REVIEW ARTICLE

Agroecology and Food Security: A Critical Evaluation

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https://doi.org/10.25003/RAS.11.02.0006

The High Level Panel of Experts (HLPE) on Food Security and Nutrition (2019), *Agroecological and Other Innovative Approaches for Sustainable Agriculture and Food Systems That Enhance Food Security and Nutrition*, HLPE 14, Food and Agriculture Organisation of the United Nations, Rome, Jul., available at http://www.fao.org/3/ca5602en/ca5602en.pdf, viewed on November 1, 2021.

The High Level Panel of Experts (HLPE) on Food Security and Nutrition (2020), *Food Security and Nutrition: Building a Global Narrative Towards 2030*, HLPE 15, Food and Agriculture Organisation of the United Nations, Rome, available at https://www.fao.org/3/ca9733en/ca9733en.pdf, viewed on November 1, 2021.

Introduction

Hunger on a massive scale continues to be a part of the world in which we live. Despite the fanfare of the Sustainable Development Goals (SDG), progress on crucial goals has been slow and halting. In the case of hunger, associated with SDG2, the trend has actually been adverse. The Food and Agriculture Organization's (FAO) flagship report on food security, "The State of Food Security in the World, 2020: Transforming Food Systems for Affordable, Healthy Diets" (FAO *et al.* 2020) notes that 8.9 per cent of the world's population is hungry, up by 60 million since 2015. In 2019, 750 million people were exposed to "severe levels of food insecurity," and about two billion people, almost a quarter of the world's population, "did not have regular access to safe, nutritious and sufficient food in 2019" (*ibid.*, pp. xvi) It is very unlikely that the SDG2 goal of zero hunger will be realised; indeed, the expectation is that 840 million, or roughly 10 per cent of the projected population, will face hunger by 2030.

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The FAO report also notes that the figures on the global prevalence of undernutrition were revised downwards in the light of a reanalysis of data from China. As a consequence, it becomes even clearer that the post-2015 rise comes entirely from the world outside China, particularly from Africa. By 2030, all regions outside China are likely to have continuing hunger. The second goal of SDG2, namely the eradication of malnutrition by 2030, is also unlikely to be realised. There is increasing evidence that the impact of the Covid-19 pandemic, now in its second year, on food security and nutrition will set the world back even further in the achievement of these goals.

In this context, the Reports of the High-Level Panel of Experts on Food Security and Nutrition (HLPE Reports) of the Committee on Food Security (CFS), an intergovernmental committee of the FAO, attract particular attention. The Reports are the principal output of the HLPE, which is the science policy interface of the CFS, and it produces these reports in response to specific requests and questions posed by the latter.

The two most recent HLPE Reports (nos. 14 and 15) are "Agroecological and Other Innovative Approaches for Sustainable Agriculture and Food Systems that Enhance Food Security and Nutrition" (HLPE 2019), and "Food Security and Nutrition: Building a Global Narrative Towards 2030" (HLPE 2020).

In this note I argue that both reports are characteristic of new trends that have begun to exercise a major though perhaps not yet decisive influence on agriculture, the production and distribution of food in general, and food security in particular. While these trends are manifest in both reports, the report on agroecology offers the sharper illustration.

What are these new trends? First, considerations of food production and food security are moving away from a decisive and central focus on human welfare to a more diffuse framing in which ecological concerns acquire an equal role, or indeed, become the dominant concern. Secondly, although the policy recommended is low-input, low-productivity and low-profitability farming, its advocates use language appropriated from the pioneering theoretical and empirical work on agricultural production and the environment that is part of mainstream agricultural science and practice. Thirdly, points of view once marginal in their policy impact, those that underplayed or indeed dismissed problems of productivity and profitability, have now attained mainstream status. Fourthly, major multilateral institutions such as the FAO or the World Bank, which have had a long record of emphasising the need for productivity enhancement in agriculture – in fact, frequently to the neglect of institutional, social, and economic factors – have now turned to accepting discourses that subordinate productivity concerns to other competing ones that have primarily to do with the environment. Fifthly, these documents advocate a policy of keeping industrial development in the South minimal, while maintaining agriculture

and bioresource-dependent livelihoods at low levels of productivity and input use. Such a strategy, self-defeating though it is, is meant to reduce the burden of limiting greenhouse house gas emissions from the global North, especially its industrial and service sectors. If this strategy prevails, agriculture and rural life in the global South will once again have to bear a significant share of the burden of the global mitigation of greenhouse gas emissions, almost thirty years after such attempts were pushed back at the Rio Summit by the passage of the United Nations Framework Convention on Climate Change.

