



## **CFS POLICY RECOMMENDATIONS ON AGROECOLOGICAL AND OTHER INNOVATIVE APPROACHES FOR SUSTAINABLE AGRICULTURE AND FOOD SYSTEMS THAT ENHANCE FOOD SECURITY AND NUTRITION**

### **DRAFT ONE**

#### **PREAMBLE**

- 1) The 2030 Agenda for Sustainable Development calls for “bold and transformative steps which are urgently needed to shift the world on to a sustainable and resilient path” while seeking to “realize the human rights of all”.<sup>1</sup> Agriculture and food systems<sup>2</sup> are deeply inter-twined with economies, cultures, societies, health, climate and the environment and hence both impact, and are uniquely placed to contribute to, the majority of SDGs.
- 2) The often inter-related challenges associated with agriculture and food systems require urgent attention. The number of undernourished people in the world has been on the rise since 2015, with an estimated 690 million people suffering chronic undernourishment, 135 million people facing acute food insecurity, and 2 billion people living with moderate food insecurity in 2019.<sup>3</sup> Meanwhile roughly one-third of food produced for human consumption is lost or wasted globally.<sup>4</sup> Globally, more than one-third of the world’s adult population is overweight or obese,<sup>5</sup> and more than two billion people are deficient in one or more micronutrients.<sup>6</sup> The United Nations General Assembly has expressed concern that SDG 2 (Zero Hunger) targets will not be achieved in many parts of the world.<sup>7</sup> Due to the impacts of the COVID-19 pandemic, an estimated additional 130 million people could be pushed to the brink of starvation by the end of 2020.<sup>8</sup> The most affected are the poorest and most vulnerable segments of populations, underlining the importance of access to food.
- 3) Unsustainable agriculture and food systems are dramatically increasing pressure on natural resources. Agricultural expansion leads to land use change, which is one of the key drivers of biodiversity loss worldwide.<sup>9</sup> Agriculture, forestry and other land use contribute an estimated 23% of total anthropogenic greenhouse gas (GHG) emissions while climate events increasingly threaten food production and especially the most vulnerable - small-scale food producers.<sup>10</sup> In most parts of the world, water resources are increasingly under stress, and water quality in surface and

<sup>1</sup> UN (2015) Transforming our world: the 2030 Agenda for Sustainable Development

<sup>2</sup> Throughout this document, agriculture refers to crop and livestock production, aquaculture, fisheries and forestry. Definitions of other key terms are included in Annex 1.

<sup>3</sup> FAO, IFAD, UNICEF, WFP and WHO. 2020. The State of Food Security and Nutrition in the World 2020. Rome, FAO.

<sup>4</sup> FAO. 2011. Global food losses and food waste: Extent, causes and prevention. Rome.

<sup>5</sup> Global Nutrition Report. 2020. Action on equity to end malnutrition. Bristol, UK: Development Initiatives.

<sup>6</sup> HLPE. 2017. Nutrition and food systems. A report by the High Level Panel of Experts on Food Security and Nutrition of the Committee on World Food Security, Rome.

<sup>7</sup> UN General Assembly Resolution on Agriculture development, food security and nutrition. 2019. A/RES/74/242.

<sup>8</sup> WFP Chief warns of hunger pandemic as COVID-19 spreads (Statement to UN Security Council), 21 April 2020, <https://www.wfp.org/news/wfp-chief-warns-hunger-pandemic-covid-19-spreads-statement-un-security-council>

<sup>9</sup> IPBES. 2019. Global Assessment Report on Biodiversity and Ecosystem Services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. Bonn.

<sup>10</sup> IPCC. 2019. Climate Change and Land: IPCC special report on climate change, desertification, land degradation, sustainable land management, food security, and greenhouse gas fluxes in terrestrial ecosystems.

groundwater sources are deteriorating globally, with agriculture playing a key role in these trends.<sup>11</sup> Over 1.3 billion people rely on degrading agricultural land,<sup>12</sup> and globally, 33% of soil is moderately to highly degraded due to erosion, nutrient depletion, acidification, salinization, compaction and chemical pollution.<sup>13</sup> Ruptures to the interlinkages between human and planetary health compromise the well-being of both biodiversity and people.<sup>14</sup>

- 4) Extreme poverty overwhelmingly affects rural populations.<sup>15</sup> The majority of wage workers, the totality of contributing family workers, and more than 80 percent of self-employed workers in agriculture and rural sectors are informal, which implies adverse impacts on earnings, social protection and working conditions.<sup>16</sup> Peasants and other people working in rural areas are discriminated against and their human rights are violated, in particular through expropriation of land, forced evictions and displacement.<sup>17</sup> The majority of them (numbering 2 billion people) depend on smallholder farming and produce about 80 per cent of the food consumed in Asia and sub-Saharan Africa, but public policies and markets generally continue to ignore their needs.<sup>18</sup> These realities point to imbalances of power in agriculture and food systems, and emphasize the importance of leaving no one behind, by respecting human rights and empowering the most vulnerable.
- 5) The COVID-19 pandemic is an emerging challenge for human health, economic prosperity and food security and nutrition and its impacts are still unfolding. While the virus itself does not distinguish between different people, the impacts have been very unequal because of socio-economic contexts at national and global levels.<sup>19</sup> Even at this early stage, many are highlighting the importance of resilience as a key lesson. The agriculture sectors have proved themselves to be relatively resilient compared to other economic sectors, such as services and industry – nevertheless, the pandemic has exposed some of the risks, fragilities and inequalities (but also some of the strengths) characterizing agriculture and food systems. It has highlighted the urgent need to integrate sustainability in its three dimensions throughout agriculture and food systems – alongside the potentially massive costs of not doing so. It has shown that agriculture and food systems are embedded in wider environmental and human-made systems (such as economies and landscapes) and that they impact these systems, and are strongly impacted by them. Lastly, it has underlined that now more than ever, there is an urgent need for radical change and innovative approaches for sustainable agriculture and food systems.
- 6) The challenges faced by food systems are highly complex, context-specific and unpredictable. Consequently, holistic and innovative approaches to addressing food system challenges have been gaining the interest of many stakeholders over the past several years. This interest led the Committee on World Food Security (CFS) to request its High-level Panel of Experts on Food Security and Nutrition (HLPE) to develop the report, *Agroecological and Other Innovative Approaches for Sustainable Agriculture and Food Systems that Enhance Food Security and Nutrition*, which

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<sup>11</sup> HLPE, 2015. Water for food security and nutrition. A report by the High Level Panel of Experts on Food Security and Nutrition of the Committee on World Food Security, Rome 2015.

