capacity of individuals or groups to make their own decisions about what foods they eat, what foods they produce, (...), their ability to engage in processes that shape food system policies and governance”(HLPE, 2020, p. 8); building on the discussion on resilience just above, we suggest adding “and the ability to make more informed and empowered choices when hit by a shock”.

To this point, this section has shown how two specific pillars of food security (stability and agency) can help make more explicit the ways that resilience improves our understanding of food security in the context of shocks and stressors. Does this mean that the integration of the two concepts is now strong and well established? Certainly not, and several chapters in this volume make this reality crystal clear. Karl-Axel Lindgren and Tim Lang, for instance, in their review of development agencies' narratives, compare the two concepts to "totem poles around which policy lobbies dance, calling for consensus", but their analysis leaves little doubt about the weak integration of resilience in the food security agendas of different agencies. The authors conclude: "There seems to be a continuous delay in integrating the concept of resilience wholly into food security" (Chapter 4). Mark Constatas seems to reach the same conclusion (in Chapter 5) when he salutes "the potential for coherence" but regrets "the reality of fragmented applications in policy and research" that characterizes resilience.

What remains to be discussed in this first chapter is the extent to which a food system approach expands (or perhaps modifies) the perception and the understanding that academics and experts have developed of the relation between resilience and food security.

Food Security, Resilience and Food Systems

"Food systems have become the predominant theme among food actors and scholars to frame, understand and adequately address food security" claims Jess Fanzo in Chapter 2. She adds: "A food systems approach is a departure from traditional, historical approaches, which tend to be sectoral, technical, and short-term with a narrowly defined focus and scope of food security. Instead, a food systems approach uses a holistic, comprehensive view of the entire system". This statement is in line with the more general understanding of food systems as now widely adopted in the literature (see, e.g., HLPE, 2017).

One of the main benefits of adopting this more holistic view is certainly around the question of scale. In theory, both food security and resilience are acknowledged to be relevant within and across a wide range of scales or levels—from individuals, households and communities to countries or even possibly a continent (referring for instance to "the level of food security of Africa"). In ecology, resilience has also often been described as a multiscale concept (see Cummings et al., 2015). Yet, a quick review of

the literature reveals that the majority of discussions to date on resilience in the context of food security and humanitarian interventions have taken place essentially at the household or community levels (see Béné et al., 2011; Brück et al., 2018; Cutter et al., 2008; Smith & Frankenberger, 2018). In a recent analysis of food systems in the urban context, Battersby and Watson made the same observation:

previous work on food security has conventionally focused at either the household scale or at aggregate food production, with far less focus on the food system itself and its intersection with cities.” (Battersby & Watson, 2018; p. 3)

A probable explanation for this observation is the fact that the most frequent levels at which practitioners (NGOs, development and humanitarian agencies) design and implement their interventions are at household and community levels. In fact, although not explicitly acknowledged, the level at which food security is conceptualized and defined in most UN and other official documents is often at the individual or household. As evidence we would point to the fact that most food security indicators (food consumption score; coping strategy index, household food insecurity access scale, etc.) are designed to measure and report status of food (in)security at the household level.

Yet we know that, even at household level, food security does not depend solely on capacity, ability or other socio-economic characteristics such as social capital, education, assets, income or wealth. To make this point more tangible, imagine a scenario where a household is well endowed in all these characteristics to the point that, in theory, it would be able to secure a satisfactory level of availability, access, utilization and stability of food. Yet if the local food system on which it depends for its food collapses, then its food security will be directly threatened. A good illustration of this scenario would be the case where an armed conflict severely disrupts the functioning of a local food system (for instance by interrupting the transportation of food through armed attacks and road-blocks) to the point that no supplies reach the shops and markets in a certain small town for several months. A wealthy household living in this town may have at its disposal all the attributes necessary to ensure, in theory, the food security of its members, yet these attributes will not save its members' food security from being threatened.

In sum, just as Sen taught us that food security does not depend only on food availability at the household level but also on financial and physical accessibility, we argue here that at a higher level, household food security also depends on the resilience of local food systems to deal with shocks and stressors (Béné, 2020). Very little empirical evidence is available, however, to substantiate this statement, which remains therefore a hypothesis for two main reasons. First is the fact that, as mentioned above, the quantitative information and the analyses or assessments that are available on food security are generally conducted at household level. This is the case, for instance, for the very rich literature that documents the impact of armed conflict on food security: all the analyses looking at potential correlation between conflict and food security (or nutrition) use indicators and variables monitored at household, community (or individual) levels (see Brück et al., 2018; Martin-Shields & Stojetz, 2018; Tusiime et al., 2013, etc.). Second, there is at present no clear methodology to measure (local) food systems' resilience (Béné, 2020). It is therefore very difficult to demonstrate *empirically* any form of correlation between household food security and local food system resilience, even if theoretically or conceptually many have tried—see, e.g., Meyer (2020), de Steenhuisen Piters et al. (2021b) or John Hoddinott (in Chapter 6).

