



PROMOTING YOUTH ENGAGEMENT AND EMPLOYMENT IN AGRICULTURE AND FOOD SYSTEMS

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FOREWORD

It is commonplace to say that youth are the future of humankind. Indeed, as the Committee on World Food Security (CFS)¹ acknowledged in its Multi-Year Programme of Work (MYPoW) for 2020–2023, young people are one of the keys to achieving sustainable development, particularly in developing countries, where the vast majority of them reside, often in rural areas. Applied to agriculture and food systems, this easy observation must be coupled with vigilance, since the employment and engagement of young people in these sectors are also crucial for the future of our food.

There is a large, untapped reservoir of employment opportunities in the agri-food sector. Yet today's youth live in a world facing a confluence of crises, including climate and environmental change and global inequalities in food security, nutrition, employment and human well-being. These existing trends have been highlighted and exacerbated by the COVID-19 pandemic, so the need for a radical transformation of global and local food systems has never been more pressing while, in many countries, despite the great diversity of contexts, the observation is the same: it is urgent to strengthen the appeal of agriculture and food systems to young people in order to secure the

¹ The Committee on World Food Security is, at the global level, the foremost inclusive and evidence based international and intergovernmental platform for food security and nutrition. Lessons derived from the food crisis of 2007–2008 and the economic crisis of 2009 led to the reform of the CFS and the formation of the High Level Panel of Experts for Food Security and Nutrition so that decisions and the work of CFS are based on hard evidence of state-of-the-art knowledge.

future. The potential returns of investing in young people are boundless in terms of food security, poverty reduction, employment generation, as well as peace and political stability.

Poor access to land, natural resources, infrastructure, finance, technology and knowledge and low remuneration for workers and producers turn youth away from food systems. As a result, many feel that their best option is to migrate, either to urban areas or abroad. Actions are needed to make the agri-food sector more attractive to young people and to promote their capacities to generate incomes.

Youth engagement and leadership are intrinsically linked to countless aspects of achieving food security and good nutrition for all. Among these aspects, interlinkages with gender equality and women's empowerment, the rural-urban continuum, and innovative practices and technologies, including new uses of data and knowledge sharing platforms, are particularly relevant.

The CFS calls for the development of systems, policies and programmes that engage more youth in agriculture and agricultural professions. Their development will constitute a workstream that will strengthen recognition of youth agency, autonomy and diversity in relation to food security and nutrition.

To inform this important workstream, the CFS MYPoW for 2020–2023 requested the High Level

Panel of Experts on Food Security and Nutrition (HLPE)² of the CFS to prepare a report that would (1) review the opportunities for and constraining factors to youth engagement and employment in agriculture and food systems, (2) examine aspects related to employment, salaries and working conditions, (3) review rules, regulations and policy approaches, including territorial approaches, aimed at addressing the complexity of structural economic, cultural, social and spatial transformations currently taking place globally, and (4) explore the potential of food systems and enhanced rural–urban linkages to provide more and better jobs for women and youth.

Drawing on the findings of previous HLPE reports over the past decade, as well as the broader scientific literature, this report's offers some important take-home messages:

- Youth are on the front lines to build the food systems of the future, while also bearing significant risks from climate change, social and economic inequities, and political marginalization.
- Food systems provide a wide spectrum of opportunities for the engagement and employment of young people across diverse global contexts, but these jobs do not always provide decent and meaningful work or adequate livelihoods.
- In response, policies and initiatives to protect and strengthen youth engagement and employment in food systems need to be based on the pillars of rights, equity, agency and recognition. The redistribution of resources, knowledge, and opportunities for youth innovation and engagement in the development of context-specific employment and labour policies can not only contribute to creating jobs for youth but can also directly support transitions to sustainable food systems.

I would like to acknowledge the engagement and commitment of all HLPE experts who worked

for the elaboration of this report, especially the HLPE Project Team Leader, Hannah Wittman (Canada), assisted by Evan Bowness (University of British Columbia), and Project Team Members: Indika Arulingam (Sri Lanka), Jim Leandro Cano (Philippines), Catherine Mungai (Kenya), Mariaelena Huambachano (Peru), Anna Korzenszky (Hungary), Paola Termine (Italy) and Ben White (United Kingdom of Great Britain and Northern Ireland).

It is equally fair to acknowledge the huge contribution that all HLPE Steering Committee members have made over the last decade to improve our understanding of food security and nutrition and to provide evidence based advice to the CFS and other actors in the global food security community.