<sup>12</sup> United Nations Convention to Combat Desertification. 2017. The Global Land Outlook, first edition. Bonn, Germany.

<sup>13</sup> FAO. 2015. International Year of Soils Factsheet: Soil is a non-renewable resource. Rome.

<sup>14</sup> WHO/CBD. 2015. Connecting global priorities: biodiversity and human health – A state of knowledge review.

<sup>15</sup> UN. 2019. The Sustainable Development Goals Report 2019. New York.

<sup>16</sup> FAO. 2020. Impact of COVID-19 on informal workers. Rome.

<sup>17</sup> Human Rights Council. 2012. Final study of the Human Rights Council Advisory Committee on the advancement of the rights of peasants and other people working in rural areas. UN General Assembly.

<sup>18</sup> HLPE. 2013. Investing in smallholder agriculture for food security. A report by the High Level Panel of Experts on Food Security and Nutrition of the Committee on World Food Security, Rome.

<sup>19</sup> HLPE. 2020. Interim issues paper on the impact of COVID-19 on food security and nutrition. Rome.

provides the basis for these policy recommendations.<sup>20</sup> Agroecological approaches<sup>21</sup> were highlighted in the CFS request to the HLPE, and are increasingly prominent in debates around sustainable agriculture and food systems because of their holistic approach and emphasis on equity. As the impact of the COVID-19 pandemic on agriculture and food systems points to the critical importance of resilience, interest in innovative approaches that strengthen resilience is growing, particularly in agroecological approaches.

- 7) The HLPE report considers that all food systems have the potential to contribute further to sustainable agriculture and food systems that enhance food security and nutrition by following context-appropriate transition pathways towards the transformation of food systems. It underlines the importance of developing comprehensive monitoring and assessment frameworks for agriculture and food systems, which include positive and negative externalities, to establish a baseline and monitor progress. Such frameworks must consider the environmental externalities, both positive and negative, of agriculture and food systems in relation to not only how food is produced but also how much is consumed and how it is processed, transported and sold. Assessments can support the process of considering the most appropriate agroecological and other innovative approaches within a given context.
- 8) Shared principles are needed when attempting to provide guidance for moving towards a common goal (sustainable food systems) while respecting context-specificity. The HLPE report proposes a “combined set of principles shaping transitions towards sustainable food systems for food security and nutrition”: a) regenerative production; b) recycling and efficiency; c) animal health; d) synergy; e) diversity; f) integration; g) climate change adaptation and mitigation; h) knowledge production and dissemination; i) cultural coherence; j) human and social values; k) connectivity; l) governance; m) empowerment; and n) participation.<sup>22</sup> The principles seek to reflect the social, environmental and economic dimensions of sustainability in an integrated manner, and must be applied in a coherent way. When these principles are respected, they should lead to desired outcomes – or system properties – such as resilience.
- 9) The last 50 years has seen a radical transformation of food and agricultural production systems, driven by globalization, trade liberalization, urbanization, increase in incomes and changes in lifestyles.<sup>23</sup> As highlighted by the HLPE report, it is well established that innovation has been a major engine for profound change in agriculture and food systems over the last century. Innovation – which can be technological, social and institutional – is fundamental to bringing about necessary changes of agriculture and food systems because it encapsulates how people will do things differently in the future than they have in the past. It is noteworthy that innovations in agriculture and food systems are distinct from those in many other sectors, because ecological relationships and social interactions have a central role. While some technological innovations have been characterized by marked disagreement, this is generally not related to the technologies themselves but to how they are controlled, accessed and used.
- 10) Innovative approaches look beyond single technological innovations to a well-articulated overall set of principles, practices and methods set within an overarching philosophy. An innovative approach gives rise to myriad technologies and practices. The HLPE report identified and analyzed the following agroecological and other innovative approaches for sustainable agriculture and food

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<sup>20</sup> HLPE. 2019. Agroecological and other innovative approaches for sustainable agriculture and food systems that enhance food security and nutrition. A report by the High Level Panel of Experts on Food Security and Nutrition of the Committee on World Food Security, Rome. (Available at: <http://www.fao.org/3/ca5602en/ca5602en.pdf>)

<sup>21</sup> These include agroecology, organic agriculture, agroforestry and permaculture (HLPE 2019).

<sup>22</sup> HLPE, 2019, Table 2.

<sup>23</sup> HLPE. 2016. Sustainable agricultural development for food security and nutrition: what roles for livestock? A report by the High Level Panel of Experts on Food Security and Nutrition of the Committee on World Food Security. Rome.

systems: agroecology<sup>24</sup>, organic agriculture, agroforestry, permaculture, food sovereignty, sustainable intensification, climate smart agriculture, nutrition sensitive agriculture, and sustainable value chains. These innovative approaches are considered to lie along a continuum – from those that place more emphasis on holistic solutions to those that focus on a single outcome, measured quantitatively, often productivity per unit of resource (e.g. land, water).

- 11) As further highlighted by the HLPE report, policy contexts shape the behavior of agriculture and food system actors with regard to agroecological and other innovative approaches. Policies in most countries are guided by the drive to increase production levels and revenues, rather than by taking a holistic approach that also prioritizes sustainability and equity concerns. They favour a model of agriculture and food systems in which environmental and social externalities are not properly considered or factored into costs and decision-making. For example, policies that provide subsidies and research funding for unsustainable practices tend to lock agriculture and food systems into unsustainable pathways. Meanwhile agroecological approaches, which have shown promising results, tend to be under-researched worldwide and investment has been severely limited when compared to other innovative approaches.
- 12) Developing more appropriate policies requires understanding of the impacts of innovative approaches and specific innovations. Many technological innovations – despite having some positive impacts when assessed on single criteria – have generated significant negative externalities. Thus going forward innovation in agriculture and food systems must address major social and environmental challenges simultaneously by being scrutinized against the criteria of sustainability.
- 13) Today a powerful emerging issue, which is relevant to all innovative approaches, is digitalization. Digital technologies are dramatically re-shaping agriculture and food systems. Digitalization has the potential to play an increasingly important role in achieving global food security and improving livelihoods, especially in rural areas. It provides a new platform for all economic activities and impacts on multiple aspects of agriculture and food systems, including access to information, markets and knowledge. At the same time, concerns about access, capacity-building, leveling the playing field, and appropriate safeguards regarding data privacy, access, control and ownership signal the need to consider possible risks to food security and nutrition.<sup>25</sup>
- 14) The aim of the following policy recommendations is to assist Members and stakeholders in strengthening agroecological and other innovative approaches for sustainable agriculture and food systems that enhance food security and nutrition. Sustainable agriculture and food systems are resilient, equitable, diversified, support climate change adaptation and mitigation, provide healthy diets and respect human rights – for current and future generations. The FAO Conference considered the further integration of sustainable agricultural approaches, including agroecology, in 2019.<sup>26</sup> Since then, the HLPE report has enhanced understanding of the evidence base, showing that while there are overlaps among some innovative approaches, not all innovative approaches contribute to sustainable agriculture and food systems in the same way.
- 15) In working towards this aim, these policy recommendations will build on, and contribute to, relevant existing instruments of the CFS, including the CFS Voluntary Guidelines on Food Systems and Nutrition (VGFSyN).<sup>27</sup> Moreover, the policy recommendations build on, and contribute to other