In this context, one would expect that the integration of sustainability as a new pillar in the definition of food security would be useful. It is indeed correct that the addition of this new pillar has already been accompanied by a more frequent use of the term 'food system' in the general discourse on food security; for instance when the HLPE report remarks "Sustainability refers to the long-term ability of *food systems* to provide food security and nutrition today in such a way that does not compromise the environmental, economic, and social bases that generate food security and nutrition for future generations" (HLPE, 2020, p. 9, our emphasis). Jess Fanzo (Chapter 2) also builds a convincing argument for why a food system framing is necessary to better understand and adequately address food security issues—even if, relying on the situation observed in her own country, she reminds us that although "food systems are well functioning [in the US], food insecurity can still occur". This is echoed by Losch and May (Chapter 10) at the subnational level. Looking at the Western Cape province in South Africa, these authors note: "Despite the Western Cape's prosperity when compared to other provinces and its well-established food system, [...] the prevalence of the indicators of malnutrition among its population [...] are similar to national trends". Contrasting with those

assessments, Caron and his co-authors (Chapter 3) try to depict a more positive vision: “Contrarily to what is usually stated, the food system is not broken”. Instead, they argue, “the food system has become more and more resilient at the global level [...] [as it was] able to adapt during the twentieth century to what can be considered a huge shock on a long-term basis: an unprecedented increase in population”.

In sum, our food systems are not broken and they may even be resilient. Yet they still result in food insecurity and inequity. While highlighting the links between food security, resilience and food systems is therefore totally relevant (as we hopefully demonstrated in this introductory chapter), what remains to be built is a much clearer conceptual and empirical connection between them. This is the object of the rest of this volume.

OUTLINE OF THE VOLUME

Following this introductory chapter, the contributions to this volume have been clustered into two parts, with a logic attached to the sequencing of the whole endeavour. Part I “From concepts to policy and narratives” offers a series of critical and sometimes provocative perspectives on resilience, looking at various conceptual and discursive aspects of its recent ‘institutionalization’ in the academic and development communities in relation to food security and food systems. In Part II “Specific issues and empirical analyses”, the objective is to complement or ponder this initial series of theoretical reflections with some more empirical analyses and concrete case studies around issues that include gender, cities, climate change, locality and COVID-19. A final conclusion is then presented which reflects on the conceptual, empirical and policy-related contributions that this book has made.

Part I: From Concepts to Policy and Narratives

Chapter 2: *Achieving Food Security through a Food Systems Lens* (Jess Fanzo). This chapter examines the history of how food security has been framed and addressed in international development discourse, and why it is important to adopt a food systems approach in tackling food security. In reviewing these questions, Fanzo also shows how food security has become more complex in the modern, challenged world, and makes the

important point that functional food systems do not necessarily equate to improved food security.

Chapter 3: *The Global Food System is not Broken but Its Resilience is Threatened* (Patrick Caron, Ellie Daguët and Sandrine Dury). In sharp contrast to the conclusion of Chapter 2, Patrick Caron and his co-authors demonstrate why they consider that “the food system is not broken”. They, however, also insist that even if the system is not broken, a great transformation is still needed; and they warn us that the road will be bumpy. Obstacles and barriers, including conflicts of interest, and even possibly the resilience of the system itself, may make that great transformation difficult.

Chapter 4: *Food Security and the Fractured Consensus on Food Resilience* (Karl-Axel Lindgren and Tim Lang). In this chapter, Lindgren and Lang conduct an insightful analysis of the different (and often contrasted) narratives that have been adopted on food resilience by major development agencies. The authors expose that, although there is little doubt that resilience has now graduated to become a core concept in the development industry, it is still characterized by a “fractured consensus”. Agencies use different—and sometimes antagonistic—definitions, approaches and measurements to build their own discourses around food resilience. They warn us that unless more inter-disciplinary attention is paid to how food resilience is measured, there is a risk that the benefits of adopting this concept will eventually become “diluted” as it becomes more ubiquitous.

Chapter 5: *Food Security and Resilience: The Potential for Coherence and the Reality of Fragmented Applications in Policy and Research* (Mark Constatas). The parallel between the conclusion of Lindgren and Lang and their ‘fractured consensus’ in Chapter 4 and Mark Constatas’ ‘fragmented application’ in this chapter is, to say the least, striking. Using a combination of conceptual reflections and reviews of selected policy and research documents, Constatas shows that beyond some rhetoric, attempts to integrate food security and resilience have so far been limited, inconsistent, and largely superficial. Not surprisingly, he concludes on the urgent need for more coherent integration at the intersection of food security and resilience.