HLPE 14: The Agroecology Story

At its 44th plenary session in October 2017, the CFS requested the HLPE (CFS 2017) to produce a report "presenting evidence on the potential contribution of agroecological and other innovative approaches, practices, and technologies to creating sustainable food systems that contribute to food security and nutrition" (CFS 2017).

What motivated the particular choice of agroecology as the subject of the Report? One factor was the very influential efforts of the UN Special Rapporteur on the Right to Food, Olivier de Schutter, who made particular efforts to promote the concept of agroecology during his term of office. In late 2010, he submitted a special report to the Human Rights Council that argued in favour of agroecology over other well-established paradigms:

> Drawing on an extensive review of the scientific literature published in the last five years, the Special Rapporteur identifies agroecology as a mode of agricultural development which not only shows strong conceptual connections with the right to food, but has proven results for fast progress in the concretisation of this human right for many vulnerable groups in various countries and environments. Moreover, agroecology delivers advantages that are complementary to better known conventional approaches such as breeding high-yielding varieties. And it strongly contributes to the broader economic development (De Schutter, 2010, p.1).

De Schutter's evangelism on agroecology has continued in his work as Co-Chair of the International Panel of Experts on Sustainable Food Systems (IPES-Food), an independent body of experts working on sustainable food systems, whose work had a notable influence on the HLPE 14 Report.

Apart from this, the FAO has had a long engagement with the major themes that agroecology encompasses, with the participation of multilateral institutions and established NGOs. For instance, the 2009 publication of the International Assessment of Agricultural Knowledge, Science and Technology for Development (IAASTD), sponsored jointly by the World Bank and FAO, and billed as the agricultural equivalent of the Intergovernmental Panel on Climate Change (IPCC) assessment reports, made use of the term "agroecology" in a dual sense. It referred to the ecological totality of agricultural production systems and the related science

as agroecosystems or agroecology (See Annex C, Glossary, IAASTD 2009). It also used the term in a more general sense, without an explicitly formulated definition, as a package of agricultural practices ostensibly designed to maintaining productivity while taking care of environmental sustainability (IAASTD 2009a).

The FAO conducted international symposiums on agroecology in 2014 and 2018, with some of the key speakers later appearing as authors of the HLPE report. Alongside, agroecology in the general sense has been integrated more explicitly into the lexicon of the FAO, consolidated with the 2018 publication "The 10 Elements of Agroecology," where it is described as integral to the FAO's "Building a Common Vision for Sustainable Food and Agriculture" (FAO 2014).

Unpacking Agroecology: HLPE 14

HLPE 14 (hereafter Report) is a further step in a larger process of the advocacy and increasing acceptance of agroecology as part of the thrust towards sustainable agriculture at the FAO. It is important to emphasise this, as the Report has a number of elements that seem surprisingly out of place in a scientific assessment of sustainable agriculture.

The Report consists of four major chapters. Chapters 1 and 2 attempt to elaborate two of the issues raised in the original CFS request, namely, agroecology and innovation. Chapter 3 outlines some key matters related to what the Report refers to as "food system transformation," while the final chapter deals with the institutional environment required for a "transition" to sustainable food systems.

The first chapter explores the various dimensions of agroecology, described as embracing "a science, a set of practices and a social movement." In scientific terms, agroecology now represents a "transdisciplinary field" (or "transdisciplinary science") that "includes all the ecological, sociocultural, technological, economic and political dimensions of food systems, from production to consumption," (p. 13) having expanded its scope from its initial focus on farms and fields to entire agricultural and food systems.