<sup>24</sup> See FAO. 2019. The Ten Elements of Agroecology (document CL 163/13 Rev. 1) for an internationally agreed formulation of the main elements that characterize agroecology.

<sup>25</sup> HLPE, 2019, and FAO. 2020. Realizing the potential of digitalization to improve the agri-food system: Proposing a new International Digital Council for Food and Agriculture. A concept note. Rome.

<sup>26</sup> FAO Conference Resolution 7/2019, Further integration of sustainable agricultural approaches, including agroecology, in the future planning activities of FAO.

<sup>27</sup> Other relevant CFS instruments include the Voluntary Guidelines to Support the Progressive Realization of the Right to Adequate Food in the Context of National Food Security, the Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security (VGGT), the Framework for Action for Food Security and

global human rights instruments, such as the UN Convention on the Elimination of all Forms of Discrimination Against Women (CEDAW), the UN Declaration on the Rights of Indigenous Peoples (UNDRIP), and the UN Declaration on the Rights of Peasants and Other People Working in Rural Areas (UNDROP). These recommendations aim to support the achievement of the goals of the UN Decade on Family Farming (UNDIFF), the UN Decade of Action on Nutrition (2016-2025), the upcoming UN Decade on Ecosystem Restoration, the UN Framework Convention on Climate Change (UNFCCC) Koronivia Joint Work on Agriculture (KJWA), the Convention on Biological Diversity's upcoming post-2020 global biodiversity framework, and to contribute to the UN Food Systems Summit. The policy recommendations pay particular attention to the promotion of family farming, in particular small-scale food production, as these production systems make highly significant contributions to food security and nutrition, equity, poverty alleviation, employment and sustainable management of natural resources, and require specific policies to support them.<sup>28</sup>

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Nutrition in Protracted Crises, the Principles for Responsible Investment in Agriculture and Food Systems, and the Global Strategic Framework for Food Security and Nutrition.

<sup>28</sup> HLPE. 2013. Investing in smallholder agriculture for food security. A report by the High Level Panel of Experts on Food Security and Nutrition of the Committee on World Food Security, Rome.

## POLICY RECOMMENDATIONS

### ***1. Lay or strengthen, as appropriate, the policy foundations for agroecological and other innovative approaches to contribute to sustainable agriculture and food systems that enhance food security and nutrition (agreed ad ref)***

*Governments (national, regional and local authorities, as appropriate) in consultation with [inter-governmental organizations, producer organizations, the private sector (including micro, small and medium as well as larger-sized-entities) and civil society, are invited to (agreed ad ref.):*

*Recognizing the need for context-specific measures for moving towards and improving sustainable agriculture and food systems (agreed ad ref.):*

- a) Undertake comprehensive and inclusive assessments of the sustainability of their agriculture and food systems (see Recommendation 2 pending), paying due attention to all positive and negative environmental, economic, social externalities, trade-offs and synergies, as the first step to developing context-specific transition pathways, in a coherent manner, as appropriate and in accordance with and dependent on national context and capacities; (agreed by FoR)
- b) In cases where comprehensive assessments show that sustainability can be improved, develop context-specific policies and plans to move towards, and to improve, sustainable agriculture and food systems through inclusive processes based on the results of such assessments; ensure the participation of all relevant stakeholders: particularly women, youth, indigenous peoples and local communities, and people in vulnerable situations, and sectors; (agreed by FoR)
- c) Promote the integration of agroecological and other innovative approaches<sup>29</sup> [footnote to be addressed in the preamble] in policies and plans that address agriculture and food system challenges in a given context by strengthening the resilience of food systems, thus contributing to the three pillars of sustainable development within the 2030 Agenda; those policies and plans should make agroecological and other innovative approaches affordable and accessible, respond to local employment needs, contribute to equity and respond to the needs of all actors, in particular people in vulnerable situations; (agreed by FoR)
- d) Implement, monitor, evaluate and continually improve context-specific agriculture and food systems' transformation policies and plans, with the inclusive participation of relevant stakeholders, giving particular attention to the people in vulnerable situations, recalling that transformation of food systems should be encouraged in a coherent manner, as appropriate and in accordance with and dependent on national context and capacities. (agreed by FoR)

*Recognizing the need to promote enabling-conditions for agroecological and other innovative approaches for sustainable agriculture and food systems that enhance food security and nutrition: (agreed by FoR)*

- e) Promote science and evidence-based public mechanisms to assess the effects and impacts of agroecological and other innovative approaches on key aspects of sustainable agriculture and food systems related to food security and nutrition, resilience, food safety, producers' revenues, the environment and public health, the progressive realization of the right to adequate food in the context of national food security, and the reduction of food losses and waste; (agreed by FoR)
- f) Using science and evidence-based approaches, re-direct public policies, budgets and public and private investments, to agroecological and other innovative approaches, as well as sustainable practices and innovations, as appropriate, that reduce economic, environmental, and social negative impacts, including externalities, and lead to improved economic, social and environmental outcomes, while considering all externalities, trade-offs and synergies and contributing to the three dimensions of

<sup>29</sup> See HLPE 2019 Table 3 and Table 4 for a characterization of different agroecological and other innovative approaches.

sustainable development and the achievement of the SDGs; (agreed ad ref.)

g) Strengthen public policies to harness market mechanisms [as possible] to enable sustainable agriculture and food systems by [factoring ~~[considering as appropriate]~~ economic, environmental, social, ~~including and~~ public health externalities] [and through true-cost accounting] [through innovative market approaches]- [into comparable and transparent food and product prices] [taking into account the limited capacities of the most vulnerable populations] [in accordance with multilaterally agreed trade rules];