I would like to commend and thank the HLPE Secretariat for its precious support to the work of the HLPE. The global pandemic meant that all of the Steering Committee's meetings and deliberations had to be virtual, and this presented additional challenges and work from the Secretariat to ensure that progress on the report was maintained. This report also benefited greatly from the suggestions of external peer reviewers and from the comments provided by an even larger than usual number of experts and institutions, both on the scope and on the first draft of the report.

Last, but not least, I would like to thank those partners who provide effective and continuous financial support to the work of the HLPE and thus contribute to keeping the impartiality, objectivity and widely recognized quality of its proceedings and reports.

The COVID-19 pandemic serves as a timely reminder of the fragility of our global food systems and of the importance and urgency of the work that we do to foster international coordination of a global strategic framework for food security and nutrition to end hunger. One of the main components of this global framework is

² The High Level Panel of Experts for Food Security and Nutrition (HLPE) is the science–policy interface of the CFS. HLPE reports serve as a common, evidence based starting point for the multi stakeholder process of policy convergence in the CFS.

FOREWORD

to promote youth engagement and employment
in agriculture and food systems.

I wish you a pleasant discovery and reading of
this report!

Martin Cole

Chairperson, Steering Committee
of the CFS HLPE, June 2021



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ACRONYMS

ALRO	Agricultural Land Reform Office
AAFC	Agriculture and Agri-Food Canada
ADB	Asian Development Bank
AfDB	African Development Bank
AFS	Agriculture and food systems
AgYees	Agri-food Youth Employment and Engagement Study
ASEAN	Association of Southeast Asian Nations
AUC	African Union Commission
AWARD	African Women in Agricultural Research and Development
CD	Compact disc
CEDAW	Convention on the Elimination of All Forms of Discrimination against Women
CFS	
CHED	Commission on Higher Education
COPROFAM	Confederation of Family Farmer Producer Organisations
CRAAQ	Quebec Reference Centre for Agriculture and Agri-Food
CFS	Committee on World Food Security
CRC	Convention on the Right of the Child
CRMB	Campus Rural de Marabá
CSM	Civil Society and Indigenous Peoples Mechanism of the Committee on World Food Security
CTA	Call to action
DJA	Dotation Jeunes Agriculteurs
ENABLE	Empowering Novel Agribusiness-Led Employment
EPI	European Partnership for Innovation
ERIC	European Research Infrastructure Consortium
ESS	European Social Survey
EU	European Union
EUROSTAT	Statistical Office of the European Union
FAO RIGA	FAO Rural Income Generating Activities
FS	Food system
GAfsp	Global Agriculture and Food Security Programme

GOs	Operational Groups in France
GYIN	Global Youth Innovation Network
IAAS	International Association of Students in Agricultural and Related Sciences
IAASTD	International Assessment of Agricultural Knowledge, Science and Technology for Development
IAFN	International Agri-Food Network
IALAs	Latin American Institutes of Agro-ecology
IANYD	United Nations Inter-Agency Network on Youth Development
ICDA	International Confederation of Dietetic Associations
ICESR	International Covenant on Economic, Social and Cultural Rights
ICT	Information and communication technology
IFOAM	International Federation of Organic Agriculture Movements
IFPA	Instituto Federal do Pará
IFPRI	International Food Policy Research Institute
ILK	Indigenous and local knowledge
ILOSTAT	International Labour Organization global reference statistics
INRA	Institut National de la Recherche Agronomique
IOM	International Organization for Migration
IoT	Internet of things
JEMA	Junior Étude Montpellier Agro
JMDI	Joint Migration and Development Initiative
KAYA	Kapital Access for Young Agripreneurs
LGBTQI+	Lesbian, gay, bisexual, transgender, queer and intersex
LIDAR	Light detection and ranging
LMICs	Low- and middle-income countries
LSMS	Living Standards Measurement Study
LVC	La Via Campesina youth movement
MAELA	Latin American and the Caribbean Agro-ecology Movement
MAYA	Mentoring and Attracting Youth in Agribusiness
MoALF	Ministry of Agriculture, Livestock and Fisheries
MPP	Movimento de Pescadores e Pescadoras – Fishermen’s Pastoral Council
MST	Movimento dos Trabalhadores Rurais Sem Terra – Landless Rural Workers’ Movement
NAJK	Netherlands’ Young Farmers Contact
NEET	Not in education, employment or training
NGO	Non-governmental organisation
NPT	Nossa Primeira Terra
ÖBV	Österreichische Bergbauern- und Bäuerinnen Vereinigung
OECD	Organisation for Economic Co-operation and Development
OFN	Open Food Network
PHP	Philippine peso

