

Committee on World Food Security
High Level Panel of Experts on Food Security and Nutrition

Promoting youth engagement and employment in agriculture and food systems

V0-DRAFT REPORT

30 November 2020

Submitted by the HLPE to open electronic consultation
[until 7 January 2021](#)

This V0-draft is publicly available on the HLPE consultation platform:

http://www.fao.org/fsnforum/cfs-hlpe/discussions/youth_engagement_employment-v0

Please read the consultation cover letter on pages 2 and 3 of this document

Comments can be sent by e-mail to: fsn-moderator@fao.org.

This consultation will be used by the HLPE to further elaborate the report, which will then be submitted to peer review, before its finalization and approval by the HLPE Steering Committee.

DISCLAIMER

HLPE V0-drafts are deliberately presented early enough in the process - as a work-in-progress, with their range of imperfections – to allow sufficient time to give proper consideration to the feedback received so that it can play a really useful role in the elaboration of the report. It is a key part of the scientific dialogue between the HLPE Project Team and Steering Committee, and the rest of the knowledge community.

This V0-draft may be thoroughly corrected, modified, expanded and revised after the present consultation.

In order to strengthen this draft, the HLPE would welcome submission of material, evidence-based suggestions, references, and examples, in particular addressing the important questions in the cover letter (pages 2 and 3).

For this reason we kindly invite you not to cite nor quote elements from this V0. Please only refer to the final publication for quotations.

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**Cover-letter from the HLPE for the e-consultation
on the V0-draft of the report:**

**Promoting youth engagement and employment
in agriculture and food systems**

During its 46th Plenary Session (14 – 18 October 2019), the UN Committee on World Food Security (CFS) requested its High Level Panel of Experts on Food Security and Nutrition (HLPE) to produce a report entitled “Promoting youth engagement and employment in agriculture and food systems”. The overall aim of the report, as articulated in the [CFS Multi-year programme of work](#), is to “Review the opportunities for, and constraining factors to youth engagement and employment in agriculture and food systems”, including examining “aspects related to employment, salaries, and working conditions”; “rules, regulations and policy approaches [...] aimed at addressing the complexity of structural economic, cultural, social and spatial transformations”. The report was also tasked to “explore the potential of food systems and enhanced rural-urban linkages to provide more and better jobs for women and youth.”

The report will be presented at CFS 48th Plenary session in October 2021. As part of the process of elaboration of its reports, the HLPE is organizing a consultation to seek inputs, suggestions, and comments on the present preliminary V0-draft (more details on the different steps of the process, are available [here](#)). The results of this consultation will be used by the HLPE to further elaborate the report, which will then be submitted to external expert review, before finalization and approval by the HLPE Steering Committee.

HLPE V0-drafts of reports are deliberately presented early enough in the process - as a work-in-progress, with their range of imperfections – to allow sufficient time to properly consider the feedbacks received in the elaboration of the report. E-consultations are a key part of the inclusive and knowledge-based dialogue between the HLPE Steering Committee and the knowledge community at large.

This V0-draft identifies areas for recommendations and contributions on which the HLPE would welcome suggestions or proposals. The HLPE would welcome submission of material, evidence-based suggestions, references, and concrete examples, in particular addressing the following questions:

1. The V0-draft is structured around a conceptual framework which presents three fundamental pillars for youth engagement and employment in agriculture and food systems (AFS): rights, agency and equity.

Do you think that this framework addresses the key issues affecting youth engagement and employment in AFS?

2. The V0-draft identifies main trends for youth engagement in agriculture and food systems, focusing on employment, resources and knowledge.

Do you think that the trends identified are the key ones in affecting outcomes with respect to youth's engagement in AFS and broader FSN outcomes? If not, which other trends should be taken into account?

In particular, can you offer feedback on the following:

- 2.1. Where are youth currently under- and over-represented in food systems employment/work? How does this change when considering intersectional categories such as gender, place, ethnicity?
- 2.2. How has digital technology, agriculture 4.0 and automation affected youth employment in AFS? What is their likely impact in the coming decades?

3. Employment

- 3.1. What can make
 - i) farming/fisheries/livestock rearing and other forms of food provision and
 - ii) other roles in the food systema more attractive option for youth employment?
- 3.2. Under what conditions should children be allowed to work in AFS when they want to?

4. Land and other resources

- 4.1. What models of land and resource access and redistribution best support young people to engage in food systems for sustainable livelihoods?
- 4.2. Do these models take account of the differences amongst youth in terms of gender, indigeneity and other characteristics?

5. Knowledge

- 5.1. What policies/initiatives could stop the loss of, and support the revitalization of, traditional, ecological and marginalised forms of knowledge in AFS?
- 5.2. What policies/initiatives could integrate traditional and modern knowledges (including educational programming in primary, secondary, post-secondary, and technical training), to prioritize equity, agency, and rights in AFS and create new opportunities for youth?
- 5.3. How do the experiences of young women differ from those of young men in knowledge generation, acquisition and transfer?
- 5.4. How can grassroots and youth-driven learning opportunities and knowledge transfer be strengthened and supported?
- 5.5. What are the implications (potentially positive and/or negative) of online platforms and social media increasingly playing the role of knowledge providers?

6. Drawing on HLPE reports and analysis in the wider literature, the report outlines several examples of potential policy pathways to address challenges to youth engagement and employment in AFS, and to transform AFS to make them more “youth-friendly”. **The HLPE seeks input on case studies that could illustrate successful policy initiatives that have improved youth employment and engagement in AFS, and in particular:**

- 6.1. Successful implementation of existing policy commitments, including examples of rights-based approaches to youth employment, as well as protection from unemployment, in food systems.
- 6.2. Initiatives to improve equity in access to resources and improved working conditions (including in conditions of informality) for young people within AFS.
- 6.3. Pathways for increased youth agency in AFS policy, including best practices and mechanisms to improve the leadership role of youth, including young women, in their own organizations, and in broader AFS and food policy discussion spaces.
- 6.4. Pathways for equitable use of technology and digitalization, in particular ensuring access to and control of information and data by youth.
- 6.5. Financial instruments and marketing tools that are available to youth within AFS.
- 6.6. Examples of economies of solidarity, collective enterprises and other collaborative initiatives among young people in AFS.
- 6.7. Examples of how consumers and urban actors are involved in working towards a sustainable food system that values and involves youth.

7. On data and knowledge gaps:

- 7.1. Do you have additional data or information that could help refine the analysis of the interplay between youth's characteristics, aspirations, rights, resources and knowledge, AFS sustainability and FSN outcomes?
- 7.2. Is the set of case studies appropriate in terms of the dimensions and issues chosen and their regional balance? Do you have other good practices and examples of policy and interventions that could accelerate progress towards the SDGs by enhancing opportunities for youth?
- 7.3. What are ways to collect better data on the situation of and prospects for youth in AFS? What can be done to improve population and employment data to give a more accurate picture of young people's multidirectional mobility between places and sectors and multiple income sources?

8. Are there any major omissions or gaps in the V0-draft?

- 8.1. Are topics under- or over-represented in relation to their importance?
- 8.2. Are there any redundant facts or statements that could be eliminated from the V0-draft?
- 8.3. Are any facts or conclusions refuted, questionable or assertions with no evidence-base?
- 8.4. If any of these is an issue, please share supporting evidence.

We thank in advance all the contributors for being kind enough to read, comment and suggest inputs on this V0-draft of the report. We look forward to a rich and fruitful consultation.

The HLPE Steering Committee

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PROMOTING YOUTH ENGAGEMENT AND EMPLOYMENT IN AGRICULTURE AND FOOD SYSTEMS V0-DRAFT

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Introduction

This report, prepared at the request of the Committee on World Food Security, explores the trends, constraints and prospects of young people's employment and engagement in agriculture and sustainable food systems. It takes its lead from the recently-launched HLPE Report *Food security and nutrition: building a global narrative towards 2030* (HLPE, 2020a). The HLPE report identifies the critical policy shifts needed to promote a "radical transformation of food systems" that should be "empowering, equitable, regenerative, productive, prosperous and boldly reshape the underlying principles from production to consumption. These include stronger measures to promote equity among food system participants by promoting agency and the right to food, especially for vulnerable and marginalized people" (HLPE, 2020a p. 29). The report notes the need for engagement of the world's young people. "Youth [...] require more support and agency in food systems. The future of agriculture and the sustainability of food systems depends on its youth. Agriculture and food systems need to be recognized and supported as economically rewarding, intellectually satisfactory and socially respectable professions" (HLPE, 2020a, p. 42).

At the same time, the current conjuncture of climate, health, and economic crises has sharpened recognition of the underlying unsustainability of the world's food systems. This fragility presents serious consequences for the realization of the human right to food, to employment, a healthy environment, and overall well-being, not only for youth but for all generations. The pace of technological change also challenges our ability to make predictions about young people's prospects for employment in future agriculture and food systems with any degree of certainty.

Today's young people are on the front line, in many respects. They will have to cope with the effects of environmental and climate change, which are likely to accelerate and intensify during their lifetimes and those of their children (Glover and Sumberg, 2020). Already prior to the COVID-19 pandemic, young people were growing up in a world which is not on track to achieve Sustainable Development Goals (SDG) targets related to food security, and where one in three people worldwide are affected by one or more forms of malnutrition, with a failing food system as its main driver (Amiot, 2020). Global inequalities persist and grow (HLPE, 2020a, p. 34) and there is growing concern around the crisis of youth employment (ILO, 2020d).

All of these problems have been exacerbated and accelerated by the COVID-19 pandemic and its social and economic impacts (HLPE, 2020b; ILO and ADB, 2020; and many other recent reports). It has put lives, jobs and livelihoods at risk and had serious impacts on both food supplies and demand worldwide. To control and mitigate the crisis' impacts across food systems, the challenge is to simultaneously advance, at global, national and local levels, context-specific solutions that place young people at the forefront in all components and outcomes of food systems (HLPE, 2020a, 2020b; IPES-Food, 2020; UN, 2020).

Although short-term actions responding to the COVID-19 crisis are important, in the longer term this crisis – like other crises before it – provides opportunity and momentum for more fundamental and permanent transformations and re-balancing towards more inclusive, sustainable, and resilient food systems. At the level of intellectual and policy discourse the

vision of fundamental transformations towards more agroecological, smallholder-based modes of supplying the world's food needs has made significant progress in the past decade.

In 2019, on the authority of the UN General Assembly (UNGA), the Food and Agriculture Organization (FAO) launched the United Nations Decade of Family Farming 2019-2028 which aims to strengthen political commitment for the support and empowerment of family farmers, including ensuring inter-generational succession and support for youth in food systems. This progress at the level of knowledge and discourse has been matched with many encouraging initiatives on the ground at local level. There remain, however, serious questions about whether the current focus on farm succession, diversification and localization of food systems has made significant changes in the overall character and sustainability of the world's food systems now or in the coming decades, as "business as usual" continues and most food- and agriculture-related industries continue to become more concentrated (Howard and Hendrickson, 2020). The pressing challenge of food systems transformation for the coming decade, then, is the transformation of the vision and the discourse into action on a much bigger scale.

This challenge, and the current crisis, is also an opportunity to reposition youth at the heart of innovative solutions for sustainable food systems, as exemplified by many local initiatives (FAO, 2020b; IPES-Food, 2020; UN, 2020). Youth and children, in particular, can be important actors in the dynamic transformations in contemporary food systems, with a critical role to play in achieving the UN Sustainable Development Goals, especially SDG 2 on "Zero Hunger" and other relevant SDGs that are directly or indirectly linked to agri-food systems such as goals 1 on no poverty, 3 on good health and well-being, 4 on quality education, 5 on gender equality, 8 on decent work and economic growth; 9 on industry, innovation and infrastructure, 12 on responsible consumption and production, 13 on climate action and 17 on partnership. Yet, young people often find themselves in a position of serious disadvantage in relation to older generations in terms of access to resources, political power, and supporting institutions.

In this report, **we assess the status of current youth engagement and employment in agriculture and food systems, identify the primary constraints and challenges that limit the engagement and employment of youth in agriculture and food systems (in particular, access to resources), and propose a global youth agenda that constructs youth as active agents in agriculture and food systems.** This report critically assesses current narratives about young people in agriculture, in rural economy and in food systems. For example, we consider perspectives on the "youth bulge" as threat, or as demographic dividend; about young people abandoning rural areas, not wanting to farm, or wanting to farm but unable to access land; views on young people's awareness of the abundant opportunities for work and livelihood building, and young people as innovators holding the key to transformation; young people as stuck in the prolonged and uncertain transition to adulthood that some have called "wait hood".

The report draws on a broad range of ideas and literature, including from childhood and youth studies, to understand what challenges youth face in finding meaningful and rewarding work in food systems, what policies can enable youth engagement in a sustainable way, and what final goals in terms of the rights, agency and equity of youth should be achieved, along with the SDGs. In doing so, the report draws inspiration from indigenous perspectives and

philosophies of well-being or the “good life/*buen vivir*”, together with studies of ecological and economic sustainability, where economies of competition and economies of solidarity, care and well-being of both people and nature, coexist and complement each other, as the basis for the sustainability and resilience of future food systems. With these starting points, the report is organized as follows.

Chapter 2, “*Positioning youth as agents of change in a food systems framework*”, develops a framework that defines the scope of the study, provides an understanding of what food systems might look like based on the principles of rights, equity, agency, and economies of solidarity and sovereignty. The Chapter reviews what we can learn from childhood and youth studies and recent work on their engagement in agriculture and food systems. How should we best define “childhood” and “youth”, for purposes of this study? What are key concepts in the understanding of young people’s lives (including generational relations and intersectionality)? What do we know about what today’s young people want (including the complex issue of their “aspirations”)? How should we envisage their “engagement” in food systems (as a broader notion of involvement than “employment”)? What are the implications of youth mobilities (going beyond unidirectional “migration” to broader ideas of young people’s multidirectional mobilities between places and sectors)?

Chapters 3, 4, 5 and 6 then turn to specific problem and policy themes.

Chapter 3, “*Employment*” asks how engagement in agriculture and food systems can promote realization of young people’s right to work, and to decent and rewarding work and livelihoods. What are the opportunities and threats to achieving these goals posed by trends in demography, structural transition and technological change, and how can policies influence these trends? And how are young people’s mobilities between places and sectors re-shaping the world of work in agriculture and food systems?

Chapter 4, “*Resources*” reviews the main barriers to young people’s access to resources (both natural and non-natural) for productive engagement in agriculture and food systems (including land, water, fish stocks, forests, markets, credit, technology, and supporting institutions). We also review innovative models of resource sharing and inter-generational transfer and provide examples of good practices to improve youth access to land.

Chapter 5, “*Knowledge, learning and innovation*”, asks what ways of knowing and learning can be accessed and deployed by young people as they navigate complex and rapidly changing food environments. What is their role in agricultural and food systems innovation? What are the implications for formal and informal education initiatives and implementation of the right to education, including specifically sustainable food systems education? What challenges and opportunities can be identified across axes of difference among youth populations including gender, ethnicity, and class? What roles will digital technologies play in knowledge networks?

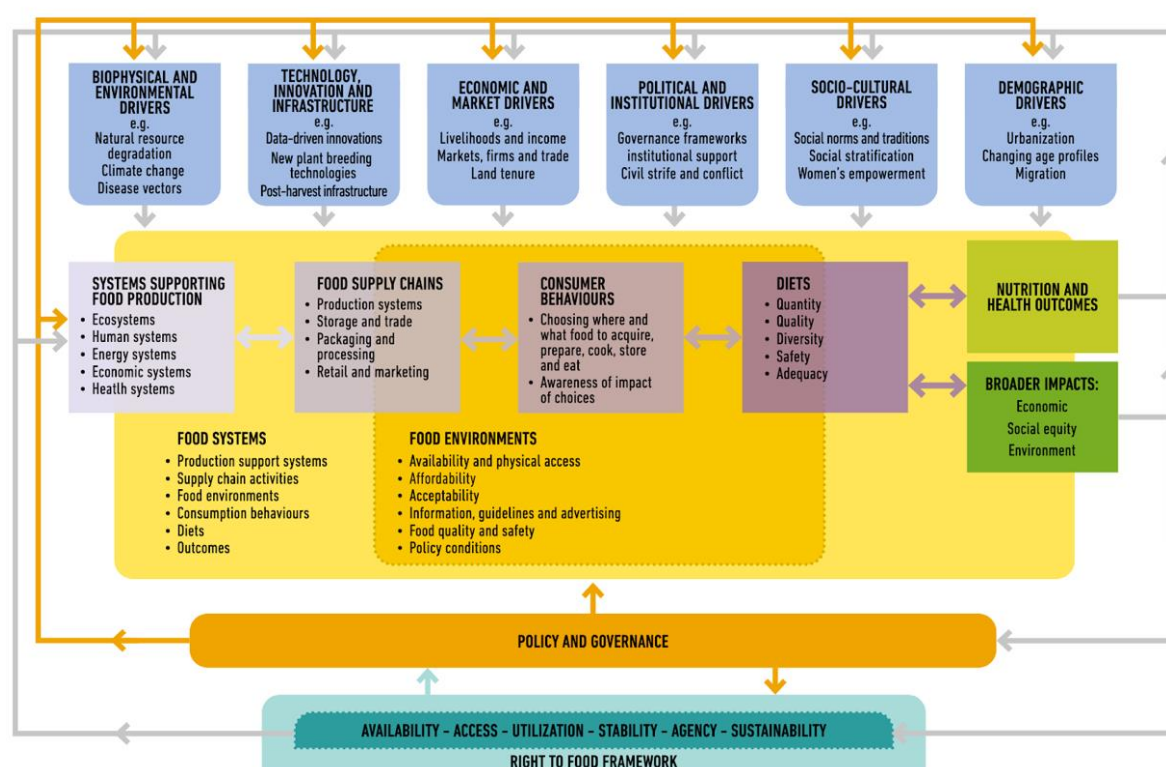
Chapter 6, “*Policy frameworks and processes to support youth in the context of food systems*” draws together our main findings and their implications for action. This Chapter addresses key interrelated questions such as: What youth-inclusive approaches, policies and actions can promote young men and women’s productive and rewarding engagement in agriculture and food systems renewal?

1. Positioning youth as agents of change in a sustainable food systems framework

In this Chapter we draw on the HLPE sustainable food system framework (HLPE, 2017, 2020a) and various key concepts in child, youth and generation studies to locate the place of youth in food systems, both as agents in the transition to sustainable food systems and as a social category that experience a unique set of food systems challenges.

A food systems framework “recognizes the complexity of relationships among the systems that support food production, food supply chains, food environments, the behaviours of individual consumers, diets, and nutritional and wider outcomes that feed back into the system” (HLPE, 2020a, p. 11), Figure 1.

Figure 1: A food systems framework



Source: HLPE, 2020, adapted from HLPE (2017).

In the HLPE food systems framework, food systems include food supply chains, which include all the stages and actors, including private sector businesses, from production to trade, processing, retail marketing, consumption and waste disposal (HLPE, 2017), and food environments, “the physical, economic, socio-cultural and policy conditions that shape access, affordability, safety and food preferences” (HLPE, 2020a, p. 12). Food systems thus also include consumer behaviours, which refer to individuals’ households’ or specific social groups’ awareness and choices on food acquisition, preparation and consumption. Consumer behavior and food environments shape diets and dietary outcomes, which have an impact on health and nutrition, and on the environmental, economic and social sustainability of food systems.

Sustainable food systems, as defined by the HLPE (2020a, p. xv), embody qualities which support the six dimensions of food security.

These qualities 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);
- healthy and nutritious (to ensure nutrient uptake and utilization).

Caron et al. (2018) have argued convincingly that inclusive and sustainable food systems are key to achieving the 2030 Agenda for Sustainable Development. Sustainable food systems may contribute to nutritious and healthy diets, regenerating ecosystems, mitigating climate change, and supporting social justice. At the same time, agri-food systems play an important role in job creation and economic development, not only in rural areas but also in urban and peri-urban contexts where food production, processing, distribution, and retail sectors provide opportunities for employment (Abay et al., 2020a; Piselli et al., 2019).

1.1. Youth and economies of well-being: a preliminary framework

Positioning youth within a sustainable food systems framework allows us to see how far and in what ways the various drivers (biophysical and environmental; technology and innovation; economic and market; political and institutional; socio-cultural; and demographic) affect, and are affected by, youth differently than adults. These drivers are often interlinked and reinforce one another, while intersecting not only with age and generation, but also with other attributes of youth such gender, ethnicity, education and class.