Agroecology as a set of practices appears to value all manner of good things, environmentally speaking, including "diversification; mixed cultivation; intercropping; cultivar mixtures; habitat management techniques for crop-associated biodiversity; biological pest control; improvement of soil structure and health; biological nitrogen fixation; and recycling of nutrients, energy and waste." (p. 14) None of these, however, appear to have by themselves any distinctive characteristic that may be termed agroecological (to distinguish it from other approaches) and, indeed, each one appears to have an origin quite independent of this novel "transdisciplinary" science.

On agroecology as a "movement," the Report claims that "agroecology has become the overarching political framework under which many social movements and peasant organisations around the world assert their collective rights and advocate for a diversity of locally adapted agriculture and food systems mainly practiced by small-scale food producers" (p. 14)

Despite the sweeping language, it becomes clear that agroecology relates to a narrow set of campaigns led by select NGOs. This is evident from the Report's reference to the right-to-food and food-sovereignty campaigns. The latter campaign in particular is closely associated with the organisation Via Campesina and other like-minded organisations, to whose views the authors appear to attach much weight.

While Chapter 1 initially elaborates these three "dimensions" of agroecology, it also purports to introduce some conceptual innovations. The import of these is not easy to determine, and the reader is left to wade through some dense jargon.

However, the Report seeks to provide a reference point by means of two examples, briefly highlighted in boxes in the text, that are intended to illustrate the meaning of these principles as realised in real-world applications. One of these is "participatory agroecological research" to address food and nutrition security in Malawi (p. 43). It is somewhat disconcerting to find that the text relies very heavily on self-citation, since virtually all the citations on the Malawi experience rely on the work of one expert and her various co-authors, an expert who is herself an author in the project team of HLPE 14. The other example, even more disconcerting, refers to the so-called "Zero Budget Natural Farming" (ZBNF) that is being promoted by some groups and by sections of the government in India (p. 42).

It is difficult to consider the use of the example of ZBNF from India as one erroneous entry among a plethora of useful examples, especially when it is one of only two illustrations offered in a key definitional part of the Report. It is clear that one of the chief attractions of ZBNF to the authors is its claims of lowering or even eliminating the use of external inputs. The box item on the ZBNF has three references. One (Khadse *et al.* 2018) is by Via Campesina researchers, though published in a peer-reviewed journal, while the second, on closer examination, turns out to be a brief PowerPoint presentation by the key official leading a version of the ZBNF being deployed in the state of Andhra Pradesh. The third is an undated and unreferenced Via Campesina document.

It is an extraordinary omission that the Report ignores the widespread criticism in India of ZBNF (for example, in Ramakumar and Arjun 2019, and *Scroll-in* 2019) that is available from even a cursory glance at the Internet (a Google search for "criticism of ZBNF" turns up more than 10,000 entries immediately). Even more significantly, such a search would have shown that the National Academy of Agricultural Sciences, the leading official body of agricultural science in India, has rejected the

claims of ZBNF to be scientific (NAAS 2019). With this example as one of two lead illustrations, for a reader knowledgeable about agriculture in India and the controversy surrounding ZBNF, the credibility of the report is at once undermined, leaving the reader unsure whether to take the other examples and claims seriously.

More of the real thrust of agroecology is in the brief section titled "Contested Areas and Knowledge Gaps in Agroecology" (p. 45). Prominent among these contestations is the question of whether agroecology can "feed the world" and it is one on which the Report takes a studiedly agnostic stance. While citing literature that calls for increased production to meet the world's food requirements by 2050, including even a HLPE Report of 2016 (HLPE 2016) and a later FAO publication (FAO 2017), it also provides a number of references that argue, *inter alia*, that increased production is unnecessary if food is equitably distributed and food loss and wastage is curbed (pp. 46-47).

Literature is also cited to the effect that agroecological methods indeed lead to enhanced yields and, in some cases, increased profitability as well. However, it is arguable whether two of the key references for this conclusion in the Report, as verified by this reviewer, could be said to be making the case for agroecology. For instance, Pretty *et al.* 2003 is cited in the Report (together with other references) as providing evidence for increased yields from agroecological approaches and organic farming, based on a meta-analysis of data collected from a number of projects. However, on examination it is evident that Pretty *et al.*'s dataset includes several cases where only one component in farming practices is modified to promote conservation and rational use. What this implies is that several projects that are by no means agroecological in the sense used by the Report are included in the datasets that are cited as providing evidence for its potential in raising productivity. In the event, the references cited exercise more caution than the Report. Pretty *et al.* 2003 concludes:

> What we do not yet know is whether moving to more sustainable systems, delivering greater benefits at the scale occurring in these projects, will result in enough food to meet the current food needs in developing countries, let alone the future needs after continued population growth and adoption of more urban and meat-rich diets (Pretty *et al.* 2003, p. 229).