Chapter 6: *Food Systems, Resilience, and Their Implications for Public Action* (John Hoddinott). In the last chapter of Part I, John Hoddinott proposes a mix of theoretical and rhetorical reflections about the potential links between food systems and resilience. Starting with a stylized

model of food production resilience, he then moves to a general discussion in which he shares a series of perspectives, including on the potential importance of market openness for food systems to remain resilient. He concludes, however, by acknowledging important knowledge gaps, leading him to remark that “it would be unwise to make strong statements regarding (...) applying a resilience lens to food systems for the purposes of contributing to improved food security interventions and policy”.

Part II. Specific Issues and Empirical Analyses

Chapter 7: *Food Security Under a Changing Climate: Exploring the Integration of Resilience in Research and Practice* (Alex de Pinto, Md Mofakkarul Islam, Pamela Katic). After a series of five chapters focusing on the conceptual and discursive elements of the interactions between food security, resilience and food systems, Alex de Pinto and his co-authors provide us in this seventh chapter with the first of a series of analyses refocusing the discussion on empirical case studies. In the present case, these authors propose to explore the extent to which resilience is (or is not) appropriately integrated in the climate change literature, using a sample of projects implemented through the Adaptation Fund. Their conclusion is unambiguous: while the concept of resilience may have favoured a transition towards more integrated approaches and interventions in work related to climate change and food security, the pathways through which actions translate into resilience and then into food security remain unclear.

Chapter 8: *Gender, Resilience, and Food Systems* (Elizabeth Bryan, Claudia Ringler, and Ruth Meinzen-Dick). In this chapter, Elizabeth Bryan and her co-authors develop a new framework to better analyse the articulation between gender and resilience in the context of food systems. Building on this new framework, Bryan and her IFPRI colleagues were able to deliver a comprehensive review of the literature on the topic, reviewing and discussing more than 170 documents. The chapter is likely to become a ‘must-read’ for whoever looks for empirical evidence around the question of gender and resilience analysed from a food system perspective.

Chapter 9: *COVID-19, Household Resilience, and Rural Food Systems: Evidence from Southern and Eastern Africa* (Joanna Upton, Elizabeth Tennant, Kathryn Fiorella and Christopher Barrett). In this empirical chapter, Joanna Upton and her colleagues from Cornell analyse the

effects of COVID-19 and the various policy responses triggered by the pandemic, on food system actors in three rural areas of Malawi, Madagascar and Kenya. For this, they developed and then applied a conceptual framework that helped them explore the multiple paths through which observed shocks interact with systemic mechanisms to influence resilience. Among many key findings, the analysis demonstrates that, in some settings, the direct health effects—in this case severe illness and mortality—have impacted fewer people than the indirect impacts that arise as behaviours, markets and policies adjusted to the first wave of the pandemic.

Chapter 10: *Place-based Approaches to Food System Resilience: Emerging Trends and Lessons from South Africa* (Bruno Losch and Julian May). Fully aligned with the ambition of this second part of the book to provide empirical case studies, Bruno Losch and Julian May test further the concept of resilience in the context of local (food) governance. Drawing on the experience of the Western Cape Province in South Africa during the COVID-19 pandemic, they illustrate how a place-based approach can facilitate food system resilience, through the identification of opportunities for community-led adaptation initiatives and through the design of locally specific risk management strategies to deal with external shocks.

Chapter 11: *Urban Food Security and Resilience* (Gareth Haysom and Jane Battersby). In this last chapter of Part II, Gareth Haysom and Jane Battersby conclude our series of empirical analyses by diving further into the question of the relevance of resilience, this time in the context of urban food systems. Drawing on their own ‘on-the-ground’ experience and using findings from different cities in five African countries, they argue convincingly for the re-framing of urban food system resilience into a more inclusive planning tool, where local factors that shape the form and the function of food systems are better acknowledged and included. They insist in particular that the agency of urban food system users is a key component that needs to be explicitly accounted for and better incorporated if we want to improve our abilities to strengthen urban dwellers’ food systems resilience.

Concluding Chapter

In the *Reflections and Conclusion* chapter, the two editors of this book synthesize the main contributions that the different authors have made on a wide range of issues—conceptual, empirical and policy-related. They

stress some of the paradoxes that emerged throughout the chapters, such as the coexistence of high levels of undernutrition and overnutrition in countries where food systems appear to be performing efficiently. They also point to unsettled debates or unresolved issues, such as the question of whether food systems are or are not resilient. At times, their conclusions sound as if resilience, food system and even food security are likely to remain elusive and contested concepts for ever. But their final words are resolutely assertive: as the world is becoming increasingly complex and unpredictable, achieving food security for all will not be possible without a new international consensus where the resilience of food systems is seen as a major priority at global, national and local levels.

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