This report builds on the HLPE Food Systems Framework by proposing a theory of change (see Figure 2 below) that treats youth engagement and employment in sustainable food systems as both a *goal to be realized* in and of itself, and as *means towards the realization of sustainable development*. In turn, the achievement of the sustainable development goals should facilitate transitions towards economies of well-being, based on sustainable food systems that enable dignified livelihoods, a healthy environment, and food sovereignty. We suggest that strengthening youth employment and engagement in sustainable food systems depends on three foundational pillars of Agency, Equity, and Rights.

Figure 2: Dynamics of youth engagement and employment in food systems



Source: elaborated by authors with illustration by Sam Bradd

The **Agency** pillar underlines that the world's young people¹ are not simply objects or instruments of development and economic growth, but are active citizens and agents and a potentially powerful political, social and economic force in the shift towards more sustainable food systems. This vision of the agency and potential of youth has been clearly expressed by young people involved in the CFS Civil Society and Indigenous Peoples' Mechanism, who wrote the following comment during the open e-consultation soliciting comments in preparation for this report:

Youth are political subjects and have the right, capacity, and agency to build spaces of solidarity, inclusion, and dignity. We learn from and exchange with different struggles, movements, institutions and alternative voices. Through practicing and sharing our diverse knowledges and cultures, including Indigenous knowledges and practices, we resist growing corporatization while co-creating life-affirming worlds and futures by building strong connections to the land, water, seeds, plants, and all living beings. (CSM Youth Working Group, 2020)

The **Equity** pillar reflects the fact that current generations of children and youth are growing up in a context of persistent and growing inequalities in income and wealth, both within and between societies. In the face of these inequalities, the policy shifts needed to promote radical transformation of food systems should include "stronger measures to promote equity among food system participants by promoting agency and the right to food, especially for vulnerable and marginalized people" (HLPE, 2020a p. 14). The equity pillar also reflects recognition of many other persistent inequalities affecting specific groups of young people's engagement in food systems, most obviously gender-based inequalities but also in such areas as rural-urban and digital divides.

The **Rights** pillar incorporates both the general "triangle of rights" (to protection, non-discrimination, and participation) as applied in various UN Conventions and Declarations, and also many specific rights established in UN Conventions and Declarations such as the right to food, which has been adopted by all UN member-states, the rights of Indigenous peoples (UNDRIP, 2007), and the rights of peasants and people working in rural areas (UNDROP, 2017), and of women (CEDAW, 1979), and of children (CRC, 1989).

Figure 2 illustrates how these foundations are necessary to improve young people's access to employment, resources, and knowledge, shown in the centre of the diagram and discussed in detail in (Chapters 3, 4, and 5). These elements, in turn, are mediated by dynamics that shape young people's engagement and employment not just as ends in themselves, but also as a driving force for the realization of goals that go well beyond achieving the SDGs. Among the many dynamic structures and processes shaping opportunities for young people's engagement and employment in food systems, we have highlighted 10 in Figure 2.

First, *diversity, context specificity, and intersectional relations*. Understanding youth in the context of food systems starts with acknowledging that young people are not a single and homogenous group (Wyn and White, 1997), but rather a diverse, dynamically changing and multi-dimensional group made of people who come from particular geographic locations with different cultural backgrounds and socio-economic opportunities. It is thus essential to have

¹ In this report, the gender-neutral terms "young people" and "youth" are inclusive of young women, men and young people of other genders.

a coherent understanding of the diverse contexts, needs, and aspirations of young people, taking into consideration various cross-cutting (“intersecting”) factors such as gender, class, culture, ethnicity and different forms of knowledge and learning.

Next, *intergenerational relations*. As explained further below, in this report we understand childhood and youth in relational terms. This provides a window into issues of the intergenerational relations within food systems across rural, peri-urban, and urban contexts, particularly the processes (and sometimes, tensions) involved in the intergenerational transfer of resources such as land (Chapter 4) and knowledge (Chapter 5).

Mobility reflects the recognition that young people’s life course today often includes periods of mobility between places and sectors of work, often described in the literature as pluriactivity and plurilocality. These mobilities (for example, migration between rural and urban locations, forced displacement due to conflict, and in response to crises such as the COVID-19 pandemic) should not be seen as unidirectional. A life course perspective is needed to understand how young people’s engagements with agriculture and food systems may change over time.

Dynamics related to *learning and innovation* are intended to encapsulate a diverse epistemology of knowledge that stems not only from formal schooling and Western science but also involves intra- and intergenerational knowledge flows. *Innovation* likewise is a continual process, observed as much in the continuous experimentation characteristic of “traditional” farming practice as in today’s rapidly advancing *technological* innovations with their serious implications for employment. As discussed further below, we recognize that the assumed role of young people as innovators rests on shaky empirical evidence and should be seen as a matter of debate.

In their totality, these dynamic structures and processes affect youth in their access to policy making spaces and the degree to which they can use them to advocate for their interests. Therefore, we add to this list *voice*, or the capacity to shape *policy*. This includes participation in formal democratic governance institutions and also the shaping of opportunities for democratic engagement through activism and protest.

The ten concepts outlined in Figure 2—to which others would need to be added for particular contexts and particular sub-groups of the world’s young people—are important “makers or breakers” of young people’s capacities for and roles in promoting “economies of well-being” through food systems transformation; transforming the vision of inclusive, equitable and sustainable food systems from discourse into action, and in turn using food systems transformation as part of more general re-adjustment of economic and social life into “economies of well-being”: sustainable food systems, re-adjusted balances between human and living nature, food sovereignty, dignified and rewarding livelihoods, healthy environments and interactions of cooperation and solidarity.

1.2. Understanding youth

In exploring young people’s actual and potential engagement in transitions towards sustainable food systems we have drawn extensively on key concepts in the field of childhood, youth and generation studies. While our focus is mainly on youth, we think it important to

include children, as various dimensions of young people's initial engagements in food systems begin before their entry into "youth" cohorts. Children are active agents in food systems and their transformation from an early age, as consumers with considerable power to influence household dietary practices (Wertheim-Heck and Raneri, 2020). Schools, families and advertising media have important roles in children's "food literacy" – for both better and worse – with lasting influence on food preferences into youth and adulthood (Vidgen and Gallegos, 2014). Children are also often engaged as labourers in food systems. A focus on youth engagement needs to also consider what strategies can be put in place to ensure that entry in food systems as workers or entrepreneurs happens at the right age and under conditions that are not detrimental for the development and future prospects of young people.

Defining youth and generational relations

For legal and administrative purposes, UN agencies, national governments and their legal systems define the life stages of childhood, youth and adulthood by biological age. The UN, for example, defines "childhood" as age 0-17 years and "youth" as age 15-24 years (thus, overlapping with "childhood" for three years during ages 15 - 17 years) (UN, undated). There are substantial differences between these global definitions and the ages at which "youth" is defined to begin and end in different countries' national youth laws and policies (Arulingam *et al.*, 2019). For example, youth begins legally at 12 years in Mexico, but at 18 years in Bolivia; it ends at 19 years in the United Kingdom but at 35 years in Tanzania and 40 years in Malaysia (Youth Policy Labs, undated). Understandings of the upper boundaries of "youth" can be influenced by such factors as the timing of engagement in the labour market, education, gender, legal status and marital status (Pyburn *et al.*, 2015), reflecting the conventional indicators used to mark the transition from youth to adulthood: completion of education, entry into employment, achievement of economic independence, and marriage or family formation (Durham, 2017). Some young people may pass all the milestones mentioned above by age 18 or 19 years or earlier, while some others may achieve them only in their 30s, underlining the inadequacy of age-based definitions of life-course stages. "Social adulthood," in terms of these markers, is increasingly postponed when young people stay longer enrolled in education than their parents did, and their average age of first marriage and entry into labour markets rises. At the same time, growing access to information and technology can enable new and more rapid areas of entering adulthood, as young people rely less on adults (parents, teachers, religious or community leaders) for their knowledge of, and links to, the outside world (White, 2020). While biological age is of course relevant, for analytical and policy purposes and for purposes of this report, relationality is the main defining feature of the concept of "youth".

Drawing on key ideas in generation studies (Huijsmans, 2016), childhood studies and youth studies (James and James, 2008; Jones, 2009; Wells, 2009), and some that combine the two (Ansell, 2016a; Panelli, Punch and Robson, 2007), we understand childhood and youth in relational terms, defined by their position in intergenerational relations and across the life course. In this way we can better understand the cultural, social, political and institutional arrangements that separate children and youth from adults and the "structural spaces" that they occupy in family, community and society (James and James, 2008).

Relations between generations may not be exploitative or conflictual, but at their base they are – like gender relations – relations of unequal power. This generational power, both material and discursive, shapes young people’s access to resources, their economic and social activities, and their identities in important ways (Ansell, 2016a). These uneven power relations are further compounded by other social differences young people may bear. Wyn and White (1997) discuss the need for a “vertical frame of reference” (p. 97) to ideas of youth transition that reflect generational continuities and uneven outcomes for different groups of youth. Age and generation not only contour the experiences of young people but also influence the shape of social, political, and economic systems (Ansell, 2016a; Fasick, 2016; Sukarieh and Tannock, 2008).

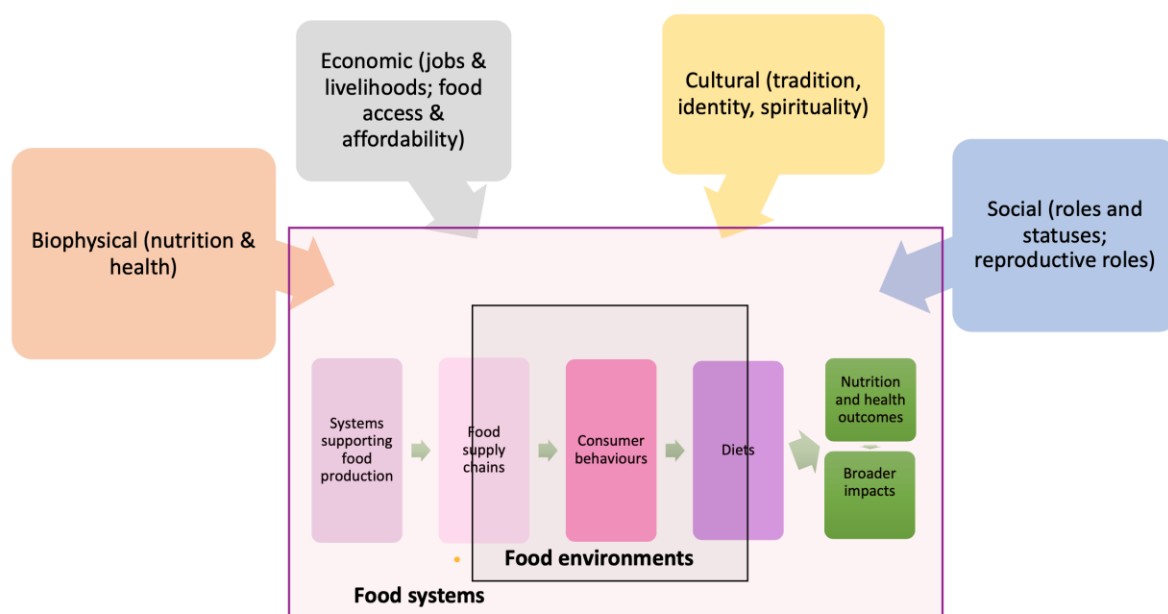
This report builds on the concept of “generational sustainability”—i.e. intergenerational collaboration and the balance between generations—as an essential driving force of development. As academic theorists from Chayanov to Van der Ploeg have pointed out, in relation to smallholder farming it is essential to consider a set of balances as ordering principles – the balance between consumption and labour, between people and living nature, between production and reproduction, between internal and external resources, and between autonomy and dependence (Chayanov, 1966; Van der Ploeg, 2013). A carefully built and maintained inter-generational balance and the two-way exchange of generation-specific knowledge can enhance the role of young people in leading successful and endogenous innovation in food systems and contributing to sustainable agrarian, rural and urban transformations.

What is distinctive about youth and food systems?

A recent state-of-the-art review on youth engagement with food systems confirms the importance of the life-course, generational and intersectional approach to youth engagement (Glover and Sumberg, 2020). The authors note that “each person’s youth transition and their relationship with food systems is uniquely shaped by specific intersections with multiple factors including gender, class, wealth, health, location, intergenerational relationships, and many others” (p. 1) including ethnicity, religious affiliation, migrant/non-migrant status, rural/urban location. These cross-cutting differences among young people (and related relationships between them) are described by the concept of “intersectionality”: as already noted young people’s lives, the social inequalities among them, and the power relations in which they are involved are better understood as being shaped not by a single axis of social division (such as generation and age) but by multiple axes that work together and influence each other (Collins and Bilge, 2016, p. 2).

According to Glover and Sumberg (2020), young people (among other social groups) have objectives and interests related to food systems that fall largely into four domains: biophysical (related to nutrition and health), economic (both from the perspective of employment and livelihoods across food systems as well as food accessibility and affordability for consumers and society), cultural (related to tradition, identity, spirituality and status) and social (social roles and statuses including reproductive roles and traditional livelihoods) (Figure 3). Young people engage with food systems on the basis of these objectives and interests, including in policy research and advocacy, entrepreneurship, research, extension and advisory services, education, and technology. For young people this engagement is further determined by other forms of social differences such as gender and class.

Figure 3: Dimensions of youth engagement and employment in food systems



Source: elaborated by authors based on HLPE, 2017 and Glover and Sumberg (2020)

While intergenerational relations are key to our understanding of young people and our approach to their engagement with food systems, this general understanding also requires key supporting concepts, each focusing on specific, interrelated dimensions of young people's lives: their agency, rights and inequities in power (Jones, 2009; Panelli, Punch and Robson, 2007). Taking a relational approach to understanding childhood and youth can help us to unpack these relationships - how changing "generational social landscapes" (Huijsmans, 2016, p. 4) may restructure rural and urban communities and their food systems, and in turn how changing food systems may influence these generational landscapes. Because youth-related issues in food systems are transversal (cutting across many different problem and policy areas), the different elements and activities that relate to the production, processing, distribution, preparation and consumption of food require specific, youth-targeted and youth-adapted response.

In general, youth engagement and employment in the different types and sectors of food systems remain heavily under-studied (see FAO, 2014; Pyburn *et al.*, 2015; and White, 2020 for agriculture; Arulingam *et al.*, 2019 for small-scale fisheries and aquaculture; and ILRI, 2019 for livestock systems). Some authors argue that few factors distinguish youth engagement from that of other social groups, but some areas are worth noting here.

Looking forward, it is estimated that more than 2 billion children will be born worldwide between 2015 and 2030 (UNDESA, 2019). The majority of these children will be in sub-Saharan Africa and South Asia, where agriculture and food systems constitute the largest employer, and where challenges related to food security, equitable development, and climate change are especially acute (ILO, 2020b). In 2019, youth between 15-24 years of age accounted for 16 percent of the world's population, and were concentrated in Asia (Central and Southern Asia with 361 million youth and, and Eastern and South-Eastern Asia with 307 million, followed by sub-Saharan Africa with 211 youth) (UNDESA, 2019). In most countries

the often-assumed “youth bulge” is now a thing of the past, with the youth population declining as proportion of total populations, but continuing to grow in absolute numbers, a growth led by the African continent where 440 million youth are expected to enter the labour market between 2015 and 2030 (ILO, 2020b).

Another important area in which young people have specific needs from food systems is **nutrition**. Early interactions with food and food systems begins during childhood. For healthy physical, psychological and cognitive development, appropriate nutrition is fundamental. “Young men and women”, Glover and Sumberg (2020, p. 10) find, “do have specific nutritional needs during puberty, which is especially important if they have had the disadvantage of poor nutrition during the early years of childhood”. Adolescent girls and young children in particular have the highest nutritional requirements, which means that many households cannot afford the nutritious food they need, with negative repercussions on growth and pregnancy (SOFI, 2020). Overall, child undernutrition was decreasing prior to the COVID-19 crisis, but undernutrition (wasting, stunting, underweight) is still the main underlying cause of death (45 percent) of children under five years; a quarter of children under five are stunted. In 2019, more than nine out of ten stunted children lived in Africa or Asia. Globally, as would be expected, stunting estimates vary by wealth. Children from the poorest wealth quintile had a stunting prevalence more than double that of children from the richest quintile (SOFI, 2020). Although there has been some progress, rates of stunting reduction were far below what is needed to reach the World Health Assembly (WHA) target for 2025 and the SDG target for 2030. If recent trends continue, these targets will only be achieved in 2035 and 2043, respectively. Simultaneously, and in particular in low- and middle-income countries, the rates of childhood overweight and obesity are rising (WHO, 2020), going from 5.3 percent in 2012 to 5.6 percent in 2019. Of these, 24 percent lived in Africa and 45 percent in Asia (SOFI, 2020).

Children and youth – along with other vulnerable people – already suffering from many forms of malnutrition are at particular risks of sickness in case of crises, and may correlate with worse outcomes related to COVID-19 (Headey *et al.*, 2020). In many countries of the world, the cost of a healthy diet is much higher than both the international poverty line and average actual food expenditures (SOFI, 2020), and the caloric and nutritional needs for youth can be significantly higher than for adults. In Ghana, for example, a nutrient-adequate diet for an adolescent girl would cost three times more than a nutrient adequate diet for a boy of the same age and twice as much as a nutrient adequate diet for an adult man, due to the higher nutrient needs of girls, especially if pregnant or breastfeeding (SOFI, 2020 p. 91).

Another area of interest is **innovation**. Glover and Sumberg note that “most youth, simply because they are young, will engage and interact with food systems from a position of less experience, knowledge and skill than an adult, and in most cases a less powerful position” (2020, p. 10). This calls into question the common assumption that youth are innovators *par excellence*. For instance, while youth employment is popularly promoted in policies and development interventions on the basis of certain “essentialisms”, such as youth being more innovative and entrepreneurial than other age groups, this connection remains largely

conjectural (Ripoll *et al.*, 2017). On the question of youth and innovation, Sumberg and Hunt (2019) conclude that there is no clear evidence to support a simple or direct relationship between a higher ability for innovation and being young. The evidence from technology adoption studies, for example, is mixed (Chamberlin and Sumberg, Forthcoming).

Beyond these aspects, several other dimensions of youth distinctiveness in relation to food systems are relevant and are addressed in the relevant sections of this report: their generational positioning in relation to **access to land and other natural resources** (Chapter 4), and to knowledge (Chapter 5); their relative **exclusion from decision-making** spaces; their higher rates of **unemployment**, and the over-representation of youth in food systems jobs with poor working conditions and low levels of remuneration, particularly in food services and food processing (Chapter 3).

Youth may also be distinct from older generations in relation to their characteristic **mobility**, their **concerns about current issues** such as climate change, and their **ability to use internet** and communications technology. The question of specific youth “aspirations” and “mobility” is discussed further in the next section.

In summary, it is commonly recognized that today’s young people have both a strong stake in, and potentially a strong influence on, the future trajectories and sustainability of the world’s food systems; this is evidenced both by the growing policy interest of international bodies (FAO, 2014, 2018c; also see the inclusion of the “youth” pillar in the UN Decade of Family Farming Global Action Plan, FAO and IFAD, 2019; IFAD, 2019) as well as recent academic literature on the topic (for example, Glover and Sumberg, 2020; White, 2020 and the many references they cite). In sum, the ways in which youth engage and shape food systems can have profound influence not only on their own economic and social development outcomes later in life, but will also set the foundation for future generations.

1.3. Youth aspirations, imagined futures and opportunity structures

For example, the gendered aspirations of young rural men and women related to work in the agriculture sector are shaped by socio-cultural norms about appropriate masculine and feminine forms of engagement (Bossenbroek, van der Ploeg and Zwarteveen, 2015; Elias *et al.*, 2018). A multi-country review of the gendered aspirations of rural young people found that young women expressed an even stronger aversion to agricultural futures than young men. While both aspired to move out of traditional, labor-intensive modes of farming, young men were more receptive to more “modern”, knowledge-intensive agricultural futures. Gender norms that discriminate against women in agriculture, the authors argue, dissuade young women from aspiring for agriculture-related occupations (Elias *et al.*, 2018).