Agroecology Versus Sustainable Intensification

Further insight for the reader on what the authors of the Report mean by agroecology or agroecological approaches is in Chapter 2, which is devoted to innovation. In this chapter, agroecology is contrasted with other approaches, which the Report broadly terms "sustainable intensification" or the "polar opposite" of ecology.

Table 3 of the Report characterises the differences between the two categories of approaches in terms of a number of binaries that are misleading or false. Some of these are: i) purchased inputs *vs* the elimination of all external inputs with closed, local resource loops, ii) dissemination of formal government and private-funded research *vs* local knowledge and farmer-to-farmer exchange, iii) labour intensification with "fairness and dignity of work for all" *vs* capital intensification, iv) local markets and connectivity of producers and consumers *vs* emphasis on efficiency of large markets and global supply chains, and v) rights-based approach (including rights of both producers and consumers) *vs* producers and consumers left to the play of market forces. It is somewhat obvious that in agriculture, especially in the global South, both sides of these claimed binaries coexist. The further addition of two intermediaries between each of these binaries does not improve the situation very much, as they are as artificial a construct as the binaries themselves.

These binary characteristics and their intermediaries, which are made into a 4-point grey scale from black to white, then form the basis for Table 4, which examines different specific approaches from the two categories and then labels them with respect to each of these characteristics on this coloured scale. Somewhat predictably, the specific approaches from each of these two categories fall neatly into their appointed characterisation, with the agroecological and sustainable approaches distinguishable neatly as black and white (with mild touches of grey, of course). With the polar binaries already set in the form that they are, it is now argued, unsurprisingly, that Table 4 demonstrates the larger, transformative intent and programme of agroecological approaches while the sustainable intensification approaches appear notably instrumental in their intent, starting with for example, their preoccupation with increasing productivity.

The same attitude of studied agnosticism noted earlier marks this discussion as well, but this time with respect to values. However, the main intent of the discussion appears to be to insist that sustainable intensification and agroecology are thus "two divergent narratives" that are "grounded in very different visions of the future of food systems," and based "on very different strategies for how to implement transitions towards more sustainable food systems" (p. 62). Given the manner in which the scale was constructed and the differences that were perceived from the use of this scale, it would appear that these differences are essentially about the rhetoric that differentiates them, despite the considerable overlap in practical terms between the two approaches. that is even acknowledged in the Report itself.

As summarised in Table 3, the superiority of agroecology, it is claimed, lies in its emphasis on locality and the denial of economies of scale in the production and distribution of food. The agroecology approach thus necessitates the exclusion of external inputs from agriculture. It claims the possibility of farm-level self-sufficiency using labour-intensive techniques that are opposed to mechanisation. It denies the role of science, especially in raising productivity and

production, while at best leveraging science to advance the agenda of locality and low-input production. Overall, it privileges "environmental sustainability" over productivity and profitability.

Chapter 3 of the Report confronts the major potential (and current) criticisms of agroecology in terms of six "controversial" issues: (i) the question of farm size, (ii) the deployment of modern biotechnologies, (iii) the deployment of digital technologies, (iv) the use of synthetic fertilisers, (v) biofortification, and (vi) the scope of bio-conservation strategies. In this discussion, the Report has a studied, agnostic stance on whether the agroecological viewpoint is justified. But the very ambiguity of the conclusions of the Report lends support to the claims of agroecology, and does so despite many of those claims having been judged untenable in other scientific discussions.