**Rapporteur's proposal g)** Strengthen public policies to harness market mechanisms, as feasible, to enable sustainable agriculture and food systems by considering economic, environmental, and social, including public health, externalities [trade-offs and synergies] [into [comparable] food and product prices].

h) Encourage policies to promote sustainable production and consumption patterns that support, maintain, or enhance conservation and sustainable use of natural resources, and resource use efficiencies, including through supporting circular economies and other sustainable approaches and systems, while enhancing livelihoods and offering economic opportunities and growth, in collaboration with all relevant stakeholders; (agreed ad ref.)

i) Promote the development of policies and the implementation of joint actions among all relevant stakeholders for the reduction of food losses and waste including, when promoting agroecological and other innovative approaches, in order to achieve sustainable development; (agreed ad ref.)

j) Strengthen the policy coherence and synergy between the promotion of healthy diets through sustainable food systems and the support for agroecological and other innovative approaches; (agreed ad ref.)

k) Ensure that peasants, family farmers and other people working in rural areas, in particular small-scale food producers, have equal access to, and control over land and natural resources, in accordance with national legislation, that are the essential basis for any form of sustainable agricultural production, by adopting appropriate regulations at the national level, consistent with CFS VGGT and other relevant frameworks<sup>30</sup>; (agreed by FoR pending confirmation from capitals)

l) Promote the progressive realization of the right to adequate food in the context of national food security and enable individual and collective actions that address the four dimensions of food security (availability, access, stability and utilization) and nutrition at different scales taking into account to the principles of equality and non-discrimination, participation and inclusion, accountability and rule of law;<sup>31</sup> (agreed ad ref.)

<sup>30</sup> For example: UN Declaration on the Rights of Indigenous Peoples; CFS Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security (VGGT); Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW).

<sup>31</sup> These principles are recognized in the Voluntary Guidelines to Support the Progressive Realization of the Right to Adequate Food in the Context of National Food Security.

m) Strengthen policies, programmes and actions that eliminate structural barriers to address root causes of gender inequality, in particular by considering that laws and policies to support *inter alia* equal access to natural resources, finance and public services, respecting and protecting women's knowledge, as well as eliminating all forms of violence, including gender-based violence and discrimination against women, and promoting women's empowerment <sup>32</sup>; (agreed by FoR, pending endorsement by capitals)

n) Enhance policy coherence and coordination of agroecological and other innovative approaches across sectors consistent with para 26 of the CFS Voluntary Guidelines on Food Systems and Nutrition (CFS-VGFSyN)<sup>33</sup>; (agreed ad ref.)

[The United Nations Rome-based Agencies (RBAs) are also [invited] encouraged to:]

o) [Ensure] [Enhance] coordination and coherence with respect to their strategies, policies and programmes on agroecological and other innovative approaches, [including through consultation with other relevant stakeholders] [reference to the Ten Elements of Agroecology, including through the *Scaling up Agroecology Initiative*], taking into account the present policy recommendations.

**Rapporteur's proposal subtitle and o)** The United Nations Rome-based Agencies (RBAs) are encouraged to:

o) In consultation with relevant stakeholders, enhance coordination and coherence with respect to their strategies, policies and programmes on agroecological and other innovative approaches, building on previous initiatives. [and guidance, including the Ten Elements of Agroecology] and taking into account the present policy recommendations.

**2. Establish [improve] and apply comprehensive [impact and] performance measurement and monitoring frameworks to [encourage] [align] the adoption [and improve the implementation] of agroecological and other innovative approaches [with desired food systems outcomes]**

**Rapporteur's proposal 2) Establish, and improve comprehensive performance measurement and monitoring frameworks to encourage the adoption of agroecological and other innovative approaches for sustainable agriculture and food systems that enhance food security and nutrition**

[Recognizing the [urgent] need for the development of [comparable], [comprehensive] [country specific but globally comparable, existing and] [and globally] accepted metrics and indicators covering social, environmental and economic dimensions of agriculture and food systems, [and aligned with the international agreed methodologies and indicators for monitoring and reporting developed for the SDGs, FAO, [the RBAs in consultation with all the relevant actors] [and other organizations] should [the CFS, in collaboration with the HLPE should]:

Alternative: [Recognizing the importance of applying international agreed methodologies and indicators [developed for the SDGs] for monitoring and reporting on social, environmental and economic dimensions of agriculture and food systems:]

<sup>32</sup> In line with the UN Convention on the Elimination of all Forms of Discrimination Against Women (CEDAW), and [taking into account] [in particular] its General Recommendation 34 (2016) on the rights of rural women, which was underscored by CFS 44.

<sup>33</sup> CFS Voluntary Guidelines on Food Systems and Nutrition (CFS-VGFSyN)

**Rapporteur's proposal subtitle** *Recognizing the need for the application and further development of comprehensive and inclusive assessments, with country specific and globally comparable metrics and indicators covering social, environmental and economic dimensions of agriculture and food systems, which are aligned with internationally agreed methodologies and indicators, FAO should:*

- a) Guide an inclusive process to 1) develop a model framework, guided by the findings of the HLPE report, including the transition principles, including practical, scientifically grounded and comprehensive performance metrics and indicators of agriculture and food systems, as a basis for assessment, planning, deployment of context-appropriate agroecological and other innovative approaches, policy implementation and investment decisions; and 2) in the short-term, select a combination of existing internationally agreed indicators (in particular the SDGs), to be applied in tandem with one another, to track progress towards more sustainable agriculture and food systems;

*Alternative 2a: Based on existing and accepted metrics and indicators, [as well as those which could be developed, FAO and other RBAs] [FAO] in consultation with other relevant actors should provide members with context appropriate assessment tools in the deployment of agroecological and other innovative approaches, policy implementation and investment decisions, in tracking progress made;*

**Rapporteur's proposal a)** *Support governments in applying and further developing* practical, scientifically grounded and comprehensive performance metrics and indicators of agriculture and food systems *based on SDG indicators and supplemented by complementary frameworks it has developed, including the Tool for Agroecology Performance Evaluation (TAPE), Sustainability Assessment of Food and Agriculture systems tool (SAFA), and the Self-evaluation and Holistic Assessment of climate Resilience of farmers and Pastoralists (SHARP) tool to be applied in tandem with one another,* to track progress towards more sustainable agriculture and food systems.