Aspirations are conceptualised in different ways. In general, the literature on the topic coalesces into two main clusters, one that approaches aspirations as “what people expect to achieve” and therefore rooted in some form of reality, while the other understands it as “hopes and dreams”, conceptually separate from “expectations” (Leavy and Smith, 2010). Aspirations are thus both dynamic and relational (Appadurai, 2004), determined by geographical, political, economic and social contexts, social and cultural norms, the influence of family members and others, gender, class, education and media, among other factors (Bossenbroek, van der Ploeg and Zwarteveen, 2015; Elias *et al.*, 2018; Leavy and Smith, 2010). At the same time, young people’s access to the internet and social media (We Are Social Ltd., 2020) means that these non-place based sources of information and opportunities contribute to their aspirations, reducing the influence of place and some of the other intersectional aspects of youth identity. Young people involved in social media networks can express and

exchange their aspirations and experiences in discussion spaces which transcend geographical and other boundaries. It is also important to understand the influence of the diversity of youth worldviews, which vary considerably based on place, gender, class, culture and other intersectional aspects of youth identity (Bossenbroek, van der Ploeg and Zwarteveen, 2015; Elias *et al.*, 2018; Leavy and Smith, 2010).

Leavy & Hossain (2014) point to a “generational break” in how rural youth aspirations intersect with agriculture, from a study in ten countries across Asia, Africa and Latin America. They find that by and large, agriculture is not the preferred first option for livelihoods, even where agriculture is the dominant contributor to rural livelihoods. This takes place against the backdrop of rapid economic growth and integration with global markets, and an increase in the range of work opportunities available outside the agriculture sector. It also corresponds to the increasing enrolment of youth in formal schooling and new modes of communication and connectivity to the outside world (Leavy and Hossain, 2014).

Systematic surveys, anecdotal evidence and “common knowledge” all suggest that today’s rural youth, including the sons and daughters of farmers, on the whole do not aspire to the same farming futures as experienced by their parents and previous generations (McCune *et al.*, 2017). However, this may not be such a recent trend. Although there are hardly any studies on this subject, it is very likely that – at least since the availability of formal education in rural areas - many of present and past generations of adult farmers, encouraged by teachers, parents and other mediators, also had some idea of a better, non-farming future when they were young (White, 2020). Education itself, as currently practiced, is often an important contributor to the construction of aspirations for non-farming futures, fostering a process of de-skilling of rural youth, neglecting farming skills and local realities in curricula, and downgrading farming as an occupation only for those who do not succeed in school (Katz, 2004). There appears to be no parallel evidence on young people’s aspirations regarding engagement in other (non-farming) locations in food systems.

Life-history interviews of young adult farmers in India and Indonesia – many of whom have returned to farming after a period of out-migration – suggest that their delayed entrance into farming can be understood as an attempt to keep open those futures that would be closed by an early entry into full-time farming (Huijsmans *et al.*, 2021). Many of today’s farmers – and in some countries, a majority – are “returnees” those who decided to leave but later returned to the rural agricultural setting (Manalo and Van De Fliert, 2013; White, 2020).

It is notable that when surveys have asked young rural people not only “what would you like to do when you grow up?” but also “what would make farming an attractive option for you?” farming often does appear as a possible option, but only if land and inputs are available, if farming is at least partly commercially oriented, and if it can be combined with other (non-farm) income sources in pluri-active livelihoods (White, 2020, p. 115). This parallels the views of young people who are already involved in farming. In their study of older and younger, male and female farmers in three European and five African countries, Žmija *et al.* conclude: “regardless of the region, the major challenge for transforming small-scale farms into attractive places of work and living for young people is to provide better access to agricultural land, capital, knowledge and markets” (2020, p. 8). Sumberg *et al.*’s (Forthcoming) study in selected African countries has also found that agriculture does have a place (alongside other activities) in young rural people’s imagined futures.

In summary, Sumberg *et al.* (2019) discuss Roberts' (Roberts, 1977) ideas of "opportunity structures" which suggests that entry routes into diverse forms of engagement and employment are shaped based on "place, family origins, gender, ethnicity and education, and labour market processes" and that especially for young people who are poor and from more marginalized backgrounds these are rather constrained. The opportunity structure approach cautions against over-emphasizing the role of choice and aspirations. In contrast, the idea of change-scapes (or youth-centred landscapes of change) (Johnson, 2011, 2014, 2017) provide space for young people to influence the distribution of opportunities they encounter, through individual and collective agency (Sumberg *et al.*, 2019). Further, the stated aspirations of youth (as reported in questionnaire surveys or focus group discussions with young people) can be subject to "social acceptability" filters (Zipin *et al.*, 2015). This all means that stated aspirations are not necessarily reliable indicators of what young people want, still less of their actual futures. As such, while the distance between aspirations and outcomes may be indeterminate, aspirations are also powerful indicators of the material and social realities and inequalities of young people in the present (Crivello, 2015).

1.4. Youth trajectories and mobilities

Following these changing opportunity structures, the way that young people engage in labour markets is also changing. We need to move away from a view in which young people have (or do not have) only one job, are only rural or urban, are either migrants or not, and recognize their typical patterns of sectoral and spatial mobility and frequent job changes (Rigg *et al.*, 2020). Sumberg *et al.* (2019) argue that livelihood choices and decisions about where an individual would want to live are rarely permanent, and that a life course approach is needed to understand how young people's interactions with agriculture and food systems change over time.

Young people's life-course today often includes periods of mobility between places and sectors of employment, leaving and returning to places of origin in response to contextual factors (Gultiano and Ulrich, 2000; Manalo and Van De Fliert, 2013). While many studies point to how youth may tend to leave or migrate out of farming communities, there is a percentage of those who may be considered as returnees; those who leave but intend to return later on or to build capital to invest in their local communities (Manalo and Van De Fliert, 2013).

Mobility and migration in particular are thus embedded within the socio-economic and cultural contexts of food systems transitions, in which rural and urban areas are increasingly connected as a continuum. Development processes at global, national and local levels affect youth's aspirations and opportunities, including with respect to mobility (de Haas, 2010). A trend which is observed especially in developing countries is the relative young age of migrants: as youth are more likely than adults to migrate (Global Migration Group, 2018), the conditions, outcomes and impact of migration and mobility are particularly important for youth. The relationship between mobility and food systems works in both directions: food systems influence mobility and vice versa. For example, migration can positively affect agricultural production and investments through remittances that are invested in the sector, and that can provide essential financial resources for the development of local food supply chains (FAO, 2018b). Migration (including seasonal migration) can provide the needed labour force in food processing and services, but can also create labour shortages and affect the

capacity to cultivate in areas of origin, including through the loss of know-how (FAO, 2018b). Finally, migration can also contribute to enhance skills and entrepreneurship potential of youth, which upon return, they can reinvest back in the local food systems (Orozco and Jewers, 2019); however migration of youth can also contribute to brain drain, depriving areas of origin of the brightest individuals with innovative potential (Beine, Docquier and Rapoport, 2008).

Agriculture and food system changes influence the number and type of jobs created or destroyed, as well as the skills demanded or that become obsolete, which can further have an impact on migration decisions, especially for youth who have less security of employment. A recent study analyzing agricultural added value per worker and migration in different regions found that higher migration rates are positively correlated with a more productive agricultural sector, in line with agricultural transformation theory (Arslan, Egger and Winters, 2019). Food systems also determine land and water use, with impact on natural resources management and environmental sustainability, which can be contextual factors affecting migration. Food systems, and especially the component of food environments (that is, the availability and understanding of the implication of different diets) affect health and nutrition and indirectly youth's educational attainment and human capital accumulation, which has a direct impact on labour market and migration decisions and outcomes. To enhance the positive linkages between migration and food systems, especially with the view of increasing employment opportunities for youth, policy responses need to address specific challenges of each stage of the "migration cycle" (Castagnone and Termine, 2018; JMDI and IOM, 2015).

As it will be discussed in Chapter 3, conventional statistics on youth employment by sector, based as they are on the reporting of a single (main or primary) occupation during a specified reporting period, do not capture the diverse realities of youth aspirations, mobilities and opportunity structures for engagement in food systems. A different picture may emerge when data are available that consider young people's characteristic pluriactivity and mobility and record the proportion of young men's and women's working time devoted to different activities. For rural Asia for example, Jonathan Rigg *et al.* suggest that we can no longer – if we ever could – neatly pigeonhole people as "farmers" or "non-farmers", or even "rural" or "urban". While it may be mainly the elderly who report their occupation as farming,

"farming is, in practice, undertaken often by an assortment of kinfolk, sometimes at weekends or evenings, as they juggle lives and livelihoods [...] Across rural developing Asia [...] most households and many individuals work across the farm and non-farm sectors, over the week, between the seasons and through the life course... This is normal rather than exceptional" (Rigg et al., 2020, pp. 4, 9).

As such, the relationship between food systems, youth aspirations, employment and mobility is complex and does not follow a linear path, and policies and initiatives promoting youth engagement in food systems need to recognise these characteristics of youth trajectories.

1.5. Youth engagement

The employment aspects of youth engagement in agriculture and food systems are discussed in detail in Chapter 3. Youth engagement, however, extends well beyond waged, family and

self-employment in activities related to food production (agriculture, fisheries, forestry, pastoralism), food processing, and food distribution. Young people may also be involved in urban food networks, home gardening in both rural and urban areas, food literacy and policy advocacy, movements related to food justice and climate change, conscious consumers and many other areas of food systems. Engagement may be collective, or individual: for example, when a young man or woman (or child) adopts a vegetarian (or a fast-food) diet, grows food on a rooftop, does volunteer work or joins a food-related campaign or movement, they are engaging in food systems.

While in their “formative phase of the life course” (Glover and Sumberg, 2020, p. 7), children may be passive consumers of food, parents and family play an essential and active role in developing children’s food preferences and dietary habits - for both better and worse. Parental attitudes and role-models practiced in cooking, food purchase, interest towards food origin, safety or nutritional value influence children’s approach to food throughout their lives (Hughner and Maher, 2006; Reitmeier, 2014). In fact, research shows that “food socialisation” starts in the womb, where food preferences or aversions begin to be developed and continue to be shaped and strengthened during early childhood. Children’s first experiences with specific flavours and tastes, dishes, diets and eating continue shape their behaviour and approach to food in the future (Scaglioni *et al.*, 2018). Importantly, the socio-economic status of a family and the educational level of parents impact opportunities and awareness related to engaging with the food system through food consumption.

Decisions related to food and diets are the result of interconnected objectives and interests defined by an individual or collectively. The choice of a “green lifestyle” – adopting of a predominantly plant-based diet, buying and consuming chemical- and/or GM-free, locally produced food and/or food with reduced environmental impact (Lockie *et al.*, 2002) – may be motivated by health concerns, and/or by a conscious, not-self-determined, longer term interest of contributing to a healthier and more sustainable future. In this regard, it must be emphasized that having the possibility to eat (or not eat) specific food and choose to follow distinct diets is often the privilege of having access to information (through formal or informal education) and the means to access the elected food.

With increasing age, growing independence and responsibilities, youth may gain more space to influence family/household dietary practices. From the potential of “pester power” (Wertheim-Heck and Raneri, 2020) to participation in household provisioning, food preparation, and productive activities, youth of all ages find themselves actively engaging in food systems. In this context, it can be argued that youth are exercising agency in making individual decisions about food purchase, preparation, serving, and sharing of food, rooted in cultural, traditional or religious values, and are part of the development and expression of youth identity (Kittler, Sucher and Nelms, 2012).

In recent years, cooking with locally-produced food has become popular and is being increasingly promoted as a pathway to sustainable food systems and healthy, culturally appropriate and diversified diets (e.g. “Bear on Bike” in Barcelona (Bear on Bike, undated)). A young person putting agriculture and food-related issues in discussion and promoting a critical approach to current food systems within their community exercises agency too (Transnational Institute, 2015). Similarly, young teachers and trainers educating children in different settings and with diverse tools about the importance of agriculture, food security

and diverse diets (for example, WhyFarm, undated) are highly important for the engagement of new generations in food systems and the promotion of a collective critical view about current food systems.

Through these diverse activities and forms of engagement and as agents of transformational change in food systems, youth may be able to influence the behaviours of their parents, older brothers or sisters, older members of their community, children, as well as their peers. By bringing in more sustainable practices into everyday life, young people can progressively transform the relationship of others with food systems in a reciprocal and continuously renewing relation between different generations in the family or in the local community. Similarly, to these intergenerational exchanges, intra-generational interactions and activities undertaken with peers may influence food system transformation at a macro level.

The ability of young people, in all their diversity (e.g., gender, culture, place, urban-rural) to engage in the shaping of food systems is also integrally linked to their access to decision-making spaces. Youth express individual and collective agency as well as knowledge and skills to express themselves to global, regional, national and local audiences where issues about their participation and contribution to food systems are discussed. Although there has been a tendency to decline – with some exceptions - in young people’s involvement in conventional political institutions, organizations and processes, this does not mean that they are less politically active. In fact, “young people around the world increasingly do politics outside the formal political sphere, through social movements, voluntary services, identity organizations, urban cultures, militant movements and everyday life” (Ansell, 2016b, pp. 233-34). We have witnessed increasingly visible youth agency, for example, in recent actions against the climate crisis, in which young people used unconventional means (including school strikes), taking the leading role in policy discussions.

Young peoples’ engagement and agency in food systems can also take place through youth active participation in policy processes and democratic representation. Upon reaching voting age, a young person may exercise their right to vote to choose the preferred policy programme, including country/locally-specific regulations related to food and agriculture, as well as pursuing employment or even elected office in policy and other governance spaces. Participating in social and/or collective organisations and activist roles in claiming, advocating and protesting for sustainable food systems transformations. For example, “Food Sovereignty Movement”, “Wir haben es Satt”, “Fridays for Future”, among others are other visible modalities of youth engagement in today’s food systems.

2. Youth employment in food systems

What role can agriculture and food systems play in the realization of young people's right to work? Agriculture and food systems are in rapid flux, with many implications for the provision of employment, types and quality of jobs, rural livelihoods and mobility, and both new threats and new opportunities for engagement (FAO, 2018a; HLPE, 2017). As such, in this Chapter we explore the different components of food systems from agricultural production to value addition, processing and engagement with markets. We address what opportunities are currently present in food systems; what opportunities are under threat or disappearing in food systems transitions; and how food systems can be transformed to provide more and better opportunities for youth livelihoods and decent work.

We also highlight the importance of focusing on youth employment, focusing on the diverse vulnerabilities that youth face with regards to access to work, jobs and livelihoods in food systems. We explore aspects related to formal employment and the right to work, including legal considerations of working conditions and job quality, and the availability of economic, socially and environmentally beneficial and sustainable jobs. In our consideration of engagement and employment we take a livelihoods approach, including the ways that decent work in agriculture and food systems can contribute to food security and well-being, in addition to income. We also consider the impact of food systems types and transformations on youth livelihoods (including but not limited to waged employment).

We consider the double-edged role of youth mobility and technological innovation in both destroying and creating opportunities for youth employment, and the possibilities for promoting technologies that advance young people's right to work and to protection from unemployment. Young people are often concentrated in those food-system jobs with a high probability of automation, for example in the food preparation and serving sectors and those demanding middle levels of skill (ILO, 2020). Nonetheless, if youth-inclusive policies are in place and implemented successfully, food systems present many opportunities for youth employment (IFPRI, 2019).

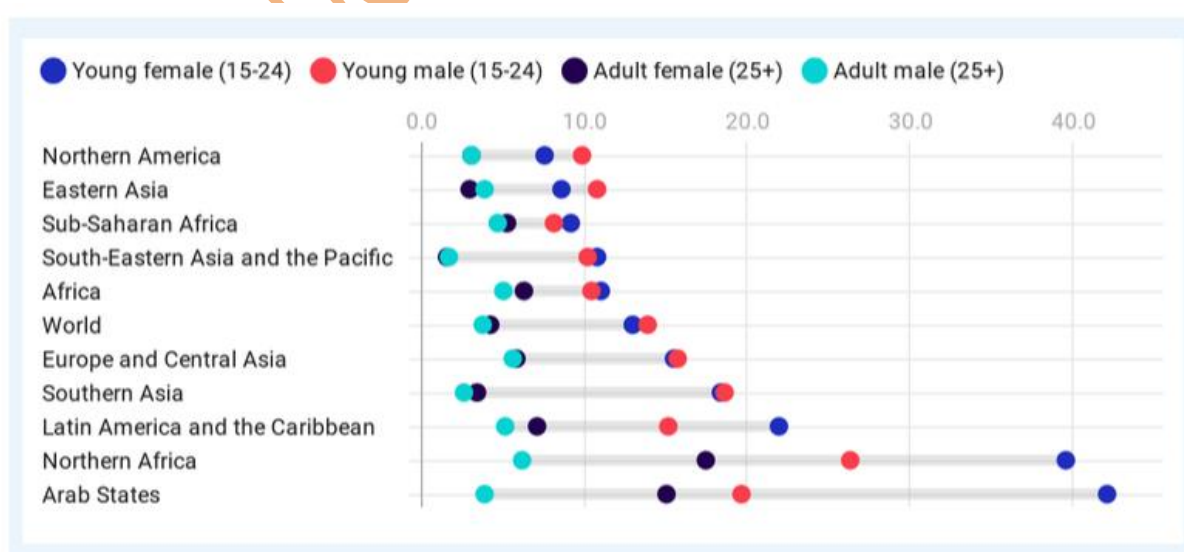
2.1. *Why focus on employment in food systems?*

In a world characterized by high and growing rates of youth unemployment – already in evidence before and exacerbated by the COVID-19 crisis – and following the three pillars of agency, equity and rights in the framework elaborated in Chapter 2, it is important to explore the role of sustainable food systems in the realization of young people's right to work. The Universal Declaration of Human Rights states that “everyone has the right to work, to free choice of employment, to just and favourable conditions of work and to protection against unemployment” (UN General Assembly, 1948, Art. 23.1). The International Covenant on Economic, Social and Cultural Rights in promoting these rights (to work, to fair working conditions and to protection against unemployment), indicate that states as the primary duty bearers are obliged to provide “technical and vocational guidance and training programmes” and “policies to achieve [...] full and productive employment” (ICESR, 1966, Part III, Art. 6).

To fully understand youth's position in the labour market, we need to look at a variety of different indicators, including unemployment, labour force participation, NEET status (those neither in employment, education or training), as well as the prevalence of young people in vulnerable, informal employment and working poverty, and how these may differ between agriculture and food systems and other sectors. In recent decades, the world's youth (here defined by ages 15-24) have been increasingly disengaging from the labour market. From 1999 to 2019, the global labour force participation rate of youth has substantially declined (from 53 to 41 percent), while the share of youth in NEET status has increased, although with marked regional variations (ILO, 2020b). In 2019, of an estimated global population of 1,273 million youth, only 429 million were employed, while 68 million were unemployed, 735 million were out of the labour force, either because they are enrolled as students, or because they are not (or no longer) looking for a job, and 41 million were about to enter the labor force (ILO, 2020b).

Unemployment rates for youth are three times higher than for adults in all world regions, and a vast majority of unemployed youth are young women (ILO, 2020b), Figure 4. In most regions, youth unemployment was rising even before the current COVID-19 crisis (ILO, 2020b). Other aspects of concern for those youth that have a job are the higher incidence, as compared to adults, of working poverty and of vulnerable employment, as well as of labour underutilization, especially in low income countries (ILO, 2020b). Overall, therefore, youth unemployment rates are higher than those of adults, and when employed, youth are more likely to be in short term jobs, with poor pay, long working hours and substandard working conditions (ILO, 2020b; Leavy and Hossain, 2014; Te Lintelo, 2012; UNESCAP, 2015; White, 2020). Young women, especially, are overrepresented in unemployment and vulnerable employment, and have the lowest participation rates in the labour market, often because of a “discouragement” effect and gendered perception of acceptable jobs (ILO, 2020b). It is not surprising, therefore, that youth's access to employment is a serious and growing concern within the SDG framework.

Figure 4: Youth unemployment rates, by region, pre-COVID-19



Source: ILO (2020d)

According to recent estimates, the COVID-19 crisis has already caused the loss of almost the equivalent to 500 million full-time jobs, and it is uncertain when and to what extent the labour market will recover (ILO, 2020f). It is estimated that the pandemic will put at risk more than 450 million jobs and more than one billion livelihoods in food systems alone (UN, 2020). Jobs that appear to be more at risk are those in food processing, services, and distribution, and with respect to food systems that primary production (farming, fisheries, forestry) jobs are less affected than jobs in services and processing (UNSG, 2020).