In its brief survey of the controversy over biotechnologies, the Report notes that many scientific studies and assessments conclude that biotechnologies such as GMOs are safe and pose little risk. The Report nevertheless concludes that safety concerns continue to remain, arising anew on a continuing basis for every specific new kind of biotechnology or organism that is engineered. Curiously enough, it concludes that while biotechnologies are part of the transition to sustainability and cannot be dislodged from countries where they are well established (read, developed countries), they could be avoided in that are still dominated by low-input agriculture. As the Report notes:

> On a global scale, the products of modern biotechnologies will be part of the transition towards SFSs or FSN. They are already a significant component of the agricultural systems in a number of countries. There is no conclusive evidence that suggests that they need to be introduced into agroecosystems that currently do not rely on them.

Similarly, on the issue of farm size, the Report echoes many of the standard claims that one has come to expect of approaches similar to agroecology that are critical of "industrial agriculture." These include claims that in comparison with large farms, smaller farms are more diversified, promote biodiversity, are more protective of ecosystem health and less prone to generating negative environmental externalities. Their costs of production make them more viable if the cost to the environment is considered, and they generate greater employment while having a more positive impact on social equity and community well-being. The Report stops short, however, of a wholesale endorsement of such claims. However, it reiterates the established presence of large farms in a number of countries, the possibility of even large farms taking to diversification, and concludes that it is diversification and not size *per se* that perhaps should be the desirable aim. (See para 23 of the Summary and Recommendations, p. 16, and the extended discussion in Section 3.1, pp. 71-75).

In sum, the reader who navigates the Report from beginning to end is left somewhat bemused at the manner in which agroecology is, despite the rhetoric of the first chapter, revealed to be a package of practices, otherwise well-known or recognised individually as having been developed in the very contexts that the Report disparages, such as "industrial agriculture" or laboratory science. The package termed "agroecology" thus appears as no more than a set of attitudes and claims of an overarching alternate perspective, rhetorically superimposed on the practices mentioned above. There is little evidence that the worth of this package is indeed greater than the sum of its parts. While recognising that the economic viability of "agroecology" is to be established with sufficient data and evidence to make a convincing case, the Report ignores this lacuna while ascribing all manner of superior benefits to agroecology.

Despite its overt pro-small farmer orientation, among the critical hidden assumptions of the Report is the notion that very large numbers of small farmers throughout the global South will continue to stay on the land and depend on farming for their livelihoods. Given this assumption, the Report's examination of the question of agricultural productivity cannot but be flawed. Thus, in the same vein, the consistent failure to develop agricultural productivity and profitability among the bulk of small and marginal farmers is turned around and presented as ecological virtue. And steps towards modernisation are seen as negative, even though it is precisely science and its attendant study of the ecological aspects of contemporary agriculture that provides agroecology itself with raw material.

It is clear that the FAO, long recognised for its commitment to increasing productivity in agriculture across the world, is increasingly falling prey to the blandishments of low-input, low-productivity agriculture, presented as ecological sustainability. However, it is unlikely that institutions such as the FAO or the World Bank (which we recall sponsored the 2009 IAASTD report) would be attracted to such views solely because of a sudden relapse into economic romanticism. Indeed, they have had a long record of a purely technical approach to productivity and production, and concerted efforts by voices in the global South were required to make them acknowledge the role of economic and social institutions, and the need for their transformation.

This swift change in attitude, it would appear, has been brought about by the need to tackle global warming and its impact. The prospect of agriculture with low input use and high carbon sequestration is very attractive to those who consider agriculture a sector where climate change mitigation is inexpensive and substantial in carbon terms. Practices that emphasise the drastic reduction of input use, including the use of fertilizers, water, pesticides, and modern seeds; that underplay the role and significance of mechanisation and scale; and that argue for low financial investment would be very welcome. This is especially true when there are desperate strategies being evolved to reduce greenhouse gas (GHG) emissions from agriculture and

biosphere resources in general, in lieu of reductions from the industrial and service sectors of developed-country economies. Such a strategy may not have gained overwhelming acceptance, but it has gained respectability, especially in a context where even "degrowth" (D'Alisa *et al.* 2014; Hickel 2020) has begun to command respectability in the global climate discourse.