*[Argentina: Likewise, policies and plans should utilize assessments and mechanisms for adjusting and modifying policies that can better contribute to sustainability with consultation and participation of relevant stakeholders.]*

*Recognizing the importance of applying indicators and metrics that capture multiple dimensions of agriculture and food systems and collecting data, States, inter-governmental organizations (in particular RBAs), regional and local authorities, and research organizations are invited to:*

**Rapporteur's proposal subtitle** *Recognizing the importance of applying indicators and metrics that capture multiple dimensions of agriculture and food systems and collecting data, States, Governments, inter-governmental organizations (in particular RBAs), regional and local authorities, and research organizations are invited to:*

- b) Promote the use of existing comprehensive assessment frameworks, such as FAO's SHARP tool (Self-evaluation and Holistic Assessment of climate Resilience of farmers and Pastoralists)<sup>34</sup> and the TEEB-AgriFood framework,<sup>35</sup> and finalize those under development such as FAO's Tool for Agroecology Performance Evaluation;<sup>36</sup>

**Rapporteur proposes to delete this paragraph b)**

- c) Promote the use of ecological footprint in order to ensure that the ecological impacts of consumption, and the effect of current production on future capacity to produce, are adequately factored into assessments, continuing to refine calculation methods as appropriate;

**Rapporteur's proposal c)** *Promote* ~~Consider~~ the use of ecological footprint in order to ensure that the ecological impacts of ~~food systems consumption, and the effect of current production on future capacity to~~

<sup>34</sup> <http://www.fao.org/in-action/Sharp/en/>

<sup>35</sup> The Economics of Ecosystems and Biodiversity for Agriculture and Food (<http://teebweb.org/agrifood/>).

<sup>36</sup> FAO. 2019. TAPE Tool for Agroecology Performance Evaluation 2019 – Process of development and guidelines for application. Test version. Rome. Available at: FAO. <http://www.fao.org/3/ca7407en/ca7407en.pdf>

~~produce, are adequately factored into assessments, continuing to refine calculation methods as appropriate;~~

- d) Undertake holistic assessments of positive and negative employment and labour characteristics in agriculture to underpin policies and regulations that favour transitions toward sustainable agriculture and food systems, while ensuring decent conditions for agricultural labour and strengthening the health of farm and other food system workers;

**Rapporteur's proposal d)** Undertake holistic assessments of ~~positive and negative~~ employment and labour conditions in agriculture ~~and food systems, disaggregated by gender and age to underpin policies and regulations that favour transitions toward sustainable~~ agriculture and food systems, while ensuring in support of decent labour conditions for agricultural labour and strengthened ~~ing the~~ livelihoods, health, and social and legal protection, of farm and other food system workers, ~~particularly the most vulnerable;~~

- e) Encourage data collection (differentiated by factors including gender and farm size) and analysis at national level, documentation of lessons learned and information sharing at all levels to support the adoption of agroecological and other innovative approaches; and,

**Rapporteur's proposal e)** Encourage data collection (differentiated by factors including gender and farm size) and analysis at national level, documentation of lessons learned and information sharing at all levels to support ~~evaluation of the performance of the adoption of~~ agroecological and other innovative approaches; and and,

**Rapporteur proposes to delete this subtitle and paragraph f)**

*In view of the upcoming HLPE report on data collection and analysis tools, the HLPE Steering Committee is encouraged to:*

- f) Consider data needs that arise from these policy recommendations, including in relation to comprehensive metrics and indicators covering social, environmental and economic dimensions of agriculture and food systems.

### **3. Foster the ~~transition to~~ resilient and diversified sustainable agriculture and food systems through agroecological and other innovative approaches (agreed by FoR)**

*Governments, regional, national and local authorities, as appropriate, along with relevant inter-governmental organizations, research organizations, extension agencies, civil society (including producer and consumer organizations) and the private sector (including micro, small and medium sized enterprises) are invited to: (agreed by FoR)*

*Recognizing resilience, diversification and integration as key foundations of sustainable agriculture and food systems: (agreed by FoR)*

- a) Raise awareness about the importance of diversified production systems that integrate livestock, aquaculture, cropping and agroforestry, as appropriate, to enhance resilient livelihoods and promote sustainable production for healthy diets; (agreed by FoR)
- b) Strengthen public policies, responsible investment and research in support of agroecological and other innovative approaches; (agreed ad ref.)
- c) Provide producers, and in particular small scale producers and women, with public policies and private investments, for diversification and integration of their production, including providing support during the process of transitioning, in a coherent manner, as appropriate, according to, and dependent on national context and capacity, to more sustainable food systems; (agreed ad ref.)
- d) Strengthen policy instruments and coherence for the conservation and sustainable use of biodiversity for food and agriculture and support the important past, present and future contributions

Commented [CC(1)]: Insert footnote with caveat text

of producers and researchers for the development, conservation and improvement of biodiversity, [and facilitate the access to genetic resources, and sharing of the benefits arising from its use, and promote the protection of farmers' rights to save, use, exchange and sell farm-saved seeds or propagation material subject to national legislation] taking into account the recommendations of the FAO Commission on Genetic Resources for Food and Agriculture, the International Treaty on Plant Genetic Resources for Food and Agriculture and the Convention on Biological Diversity, [the UN Declaration on the Rights of Peasants, and the UN Declaration on the Rights of Indigenous Peoples] (for those states who have ratified these treaties); ~~(awaiting feedback from capitals)and,~~

e) Promote an integrated One Health approach, including through agroecological and other innovative approaches, that fosters cooperation between the human health, animal health and plant health, as well as environmental and other relevant sectors to address antimicrobial resistance, strengthen food safety, enhance resilience and minimize, control and strive to prevent the emergence of diseases of animal origin and the potential and not necessarily correlated pandemics. (agreed ad ref.)