Emerging data from the Asia-Pacific region show that youth are more likely than adults to work in sectors that are being more severely affected by the crisis, such as accommodation and food services, which alone account for 11.5 percent of all youth employment, and in agriculture, forestry and fishing, which although not highly affected by the crisis, is the sector filling the largest share of youth employment (21.2 percent of all youth employment in the region) (ILO and ADB 2020). Given the more vulnerable situation of youth in labour markets, youth, and especially young women, are disproportionately bearing the brunt of this crisis, not only because of the higher prevalence in the hardest-hit sectors, but also because of their prevalence in vulnerable forms of employment. The impact is visible both in terms of increased unemployment, and also - more significantly - because of increased levels of underemployment and inactivity (ILO, 2020f). Youth in informal employment, which is highly prevalent in agriculture and food systems have been the hardest hit (FAO, 2020a; ILO, 2020e).

The crisis negatively impacts the prospects for youth through three channels. Young people are experiencing (1) job disruptions from reduced working hours and layoffs, (2) disruptions in education and training as they try to complete studies, and (3) difficulties transitioning from school to work and moving between jobs. (ILO and ADB, 2020: VII)

Table 1: Food systems employment impacted by COVID-19 (in thousands)

	Food systems		COVID-19*			
	Jobs	Livelihoods	At-risk-jobs	% of food systems jobs	At-risk-livelihoods	% of food systems livelihoods
Primary production	716.77	2,023.80	152.35	21%	404.76	20%
Food processing	200.73	484.54	120.44	60%	290.72	60%
Food services	168.97	339.44	101.38	60%	203.66	60%
Distribution services	96.34	241.48	57.81	60%	144.89	60%
Transportation services	41.61	101.05	16.64	40%	40.42	40%
Machinery	6.51	13.18	1.72	26%	3.48	26%
Inputs	4.89	11.06	1.29	26%	2.92	26%
R&D	0.13	0.29	0.02	15%	0.03	10%
Total	1,280.93	3,214.84	451.64	35%	1,090.89	34%

Source: Unpublished FAO/IFPRI estimates, based on [ILO 2020](#) – ILO extrapolation scenario. Not annualized. Jobs represent formal employment; livelihoods cover a broad array of self-employed, informal, migrant and seasonal labor.

Source: UN (2020)

Migrant workers in food systems, who are often young, have experienced a higher prevalence of COVID-19 infection, because of the difficulty of respecting physical distancing measures in cramped working and living conditions (Klassen and Murphy, 2020), while having less access to social protection against illness or loss of employment (UNSG, 2020). Seasonal migrant workers, who constitute a large part of the workforce in agriculture and in food processing and retailing, are being disproportionately hit by policies restricting cross-border movements: recognizing them as “essential workers” has enabled them to overcome some of these challenges (ILO, 2020c).

The employment of youth in food systems is therefore determined by various factors, including both changing technologies and labour regimes, young people’s awareness of the wide range of opportunities across food systems, aspirations and expectations and the resources to overcome constraints to engagement, which are all often directly correlated with urban/rural residence and other measures of connectivity with food systems hubs, as well as the capacity of different segments of food systems to absorb jobs (Dolislager *et al.*, 2020). For example, for some youth, an apprehension to venture into agricultural work may be linked to the “systemic challenges” within food systems (FAO, 2014, p. 32), including access to resources, chronic government neglect of smallholder farming and poor working conditions (see the discussion of youth aspirations in Section 3.2 above and access to resources in Section 4.0), as well as remoteness and agricultural potential shaping “landscapes of opportunity” (Abay *et al.*, 2020b p. 2).

During adolescence and sometimes earlier, children are frequently involved in farming or other points in the food chain, as paid or unpaid workers and less frequently as own-account workers. Current estimates say that 70 percent of all child labour is in agriculture, accounting for about 107.5 million children, the majority of whom are engaged as (unpaid) contributing family labour (ILO, 2016). While there is no doubt that millions of children are deprived of their childhood and the right to a healthy development because of their engagement in child labour, for many other children, work may be a survival strategy and an opportunity to learn valuable skills. Despite the global consensus, including endorsement by the CFS (see for example CFS, 2014a), that all children have the right to (good) education and to be protected from exploitation and from any work that is likely to harm them, there is less agreement about the appropriate roles of work and responsibility in the process of growing up, and whether or in what ways school and work can be combined without harming the child (Bourdillon *et al.*, 2010, p. 205).

The age group of younger youth between 15 and 17 years of age also needs specific attention, as at this age youth have reached the minimum legal age for employment (normally set between 15 and 16 years of age, in accordance with Convention No. 138 on Minimum age) in most countries. Youth in this age bracket are in an important physiological developmental phase of their bodies and minds, and are thus especially vulnerable to hazardous work and abuse. In addition, being under 18 in most countries bars property ownership and representation in workers’ unions or producers’ organizations. In the face of these challenges, this is a decisive stage in the life cycle to determine future employment prospects and earnings, either through entry in the labour market or to enrolment in higher education (Cavero and Ruiz, 2016; FAO, 2017).

In summary, the link between food systems and employment is bidirectional: food systems that do not provide decent and meaningful work and adequate livelihood opportunities to those engaged in them cannot be considered sustainable (environmentally, socially and economically) while, at the same time, youth will not aspire to work in food systems that do not provide good working conditions and adequate wages, and that do not fulfil their expectations in terms of well-being and quality of life (HLPE, 2020a; Nguyen, 2018). Conditions of employment, income, adherence to youth's aspirations and societal and family expectations are therefore factors that influence youth mobility between different food systems' jobs.

2.2. Trends in youth employment in food systems

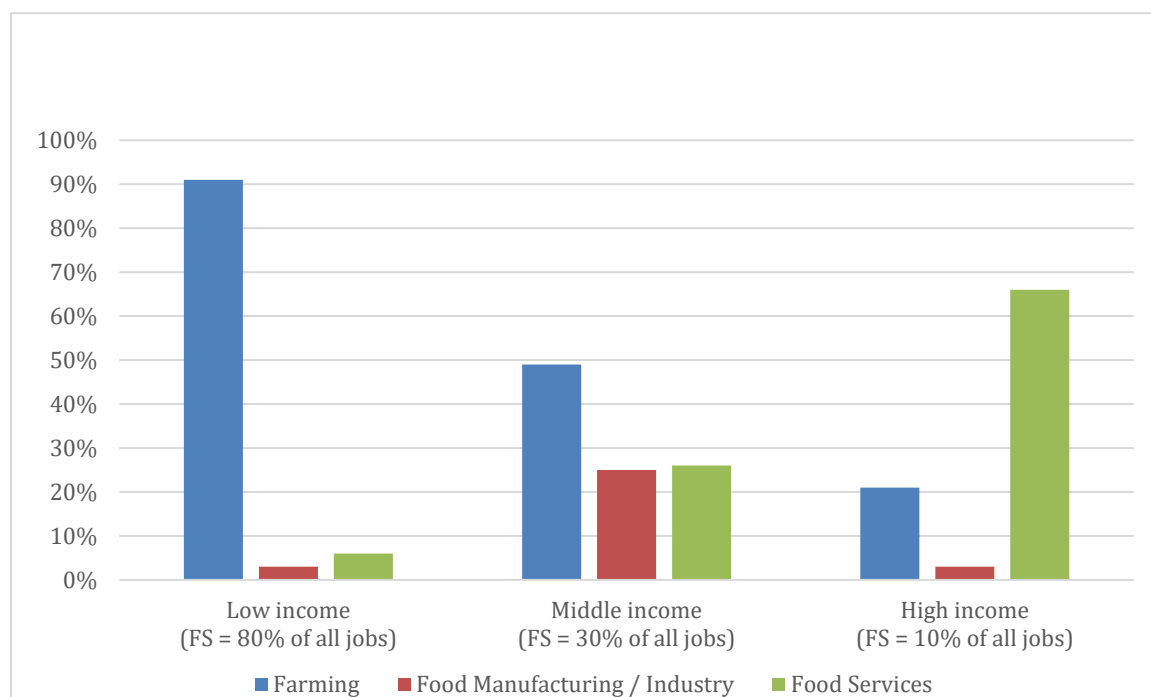
Food systems directly employ more than one billion people worldwide, and provide livelihoods to more than three billion people (UNSG, 2020). In addressing food systems employment, it is important to reject a false equivalence between food systems and agriculture; as well as the common perception that food systems jobs are concentrated in rural areas. The number of people working in agriculture has fallen overall, from over 1 billion in 1992 (44% of total employment) to a projected (pre-COVID) number of 877 million (26% of total employment) (ILOSTAT, undated).

Many parts of the world, but particularly Asia and Africa, are experiencing a “feminization of agriculture” or agrarian transitions that are deeply gendered (De Schutter, 2013). In South Asia, studies have shown how this has led to the reconfiguration of gender roles and an increase in women's power and autonomy, but only in a few contexts (Pattnaik *et al.*, 2018; Sugden *et al.*, 2014). In many cases, women are increasingly shouldering additional farm labour duties in addition to existing productive and reproductive responsibilities, while working in a sector that is showing steeply diminishing returns. In Nepal, this is particularly the case for marginal, tenant and landless labour households, where the outmigration of men is the highest, but where the women have the least capacity and resources to cope (Sugden *et al.*, 2014).

The literature increasingly underlines the importance of peri-urban food systems activities and jobs, which include not only food manufacturing and retailing, but also the increasing role of primary production in or close to urban areas (Abay *et al.*, 2020a). Recent estimates show that post-harvest activities, including food processing and packaging, are very important for youth in urban, peri-urban and rural areas, although their relative share increases getting closer to urban centres. Although farming jobs are an important source of employment for rural youth, they are not the dominant source of employment in many regions (with the exception of some African countries), as in fact they account for only one third of full time employment of youth, while the majority of youth is engaged in non-farm employment, some of which is in food systems (Abay *et al.*, 2020a). In sub-Saharan Africa the number of people working in agriculture has had a relative increase of more than 80 percent in the last twenty years (ILOSTAT, undated). These trends reflect demographic changes, which in sub-Saharan Africa have seen a youth bulge and increased pressure in the labour market, some of which is, and can be further, absorbed by agriculture. Youth are also more mobile than adults, between geographic areas and between occupations, which tends to further blur the distinction between urban and rural areas and between sectors of occupation.

Historically, growing per-capita incomes, urbanization and associated food systems transitions have tended to shift the balance of food system employment from primary production to processing, retail and other food-related services (Reardon *et al.*, 2015), as shown in Figure 5, comparing Eastern and Southern Africa with Brazil and the United States.

Figure 5: Composition of jobs within food systems (FS), selected countries



Source: Derived from Tschirley *et al.*, 2015; Moreira *et al.*, 2016; and USDA; cited in World Bank and IFAD (2017).

In terms of the impact of COVID-19 on youth employment by sector, young people's employment in primary production (agriculture, forestry, fisheries) has shown greater resilience than wholesale and retail trade and the accommodation and food sectors (ILO and ADB, 2020).

It should be noted that conventional labour force and employment statistics (such as those used so far in this chapter), while useful, in some respects may give an inaccurate picture of young people's labour-force participation and employment in agriculture and agri-food systems. This is because they are based on labour-force surveys in which the individual (a) cannot be both enrolled in school and in the labour force, while as already noted above, children and young people frequently combine school and part-time (paid or unpaid) work, particularly in the teen years (Bourdillon *et al.*, 2010; Crossouard, Dunne and Szyp, Forthcoming), and (b) the individual is asked to report only one "main job", being the activity "with the most hours usually worked" (ILO, undated) – while rural young people's work activity is often pluri-active, combining non-farm jobs (which may be those more likely to be reported) and farm work.

Surveys of actual time use between different work activities avoid both these problems and therefore provide a more accurate picture, but are only available for some countries. The two tables below are based on such data, drawn from "the largest individual-level data set ever

assembled for the analysis of youth employment” (Dolislager *et al.*, 2020, p. 3). The surveys measured the share of the individual’s working time devoted to different employment sectors. They covered 178,794 households and 460,654 individuals aged 15-64 years in 13 African, Asian and Latin American countries, in four age groups: early youth, later youth, early adulthood and later adulthood. 460,000 rural young people (aged 15-24 years) in selected African, Asian and Latin American countries.

Table 2: Employment of rural youth (15-24) in farming and agri-food systems (share of total employment in full-time equivalents, pre COVID-19)

	Region		
Sector	Africa	Asia	Latin America
On own farm	51	19	12
Farm wage work	4	13	16
AgriFood (non-farm)	21	21	23
(Total AFS)	(76)	(53)	(51)
Non-AFS	25	47	49
Total	100	100	100

Source: Dolislager *et al.* (2020). Percentages are rounded to 0 decimal place.

As seen in Table 2, representing shares of total employment (full time equivalent) agrifood systems (AFS) work represents half or more of young people’s employment in Africa, Asia, and Latin America. Farm wage work was more significant in Asia and Latin America contexts, than for African youth. Aggregating the regions and showing variations by age group in Table 3, in terms of *status in employment* and occupations, we see a clear pattern in which younger youth (late teenage) are involved more in “own farm” work than other kinds of work; this declines quite markedly among older youth (18-24) and younger adults (25-34) as they become more involved in non-AFS activities, and rises again from age 35 (presumably, as they acquire land and return to farming).

**Table 3: Shares of rural youth and adult employment by sector and age group
(Africa + Asia + Latin America, selected countries, in full-time equivalents, pre COVID-19)**

	Age group			
Sector	15-17	18-24	25-34	35-64
On own farm	40	27	23	33
Farm wage work	10	10	9	9
AFS (non-farm) self employed	11	9	13	13
AFS (non-farm) wage work	10	13	9	5
(Total AFS)	(71)	(59)	(54)	(60)
Other self employed	10	11	16	17
Other wage work	18	30	30	22
TOTAL	100	100	100	100

Source: Dolislager *et al.* (2020 p. 8). Percentages are rounded.

The Agrifood Youth Employment and Engagement Study (AGYees), which analysed the potential of Nigeria, Rwanda and Tanzania's food systems to provide employment for youth, confirms these patterns. In fact, although labour moves out of farming in the process of agricultural transformation, farming is still key for livelihoods and economic growth. The study also estimates that the number of jobs created by farming will continue to be higher than those created in off-farm food systems for the next decade (Allen *et al.*, 2016).

2.3. Conditions of employment and decent work in food systems

Decent work is defined by the ILO as involving "opportunities for work that is productive and delivers a fair income, security in the workplace and social protection for families, better prospects for personal development and social integration, freedom for people to express their concerns, organize and participate in the decisions that affect their lives and equality of opportunity and treatment for all women and men" (ILO, 2020a). In 2015, the concept was included in the SDGs (under SDG Goal 8: *Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all*). Fundamental principles and rights at work (also referred to as core labour standards or fundamental labour rights) have been defined in the 1998 Declaration on Fundamental principles and rights at work (ILO, 1998), and include: recognition of freedom of association and the right to collective bargaining, elimination of all forms of discrimination in employment (including discrimination based on gender, age, nationality, ethnic origin, social status, religion, sexual orientation), elimination of child labour and of forced labour. Yet, jobs in food systems, and in particular in primary production in agriculture, witness widespread violations of all these fundamental labour rights, with the majority of child labourers in agriculture, large numbers of forced labourers in fisheries, widespread gender and age inequalities and segmentation and

exploitation of vulnerable groups of workers such as migrants and indigenous peoples, and the lowest rates of labour force unionization. In addition, agriculture is the third most hazardous sector (after mining and construction) and the highest in terms of fatalities, due to chemicals exposure, use of hazardous tools and machinery and contact with wild animals (ILO, 2010). Food systems jobs have also the highest incidence of informality, casual labour, underemployment, working poverty, and among the lowest rates of access to social protection (Allieu and Ocampo, 2020; Eurofound, 2014; ILO, 2018; Townsend *et al.*, 2017), which are being further aggravated by the COVID-19 crisis.

Employment in food systems, and especially in primary production or food processing, is therefore often characterized by working conditions which fall short of those identified in the decent work concept, especially for youth. The emergence and increased concentration of global food supply chains, and serious food systems governance gaps, including inadequate enforcement of legislation and weak labour relations systems, limited traceability of food products, and fragmentation of the labour force, create the environment for labour rights violations at all stages in food systems (Clapp, 2018; ILO, 2008). In many countries, labour legislation still does not apply to agriculture and food systems, because many of the activities carried out are excluded from its coverage, or the employment relationships are informal and often intertwined with family relationships, or legislation is not adequate to meet the specificity of employment in food systems, especially with respect to primary production activities (Alemahu, 2018). Wage workers' rights can be seen as lying on a continuum between informal and formal employment, where higher degrees of informality correspond to weaker workers' rights. In food systems, the informality and seasonality of the work often precludes access to social protection and social security measures, with the result that workers are not protected against the uncertainties of employment (ILO, 2020c). At the same time, youth are underrepresented in workers' unions and producers' organizations, which limits their ability to shape decisions on food systems that affect them (Keune, 2015). Besides declining memberships of unions worldwide, the median age of union affiliates has been increasing in the past decade (ESS-ERIC, 2020; OCED, 2020), which shows a disengagement of youth from traditional forms of representation.

2.4. Technological opportunities and challenges in youth employment

Emerging technologies are expected to significantly affect the prospects for youth employment, including the creation of new types of jobs in some sectors and the disappearance of jobs in others, due to changing demand and labour-saving technologies. Fears of job destruction due to nascent technologies, such as those in the suite of Agriculture 4.0, have yet to be confirmed, while at the same time there is little evidence to support the optimism of earlier years, that labour-saving technologies were compatible with full employment through reduction of working hours and job spreading, as predicted by Keynes (2010) as far back as 1930. However, technologies are already available that could potentially cause a massive shedding of labour, both less skilled and middle-skilled, in agriculture and other branches of food systems (Kucera, 2017). For example, one estimate suggested that almost half of US jobs are at risk of automation by computer-controlled equipment in the next 10-20 years (Frey and Osborne, 2017), and another suggests that over half of jobs in five ASEAN countries (Cambodia, Indonesia, Philippines, Thailand and Vietnam) are at high risk of displacement from automation technologies (Chang, Rynhart and Huynh, 2016).

Technological innovation has also led to the further informalization of many workers in the “gig” economy, such as app-based transportation and food delivery workers, who are classified in many regions as independent contractors rather than regular employees, and thus face reduced earnings, benefits eligibility, work fragmentation and increased risk associated with flexible labour (Juliet Schor, 2020; UN ESC, 2018).

On the other hand, digital tools - especially those that increase access to information have “significant potential to improve efficiency, equity, and environmental sustainability in the food system” by reducing transaction costs to link sellers and buyers, increasing access to markets and broader sources of knowledge, providing evidence-bases for farmer decision making such as climate and market forecasts (World Bank, 2019). These technologies may help lower the costs of linking sellers and buyers; reduce inequalities in access to information, knowledge, technologies, and markets; help farmers make more precise decisions on resource management by providing, processing, and analyzing an increasing amount of data faster; and potentially reduce scale economies in agriculture, thereby making small-scale producers more competitive (World Bank, 2019). For users with access to ICT infrastructure, big data and supply chain analytics can provide insights in real-time or near-real-time as the data is received and processed; having continuous analyses of weather, soil, climate, and market data may give the user a better understanding of the interactions between different components of the system (Sandeepanie, 2020).

Other technological innovations - such as new food processing technologies (including for meat alternatives); and urban and vertical agriculture (hydroponics, aquaponics, aeroponics) are potential avenues of increased urban employment in food systems; however, these industries are highly capital- and energy intensive and thus will require significant investment from public and private sources of capital.

The nexus between technological innovation and generation of employment is, like many other structural drivers affecting youth in food systems, mediated by context-specific factors such as access to education and vocational training (Khatun and Saadat, 2020), availability and access to digital infrastructure (e.g., Mehrabi *et al.*, 2020); and gender (e.g. women are under-represented both in sectors where automation is expected to displace jobs (e.g. manufacturing and construction) and in STEM (Science, technology, engineering, and mathematics) fields and ICT fields, where growing opportunities may occur for new jobs in the tech sector, requiring unprecedented levels of digital literacy (UN ESC, 2018). **In the next two chapters, we take up two of these primary drivers affecting youth employment in the food system: access to resources and knowledge, learning and innovation.**

3. Access to resources

Access to resources is often a key barrier to young people's participation in food systems, from primary production to food distribution and consumption. They may encounter problems in access to land, knowledge, the financial means to invest in other necessary resources such as machinery, inputs, processing and marketing, and supporting institutions. These barriers can put young people engaged in food systems livelihoods for the first time at a disadvantage, as compared with agribusinesses and high-tech urban agricultural actors (FAO, 2014).