Issues of agriculture and ecology must be understood in the context of the continued attempts of the global North to shift the burden of global environmental conservation on to the people of the global South. The issues involved are of a scale that is vastly greater than issues such as the export to the global South of waste for recycling, ships to be broken down, or unwanted chemicals, harmful though these practices are. What is at stake here is the productive capacity of the global South being weakened for the foreseeable future, caught in a pincer between unproductive agriculture and low industrial development

The Food System Narrative: HLPE 15

The Fifteenth Report of the High-Level Panel of Experts (hereafter, HLPE 15), appears superficially to have a different mandate and a wider scope (HLPE 2020). However, the interested reader will learn right from the Summary of HLPE 15 that its conceptual, ideological and policy thrust is part of the trend to which we have already referred. The HLPE 15, titled *Food Security and Nutrition-Building: A Global Narrative Towards 2030*, was prepared in response to three key questions from the CFS. The first called for a consolidated account of the shift in thinking and policy on food security as had been articulated in the HLPE reports of the past few years, and how this could be built into a global narrative on meeting the targets of SDG2. The second question for the HLPE 15 was on the trends and challenges that could explain the stalled progress towards meeting the goals of SDG2 by 2030. The third question called for an account of the most promising directions in policy to meet the goals of SDG2 on schedule. Additionally, as the HLPE 15 was published during the Covid-19 Pandemic, there are observations and comments that refer to food security and nutrition in that context as well.

The structure of the HLPE 15 is framed around these three questions, with the Summary and the sequence of chapters in the main text directed at answering them.

In answer to the first question, HLPE 15 draws attention first to two additional elements that need to be added, in its view, to the four elements that have been associated with the concept of food security. These four, as readers may recall, are availability, access, utilisation and stability. These four elements are all captured in the definition, well known by now, and first articulated in final form in the FAO's 2001 State of Food Insecurity Report (as HLPE 15 reminds us). That definition reads:

> Food security exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food which meets their dietary needs and food preferences for an active and healthy life (p.7).

A key recommendation of HLPE 15 is that these four elements be enhanced by the addition of "agency" and "sustainability."

Sustainability of course is meant in the standard ecological sense of the term. However, the invocation, when elaborating the concept of sustainability, of "ecological carrying capacity" in determining the nature of food production, suggests a problematic neo-Malthusian pitting of intensified production (driven by rising demand because of increasing population) against ecological concerns. The addition of agency as an element of food security is heavily influenced by the right-to-food literature, the key idea being that the term agency includes empowerment going beyond mere access to material resources.

In the specific context of food security, the HLPE 15 notes 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" (p. 8). This is a curious extension of the scope of the term "agency" as it puts producers and consumers on an equal footing in determining what traditionally lay within the ambit of one or the other of the two. The rest of the HLPE 15 suggests that this meaning of "agency" is driven by contemporary viewpoints that pit consumers against "industrial agriculture" (which often refers simply to modern agriculture) and consumer movements that demand organic or low-input agricultural produce that adhere to their perceptions of sustainability.

However, the key synthesis that HLPE 15 presents, based on previous HLPE reports, is the notion of sustainable food systems. Food systems were already defined in HLPE 8 as gathering together:

> 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 output of these activities, including socio-economic and environmental outcomes (p. 11).

Other bells and whistles were added to this definition in other HLPE reports, culminating in the definition in HLPE 15 of "sustainable" food systems. Defined, in parallel to the six elements of food security, sustainable food systems are those that are

> productive and prosperous (to ensure the availability of sufficient food); equitable and inclusive (to ensure access for all people to food and to livelihoods within that system); respectful and empowering (to ensure agency for all people and groups to make choices and exercise voice in shaping that system); resilient (to ensure stability in the

face of shocks and crises); regenerative (to ensure sustainability in all its dimensions), and healthy and nutritious (to ensure nutrient uptake and utilisation) (p. 13).