PNCF	National Program for Land Credit
PROCASUR	Regional Programme for Rural Development Training
PRONAF	National Program for Strengthening Family Agriculture
REST	Relief Society of Tigray
RUFORUM	Regional Universities Forum for Capacity Building in Agriculture
RUL	Rivall Uganda Limited
RYAF	Rwanda Youth in Agribusiness Forum
S+HGP	School-Plus-Home Gardens Project
SMS	Short message service
SOFI	The State of Food Security and Nutrition in the World
STEM	Science, technology, engineering and mathematics
TEK	Traditional ecological knowledge
TELCK	Traditional ecological and local community knowledge
TESDA	The Technical Education and Skills Development Authority
TVET	Technical and vocational education and training
UK	United Kingdom
UN	United Nations
UN ESC	United Nations Committee on Economic, Social and Cultural Rights
UNCRC	United Nations Convention on the Rights of the Child
UNDESA	United Nations Department of Economic and Social Affairs of the United Nations Secretariat
UNDRIP	United Nations Declaration on the Rights of Indigenous Peoples
UNDROP	United Nations Declaration on the Rights of Peasants and Other People Working in Rural Areas
UNESCAP	United Nations Economic and Social Commission for Asia and the Pacific
UNEVOC	International Centre for Technical and Vocational Education and Training of UNESCO
UNYFA	Young Farmers' Federation of Uganda
UPLB	University of the Philippines Los Baños
USA	United States of America
USD	United States dollar
WHA	World Health Assembly
YABIC	Youth Agribusiness Incubation Centre
YFM	Youth Food Movement Australia
YOFCHAN	The Young Farmers Champions Network
YOUNGO	Children and Youth constituency to United Nations Framework Convention on Climate Change

SUMMARY

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. Among people who do have jobs, youth have a higher incidence of working poverty and vulnerable employment than adults. Youth also face serious barriers in accessing land, credit and other productive assets for establishing their own livelihoods, and many young people lack the right to representation in workers' unions or producers' organizations.

At the same time, today's young people are on the front lines of the transformation of agriculture and food systems. They are coping with the effects of environmental and climate change, which are likely to accelerate and intensify during their lifetimes. These problems have been exacerbated by the social and economic impacts of COVID-19, which has put lives, jobs and livelihoods at risk and is having serious effects on both food supplies and demand worldwide.

Already prior to the COVID-19 pandemic, young people were growing up in a world not on track to achieve the targets of the Sustainable Development Goals (SDGs) related to food security, a world where a third of the population is affected by at least one form of malnutrition. Global inequalities persist and grow, and there is increasing concern over the crisis of youth employment within and beyond agriculture and food systems, henceforth referred to simply as "food systems". This fragility presents profound consequences for the realization of the human right to food, to employment, to a healthy

environment and to overall well-being, not only for youth but for all generations.

In October 2019, at its 46th session, the Committee on World Food Security (CFS) requested the High Level Panel of Experts on Food Security and Nutrition (HLPE) to prepare a report to review the opportunities for and constraints to youth engagement and employment in sustainable food systems. This report articulates a conceptual framework to understand the role of youth as agents of change in the transformation of food systems. The report analyses specific policy themes, such as employment, resources, knowledge and innovations, to articulate recommendations to enhance youth's role in food systems and contribute to meeting SDG 2 targets and the entire 2030 Agenda for Sustainable Development.

The report assesses the opportunities and challenges for youth engagement and employment in food systems to be part of an urgent readjustment of social and economic life towards an *economy of well-being*. This approach envisions re-balancing relations between human and living nature—especially in the face of climate and health crises—towards upholding the right to food, dignified and rewarding livelihoods, and relationships based on cooperation and solidarity. The goal of "living well" requires a holistic perspective, challenging business-as-usual approaches to economic growth and acknowledging that youth transitions and their engagement in food systems are shaped by the intersections of multiple factors and structural constraints.