Social factors such as gender, race, class and caste can also influence access to resources such as land or credit (Donnelly, 2019). Considering these factors are important areas for policy, in this Chapter, we ask: how to break down the barriers to young people's access to resources, without jeopardizing the needs and rights of older generations where these resources are finite?

When thinking of young people's access to resources in relation to food systems, it is natural to think first and foremost of access to land and other resources needed by young (would-be) farmers and food producers. At the same time, for the majority of the world's youth, and particularly those in middle- and higher-income countries and in urban areas everywhere, engaging with food systems means their involvement, not directly in farm production but in other food system places and roles, whether as own-account workers, paid workers, voluntary workers or simply as concerned young consumers. These broader involvements also require access to a complex variety of resources. The resource barriers to young people's entry into farming may be different in some ways from those in other parts of food systems (notably due to the problems of access to land), but similar in others (for example in access to credit, technology, markets, organizational support and societal recognition, especially for young women).

As a general principle, improved access to resources in food systems for young people will be more sustainable, and their involvement more resilient in the face of economic and climatic shocks, when it does not depend on continual injections of new resources, but rather on young people's ability to exercise a more significant and fairer claim on resources already available in their environments and societies. Here it is important to highlight, recognize, and support inter-generational solidarity, defined as "an intentional connection between two or more persons of different age groups" (Cruz Saco, 2010, p. 9). This connection is created through "their bonding [that] reflects personal wishes and material goals, emotional bonds and rational justifications, altruism and self-interest, caregiving and care receiving" (Cruz Saco, 2010, p. 9). Inter-generational knowledge transfer between (kin and non-kin) actors as well as solidarity during the phases of common work and life based upon unities of interest, objectives, standards and sympathy can establish the basis and the framework of collaboration and facilitate a "smooth transfer" (Potter and Lobley, 1996, 286), of resources, managerial control and enterprise-specific knowledge.

Within an Indigenous and local community understanding of "inter-generational knowledge" about living in harmony with Nature (Mother Earth), living off the land, and its resources while maintaining the integrity of the ecosystem itself is embedded in their cosmovision or worldview (McGregor, 2004). Emerging from this cosmovision is the knowledge and creativity

of generations of Indigenous and local farmers who, through traditional knowledge, have preserved biodiversity and other finite resources within their territories. They have passed this knowledge from one generation to another through sustainable agricultural practices and innovations (Altieri, 2010; Huambachano, 2018; McGregor, 2004).

The simultaneous transfer of tangible and intangible assets can be facilitated by succession. Though farm [and other food enterprise] succession is differently defined by scientists, most authors approach it as an intergenerational process; e.g. transfer to the next generation of the ownership and managerial control of a farm, together with the skills and knowledge (Gasson and Errington, 1993; Kimhi, 1997; Lobley, Baker and Whitehead, 2010; Potter and Lobley, 1996). Occurring between kin or non-kin actors, succession is to be considered as a multi-staged process of generational change within the farming or food enterprise unit in a broader context including the different aspects and the mutually adjusted roles of the actors and the cooperation between the generations.

3.1. Access to land, water, fish stocks and forests

Peasants and other people living in rural areas have the right to land, individually and/or collectively [...] including the right to have access to, sustainably use and manage land and the water bodies, coastal seas, fisheries, pastures and forests therein [...] (UNDROP, 2017, Art 17).

Reports by authoritative panels of international experts have confirmed the economic, social and ecological superiority of small-scale farming and other small and medium food systems enterprises (SMEs) in terms of their resilience and adaptive capacity. They all concur that there is no crop that cannot be cultivated effectively and efficiently on smallholder farm units, that per-hectare yields of all crops are generally higher on smallholder farms than on large industrial farms, and that smallholder farms produce much better outcomes in terms of food security and nutrition, employment, community development, and environmental sustainability (Among them are FAO, 2019b; HLPE, 2019, 2020a; IAASTD, 2009; Herren, Haerlin and IAASTD+ Advisory Group, 2020). As such, attention to the distribution and access to land is paramount for enabling ongoing rural employment for youth in the primary production sector.

Yet, many young rural people and would-be farmers, even if their parents have land, are themselves landless unless their parents, and/or the broader community, decide to make some of it available to the children (European Commission, 2016; Monllor, 2012). A FAO 2018 report on “gender gaps and land rights, concluded that “women are significantly disadvantaged relative to men with regard to their land rights” (FAO, 2018d, p. 1). While formal laws have been reformed to facilitate equal access to resources, this may not materialize in practice when customary legal systems within a particular country prescribe otherwise, and young women may not have the necessary knowledge, financial resources and confidence to ensure this right can be exercised (FAO, 2014; Jacobs, 2013).

The intergenerational transmission of land, fisheries rights and other resources includes both intra-familial (e.g. from parents to their children) and extra-familial transmission (e.g. between community members). Beyond intergenerational transmission mechanisms, young

people may have access to natural resources in agricultural, fishery and forestry as “newcomers” (Monllor, 2012) or “ex novo,” meaning without farming family backgrounds (European Commission, 2016). From the perspective of the entry channel, two main pathways can be identified: one may inherit and take over the family farm (intrafamilial farm succession), or enter through alternative entry channels such as farm set-up (start farming on a piece of land that is bought or rented individually or with a group of people) or through extra-familial farm succession (take over a farm from an elderly farmer without successors in the family).

In the case of livestock, young people may find it challenging to access options that are considered more valuable and capital-intensive such as dairy producing animals (Sulo *et al.*, 2012). In the case of small ruminant production in Ethiopia, (Mueller, Acero and Estruch, 2017) find that young people mostly occupy the wage work aspects of small-ruminant food chains, while the ownership of the animals and related business is mainly held by older men. Access to livestock is also strongly gendered. For example, in Kenya, while livestock such as cattle, sheep and goats can be gifted to both genders, only men can inherit livestock. In contrast, less capital-intensive livestock such as poultry is considered to be the domain of women and considered to be more accessible to young people (Mutua *et al.*, 2017; Sulo *et al.*, 2012).

In regions where rights to fishing grounds are regulated and private property rights exist, young people may also face issues of access. Fisheries as a common pool resource is often considered a “last resort activity”, where its open access nature enables those for whom other livelihoods are not accessible to make a living (Béné, 2003). There is however considerable diversity within this sector. Privatization of such open access fishing grounds through arrangements such as individual transferable quotas and limited entry licensing, or social identity such as caste or class (Rao and Manimohan, 2020), could add another barrier to the engagement of young people (FAO, 2016), who by nature have less physical and financial resources - as described at the beginning of this section - to find fisheries an accessible livelihood.

Young would-be farmers whose parents do not have land, or are not yet ready to pass land on to the next generation, need support in access to land from other sources. High and rising land prices in most of the world put land purchase out of reach of most young people, even if they have money saved from a period of migration or off-farm work. Banks may be unwilling to finance land acquisition for starter farmers. Landlessness can also influence engaging in other forms of food production such as aquaculture, although dynamic rental markets have been found to offset this, as in the expansion of commercial smallholder aquaculture in Bangladesh (Belton, Ahmed and Murshed-e-Jahan, 2014).

3.1.1. Corporate land acquisition and access to land and other resources

From the European enclosures to contemporary large-scale land acquisitions, also referred to as “land grabs” for oil palm and other commodity crops, smallholder and Indigenous dispossession and the emergence of large-scale estates has eroded, and in many cases, completely cut off access to land resources, and in turn the smallholder farming option, for young people. The initial dispossession may leave the original land-users in place in enclaves in which some kind of farming on a reduced scale is still possible, but the real land squeeze

begins a generation later when the remaining land is inadequate for the needs of young (would-be) farmers (see, for example, Li, 2017). Dispossession could also be related to other resources, for instances of water for fishing in the case of dam construction of hydropower (Béné and Friend, 2011; Friend *et al.*, 2009).

Given the better performance of smallholder farming over large-scale industrial agriculture in both economic and social terms, and adding the adverse consequences of large-scale land acquisitions for young people's access to land and independent farming, we underline the conviction of Olivier de Schutter (UN Special Rapporteur for the Right to Food 2008-2014) that large-scale land acquisition should be seen as the "last and least desirable option" (De Schutter, 2011).

Much land currently held by corporations in large-scale estates is not owned, but held on long lease from governments. This offers, in the longer term, an opportunity for the breaking up of these large production units and their transition to more larger numbers of highly productive and diversified smallholder operations - accessible to young people with secure use-rights - on the expiry of the lease. To complement the accessibility of land to young people and to strengthen their user rights would also require improving the quality of investment so that it benefits those that need it most. The Committee on World Food Security (CFS) has developed ten principles for responsible investment in agriculture and food systems – known as RAI grounded in the basic principle of "respect and recognition for human rights." The scope of these ten principles is broad to include all types and sizes of agricultural investment in all stages of the value chain in various industries, for example, forestry, fishery and livestock (CFS, 2014a).

3.1.2. Collective and ancestral rights vs individual ownership

Access to natural resources, especially land and water resources, is mediated by competing paradigms of how land can, and should, be held. On the one hand are Indigenous and local communities' view of collective ancestral rights to land, and on the other hand is the Anglo-Eurocentric view of land as best owned by individuals and companies as private property (Huambachano, 2018; UNDROP, 2017; Wittman, Desmarais and Wiebe, 2010). Land tenure based on private heritable ownership is "a key to the high and persistent levels of inequality seen in societies practicing intensive agriculture" (Shenk *et al.*, 2010, p. 65); among both farmers and pastoralists (unlike shifting horticulturalists, foragers and forest users) the intergenerational transmission of land, fisheries resources and livestock is a key factor in the perpetuation and strengthening of inequalities (Mulder *et al.*, 2009). It is important to note that the principle of collective or community ownership and (secure) individual use rights – espoused by the global peasant and indigenous movement *La Via Campesina*, among other organizations – is relevant not only for Indigenous peoples and "traditional" communities. The same principle can also be explored and applied wherever national legal structures permit it by institutions and groups promoting young people's access to land. For example, former plantations, unused lands, new settlements, land acquired or allocated for urban farming, among others (Assies, 2009).

The rights of Indigenous peoples to their lands, territories, and resources are enshrined in the United Nations Declaration on the Rights of Indigenous People (Huambachano, 2020; UNDRIP, 2007) as well as by the UN Declaration on the Rights of Peasants (UNDROP, 2017).

Collective ownership as currently practiced among Indigenous peoples and other societies where customary tenure systems prevail is not in itself a guarantee that young men and women can successfully make a claim on these resources when they are ready to farm (Nemogá, 2019). Contemporary studies from various regions, particularly but not only on the African continent, document the tensions between the desire of the elderly to retain control of land assets and the desire of young adults to access a share of the same assets (White, 2020, pp. 91-9).

3.1.3. Reimagining access to land for young people? Examples of good practices

Earlier in this section we have seen that young people who want to engage in independent food production often have no access to land while still young, even if their parents are smallholders. The same goes for (would-be) “newcomer” food producers, in both rural and urban areas. To overcome barriers in accessing resources, especially land for agriculture, a key question requires exploration: how far governments (whether at national, regional or local level) and communities can be pushed to commit themselves to a promise of land rights and access to ancestral lands (in the case of Indigenous peoples) for all young men and women who wish to engage in farming, livestock grazing or in marine/inland fisheries. There are many potential ways in which this question can be achieved, and actual policies should depend greatly on context. Some concrete examples of workable policies and programmes enhancing young people’s access to land are given below.

From collective to household-based farming

The transition from collective to household-based farming in China and Vietnam created millions of smallholdings held in secure, periodically redistributed use-rights, with every household member, young and old, receiving a land allocation. As a result, Chinese smallholder farms now represent more than one-third of the world’s (estimated) 500 million family farms (Lowder, Scoet and Raney, 2016). It should be noted that before it became national policy, China’s transition from collective farming to the “household responsibility system”, was originally triggered by an initiative from below, when peasants in Xiaogang (Anhui province) contracted their production team’s collective land to individual peasant families (Gulati and Fan, 2007; Van der Ploeg, 2013). De-collectivization in Russia, in contrast, did not result in a similar transition to smallholder farming as the dominant form of agricultural production (Gulati and Fan, 2007; Vorbrugg, 2019).

Since the 1980s in China, however, the relaxation of the household responsibility system, and the state promotion of industrialization and urbanization has led to a rapid expansion of migrant peasant workers, reaching 169 million in 2015. This has led to a diversification of livelihoods among those rural households comprised of the 158 million “left-behind” women, children, and elderly remaining in the Chinese countryside (Ye, 2018), including leasing small portions of land to both rural cooperatives and urban people pursuing new forms of “ecological” agriculture (Hairong and Yiyuan, 2015; Qiao *et al.*, 2018). Government programs and policies have also increasingly supported land consolidation and capital investment, using framings of efficiency to concentrate support for farms (and farm cooperatives) meeting minimum scales of production (Yan and Chen, 2015). Those advocating support for peasant or family farming in China suggest that “capitalization from below” can occur through both pluriactivity (including mobility of family members between rural and urban labour markets)

and regionalized and cooperative responses to “market failures” that enable the success of nested markets and ecological agriculture initiatives to reduce dependence on external resources (van der Ploeg, Ye and Schneider, 2012).

Agrarian reforms “from below” to break up large and inefficient holdings

Where large areas of farmland are held by corporate units, land reform programmes or tailor-made interventions can support the breaking-up of these units into smallholder plots or group plots, and the allocation of some or all of these plots to young would-be farmers. They could also support consolidation of land to be cultivated by collectives or groups of landless, including youth, especially those excluded from access to land such as young women. The same applies to government-owned land.

The most significant contemporary example of an agrarian movement appropriating large-scale holdings for redistribution to peasant communities is Brazil’s landless rural workers movement (MST) (Wolford, 2003). In some other countries, peasants and landless workers have occupied plantation lands that have been neglected or whose long-lease concessions have expired, and returned them to successful smallholder cultivation (see for example, Gilbert, 2020, for an Indonesian case).

De-collectivization, and agrarian reforms from below, do not in themselves guarantee either gender or generational equality in the resulting allocation of land rights. Most large-scale agrarian reforms and agrarian movements do not take sufficient steps to ensure either gender equality (Jacobs, 2013) or a generational rotation that replaces the original pioneers with a more diverse and youthful group (Edelman and Borras, 2016, p. 87). While both *La Via Campesina* and Brazil’s MST proclaim a commitment to encouraging young people to remain in farming and the rural community, their achievements in this regard are mixed (see for MST, Edelman and Borras, 2016; Gurr, 2017; Jacobs, 2013).

Reclaiming Indigenous Land to revitalise traditional food systems

Young people often play important roles in the struggle for realization or protection of Indigenous land claims for preserving their food systems and their connections to well-being. Their involvement in these movements also opens doors to their engagement in innovative modes of revitalization of sustainable indigenous food traditions, as in the example below.

Box 1: Ihumātao: A battle ground to reclaim Indigenous land in Aotearoa² New Zealand

In 2016, the Māori village of Ihumātao located in the south of Auckland City became a space of Māori resistance to land dispossession. Ihumātao is one of the first places where Māori settled, farmed and thrived as a collective, on what they consider sacred land, since their arrival as early as the 14th century (T. Ngata, personal communication, 2 October, 2020). In 1841, Māori chiefs signed the Te Tiriti o Waitangi (the Treaty of Waitangi) with the British Crown that guaranteed Māori the full exclusive and undisturbed possession of their lands, estates, forests, fisheries and other properties. Yet increasing dispossession violated the treaty (Mutu, 2018). In 1863, the Ihumātao people had their land confiscated by the New Zealand government under the New Zealand Settlements Act, breaching the 1840 Treaty of Waitangi agreement. The land was sold by the British Crown to a private owner, the Wallace family, who farmed it until late 2016. In 2016, Ihumātao was sold to Fletcher Residential, who acquired the site as part of a housing development project. A land battle between Māori and the housing developers started (Mackintosh, 2019). Pania Newtown, a direct Ihumātao descendant, established the "Save Our Unique Landscape" (SOUL) activist group, who since November 2016 have been occupying their ancestral land. Māori protesters, especially youth, continue to revitalise their culture and foodways by growing their traditional seed varieties such as kūmara (sweet potatoes) to first feed themselves, their families, and the broader community at Ihumātao (T. Ngata, personal communication, 2 October, 2020). Young Māori have been very vocal during protests about how they are envisioning access to and use of their ancestral land, to be self-sufficient in setting up water storage and solar panels and preserving their food systems and ways of life.

"Matching" initiatives to facilitate extra-familial farm transmission

"Matching" and mediation initiatives facilitating extra-familial farm transmission between generations are becoming increasingly important in countries and regions where many older farmers have no successor and where younger would-be farmers are looking for ways to establish themselves in farming. However, as for ageing farmers in the large parts of the world where social security and state pensions for the elderly are absent or inadequate, land may have a crucial social security function, intergenerational farm transmission needs to ensure that elderly's livelihoods are not jeopardized.

In Japan, for example, while only half of the ageing smallholder farmer population have identified successors, there is now a notable influx of younger people into agriculture, supported by government programmes aiming at preventing farmland from falling into disuse. Local government offices offer "matchmaking" services to place new farmers in communities with available land, housing, and agricultural advisors "to ensure that these new farmers and their families segue into rural community life as seamlessly as possible" (McGreevy, Kobayashi and Tanaka, 2018 pp. 1-2). Young prospective farmers can receive tuition-free training at agricultural schools, interest-free loans, and stipends of about US \$ 15,000 per year for their first few years of farming. The Taiwan Council of Agriculture's "Small Landlords, Large Tenants Programme", initiated in 2008, facilitated elderly farmers in leasing their land on a long-term basis to young farmers and to farmers' organizations through a

² Aotearoa is the Māori word for New Zealand

farmland database that connected buyers and sellers. The programme also provided young women farmers, for whom traditional land inheritance was challenging, with an important avenue for accessing land. For example, within two years 8,000 elderly owners of small plots had been matched with about 700 young generation tenants (FAO, 2014).. Similar matching initiatives to facilitate extra-familial farm succession are commonplace in various European countries (Cassidy, Srinivasan and White, 2019; Korzenszky, 2019; van Boxtel, M., Hagenhofer and Handl, 2016).

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Box 2: Online “matching” platforms

There are several examples of on-line “matching” platforms where elderly farmers without successors can be linked with prospective young farmers. A good English-language example is Canada’s FarmLink.net, sponsored by the NGO Farm Start. Currently, 92 per cent of Canada’s farmers who are looking to downsize or retire do not have successors, while many young and new Canadians and “second career farmers” are looking for pathways into farming. FarmLINK, and other provincially sponsored programs such as the Young Agrarians Land Matching Program and Quebec’s ARTERRE farm incubator (BCLMP Evaluation, 2020) aim to connect those looking for land to rent, lease or buy, for farm employment, business partnerships in farming, or farm succession arrangements with landowners and retiring farmers. In 2020, FarmLINK was connecting almost 2,500 farmers and “farm seekers” in all regions of Canada. Information on the farms includes, as well as the acreage, facilities and type of farm, the “desired farming practices” (from conventional to certified or non-certified organic and biodynamic) and the type of opportunity offered (on-farm employment, mentoring, internship, business partnership, lease, lease-to-own).

The Netherlands’ *Boer zoekt boer* ([farmer seeks farmer](#)) platform – winner of the EU’s 2017 award for the best European young farmers’ project - is a similar initiative, sponsored by the 8 000-member “Netherlands’ Young Farmers Contact” (NAJK) association in partnership with the Rabobank and various agrarian business companies (Nederlands Agrarisch Jongeren Kontakt, undated). Like FarmLINK, it does not only provide a matching service, but also advises both parties on the sometimes-complex procedures and options for farm transmission. In Germany, the portal *hofgründer.de* (now *hofsuchtbauer.de*) provides an advice service with the aim to bring together potential transferors with young, well-educated people who want to build and practice agriculture. The online platform enables a first matchmaking followed by direct support for both sides professionally and personally, to assist a successful farm transfer. In Austria, investigations of the extrafamilial farm succession process were initiated in 2009 by the association of Austrian mountain farmers *Österreichische Bergbauern- und Bäuerinnen Vereinigung ÖBV-Via Campesina Austria*, representing interests of smallholder farmers. Members of the association recognised that there are many farms without successors, while more and more young people who have not grown up on a farm, or are not the heirs to it, want to enter agriculture. ÖBV, in collaboration with the Austrian Agricultural Chamber (Regionale Landwirtschaftskammern) and other national partners (Landjugend, Netzwerk Existenzgündung in der Landwirtschaft) set up the first Austrian online farm exchange/matchmaking platform called *Perspektive Landwirtschaft* (Perspective Agriculture) (Korzenszky, 2019).