Comprehensive as these two definitions may seem, they nevertheless have several problematic features. Perhaps the most significant one is that the Report's characterisation of sustainable food systems, as summarised diagrammatically in Figure 2 on p. 13 of the Report, renders food production as somehow an end in itself. This is a consequence of setting aside the obvious, which is that food production, on the one hand, is a necessary source of sustenance and therefore of well-being for those who consume food without producing it. On the other hand, it is a source of livelihood and income for producers, extending to profit-making and capital accumulation for large producers in the era of contemporary capitalism. Neither for the consumer nor the producer is food, or food production and distribution, an end in itself. To call this a "system," however, suggests an ecosystem viewpoint that flies in the face of elementary considerations of basic economics, where neither the actions of the actors nor the circumstances in which they act are by any means coordinated. Equally importantly, all elements of this complex "system" are also in relatively independent evolution, which hardly makes the notion of "system" useful. Finally, flattening the entire edifice of production and distribution, of which food production is only a part hardly seems helpful in a world marked by profound inequalities. Invoking unequal power relations at the local and global levels without any specificity, or at best arguing for policy support to smaller players, does not substantially improve the weak formulation of this issue.

Much of this narrative of sustainable food systems mirrors the content of reports of the Intergovernmental Panel on Climate Change (IPCC). These reports increasingly blur the distinction between mitigation and adaptation in agriculture, identifying agriculture as a leading site of mitigation. The IPCC reports too use the framework of food systems. The IPCC literature (IPCC 2019; Mbow *et al.* 2019) cited in HLPE 15, especially the "Summary for Policy Makers of the Special Report on Climate Change and Land," was accepted with much reluctance by developing countries (see IISD 2019 and Bose 2019). One of the key issues was the emphasis on food systems as the basis of the attribution of emissions to agriculture, thus justifying targeting agriculture as the site of mitigation. It is standard practice, based on the IPCC's earlier judgement, that emissions of different sectors are only accounted for on a direct basis, without adding to these the emissions from indirectly related activity. However, an exception was made for agriculture by inclusion of activities such as fertiliser emissions, usually accounted for under industry, or food wastage, usually accounted for in the service sector. This approach, of course, magnifies the emissions attributed to agriculture, especially when comparing them with direct emissions from other sectors. Indeed, in a curiously circular fashion, the IPCC Special Report itself cited an earlier FAO publication (Gerber *et al.* 2013) in support of this shift.

Moving to the policy agenda, the HLPE 15 articulates what it describes as a significant shift to a new paradigm. The new paradigm, it is claimed, is characterised by four component shifts in turn. These are (i) from production growth driven by population increase to a greater emphasis on multiple dimensions such as health, nutrition, and resilience; (ii) from considering food security and nutrition as a sectoral issue to considering it as interlinked with other sectors; (iii) from a focus on hunger and undernutrition to hunger and nutrition in all its forms; and (iv) from the search for global food system solutions to context-specific solutions. While again unexceptionable in this form, it is the specifics of what these broad prescriptions stand for that are in short supply here.

The rest of HLPE 15 continues in this vein and at a very high level of abstraction, with occasional boxes of text to provide relief. This feature of HLPE 15 is particularly striking in the context of the focus on hunger and malnutrition, where the presence of a public distribution system is relegated to a box item on India's Food Security Act (where it is presented as a choice particular to India). A system of universal public distribution finds mention only twice in the Report, and on both occasions as a choice made in a particular local context. On the other hand, in HLPE 15 as a whole, markets and access to markets play a far greater role. Nor should it occasion any surprise by now to the reader of this review that the Report is bullish on agroecology and bearish on biotechnologies in matters of technology.

HLPE 15 is perhaps most useful in its survey in the second chapter, titled "Current Trends, Challenges and Potential Opportunities in Food Systems." But then again, while the Summary at the beginning of the Report offers a sharp overview of current trends and challenges (as promised in the title of the chapter), there is no serious discussion of potential opportunities. No reader can quarrel with the final paragraph of the Summary, which reads:

> The [Covid-19] crisis has been a wake-up call to address the multiple and complex challenges facing food systems, and it demands measures to improve food systems to make them not only more resilient to crises, but also more equitable and inclusive, empowering and respectful, regenerative, healthy and nutritious, as well as productive and prosperous for all (p. 62).

It is clear though that the Report's framing of issues and future policy directions is closely tied to the new meanings invested in the term "food systems." HLPE 15 must be read too in the light of the discussion on agroecology in HLPE 14, and the perspectives and attitudes that framed that discussion. Whether this is indeed the way forward is a question to which readers such as this reviewer are likely to respond very critically.

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Date of submission of manuscript: August 30, 2021
Date of acceptance for publication: October 4, 2021