This report provides a synthesis of policy recommendations for promoting the engagement and employment of young people in food systems. The recommended actions will require that **states, civil society, farmers' and workers' organizations, the private sector, social movements, and youth themselves** work together with the aim to realize a fundamental transformation of food systems towards sustainability, well-being and food sovereignty. This report summarizes the range of institutions, approaches, policies and actions that can promote young people's inclusive, equitable, productive and rewarding engagement in renewing food systems.

KEY MESSAGES

- Food systems are the largest employer of young people, particularly in the Global South, yet they often do not provide decent and meaningful work or adequate livelihood opportunities, nor maintain a balance between the needs and rights of different generations.
- Approaches and policies to strengthen youth engagement and employment in food systems need to be based on the pillars of rights, equity, agency and recognition.
- Youth require support, including re-distributive and mediated market policies, to access land, water, forests, labour, knowledge, information, agricultural extension, finance, credit, markets, technology and supporting institutions for sustainable food systems transformation.
- Context-specific employment and labour market policies at global, national and local levels not only can contribute to creating jobs for youth but can also directly support transitions to sustainable food systems by restoring the natural resource base, strengthening social and physical infrastructure, and contributing to territorial markets and food security.

- Youth-centred innovation for sustainable food systems involves developing assemblages of old and new systems of knowledge and practice, with more democratic and inclusive governance and organizational models. Digital technologies have the potential to “expand knowledge democracy”, but ongoing digital divides must be overcome so that these benefits are not concentrated on only those youth with access to high levels of financial capital.

RECOGNIZING THE ROLE OF YOUTH AS AGENTS OF CHANGE IN FOOD SYSTEMS

As shown in the report, youth are active in many roles and spaces across food systems. Across these spaces, the world's young people seek economically rewarding, intellectually stimulating and meaningful careers, and creating opportunities for young people will require a significant redistribution of resources towards sustainable, inclusive, healthy and climate-resilient food systems. This includes important changes to the structure of landholdings, technologies and their use, to capabilities and opportunities for diverse populations, and to the distribution and dynamics of the population and labour-force. Such a transformation will generate multiple benefits, including improved education, nutrition, health, water and sanitation, increased incomes for small-scale farmers, and empowerment of women and youth. These benefits will translate to transformed and thriving livelihoods and communities.

The latest HLPE report (HLPE, 2020a) both recognizes the need for a radical transformation of food systems and notes that solutions to food security and nutrition challenges must be context-specific and be built on a diverse set of enabling governance conditions. This report takes the next step – to show that the realization of the transformation required for sustainable food systems in the next-generation must be built on a foundation of

agency, rights, equity and recognition of the role of **youth as agents of change across all dimensions of food systems**. For many countries currently experiencing high levels of youth unemployment and disenfranchisement, investments in resources, knowledge and skills targeted to address the structural challenges facing young people represent the best hope of achieving the SDGs and the wider 2030 Agenda for Sustainable Development. Yet, effectively harnessing youth skills and energies for sustainable food systems will require significant efforts for the redistribution of power needed to transform existing social, political and economic relationships and conditions within and across countries, as barriers in access to resources, education and dignified work are often the results of inadequate legal frameworks and insufficient domestic and international resource mobilization and commitment.

A CONCEPTUAL FRAMEWORK TO FULLY ENGAGE YOUTH IN FOOD SYSTEMS

The report's policy recommendations build on a conceptual framework that illustrates the importance of **recognizing** young people's rights, equity and agency as essential foundations for building sustainable food systems of the future. Policies to support youth employment and engagement in food systems must recognize the diversity, intersectionality, and context-specificity of youth aspirations and experience across the globe; revitalize diverse knowledge and action pathways, including through inter-generational relations and adaptive technology; facilitate youth mobility and innovation; and address structural inequality.

Youth engagement and employment in sustainable food systems is thus simultaneously a *goal to be realized* and a *means* for the radical transformation of food systems, the achievement of SDGs and economies of well-being. Here, the report underlines the need to uphold the central role of **human rights** – including rights to protection,

to non-discrimination, to participation, to food, to education, and to decent work – as central principles of an enabling policy environment for youth.

Equity considerations are particularly important in implementing the redistributive policies needed to building resilience in food systems. The equity pillar reminds us that *all* redistributive measures need to ensure that every marginalized and resource-poor group, including youth, is included. Targeting youth in food systems transformation means redressing imbalances of resources and power between older and younger generations.