Allocation of reclaimed lands to young farmers

The improvement of unused (barren, desert, abandoned etc.) lands and their allocation to young would-be farmers is one way to provide young people with access to land without prejudicing the land needs of the parental generation.

In Ethiopia, the NGO Relief Society of Tigray (REST) supported soil and water conservation infrastructure to rehabilitate barren hillside lands, and their allocation by the local community to landless youth. Through this project 360 landless youth received small plots of land (average 0.25 ha) and support for tree planting and bee keeping with the advice of extension

workers. These small plots provide them with income from the sale of eucalyptus and honey, fodder for animals and wood for fuel and fencing (FAO, 2014, p. 24).

In the 1990s the Egyptian government's Newlands Agricultural Services Project gave plots of reclaimed desert land, together with irrigation, a house and ownership certificate to young unemployed rural graduates. A subsequent project, the West Nubaria Rural Development Project, similarly allocated land to unemployed graduates, but to be purchased at a reasonable price, with a loan to be paid back in comfortable installments over 30 years. Several thousand young graduates have acquired land in this way and they now supply their products to domestic tourist destinations and to various North American and European countries; through these (IFAD-supported) projects "desert land became more attractive to youth, services and infrastructures improved, and the sense of community was enhanced" (FAO, 2014, pp. 26-7).

Land access for collective farming by youth groups through short-term land leases.

Land leasing (rental) – where affordable - is a common means of access to land for young would-be farmers which does not undermine parental land needs or disrupt existing ownership structures. The following examples of collective leasing provide examples:

Group leasing for contract farming in Uganda. In southwest Uganda, Rivall Uganda Limited (RUL) makes short-term lease agreements with landowners who do not plan to utilize their land themselves for the coming (minimum) 12 months. RUL then informs current or prospective youth groups about the availability of the land, connects the groups to buyers of farm produce and recovers payment through the sale of the produce. In this way, RUL obtains reliable supplies of produce for its partners (which include hotels, supermarkets, schools, beverage companies and exporters); landowners receive cash income (or a share of the produce if they prefer) from their otherwise unused land; and young men and women gain an entry into farming and a guaranteed market for their produce. Through this approach a total of 31 groups (with more than 400 members) have acquired land and farming experience. Groups must have a minimum of eight members (aged 18-35) and a minimum of three female members. "Working with groups rather than with individuals has been key to the success of the initiative. Aggregating youth in groups boosts morale and means that when some group members are unable to participate in farming the land, others will continue the work" (FAO, 2014, pp. 28-9).

Box 3: A young people's collective farming project in Java

In all Indonesian villages there are state-sponsored youth groups called *Karang Taruna*. They are normally expected to be active in organizing sports, preparing for the national Independence Day festivities, etc. In the Javanese village of Kaliloro, one of the village's *Karang Taruna* groups applied to rent a plot of rice land from the village government to experiment with collective farming. Despite initial opposition from the village government, they lobbied until they got their way. The teenage *Karang Taruna* members, male and female, are mostly still in secondary school and the first generation who have rarely if ever helped their parents in farm work. These inexperienced teenagers came in large groups to plant the rice, to weed it, and to harvest it. Despite their lack of experience, their harvest was no smaller than that of the neighbouring farmers. By 2020 they were into their seventh planting season and looking for other opportunities to earn some income together; they have recently developed a nested market, advertising their produce (rice, eggs and coconut oil) directly to consumers. Meanwhile, other *Karang Taruna* groups in Kaliloro are beginning to follow their example. As in the previous example, the collective nature of the initiative has been the key to young people's enthusiastic participation and the continuity of their initiative (White and Wijaya, 2019).

Access to resources and knowledge for livestock shepherding

In Spain, as in several other European countries there has been an increase in both the supply and demand for training for young (prospective) shepherds. Catalonia's Shepherding School and similar initiatives are shaping what is considered "the first generational renewal seen in the world of shepherding in the last 40 years. For some, the return to agriculture is seen as, perhaps desperate, alternative to unemployment. But for most, it is about living their lives in accordance with their principles" and their interest in producing healthier and locally-grown foods. The students (around 20 on each course) receive two-month theoretical training and four-months hands-on training in livestock farms in Catalonia and the French Pyrenees. Students come from Catalonia and other parts of Spain, as well as some from other countries. Many are young, in their late 20s and early 30s. In addition to training, the school offers the students access to a land bank, a job pool, advice on new agricultural products and artisanal product marketing. The proportion of female students has recently reached 41 per cent, thus breaking the mould in what is otherwise a highly masculinised sector. With close to 80 percent of students turning to livestock farming after completing the course, the school plays a vital role in reviving the rural sector. The former students may set up their own farms or projects from scratch, or work as salaried mountain shepherds during the summer transhumance period (Alvado, 2018).

3.2. Access to other resources for youth engagement for sustainable food systems

There are often generational and gender barriers for youth engagement in agriculture due to their lack of access to non-land resources including knowledge and extension, credit and finance, markets and supporting institutions. These are discussed in the following sections.

3.2.1. Knowledge and extension

Young people's access to food systems-related knowledge is discussed in detail in Chapter 5. resilient food systems depend both on the successful transfer of place-specific knowledge between generations and on access to *new* sources of knowledge. For example, young farmers must learn about the cultivation of specific seeds that are resistant to harsh weather conditions, and sustainable land management practices for specific geographic areas and local market conditions. In addition to community-based intergenerational knowledge networks, the role historically played by government-based extension services as transmitters of agricultural knowledge is now giving way to internet-based, and proprietary sources. While some farmers are able to connect to extension services remotely, through mobile phones and audio conferencing technologies, others continue to face barriers of accessibility and availability of digital knowledge services (Mehrabi *et al.*, 2020).

Similar considerations apply to knowledge and information resources at other points in food systems, from input supply to processing, distribution and consumption. Internet resources can be a potential democratizer and equalizer of previously gender- and generation-biased knowledge and information systems. This is one among many reasons why digital divides in all their manifestations – whether class, gender, generation or location based – must be overcome (see section 5.7 below).

3.2.2. Credit and finance

Complementing access to natural resources, financial services are instrumental to facilitate youth empowerment and engagement in food systems. However, young people are “disproportionately left out of the financial system” (IFAD, 2015). Young people have more difficulties accessing credit by banks or financial institutions, as many programmes require collateral or previous land ownership. The World Bank's Global Financial Development Index reports that only 6 percent of youth report borrowing from a formal financial service provider, in comparison to 11 percent of adults; and a study of rural young farmers showed that over 70 percent reported access to finance as their most significant challenge (IFAD, 2014 and Demircuc-Kunt *et al.*, 2013, cited in IFAD, 2015). In addition, financial products that do not require fixed collateral are more suitable for young people who have fewer assets, and crowd funding platforms and other forms of impact investment can provide opportunities for youth aspiring to become entrepreneurs (Njeru, 2017; Rutten and Fanou, 2015).

In addition to the challenges which may be faced by adults as well – e.g. restrictions in the legal and regulatory environment, or problems with existing services which often are unable to address risks and challenges in agriculture and food systems – youth may face additional barriers to access finance: considering the limited experiences with financial transactions, youth are often considered by banks or other financial institutions as risky clients (FAO, 2014). Young women experience additional challenges to access credit or other services despite evidence which show that they are more reliable than men (World Bank, FAO and IFAD, 2009). To increase youth capacities in relation to monetary transactions, financial services should be accompanied by contextualised advisory assistance and mentoring programs.

To sufficiently address youth needs and support their aspirations, novel and – most importantly – longer-term solutions are needed which are to be well-tailored to the specific

life-stage of the young person. A renewed financial services system for youth would include a range of instruments including “safe deposits, monetary transactions and remittances, mobile financial services, sustainable micro, short and long-term credit, public insurance schemes (including indexed insurance), commodity exchange and warehouse receipt systems” (CFS, 2014b). In addition, youth-targeted financial services must simultaneously assess and review services available for older members of the society (see later support for new entrance and farmers’ retirement schemes). Alternative forms of credit, including small-scale credit schemes and government-supported credit programs may be more flexible to support youth innovations when compared to the terms offered by large-scale commercial banks.

Youth-inclusive credit and finance policies should therefore relax requirements for credit and finance, such as bypassing the need for fixed collateral, or offering lower-interest rates; developing financial instruments that are targeted towards long-term lending for youth; and creating multi-stakeholder collaborations (public-private-civil-academia-research) that support the development of youth skills in this field (e.g. financial literacy trainings, mentoring).

While agriculture is among the most capital-intensive sectors, at the same time, it is among those sectors which may provide low levels of capital return. Beyond land itself, purchasing and the maintenance of tools, machinery, farming or fishing equipment, storage and cooling facilities, processing and post-harvest equipment require considerably higher financial investments than other businesses (Vieth and Thomas, 2013). The cost of livestock is particularly significant from the perspective of capital investments (Williams, 2006). Accordingly, food producers require adapted and flexible financial services including instruments which are able to respond to shocks and disasters (HLPE *et al.*, 2013).

It is also known that a farm, independent of its size, requires the greatest amount of support during the first years of its operation (Vieth and Thomas, 2013). The Youth Association of Peasant Farming (Junge Arbeitsgemeinschaft bäuerliche Landwirtschaft, jAbL – youth group of Via Campesina Germany) in 2013 estimated the business start-up costs in Germany around 25.000 EUR (Korzenszky *et al.*, 2013). As an example, the Ministry of Agriculture and Rural Development of the Slovak Republic, in its framework *Concept for the Support of Young Farmers*, provides 50 000 EUR to new farmers (i.e. those under 40 years old). One precondition is that they will preferably grow vegetables, fruits or raise livestock. In 2018 336 farmers were supported under this programme. As such, farmer support policies should consider both investments in start-up operations, as well as support for social security and farmer retirement schemes.

3.2.3. Markets

In a world where virtually all food producers sell part or all their produce and virtually all consumers purchase part or all of the food they consume, markets are central elements in the social inclusion or exclusion of youth in food systems, both in rural and urban contexts. The dominant trend in conventional food markets has experienced an increase in vertical integration and control by large private corporations, in which supply chains are often long and complex (and as we have seen recently, vulnerable to economic shocks). In mainstream food markets, producers are confined largely to the role of providing raw materials,

employment in the food chain offers low pay and poor working conditions, and consumers are relatively alienated from and ignorant about the origins and qualities of the food they purchase (Clapp, 2015; Widener and Karides, 2014). Of note, while both agriculture and food global value chains expanded between 1990 and 2015, in recent years global value chains have seen the tendency to shift their activities more regionally, and we can expect this tendency to continue as a result of growing global economic and trade uncertainties (World Bank, 2020).

There are many examples of emerging (and sometimes long-standing) alternative food networks and shorter food supply chains aiming to offer more sustainable and healthy foods, variously named “value-based supply chains” and “alternative agri-food networks” (Goodman, 2004; Jarosz, 2008). Farmers’ markets and community-supported agriculture networks are also included here as examples of “nested markets” or “territorial markets” (van der Ploeg, 2020; van der Ploeg, Ye and Schneider, 2012; Schneider, Salvate and Cassol, 2016). Public procurement and farm-to-school marketing programs are examples of mediated markets that connect young people to food systems through associated food literacy programming (Heiss *et al.*, 2015; Kloppenburg, Wubben and Grunes, 2008; Powell and Wittman, 2018). These markets, at the same time, support market access and development for rural producers based on relationships and values of trust, solidarity, reputation, knowledge sharing, local development and environmental protection. Newly emerging and alternative markets thus have a significant transformative potential for structures of both food production and food consumption. In addition, shortening supply chains limits negative environmental impact, food losses and packaging (Jarzębowski, Bourlakis and Bezat-Jarzębowska, 2020). Table 4 below shows some important contrasts between conventional and newly emerging agri-food markets. These alternative food networks embody a vibrant market-based economy that enables economic growth by reducing the physical and social distance between producers and consumers. They also promote new relationships within food systems – producer-consumer, rural-urban, and healthy competition among producers, and can ultimately re-shape market economies.

Table 4: Comparison of conventional and newly emerging agri-food markets

	Conventional markets	Alternative markets
<i>Who owns what?</i>	Most linkages between food production, processing, distribution and consumption controlled by food empires	Shorter circuits owned or co-owned by food producers and (sometimes) consumers
<i>Who does what?</i>	Farmers' role limited to delivery of raw materials for the food industry	Multifunctional farmers undertake on-farm processing, direct selling and re-design of production processes better meeting consumers' expectations
<i>Who gets what?</i>	Value added concentrates in food empires	Farmers get higher share of value added
<i>What is done with the surplus?</i>	Accumulated surplus finances firm expansion and take-over of other enterprises	Extra incomes used to increase resilience of farm production, strengthen multi-functional farming and improve livelihoods

Source: adapted from van der Ploeg *et al.*, (2012) and Schneider *et al.*, (2016).

A grassroots level example is the Pā to Plate Project led by Māori scholar Merata Kawharu, which aims to reconnect many young Māori now living in cities with their ancestral marae (community) to teach them about traditional agriculture, grow their own food in these maraes, and earn a living from it. Pā to Plate produce is grown on marae gardens, kōhanga reo (Maori-language preschools) and Māori land trusts initially in the Waitangi river catchment. Young Māori work on the land and as a collective to develop the production and share the value of the produce with their family, community and sell the rest, and as a result support regional economic development (Huambachano, 2019a; McAleer, 2018). Another example is the Slow Food organisation in Peru, whose associated network organized the “Latin American Congress of Young Farmers” named SISAY (blooming in Quechua). Slow Food’s goal, through SISAY, is to empower young people to become leaders of responsible farming and healthy food in their communities (Huambachano, 2019a; Slow Food International, undated).

These newly emerging markets, besides their role in promoting sustainable and healthy food production and consumption practices, potentially offer young people rewarding opportunities for employment and engagement, as multifunctional farm producers, as actors in the organization of these markets and networks (now increasingly through on-line communication channels), and as active and conscious consumers. New technologies, and improved access to them, have opened new possibilities for market access for agricultural innovators to reduce value losses along the supply chain, and to better connect diverse food providers to urban consumers (Randelli and Rocchi, 2017). That said, we also note the need to avoid the risk of “defensive localism”, which can create unnecessarily sharp divides

between what are considered “alternative” and “conventional” food systems and markets (Born and Purcell, 2006; DuPuis and Goodman, 2005).

3.2.4. Supporting institutions

Many young people find it hard to access and influence decision-making spaces related to natural resource allocation and management that are dominated by gerontocratic systems led by older males, even where such decisions have a direct impact on their livelihoods, such as in farming (White, 2012) or fishing (Arulingam *et al.*, 2019). Although “women play a key role in food security; they are the backbone of the rural economy especially in the developing world” (Muchaba, 2020), they continue to face conservative cultural norms and policies preventing them to have an “active” participation in food systems, access to markets, land, credit facilities, denying them to fulfil their aspirations to contribute to improving food security.

In considering access to supporting institutions for young people in food systems, there is sometimes a tension between, on the one hand, promotion of young people’s involvement in existing adult-based institutions, organizations and movements and on the other, promotion of their self-organization in dedicated youth institutions and organizations owned and run by themselves. These are not necessarily mutually exclusive options. It may be argued that young people’s interests should not (or not only) be channeled into youth-based institutions, but also recognized and represented in adult organizations and movements (White, 2020). The UN Decade of Family Farming, in this regard, encourages producers to include young people in the decision-making mechanisms within their organizations and provide equal opportunities for their younger members to express their ideas and to grow into leadership roles (see Pillars 2 and 4, FAO and IFAD, 2019).

Box 4: Youth organizations

Youth organizations and networks have emerged globally that could provide useful insights on ways to enable youth to self-organize and access a “seat at the decision-making table” on matters relating to food systems. The following are a few examples. Youth Food Movement Australia (YFM) implements food education projects for young people to build the skills and knowledge to create a better food system in Australia; In Costa Rica, Colectivo Boreal organizes art events that promote environmental awareness and support farmers and seed exchanges; Art 4 Agriculture is a network which connects young rural Australians and is dedicated to improving the image of farming and encourage other young Australians to consider agricultural careers; MyFood30, project created in collaboration with the Swiss National Food and Agriculture Organization Committee, is working to engage youth with the Sustainable Development Goals. The campaign will provide young people with the education, training, and networking needed to cultivate a better food system; Global Youth Innovation Network (GYIN) develops young farmers and rural entrepreneurship through training, knowledge management, and direct support for resilient rural enterprises that reduce poverty by creating work opportunities for young people; International Association of Students in Agriculture related Sciences (IAAS) brings together students all over the world through a shared passion for agriculture and related sciences. With committees in over 30 countries, the organization enables students to learn about agriculture in different countries and to share experiences, knowledge, and ideas; Mkulima Young is an initiative that works to encourage youth participation in agriculture and provide services for rural entrepreneurs by offering online support to young Kenyans. The platform addresses problems affecting young farmers’ productivity and marketing, including middlemen offering meager prices for their produce, delays with payments, and expensive farm inputs. Young farmers sell their products online by posting pictures, and can connect with one another via the online forum.

In general, there is a need for more research and debate on the institutional supports that can best facilitate “economies of solidarity and well-being”, as well as collective and individual entrepreneurship. Finally, while policy interventions are important to enhance young people’s access to resources and create enabling environments for youth action, it is important to remember that young people’s most important resource, and determinant of food systems futures, is themselves. The shape of food systems will be determined not only by policy decisions and corporate behaviour, but by the world’s succeeding generations who will choose whether and how to engage with food systems and to find their place in them.

4. Knowledge, learning, and innovation

This Chapter draws upon diverse epistemologies including traditional knowledge, Indigenous knowledge, and knowledge based in Western science to ask: How do diverse systems of knowledge, learning, and innovation contribute to young peoples' engagement in sustainable food systems and what challenges and opportunities do they face? We present an inclusive understanding of how knowledge, education and innovation are accessed and applied by youth as they navigate multifaceted, and rapidly changing, food environments, economic structures, and cultures. Food systems knowledge is context and location-specific, and involves activities such as inter-generational knowledge transfer and innovation, engagement with new technologies, social and community networks, educational institutions (including those governed by the state and civil society, social movements, and NGOs) and practical and on-the-job learning.

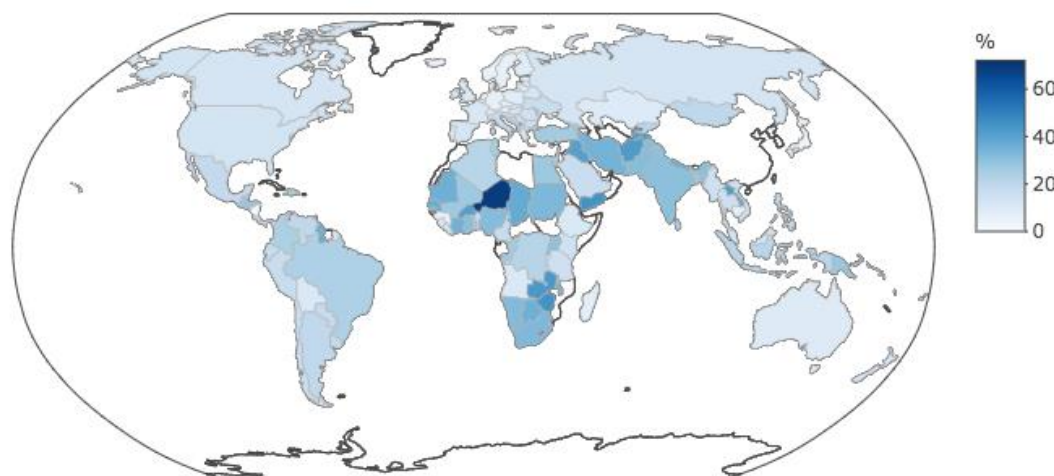
Education and learning do not start on entry into formal schooling, nor do they stop with the completion of schooling. Young people themselves are also knowledge brokers/intermediaries within extension and advisory services, social movements, and engagement with global information and communications technology (ICT). However, the types of knowledge young people may generate and possess might not always be recognised as legitimate nor the application of this knowledge always supported. This Chapter highlights the importance of recognizing young peoples' practical skills, in addition to specific technical skills, which many young people can learn through increasing access to knowledge services and ICT.