*Recognizing the urgent necessity of the responsible use of agrochemicals for the protection and improvement of human, animal and environmental health:*

**Rapporteur's proposal subtitle** *Recognizing the importance of [reducing reliance on] [the responsible-use of] agrochemicals for the protection and improvement of human, animal, plant health- and the environment[al]-health:*

- f) Raise public awareness (in particular among producers and consumers) about the risks of pesticides and other agrochemicals to human, animal and environmental health;

**Rapporteur's proposal f)** *[Reduce the use of chemical pesticides and phase out highly hazardous ones from use] Strengthen and enforce [Using a] [science, [and]# evidence-based regulations approach on the use of agrochemicals and compliance of the maximum residue limit of agrochemicals.], raise public awareness (in particular among [policy makers,] producers and consumers) about [the harm caused by agrochemicals] [responsible and prudent] [the proper use] and the safe handling of agrochemicals -as well as [possible] [their] risks [and benefits] [and increased knowledge of the availability, viability and benefits of non chemical agroecological approaches and crop management] [of pesticides and other agrochemicals] to human, animal, and plant health and the environment[al health];*

- g) Promote the use of ecological alternatives to pesticides that promote the greater integration of biodiversity to prevent pest outbreaks in order to optimize the use of pesticides in the short-term and phase them out to the extent possible in the long-term;

**Rapporteur's proposal g)** *Promote the use of ecological alternatives to pesticides that promote the greater integration of biodiversity to prevent pest outbreaks in order to optimize the use of pesticides in the short-term and significantly reduce, phase them out to the extent possible in the long-term to minimize their risks;*

- h) Recognize the right of peasants and other people working in rural areas to avoid using or being exposed to hazardous agrochemicals;<sup>37</sup>

**Rapporteur's proposal h)** *Recognize the right of peasants and other people working in rural areas to avoid exposure and poisoning from hazardous agrochemicals;*

- i) Drawing on the International Code of Conduct for the Sustainable Use and Management of Fertilizers, and the Voluntary Guidelines for Sustainable Soil Management, optimize the use of synthetic fertilizers, aiming to reduce pollution from excess use, maximize the recycling of nutrients and minimize the use of external inputs by promoting and rewarding innovative ecological alternatives;

<sup>37</sup> In line with UNDROP Article 14.

**Rapporteur's proposal i)** Building on FAO's International Code of Conduct for the Sustainable Use and Management of Fertilizers, and Voluntary Guidelines for Sustainable Soil Management, reduce and optimize the [safe] use of [synthetic] fertilizers, [[including by reducing, as appropriate and depending on the innovative approach addressed, the effective and efficient use of fertilizers]] [to meet sustainable agriculture demands [while minimizing nutrient losses to the environment as appropriate]; promote transitions, in a coherent manner, as appropriate, according to and dependent on national contexts and capacities, to ecological nutrient management approaches that restore and regenerate soil plant and cropping system's health and nutrition, aiming to reduce pollution from excess use, maximize the recycling of nutrients and reduce, as appropriate, and optimize -the use of external inputs- by promoting and rewarding innovative ecological and other alternative approaches;

Commented [CC(2)]: To be addressed in the preamble

Alt. ecological nutrient management complemented by the optimal use of fertilizers while minimizing the environmental impacts

- j) Strengthen and enforce stricter national and international regulations on the use of antimicrobials in agriculture and food systems, phase out their use as growth promoters, and implement the Global Action Plan on Antimicrobial Resistance, endorsed by the World Health Assembly; and

**Rapporteur's proposal j)** Strengthen and enforce national ~~and international~~ regulations and recognize and use international standards, guidelines and regulations, [in particular SPS WTO treaty] on the use of antimicrobials in agriculture and food systems, ~~phase out their use as growth promoters,~~ and implement the Global Action Plan on Antimicrobial Resistance, endorsed by the World Health Assembly, [and UN Inter-Agency Coordination Group (IACG) on antimicrobial resistance recommendations,] recognizing the importance of the 'One Health' approach; and [pending further consideration]

Commented [CC(3)]: Pending FAO Council decision

*Recognizing that territorial planning is a key element of fostering diversity and the long-term provision of ecosystem services: (agreed ad ref.)*

- k) Govern territories and landscapes at appropriate levels and in an inclusive way with particular attention to people in vulnerable situations so as to respond to local needs, including enhancing the provision of ecosystem services and managing trade-offs between them, protecting biodiversity-rich habitats, and responding to the local impacts of global emergencies, in particular by supporting social innovation<sup>38</sup> and strengthening inclusive public bodies, such as local food policy councils and multi-stakeholder landscape and watershed management platforms; (agreed ad ref.)
- l) Strengthen responsible investment and innovation in micro, small and-medium sized enterprises that support sustainable agriculture and food systems and retain value locally; and, (agreed ad ref.)

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- m) Incentivize young people to remain in, or move to, rural areas by creating decent and dignified work opportunities, including through addressing specific challenges for young people, such as access to land, credit and information, and by investing in rural infrastructure and services to reduce gaps between rural and urban areas.

**Rapporteur's proposal m)** Incentivize young people to remain in, or move to, rural areas by creating decent and dignified work opportunities, including through addressing specific challenges for young people (particularly in developing countries), such as access to land, mechanization of agriculture, credit and information, and by investing in rural infrastructure and services to reduce gaps between rural and urban areas.

*Recognizing the multiple functions of markets and the need to promote innovative approaches to ensure*

<sup>38</sup> In line with UNDDF Pillar 7.

*that markets respond to the needs of resilient, diversified, and integrated production systems, and recalling the CFS Policy Recommendations on Connecting Smallholders to Markets (CFS 43, 2016):*

- n) Work with the private sector to promote local, regional and global markets, as appropriate, that demonstrate concrete contributions to the social, environmental and economic sustainability of agriculture and food systems, enhance food security and nutrition and do not impact negatively on human rights;
- o) Increase the resilience of food systems to global shocks, such as pandemics, by promoting diverse market arrangements that have greater flexibility in the face of disruptions; this involves addressing connectivity challenges in long food supply chains and strengthening short food supply chains to support local autonomy and resilience;

**Rapporteur's proposal o)** Increase the resilience of food systems to global shocks, such as pandemics, by promoting diverse market arrangements that have greater flexibility in the face of disruptions; this involves recognizing the importance of local smallholders and family farmers and addressing connectivity challenges in long food supply chains and strengthening short food supply chains to support increase their local autonomy and resilience;

- p) Take appropriate measures to strengthen local, national and regional markets (such as processing hubs, transportation infrastructure and adapted food safety regulations) to support rural livelihoods through capturing a high proportion of the value of production locally;<sup>39</sup>

**Rapporteur's proposal p)** ~~Take appropriate measures to~~ Strengthen local, national and regional markets (such as processing hubs, transportation infrastructure and adapted food safety regulations) to link urban communities and rural territories through sustainable food production systems that support rural livelihoods by through capturing a high proportion of the value of production locally

- q) Support market innovations that strengthen linkages between urban communities and food producers, such as participatory guarantee systems (in compliance with public policy and safety standards), and Community Supported Agriculture (CSA), for providing sustainably produced healthy food to all consumers while providing dignified livelihoods to producers; and,
- r) Support innovative public procurement policies (for example, school feeding programmes, other safety nets, food assistance and public regulatory and preparedness mechanisms) that give preference to locally and sustainably produced food while supporting rural development objectives.