At the same time, the transition to more sustainable food systems also requires a democratization of knowledge production, allowing the construction of technical and policy related knowledge for food sovereignty, agroecology and biocultural diversity to be more actively shaped by food producers and consumers. Following Pimbert (2017), we argue that a two-pronged approach to democratizing food systems-related knowledge is required: (1) strengthening horizontal networks of grassroots self-managed research and innovation; and (2) fundamentally transforming and democratizing public research institutions and universities. As such, the democratization of knowledge leads to the recognition of diverse ways of knowing and a more inclusive and participatory knowledge paradigm underlying sustainable food systems.

4.1. Formal education systems

Not all young people have access to formal education, despite its designation as a basic human right. Thus, informal knowledge networks remain a vital tool for youth engaging in agriculture and food systems. Figure 6 illustrates the percentage of youth aged 14-24 who are not in "education, employment or training" (NEET) status. While significant discrepancies to access to education remain between countries, rural-urban locations, and by gender, for example (FAO, 2014), the number of youth, particularly rural youth enrolled in formal education, is increasing worldwide (White, 2012).

Figure 6: SDG Indicator 8.6.1. Proportion of youth (aged 15-24 years) not in education, employment, or training (NEET, %)



Source: ILOSTAT (undated), accessed on 26/09/2020

We define formal modes of education as institutionalised, chronologically graded and hierarchically structured systems of education (LaBelle, 1982, cited in McCarter and Gavin, 2011). As we have seen in the discussion on “aspirations” in Chapter 2, many young men and women aspire to acquire an education and move into formal sector blue collar and white-collar jobs. Gender norms, however, influence both educational enrolment and occupational aspirations, with girls often doing better in school, but stopping school earlier, than boys (Elias *et al.*, 2018).

The generally declining trend in youth labour force participation worldwide reflects both the longer time that young people are spending in school, and also the growing number who are in NEET status, among whom are disproportionate numbers of young women (ILO, 2020b). This should not be thought to imply that all or most NEETs are “idle”, as many are engaged in forms of work or other activity, such as unpaid work within the household, that may not be captured in conventional employment statistics.

The assumption that investment in education will provide lifelong economic benefits in the form of secure employment and higher incomes is thrown increasingly into question in the light of current trends in education and youth employment, which show both increasing educational attainment, and increasing precarity of youth employment. Young people cannot get formal-sector jobs without the relevant diplomas, but in today’s over-crowded labour markets having these diplomas does not in any way guarantee them access to such jobs (Bessant, Farthing and Watts, 2017). As such, the goal of formal education systems should not be seen as merely job-preparation primarily for jobs in “formal sectors”, but rather an opportunity for the development of critical life skills that enable students to pursue a range of livelihood options, including within and beyond food systems.

Along these lines, the UNESCO Delors Commission Report calls for education to be structured around the four pillars of “learning to know, learning to do, learning to live together, and

learning to be” (Delors, 1996, cited in McCarter and Gavin, 2011). We follow this approach to consider education important not – or not only – as job preparation, but as a human right of children and young people, for the role it can play in preparedness for active citizenship, and its potential as an important stimulus to enhancing their active role in promoting sustainable food systems. While it lies outside the scope of this report, there is a great need for a critical review of education systems to examine their relevance in the current global food system regime and the role education can play in the transformation of food systems.

We caution against the misguided view that young people’s employment “failures” are due to individual inabilities or endowment deficits with regard to education, as opposed to political-economic shifts or neglect (Naafs and Skelton, 2018). For example, rates of “return to education”, the standard metric employed in the context of human capital theory - the proportional increase in an individual’s labour market earnings from each additional year of schooling completed - have been decreasing over the past decade prior to COVID-19, and this has particularly affected young or early-career workers worldwide (ILO, 2020b, p. 119).

Education, particularly secondary education, has also been associated with processes of “deskilling” in preparedness for agricultural livelihoods and rural life (Katz, 2004; White, 2012, Ch. 3). As formal education is increasingly perceived as an important accomplishment for young people, and young people spend more time and focus on schooling, their daily interactions with the environment and in helping out with household livelihoods decline, and with this the traditional livelihood and ecological skills and knowledge these experiences help transfer (Punch and Sugden, 2013). Outmigration is another phenomenon widely discussed in relation to weakening intergenerational cycles of traditional ecological knowledge transmission (Iniesta-Arandia *et al.*, 2015; Punch and Sugden, 2013; Robson, 2009).

4.2. Sustainable food systems education

Within the last decade, some countries, including in Europe, Latin America, and North America, formal food systems education programmes are beginning to take a “food systems approach”, starting with primary and secondary school, and into the university sector (Valley *et al.*, 2018). In preparing young people for food-related engagement and careers, educators must address complex issues of ecological sustainability, food safety and security, and food sovereignty, emerging changes to food systems such as digitization, in addition to entrepreneurship, profitability and livelihoods. This requires training programmes to address new capacities, dispositions, and skills needed to take integrated action to address complex and inter-connected problems in food systems (Hamm, 2009), with learning outcomes including systems thinking, critical reflection, practical skills, and collaboration and communication skills (Ebel *et al.*, 2020). Finally, critical food systems education programmes engage with broader themes of food justice, food sovereignty, and agroecology (Meek and Tarlau, 2016).

Importantly, formal food systems education programmes must overcome the disciplinary silos evident in traditional agriculture, food science, plant science, animal biology, economics, and nutrition programmes. These programmes often follow linear, cause and effect rationalities that focus on a limited range of objectives (e.g., agricultural yield, micronutrient intake, or return on investment) (Jordan *et al.*, 2014). In response, new sustainable food

systems education programmes that help students understand processes of the whole food system can develop agronomists, nutritionists, crop breeders, policy advocates, and food entrepreneurs who are capable of “systems thinking” (Jacobsen *et al.*, 2012; Jordan *et al.*, 2014; Meek and Tarlau, 2016; Valley *et al.*, 2018). We observe the growing prominence of training programmes in food technology, food processing, and cellular agriculture in university curricula, for instance, as well as nutrition, dietetics and public health related programmes that take an integrated systems approach through a focus on functional nutrition.

The State is a key player in supporting sustainable food systems education, seen particularly in its ability to adapt to and adopt agroecological and other sustainable practices. A good example comes from the state of Andhra Pradesh in India where the State-led Community based Natural Farming Programme has sought to develop institutional partnerships, hiring young agricultural graduates and placing them for a period of three years in communities to work jointly with farmers on developing context-sensitive methodologies and practices which are at the same time economically profitable. Such hiring subsidies are central to collaboration and partnership across formal and informal knowledge systems (HLPE, 2019, Box 8, p 42).

As it has been shown in the growing field of food literacy, schools are important agents of socialization – often competing with the different messages coming from advertising media - in shaping children's food habits and other forms of engagement with food systems, including aspirations related to their future employment (Rojas *et al.*, 2011). Food literacy and food citizenship programmes in primary and secondary schools aim to reconnect students with the source of their food, use food to teach other curricular goals (e.g. school gardens are used as experiential methods to teach biology, mathematics, culture, botany, ecology, nutrition, climate change), and to “support school and community connectedness” through sharing knowledge between children, parents, teachers and community members (Powell and Wittman, 2018). Such is seen in the School-Plus-Home Gardens Project (S+HGP) of the Southeast Asian Regional Center for Graduate Study and Research in Agriculture (SEARCA) in collaboration with the University of the Philippines Los Baños (UPLB) and the Laguna district of the Philippines’ Department of Education. In this project, school gardens were established to add to the needs of school-based feeding programs, and further scaled the gardening-feeding model to homes of students. Both students and their parents developed a deeper understanding of the need for good nutrition in their household diets, while being able to save on food expenses (Calub *et al.*, 2019). The project’s conceptual framework puts into context how the school-and-home gardens can contribute to the goals of FSN, and similarly to the economies of well-being.

4.3. Traditional ecological and local community knowledge

Traditional ecological knowledge (TEK) is a “knowledge–practice–belief complex” that connects living beings with each other and the environment. It is adaptive, constantly evolving and culturally transmitted through generation, although naturally, certain practices could become maladaptive over time (Berkes, Colding and Folke, 2000). Drawing from Indigenous scholarship, TEK of Indigenous peoples is rooted in their worldviews/cosmvision based on a kinship-centric system wherein all community members human and non-human have duties

and responsibilities to respect nature and care for one another (LaDuke, 1994; McGregor, 2004; Nemogá, 2019). Local knowledge is defined as “knowledge held by a defined group of people” and “embraces traditional knowledge (passed down from one generation to the next), Indigenous knowledge that is culturally bound and locally derived knowledge from contemporary learning based on local observation and experimentation” (Sinclair and Walker, 1999, and Sinclair and Joshi, 2004, cited in HLPE, 2019).

Indigenous peoples are the inheritors of unique knowledge including skills, customs, and innovation (technology) related to the natural environment expressed in stories, songs, and proverbs, customary laws, and language. Indigenous wisdom is handed down mostly through oral history and experiential learning from one generation to the other over thousands of years (Berkes, 2012; Pierotti and Wildcat, 2000). Within this setting, young people are “active” recipients of knowledge and part of a continuum of learning built from intimate relationships with nature, other humans, and non-human (mountains, rivers and deities) making up a collective system of knowledge (McGregor, 2004). For example, youth learn agricultural skills by actively working in the land and experiencing firsthand the complex dynamic of food systems, which in turn can provide them with an opportunity to develop innovative agricultural solutions.

TEK and other forms of locally-evolved knowledge systems continue to be under-recognized by the traditions of knowledge construction that form the basis for most formal education systems (Agarwal, 1994; Berkes, Colding and Folke, 2000; Whyte, 2013). To emphasize the legitimacy of these diverse forms of knowledge, and to democratize other forms of local knowledge beyond Indigenous Knowledge that are marginalized by Western Science, we adopt the term “Traditional Ecological and Local Community Knowledge” (TELCK). It should be underlined here that traditional does not, in any way, mean static, as traditional embodies ways of creating new local knowledge as well as passing on existing knowledge.

The adoption of TELCK in this report is aligned with similar designations, such as the use of the term “Local Knowledge” by the HLPE (2019), and other initiatives that use variations on this terminology as an effort to be more inclusive of Indigenous knowledge (see for example, “Indigenous and local knowledge (ILK)” in (IPBES, 2015) and the “Local Communities and Indigenous Peoples Platform” of the UNFCCC). Empirical studies of TELCK related to agrobiodiversity are found across all continents where the nearly 476 million Indigenous people reside (Berkes, 2012; McGregor, 2004; Pierotti and Wildcat, 2000). Some Indigenous peoples and local communities in North America, Africa and South America embraced the notion of biocultural heritage to revitalize and preserve their crops, knowledge, practices, and ancestral territories for future generations. Thus, TELCK can play an important role in inter-generational learning for preservation of traditional knowledge, culture, culinary practices, and biocultural heritage as youth engage in food systems transformations (Huambachano, 2019b; McGregor, 2004).

At the same time, present day shifts related to the expansion of formal schooling, youth mobilities and their increasing connectivity to other worlds through mobile phone usage and the internet (Leavy and Hossain, 2014) can be expected to influence shifts in how knowledge is transmitted through generations. The State (through formal schooling), the internet and other media are increasing in prominence as the providers of knowledge for work and livelihoods, while the traditional roles played by parents and elders in knowledge transfer,

and the types of knowledge they impart, are potentially diminishing. Cristancho and Vining (2009) in a study of Indigenous groups in Colombia and Guatemala, show how this can materialise through changes in learning settings, strategies, rituals and norms.

4.4. Horizontal knowledge exchange: grassroots and intergenerational networks

Some training programmes offer alternative modes of knowledge transfer and exchange to those delivered through formal education systems. These include grassroots training programmes such as farmer-to-farmer field schools and transnational agroecology schools by organisations such as *Vía Campesina*. An example of this is “Education of the Countryside” by the Brazilian Landless Rural Workers movement, which offers place-based education as a “counterpoint to the neoliberal model that generates inequality and social exclusion”. This model of education aims to train critical citizenry capable of understanding the social, economic, and political contexts of their home community and its relation to the state, contributing to family subsistence, community life, and regional sustainability (IFPA-CRMB, 2011, p. 5, cited in Meek and Tarlau, 2016).

Other social movements globally have been pursuing a wide region of critical food systems education projects, programmes, and initiatives - in both urban and rural contexts - to both raise awareness of the unsustainability of current food systems, and to advocate for agroecology, food sovereignty, and food equity in response (Meek *et al.*, 2019). Examples of such models include farmer-to-farmer training initiatives (Bezner Kerr *et al.*, 2018; Holt-Giménez, 2006; Martínez-Torres and Rosset, 2014; Rosset and Martínez-Torres, 2012), trainings on local solidarity partnerships between producer and consumer networks (Urgenci, 2020), the Slow Food movement, apprenticeships, internships, volunteer programs, and intergenerational mentorships (and critical views thereof) (Ekers *et al.*, 2016; Levkoe and Offeh-Gyimah, 2020; Weiler, Otero and Wittman, 2016) and learning journeys that connect producers and consumers (Nyasimi *et al.*, 2017; Sustainable Food Lab, 2019).

Youth participate in such movements not only as recipients of knowledge transfer, but also as generators and facilitators of horizontal transfers of knowledge between traditions and communities and with other groups of young people. Their potential role as key actors in agricultural knowledge and information systems (AKIS) must be highlighted. With ICT solutions developing rapidly, taking advantage of these can create opportunities for young people to learn and pass on knowledge.

4.5. Digitalization, knowledge management and information-sharing

The explosion of internet and communications technologies (ICT) in propagating information and knowledge at a scale and diversity never seen before potentially enables young people to circumvent more traditional institutions and routes of knowledge provision and creation. Increased access to ICT has the potential to greatly alter issues of access, such as financial and physical barriers of attending school, challenges to access based on gender, socioeconomic status and other forms of social differences and power asymmetries between generations in relation to providing and receiving knowledge. It also potentially provides spaces for young people to be knowledge creators and knowledge brokers in their respective communities.

ICT in the context of the agri-food system has allowed for research, extension and advisory services to become collaborative in many ways, including better connections between stakeholders, easier data management and analysis and enabling cultures of data-sharing in open access knowledge platforms that foster coordination and collaboration between public, private and civil society sectors (Kim and Nielson, 2017). “Social Media” tools such as Facebook, Twitter, YouTube, LinkedIn, WhatsApp and Instagram are becoming greater ways of sharing information about agricultural produce and agricultural marketing, assisting food system actors to overcome difficult nodes in food chains or value chains and geographical constraints.

Box 5: ICT and digital extension services in the Philippines

The Philippine Rice Research Institute (PhilRice) established an “Infomediary Campaign” (Infomediary Campaign, 2020). The campaign employed several methods that utilized ICT to help educate high school students in rice farming communities on updated rice cultivation techniques. This included the PhilRice Text Center, where students can send text messages to inquire about how to address diseases that they observe in the rice fields. Another is the creation of the Pinoy Rice Knowledge Bank, which is a website that has the latest information and studies on rice cultivation (Philippine Rice Research Institute, undated). For areas where internet connectivity was hardly available, the content of the Pinoy Rice Knowledge Bank was transferred into a Compact Disc (CD). This allowed students to learn offline.

While young people as a demographic are widely considered to be active participants and consumers of online media, these opportunities are not equally accessible to all young people, and therefore a digital divide can further exacerbate inequalities. For example, resource poor farmers are also the most underserved by big data and mobile technology; across many countries in Africa, less than 40 percent of farming households have Internet access, and the cost of data remains prohibitive (Mehrabi *et al.*, 2020).

Lombana-Bermudez *et al.* (2020) discuss three layers of such digital divides - uneven access to ICT and digital infrastructure; unequal development of the skills needed to access and use digital services, and the uneven distribution of the benefits of participating in the digital world. It is likely that these inequities will deepen existing socioeconomic, racial, gender and other inequalities. In addition to this, as young people participate in the digital world, their attention and data are commodified and transacted for profit (Lombana-Bermudez *et al.*, 2020), including through how advertising and information is targeted back to them.

As with all technological change, the potential risks and benefits of digitalization depend entirely on the context of its application. Hence, as Hilback and Tisselli argue: “the first and key question about digitalization of agriculture is: of which form of agriculture? Conventional, industrial, ecological, traditional, all or some of these?” (2020, p. 59). For example, digitalization in agroecological farming requires an entirely different approach from the one currently applied by the actors in conventional agriculture. Using five of the ten elements of agroecology identified by the FAO (2019b), Hilback and Tisselli summarize the difference between conventional and agroecological modes of digitalization, as shown in Table 5.

Table 5: Contrasting modes of digitalization in agroecological and conventional farming

Agroecological	Conventional
Diversity: diverse, context-specific ICT applications	“One size fits all” digital tools, disruptive business models
Co-creation and sharing of knowledge: farmers as co-creators of technological platforms	Top-down solutions by “expert” sources: data mining
Resilience: robust and adaptable ICT tools and platforms co-created by farmers	Farmer vulnerability and dependence on prepackaged external inputs (data, energy, ICT)
Human and social values: farmers’ full ownership of tools, methodologies and data	Farmers as inefficient and unreliable: replace human work by algorithms and ICT devices
Circular and solidarity economy	Startup impact investment model for quick returns

Source: adapted from Hilback and Tisselli (2020)

4.6. Innovation

The HLPE has defined innovation as “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. Innovation also refers 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.” (HLPE, 2019: 15).

In this report, we highlight the role of innovation as developing assemblages of old and new practices, recognizing technological and social innovations in diverse knowledge systems, including Indigenous/ local knowledge systems. Innovation is not something that happens suddenly, but is a continual process, and reflects how actors (in this case young men and women) can apply agency to develop and/or adopt new ways of doing things. Innovation in food systems is a dynamic process through which farmers, pastoralists, fishers, cooks, retailers, and other stakeholders involved in food systems improve the way food is grown, processed, distributed, and consumed. This may include planting new crop varieties, combining traditional methods with modern scientific knowledge, applying new integrated production and post-harvest practices, or engaging with markets in new, more efficient and sustainable ways. In addition to technological innovation, we recognise the importance of “social” innovations (for example in institutions, ownership regimes, networks, organisations, knowledge production) which encourage people to act in ways that promote conviviality and collaborative problem solving (Anderson, 2020, p. 31; Haxeltine *et al.*, 2018)

How should we judge innovations, to decide whether they play a worthwhile role in the transition to inclusive and sustainable food systems and to better opportunities for young men and women to engage productively with them? In our view, innovations should be

assessed for their accessibility and influence on the interconnected drivers of the food system as a whole, including potential unintended outcomes on ecological and social structures.

Agriculture innovations such as genetic engineering and digital technology—e.g. satellite-connected digital sensors on farm equipment including tractors and drones—have been a significant engine for transforming food production and farming in recent years. However, civil society, food and environmental justice activists and scholars (Gliessman, 2015; Howard, 2015; Huambachano, 2018; Kloppenburg, 2004; Martínez-Torres and Rosset, 2010; Nazarea, Rhoades and Andrews-Swann, 2017) have questioned these technological innovations in agriculture, and note that their beneficial outcomes are highly context-dependent. Some scholars suggest that genetically-modified organisms (GMOs) may assist in agricultural productivity, and digital technology can aid farm decision-making and delivery of inputs for some, capital-intensive food production systems. Others suggest that more regulatory insight is needed, and that youth need increased institutional and capacity-building support to enable them to control the use of these technologies, protect crop genetic diversity, and ensure data sovereignty. Differential access to such innovations may also exacerbate power inequalities in geographies and communities that currently practice low-external input agriculture. In another example, job opportunities can be reduced by increasing automatization (The Economist, 2019), and young people are often concentrated in the jobs with the highest probability of automation, for example in the food preparation and serving sectors (ILO, 2020b) as discussed in more detail in Chapter 3.

That said, some forms of biotechnology (such as biofertilizers) and digital agroecology have been embraced by agrarian social movements under conditions which protect their livelihoods, traditional biocultural knowledge, and data sovereignty. Indigenous women in Brazil are experimenting with drones as a method to map and protect their territories, and other communities are using satellite images to monitor deforestation by agribusiness (Nyeleni, 2019, 3). The rapid drop in the costs of environmental sensors and the increased availability of ICT technologies at lower price points (noting ongoing regional digital divides) has also led to an increase in interest in digital agronomy by small scale farmers and others practicing more complex, diversified agroecological systems.

Complexity arises when innovation is put into contemporary socio-economic contexts to improve agriculture in the absence of an understanding of how Indigenous peoples and local communities define it and their knowledge-based practices related to it. For example, Indigenous peoples' innovation (technologies) - e.g., crop rotation and agricultural moon and solar calendars - emerge from knowledge obtained from their intimately connected relationship with the land and the environment. They are heavily dependent on intergenerational learning, passed down mostly through oral history from one generation to the next, and rooted in family and community labour (Huambachano, 2019b; McGregor, 2004; Nemogá, 2019). In this regard, understanding of innovation should draw from the wide array of knowledge and practices from all stakeholders involved in food systems to foster social innovation, that is — progress for the benefit of humanity and not for profit-making solely (HLPE, 2012, 2019). Finally, advocacy and policies related to food systems innovation should consider questions raised by global social movements (e.g. Nyeleni 2019) such as: which actors are developing food systems technologies and for what purpose? Who has control over data produced by these systems, and how are the technologies and innovations governed to benefit diverse stakeholders across the food system, including youth

In summary, providing equitable foundations for intergenerational knowledge transmission, dynamic learning, and sustainable innovation -- (what Michel Pimbert calls “expanding knowledge democracy” (Pimbert, 2017) is critical for supporting youth employment and engagement in food systems. Creating new pathways for young people to “reframe food, agriculture, biocultural landscapes and the “good life” in terms of a larger vision based on radical pluralism and democracy, personal dignity and conviviality, autonomy and reciprocity and other principles that affirm the right to self-determination and justice requires the construction of radically different knowledge from that offered today by mainstream universities, policy think tanks and research institutes” (Pimbert 2017, 261). In the final Chapter that follows, we explore policy frameworks and principles for strengthening youth employment and engagement in the food system, building from the principles of Rights, Agency, and Equity to encompass diverse ways of knowing underpinning context-specific policy advocacy.

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5. Policy frameworks and processes to support youth in the context of food systems

This Chapter explores enabling environments for the promotion of increased engagement and employment of young people in agriculture and food systems, built on the principles of agency, rights, and equity. We ask: what youth-inclusive institutions, approaches, policies and actions can promote young men and women's productive and rewarding engagement in agriculture and food systems renewal?

In particular, we take the opportunity to explore the role of engagement and employment in food systems as a core pillar in post-COVID-19 food systems recovery. While youth may experience fewer short-term health impacts from COVID-19, they are significantly affected by the economic and social transformations involved in response and recovery efforts. COVID-19 is expected to increase job vacancies, lay-offs, particularly in sectors of the economy disproportionately affected by the crisis, including food services (ILO, 2020g). A recent survey indicated that almost one-quarter of youth aged 18-24 who were employed prior to COVID had stopped working, compared to 13 percent of older youth (aged 25-29) and 10.6 percent of those in the 30-34 age group (ILO, 2020g). As with the intersectional nature of youth employment discussed throughout this report, young men and women were affected differently - young men reported higher levels of job loss, reduced hours, and lost income. Youth have also experienced increasing difficulties in accessing policy processes as a result of confinement measures, especially in low and lower-middle income countries. COVID-19 however has also encouraged youth to increasingly get engaged in volunteer activities and helping others (ILO, 2020g p. 13).

A recent analysis (James *et al.*, Forthcoming) argued that **redistributive policies** are critical for building resilience in the food system in the face of compounding crises such as COVID-19. Policies that transfer resources and power from older generations to youth would be in line with this approach. For example, government COVID-recovery wage subsidies can enable continued participation in education and training opportunities, and investments in educational institution can facilitate a more rapid transition to online learning and other ICT innovations (noting that the impact on educational training is highly differentiated among high-income and lower income countries: 44 percent of students in low income countries, compared to 4 percent in high-income countries, reported that their education and training was completely shut down since the pandemic began (ILO 2020g, p23). The ILO (2020g) study reports that school closures, and the ongoing "digital divide" (see also Mehrabi *et al.*, 2020) points to "reduced opportunities for growth and development of youth and an increased risk of having school drop-outs, particularly in low income countries, where some students, especially young women, may be unable to return to school due to a contraction in household income and the need to sustain livelihoods (p. 23).

To realize these opportunities a set of conditions need to be in place. In continuity with the key messages of the recently released HLPE Report (HLPE, 2020a), and in line with the pillars proposed in the conceptual framework in Chapter 2 of this report, we identify the characteristics that policies and institutions must embody to create an enabling environment for youth. Policy dimensions, approaches and actions necessary to promote youth engagement and employment in agriculture and food systems are *youth-inclusive* and must address the *generational sustainability* of food and agricultural systems. In this vein, youth's diverse and place-based needs and aspirations must be incorporated in policy statements and

reflected in the normative, legislative and institutional frameworks of governments, civil society organizations and institutions, and youth organizations themselves. Harnessing youth skills for sustainable food systems will require significant efforts within countries, as barriers in access to land, credit and education are often the result of inadequate legal frameworks and insufficient domestic resource mobilization. For many countries currently experiencing high levels of youth unemployment and disenfranchisement, these investments in youth skills represent the best hope of achieving the SDGs and the wider 2030 Agenda for Sustainable Development (Piselli *et al.*, 2019).

A wide range of instruments and initiatives exist that can guide policy processes to improve youth engagement and employment in food systems. Often, these global policy instruments include youth among the main target groups. In addition to this general and inclusive approach to actions, existing instruments also provide youth-specific strategies. We present below a non-exhaustive list (see Table 6) comprising policy instruments that have begun to explicitly include youth as a locus of action and implementation of initiatives related to food security, land rights, and agriculture and food systems development.

Yet, state engagement in these global frameworks is voluntary, and states are challenged to deliver policy and programme implementation that are attuned to the rights-based, intersectional, inter-generational and context-specific challenges of regional food systems and youth positioning in political and economic landscapes. Many of the frameworks that currently exist devolve responsibility for youth employment to the private sector. Skills training programmes either focus on rural and agricultural contexts, and rarely take a food systems approach.

Table 6: Examples of policy instruments that focus on youth rights, equity, and agency

UN DECLARATIONS		
UNCRC Convention on the Rights of the Child	1989	The first Convention specifically addressing the rights of children. The UNCRC is based on the four principles of: 1. Non-discrimination; 2. Best interest of the child; 3. The right to survival and development; 4. The views of the child.
United Nations Declaration on the Rights of Indigenous Peoples	2007	Art. 21 and 22: “Particular attention shall be paid to the rights and special needs of indigenous elders, women, youth, children and persons with disabilities in the implementation of this Declaration”
General comment No. 20 (2016) on the implementation of the rights of the child during adolescence	2016	Focuses on 'childhood' (15-17 age group) and guides states in the design and implementation of legislation, policies and services to promote comprehensive adolescent development consistent with the realization of their rights and to reflect the evolving capacities of this age group.
United Nations Declaration on the Rights of Peasants and Other People Working in Rural Areas	2018	Calls for specific attention to the rights and needs of youth when implementing the Declaration, including calls on states to prioritize young peoples' access to access to land and other natural resources.

VOLUNTARY GUIDELINES		
FAO Voluntary Guidelines to support the progressive realization of the right to adequate food in the context of national food security	2005	Calls on States to encourage and promote youth active participation in the development of all kinds of strategies around agricultural and food production.
FAO-CFS Voluntary guidelines on the responsible governance of tenure of land, fisheries and forests in the context of national food security (VGGT)	2012	Promotes equitable tenure rights and access to land, fisheries and forests for youth – among others – through positive actions, including empowerment, based on the principle that recognizing equality between individuals can start with the acknowledgment of differences between individuals.
FAO Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication	2014	Calls States to guarantee access to schools and education facilities according to the needs of small-scale fishing communities to ensure gainful and decent employment of youth, respecting their career choices and providing equal opportunities for all boys and girls and young men and women.
COMMITTEE ON WORLD FOOD SECURITY POLICY RECOMMENDATIONS		
Investing in Smallholder Agriculture for Food Security and Nutrition	2013	Calls for targeted policy interventions –including equal access to education, legal recognition, and policy inclusion; Promotes appropriate regulatory conditions and financial infrastructure for youth.
Food Losses and Waste in the Context of Sustainable Food Systems	2014	Calls for the education of youth on the importance and modalities of reducing food loss and waste.
Principles for Responsible Investment in Agriculture and Food Systems	2014	Promotes responsible investment for youth empowerment in food systems by “ <i>Advancing their access to productive land, natural resources, inputs, productive tools, extension, advisory, and financial services, education, training, markets, information, and inclusion in decision-making; ii Providing appropriate training, education, and mentorship programs for youth to increase their capacity and/or access to decent work and entrepreneurship opportunities, and foster their contribution to local development; iii Promoting development and access to innovation and new technologies, combined with traditional knowledge, to attract and enable youth to be drivers of improvement in agriculture and food systems</i> ”
Water for Food Security and Nutrition	2015	Calls for youth’s equal access to water through legislation, policies and programs, reforms and investments
Connecting Smallholders to Markets	2016	Promotes the empowerment of young smallholders and their organisations through inclusive policy and institutional arrangements and partnerships related to value chains’ functioning; access to resources, and capacity development for young smallholders as in collective action and in forming cooperatives, associations and networks to increase their bargaining power and control over their economic environment, and participation in food value chains; Promotes equal decision-making power for youth.

Sustainable Agricultural Development for Food Security and Nutrition: What Roles for Livestock?	2016	Calls to foster youth employment by promoting capacity development (education, training, rural advisory services), inclusive finance and to facilitate youth access to land and resources.
INITIATIVES AND NETWORKS		
UN World Programme of Action for Youth	1995	Has a section on employment, and supporting youth in food systems
Global Agriculture and Food Security Program (GAFSP)	2010	GAFSP is a global financing instrument dedicated to fighting hunger, malnutrition, and poverty in the world's poorest countries, hosted by the World Bank. It was initiated by G20 as a multilateral financing instrument for promoting agriculture-based growth to improve livelihoods and employment of small-scale farmers, including youth
IANYD - UN Inter-Agency Network on Youth Development	2010	Network consisting of UN entities, represented primarily at the headquarters level, whose work is relevant to youth. The aim of the Network is to increase the effectiveness of UN work in youth development by strengthening collaboration and exchange among all relevant UN entities, while respecting and harnessing the benefits of their individual strengths and unique approaches and mandates. Focused on youth engagement in policy processes
Global Initiative on Decent Jobs for Youth	2015	UN wide-effort led by ILO. Human rights-based initiative to scale up action and impact on youth employment in support of the 2030 Agenda for Sustainable Development.
G20 Initiative for Rural youth employment	2017	Supporting the "Next Generation" in Rural Development, Agriculture and Food Security in developing countries. Focus on rural youth, with attention to broader food systems and skills development.
Youth Alliance for Zero Hunger	2018	Youth-led, youth-governed group to act as a conduit for evidence, examples, perspectives, and voices of youth to progress the goals of zero hunger and sustainable development. The Youth Alliance initially developed from discussions during the 45th Annual Session of the UN Committee on World Food Security (CFS45).

5.1. Key foundations of a youth-sensitive enabling policy environment

To bring together our main findings and their implications for action, policy recommendations for youth empowerment and employment in agriculture are built on the pillars of our conceptual framework (see Figure 1). A *rights-based approach*, based on *social inclusion and equity*, are central principles of an enabling policy environment for youth. Instead of agricultural and rural development policies that address youth simply as an "instrument of development", we suggest that a positive transformative change must recognise youth as vital actors in political and economic change.

To enable a meaningful policy shift, the youth population must also be recognized in society as *collective actors* interested and fully capable to meaningfully participate in decision-making processes, in rural, urban and rural-urban organizations, and in social movements of local,

national, regional and global scope (White and IFAD, 2019). Entrepreneurship, among other pathways, is acknowledged as a way to engage youth in practices of social navigation and participation that see them adjusting to rapidly changeable circumstances (Flynn, Mader and Oosterom, 2017).

The complexity of food systems requires *cross-sectoral and multilevel governance approaches* to simultaneously address challenges of different sectors, scales, and spaces of food systems. It is also important to consider the heterogeneity of youth before planning or implementing any youth engagement and employment programmes, initiatives, or policies. Similarly, policies should distinguish between long-term approaches (e.g. employment through on-farm productivity) and short-term approaches (e.g. youth self-employment and entrepreneurship), as well as “demand-side” versus “supply-side” solutions. We recommend the coordination of traditionally independent policy areas, such as education, infrastructure, financial services, investment, food production, distribution and consumption, nutrition and health in a broader, context-specific strategy embracing the diversity and heterogeneity of youth.

The acknowledgment of youth as actors can be manifested through the development of inclusive and effective governance and coordination mechanisms. Young people today are both interested in engaging in formal policy making processes and exploring policy spaces outside the formal political sphere (Ansell, 2016a, p. 233-4). This engagement takes place in agrarian, rural and urban civil society organizations and social movements as well as in services and in their everyday life. Notably, young people around the world are actively engaged - for example - in efforts to address climate change. They are leading and participating in many initiatives at the local, sub-national, national, and international levels. Their strong commitment to working on this issue has also motivated them to participate at international climate negotiations under the United Nations Framework Convention on Climate Change (UNFCCC). FAO, UNICEF and the UNFCCC have advocated for giving youth organizations observers status in UNFCCC negotiations. In 2009, these efforts contributed to the formal recognition of YOUNGO (also referred to as International Youth Climate Movement) as the official children and youth constituency to the UNFCCC. YOUNGO has over 20 policy working groups involving young people building the next generation of climate advocates in various fields and spaces of operation (FAO, 2019a). As such, we advocate for greater recognition of the political voices of youth both in international (inter-governmental) agencies, governments and state actors, and in relation to the internal dynamics of civil society organizations and institutions and of their organized youth articulations.

Close and continuous interaction among state and governmental institutions and the direct beneficiaries of specific policies is one of the main requirements that can guarantee the success of public interventions (Korzenszky, Vicari and Brady, 2019). Policy making mechanisms should therefore aim to facilitate the meaningful participation of youth in all stages of the public policy cycle. To illustrate our point, during the “agenda setting” phase, it is essential to hear young people’s voices, recognize their challenges and identify difficulties that may arise in their livelihoods. For the formulation of adequate state interventions, the organization of systemic consultation and dialogue processes with all stakeholders involved can facilitate the collection of proposals and alternatives to shape the real objective of the potential policy support. In the policy “implementation” phase, working with and accessing information from youth and the allocation of appropriate resources at different administrative levels can guarantee the realization of the enabling policy framework. Finally,

policy implementation processes can be continuously improved by incorporating the experiences of the policy beneficiaries.

Given these interconnected issues and challenges, it is important to consider the role of government policies, both national and local, in facilitating and protecting young people's pathways into productive, decent and meaningful work in food systems. This includes both policies on the demand side, including the regulation of the direction and pace of technological change, and the supply side, including provision of apprenticeship schemes, earn-and-learn programmes, access to land and other resources (Townsend *et al.*, 2017). Government should also ensure the respect and enforcement of youth rights, including labour rights, and the right of youth to influence and shape policies related to food systems transformations.

There is no single institutional “good practice” model in this field of policy (ILO, 2012, p. 32) and interventions need to be tailor-made to changing local contexts. Nevertheless, the policy literature concurs on various areas of intervention, described briefly below. These are conventionally grouped into **supply-side measures** (those which enhance the young individual's capacity or qualifications to gain access to labour markets or self-employment opportunities) and **demand-side measures** (which enhance or protect the demand for young workers). National policies have tended to focus on the supply side: particularly skills development but also access to other resources (land, working capital etc.). These policies have been covered in detail in Chapters 4 and 5 above and do not need further discussion here.

The current youth employment crisis, however, being mainly a problem of falling or stagnating demand, requires duty-bearers to go beyond skills development programmes and take an active role in labour market interventions aimed to enhance and/or protect the demand for young workers. We also reiterate the importance and potential of encouraging young people's engagement in policy development and policy dialogue relating to employment policies. “By organizing themselves in youth organizations or joining social organizations, cooperatives and networks, rural youth can enhance their participation and have a stronger voice in policy processes” (World Bank and IFAD, 2017, p. 13).

5.2. Policy principles to improve rights, agency, and equity for youth engagement and employment in food systems

Employment: general principles

- Governments should take innovative approaches to ensure the realization of the right to employment for youth. **Youth-targeted public employment programmes** at various levels (national, regional, local) can directly create and finance employment creation in sectors and branches where the private sector is unable or unwilling to provide paid work opportunities. These can also be a part of employment guarantee schemes for youth. In the agri-food sector these can include many kinds of work in the physical infrastructure for food production and distribution (public works programmes, including employment guarantee schemes in these programmes), social infrastructure (in institutions and organizations working to support sustainable farming and food chains), in environmental protection, conservation and rehabilitation, etc.

- To ensure equal opportunities for young women within FSN contexts, it is important to **legitimize, value and pay for care work**.
- **Labor laws and regulations** must be adequate and cover all types of economic activities in agriculture and food systems. Governments also need to ensure that compliance to these laws is enforced and incentivized.
- Governments should create **social protection and safety nets** for young people in need of employment. These opportunities should include an equitable approach that includes gender and social inclusion.
- Governments should work with employers to **facilitate the transition from school to work**, and provide favourable conditions for employers to maintain and enhance rewarding work opportunities for young people. For example, youth-targeted wage subsidy programmes in the private (formal) sector can make it more attractive to employers to hire young people through (for example) hiring subsidies and exoneration or reduction of social charges for young workers. These again can be targeted, not only towards youth but towards specific categories of youth (female, rural, disabled, minorities etc.) and also towards specific types of activity and points in the food chain (agro-ecological farming, alternative food networks and markets etc.) Employment and education policies should consider young people's characteristic life-course trajectories including multidirectional mobilities between places and sectors, and the fact that it is normal for many of the world's children and youth to combine school and work, especially in the teen years.
- In technology policy, governments should **prioritize "job-rich" technological innovations** and take steps to minimize those that destroy jobs on a large scale.
- Governments and the ILO should work on **more accurate ways of capturing young people's employment patterns**, in statistics that can incorporate school and work combinations, and go beyond recording "primary jobs".

Resources: General Principles

- Improved access to resources in food systems for young people will be more sustainable, and their involvement more resilient in the face of economic and climatic shocks, when it does not depend on continual injections of new resources, but rather on **support for young people's ability to exercise a more significant and fair claim on resources already available in their environments and societies**. Enhancing young people's access to resources needs to ensure that the needs and rights of older generations are not sacrificed.
- **Supportive policy environment for youth-led start-up initiatives** (e.g. tax breaks, facilitated access to financial instruments and emerging technologies; incubation hubs that help youth build their capacity to better engage markets and value-added activities of different types).
- Finally, any and all forms of discrimination in access to resources must be actively countered (e.g. according to race, gender, caste, age).

Knowledge: General Principles

- **Understanding that knowledge is context-based and unique to specific societies** and geographic areas is vital in assessing the needs (e.g., upskill/train young people), and aspirations (e.g., revitalize intergenerational agricultural knowledge) of young people when developing policies concerning young people in agriculture and food systems. Respect for the myriad of knowledge systems, innovation and practices of sustainable food systems emerging from Indigenous and local communities will enable young people from these societies to be active actors in developing more resilient and holistic food systems.
- The **recognition and application of agroecological knowledge and practices** in food systems will benefit young people in both rural and urban settings. Using agroecological methods in food production systems involves continuous experimentation and adaptation, in which young people can take a more active approach to develop alternative strategies for sustainable agriculture.
- The **democratization of education for young people** should include strengthening food literacy educational programs, experiential learning (e.g., immersion agricultural, land-based, incubator farm and practicum programs), grassroots initiatives, and the effective use of digital technologies.
- **Curriculum reform to develop close community-education-business partnerships** based on collaborative assessments of local community needs through mobilizing resources for communities and youth. Educational reform also requires strengthening community-based research partnerships through the development of methodologies that are more culturally sensitive and tuned into the ways of how knowledge is acquired, shared and disseminated within different contexts.

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