**Rapporteur's proposal r)** Support innovative public procurement policies prioritizing low-income and food insecure people and family farmers through public procurement policies (for example, school feeding programmes, other safety nets, food assistance and public regulatory and preparedness mechanisms) that give preference to locally and sustainably produced food while supporting local and rural development objectives.

*Aware of the importance of digitalization, and welcoming the establishment of the FAO Digital Platform:*

**Rapporteur's proposal subtitle** ~~Aware of the importance of digitalization, and welcoming the establishment of progress towards the FAO Digital Platform~~ International Platform for Digital Food and Agriculture:

- s) Promote the potential of digitalization through capacity building and a transdisciplinary approach involving all actors (scientists, producers, industry, governments);

**Rapporteur's proposal s)** Promote the potential of digitalization through capacity development building and a transdisciplinary approach involving all actors (scientists, producers, consumers, civil society

<sup>39</sup> In line with UNDROP Article 16.

organizations, industry, governments, extension organizations and local communities);

- t) Promote digital and other ICT as an entry point for the involvement of youth and women in agriculture and food systems;
- u) Strengthen innovation platforms through the appropriate use of digital technologies to facilitate wider networking; and,
- v) Harness digital technologies to strengthen links between producers and consumers, including through brokering sustainable finance initiatives and market incentives.

**Rapporteur proposes to delete subtitle and paragraph w)**

*Aware that the potential positive and negative impacts of digitalization on food security and nutrition require attention, the CFS should:*

- w) Request the HLPE to review evidence of benefits and challenges of digitalization for sustainable agriculture and food systems that enhance food security and nutrition; assess the potential of digitalization for contributing to the full range of agroecological and other innovative approaches; review national and regional policies, including with respect to safeguards; consider challenges and implications for governance; and provide relevant policy advice on data collection and analysis tools.

#### **4. Strengthen research, training and education, and reconfigure knowledge generation and sharing to foster co-learning**

*Research organizations, academic institutions, educational, training and extension organizations, the private sector, producers' organizations, civil society, inter-governmental organizations and States, regional and local authorities are encouraged to:*

*Recognizing the crucial role played by multi-disciplinary and participatory approaches to research, dissemination and education, such as transdisciplinary science, for understanding and shaping the complex social-ecological systems in agriculture and food systems:*

- a) Reform agricultural knowledge, information and innovation systems to support agroecological and other innovative approaches by ensuring that research, extension/dissemination and education/capacity building are integrated in an inclusive, participatory, and problem-oriented approach;
- b) Develop and support problem-oriented transdisciplinary research, and encourage its integration with local and indigenous knowledge in participatory innovation processes across the range of contexts experienced by producers and other stakeholders in agriculture and food systems;
- c) Re-design agricultural knowledge, information and innovation institutions to: enable transdisciplinary science, valuing the knowledge of all relevant stakeholders and involving them, including in the setting of research priorities; engage in research at the local, national, regional and international levels, ensuring communication and sharing of knowledge between them; consider and address power imbalances and conflicts of interest between stakeholders and researchers; and, reward researchers who engage in such research;
- d) Prioritize problem-oriented research that addresses the needs of vulnerable groups, and focuses on the local dimensions of global challenges, such as climate change adaptation and mitigation, ecological footprint of different production systems and value chains, biodiversity conservation and sustainable use, ecosystem service provision, positive and negative externalities of agriculture and food systems, global emergencies such as pandemics, and market concentration across supply chains;

- e) Invest in advisory services and strengthen training programmes for promoting ecological alternatives to agrochemical use through agricultural extension, veterinary services, wildlife and forestry services using methods such as farmer field schools (FFS) and producer-to-producer networks; promote women as extension agents and providers of advisory services for women;
- f) Take appropriate measures to promote the right of peasants and other people working in rural areas to maintain, express, control, protect and develop their knowledge,<sup>40</sup> taking into account the specificity of women's knowledge, and support agricultural heritage systems, including those recognized as Globally Important Agricultural Heritage Systems (GIAHS), as an important space for innovation through local and indigenous knowledge;
- g) Support innovation platforms for transdisciplinary research that foster co-learning between practitioners (e.g. producer organizations) and researchers; these may include producer-to-producer networks, communities of practice, "transdisciplinary labs", and decentralized centers of excellence (e.g. agroecological lighthouses);<sup>41</sup>
- h) Support the horizontal sharing of knowledge and experiences, building on existing farmers' organizations and networks, including schemes designed specifically for women;
- i) Encourage explicit coverage of achieving sustainable agriculture and food systems in curricula of educational institutions at all levels, and integrate hands-on, experiential learning;
- j) Support capacity development for producers, in particular small-scale producers, on agroecological and other innovative approaches to support innovation processes suited to their contexts and needs, and link these with social protection programmes where appropriate; and,
- k) Promote sharing of experiences and co-learning amongst countries on moving towards sustainable agriculture and food systems through agroecological and other innovative approaches.

*Recognizing the need to re-direct investments in research, dissemination/extension and education/capacity building towards the priorities and approaches mentioned above for agroecological and other innovative approaches:*

- l) Increase responsible investments in public and private research and development at national, regional and international levels and redress the relative under-investment in agroecological approaches; and,
- m) Prioritize and strengthen public research to address the needs of family farmers, in particular small-scale food producers, women and youth.

##### ***5. Strengthen institutions for stakeholder engagement, create an enabling environment for empowering vulnerable and marginalized groups and address power inequalities in agriculture and food systems***

*States, regional and local authorities, producer organizations, indigenous peoples, women's organizations, community leaders, the private sector and civil society are invited to:*

*Considering that agroecological and other innovative approaches are more likely to contribute to sustainable agriculture and food systems that enhance food security and nutrition when all people have the possibility to participate actively and meaningfully in defining their desired approaches:*

- a) Support inclusive and democratic decision-making mechanisms at all levels in agriculture and food systems (for example, national inter-ministerial food security and nutrition committees and

<sup>40</sup> See UNDROP Articles 20 and 26

<sup>41</sup> Lighthouses are societies or training centres that foster farmer-to-farmer knowledge sharing and create communities of practice

- municipal food policy councils);
- b) Create and strengthen associations, organizations and cooperatives in all parts of food systems, including food producers and consumers, build capacities, create and exchange knowledge, and promote inclusive decision-making processes;
  - c) Facilitate the use of social media and digital networking to promote producers' engagement in relevant processes;
  - d) Give a central role to the marginalized and vulnerable groups most at risk of food insecurity and malnutrition, including women, youth and indigenous peoples in all decision-making that affects them; and,
  - e) Reinforce the autonomy of women, particularly family farmers, their organizations, collective action, negotiation and leadership skills, to increase access to and control over *inter alia* education, appropriate extension services, gender-friendly technology, and full participation in related policy processes.<sup>42</sup>

*Promote the role of innovation in family farming by inviting the Steering Committee of the United Nations Decade on Family Farming, in collaboration with FAO and IFAD, to:*

- f) Integrate the findings of the HLPE report, and the present policy recommendations, into the implementation of the Global Action Plan of the United Nations Decade on Family Farming, which includes numerous actions for strengthening innovation in family farming.

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*In view of the relevance of agroecological and other innovative approaches for the UN Food Systems Summit, the CFS Chair should:*

- a) Transmit the HLPE report and the present policy recommendations for information to the UN Secretary General, the Special Envoy for the Food Systems Summit, the Advisory Committee and the Scientific Group.

## ANNEX: DEFINITIONS

**Digitalization** in food and agriculture, often referred to as digital food and agriculture, is a process involving digital technologies (internet of things, artificial intelligence, blockchain, etc.) that covers access, content and capabilities.<sup>43</sup>

**Ecological footprint of food systems** expresses the impact of food consumed by a defined group of people (an individual, a village, a city, a country or the whole global population), measured in terms of the area of biologically productive land and water required to produce the food consumed and to assimilate the wastes generated.<sup>44</sup>

**Family Farming** (including all family-based agricultural activities) is a means of organizing agricultural,

<sup>42</sup> See Pillar 3 of the Global Plan of the UN Decade on Family Farming

<sup>43</sup> FAO working definition (July 2020).

<sup>44</sup> HLPE. 2019. Agroecological and other innovative approaches for sustainable agriculture and food systems that enhance food security and nutrition. A report by the High Level Panel of Experts on Food Security and Nutrition of the Committee on World Food Security, Rome.

forestry, fisheries, pastoral and aquaculture production that is managed and operated by a family, and is predominantly reliant on the family labour of both women and men. The family and the farm are linked, co-evolve and combine economic, environmental, social and cultural functions.<sup>45</sup>

A **Food system** gathers all 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.<sup>46</sup> A diversity of food systems exist on a continuum, at different scales, and often co-exist within the same country.<sup>47</sup>

**Innovation** is used as a verb (to innovate) referring to the process by which individuals, communities or organizations generate changes in the design, production or recycling of goods and services, as well as changes in the surrounding institutional environment, that are new to their context and foster transitions towards SFSs for FSN. Innovation is also used as a noun to refer to the changes generated by this process. Innovation includes changes in practices, norms, markets and institutional arrangements, which may foster new networks of food production, processing, distribution and consumption that may challenge the status quo. Innovation in agriculture and food systems may be principally institutional, or may relate more to knowledge or to practice.<sup>48</sup>

An **innovative approach** to sustainable food systems for food security and nutrition is a well-articulated set of principles, practices and methods, that is widely understood, promoted and practiced, and that is intended to foster transitions towards more sustainable food systems that enhance food security and nutrition and is set within an overarching philosophy and a strategic vision for the future. Different innovative approaches fostering transitions to sustainable food systems for food security and nutrition have tended to place emphasis on different modes of innovation.<sup>49</sup>

**Innovation platforms** are initiatives or efforts bringing together diverse stakeholders to create space for co-learning and collective action that support transitions towards SFSs for FSN.<sup>50</sup>

**The right to adequate food:** “is realized when every man, woman and child, alone or in community with others, have physical and economic access at all times to adequate food or means for its procurement. The core content of the right to adequate food implies (...) the availability of food in a quantity and quality sufficient to satisfy the dietary needs of individuals, free from adverse substances, and acceptable within a given culture (and) the accessibility of such food in ways that are sustainable and that do not interfere with the enjoyment of other human rights (...) Accessibility encompasses both economic and physical accessibility”.<sup>51</sup>

A **Sustainable food system** is a food system that ensures food security and nutrition for all in such a way that the economic, social and environmental bases to generate food security and nutrition of future generations are not compromised.<sup>52</sup>

<sup>45</sup> FAO and IFAD. 2019. United Nations Decade of Family Farming 2019-2028. Global Action Plan. Rome.

<sup>46</sup> HLPE. 2014. Food losses and waste in the context of sustainable food systems. A report by the High Level Panel of Experts on Food Security and Nutrition of the Committee on World Food Security, Rome 2014.

<sup>47</sup> HLPE. 2017. Nutrition and food systems. A report by the High Level Panel of Experts on Food Security and Nutrition of the Committee on World Food Security, Rome.

<sup>48</sup> HLPE, 2019.

<sup>49</sup> HLPE, 2019.

<sup>50</sup> HLPE, 2019.

<sup>51</sup> The United Nations Committee on Economic, Social, and Cultural Rights (CESCR) (E/C.12/1999/5 – General Comment 12, pp 6, 8 and 13) (as referenced in the Global Strategic Framework for Food Security and Nutrition of the Committee on World Food Security)

<sup>52</sup> HLPE. 2014. Food losses and waste in the context of sustainable food systems. A report by the High Level Panel of Experts on Food Security and Nutrition of the Committee on World Food Security, Rome 2014.

**Small-scale food producers** are producers who:

- operate an amount of land falling in the first two quintiles (the bottom 40 percent) of the cumulative distribution of land size at national level (measured in hectares); and
- operate a number of livestock falling in the first two quintiles (the bottom 40 percent) of the cumulative distribution of the number of livestock per production unit at national level (measured in Tropical Livestock Units – TLUs); and
- obtain an annual economic revenue from agricultural activities falling in the first two quintiles (the bottom 40 percent) of the cumulative distribution of economic revenues from agricultural activities per production unit at national level (measured in Purchasing Power Parity Dollars) not exceeding 34,387 Purchasing Power Parity Dollars.<sup>53</sup>

**Transdisciplinary science** transcends disciplinary boundaries and seeks to generate transformative outcomes by having:

- i. a problem focus (research originates from and is contextualized in “real-world” problems);
- ii. an evolving methodology (the research involves iterative, reflective processes that are responsive to the particular questions, settings and research groupings involved); and
- iii. collaboration (including among transdisciplinary researchers, disciplinary researchers and external actors with interests in the research).<sup>54</sup>

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<sup>53</sup> Metadata for SDG 2.3.2 (<https://unstats.un.org/sdgs/metadata/files/Metadata-02-03-02.pdf>)

<sup>54</sup> HLPE, 2019.