The **agency** pillar reminds us that positive transformative change must recognise youth as active citizens (agents) interested and fully capable to drive urgently needed political and economic renewal. Young people, through both individual and collective action, should also be recognized for their potential as advocates for sustainable consumption, and as important actors in political movements for food justice and ecological sustainability. The multiple voices, participation and leadership of young people in sustainable food systems transformation need to be recognized, facilitated and legitimized.

Furthermore, it is important to recognize the **intersectionality** of youth, acknowledging and nurturing their heterogeneity and diversity when planning or implementing any youth engagement and employment programmes, initiatives, or policies. Initiatives towards sustainable food systems transformation should adopt a **relational approach** recognizing the inter-generational relations between young and old, which also influence the developmental cycle of the agrarian and urban households in which they reside. With such an approach, an enabling environment can reconstruct “the balance” between young and old – according to the socially constructed understanding of different age groups.

Overall, this report depicts how youth can exercise agency in achieving SDGs and economies of well-being by accessing supportive

pathways for authentic engagement and meaningful employment in sustainable food systems. In each chapter, the report highlights specific policy areas where interventions can drive youth engagement and employment towards radical food systems transformations. Policy actions across the rural-urban continuum are needed to ensure the basic right to employment; access to natural and productive resources, knowledge, and education; and support for youth to set up and operate their own or collective initiatives. These recommendations are fundamental to recognize and enhance youth rights, equity, agency and engagement in food systems, to trigger positive and long-term effects in territorial development, and to develop and maintain sustainable relations between urban and rural spaces. Recognizing the urgency of inter sectoral collaboration and using a food systems approach, the recommendations are structured across the following cross-cutting areas:

- providing an enabling environment for youth as agents of change
- securing dignified and rewarding livelihoods
- increasing equity and rights to resources
- enhancing knowledge, education and skills
- fostering sustainable innovation

Recognition of **youth voices** is fundamental in normative, legislative and institutional frameworks of international (intergovernmental) agencies, governments and state actors, civil society organizations and institutions, and their organized youth articulations. Policy implementation processes can be continuously improved by working with and providing participation spaces for youth and by incorporating the experiences, diverse and place-based needs, and aspirations of young people in policy development and evaluation.

A wide range of global instruments and initiatives already exist that can support policy processes to improve youth engagement and employment in food systems. Often, these global policy instruments include youth among the main

target groups. Yet, state engagement with and implementation of these global frameworks—whether binding UN conventions or voluntary UN declarations and guidelines—are often far from adequate. States and other levels of institutional governance need to be challenged to take responsibility for their roles as duty-bearers for the realization of rights. This will support the delivery of policies and the implementation of programmes that are better attuned to the rights-based, intersectional, inter-generational and context-specific challenges of regional food systems and youth positioning in political and economic landscapes. Young people today are also interested both in engaging in formal policy-making processes and in exploring policy spaces outside the formal political sphere. Actions should encourage social and cultural life to flourish through strengthened intra-generational and inter-generational collaboration, supporting youth participation and leadership in rural, urban and rural-urban organizations.

Policies targeting youth often define their beneficiaries based on a specific age cohort. Better support for youth in food systems requires an understanding of youth involving not only age but also other features of young people's positioning in cross-cutting (intersecting) relationships and hierarchies of generation, gender, class, culture, ethnicity, and different forms of knowledge and learning. The report also highlights that the age category and social positioning of young people are temporary conditions. Youth targeted policies for education, engagement and employment in food systems should be regularly reviewed and renewed, building on the results and lessons learned from earlier interventions. At the same time, youth targeted policies, including those that provide infrastructure and social protection, require a clear connection and pathway to policies and programmes for those who have grown out of youth into adulthood. Finally, considering youth as a relational category, young people should be targeted by policies both as an independent group and in relation to other older or younger citizens.

In sum, youth agency, equity and rights can be supported by policies and programmes that encourage the civic and political engagement of younger generations from an early age, take seriously their challenges to current policy agendas, and provide the structural conditions for them to be able to participate. This is an important requirement for the creation of enabling environments for youth engagement and for processes in which policies, programmes and other initiatives are made not *for* youth but negotiated *together with* youth in horizontal modes of inter-generational collaboration based on sharing power.

INTRODUCTION

This report, prepared at the request of the Committee on World Food Security (CFS), 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 latest report by the High Level Panel of Experts on Food Security and Nutrition (HLPE) “Food security and nutrition: building a global narrative towards 2030” (HLPE, 2020a), which identifies critical policy shifts needed to promote a “radical transformation of food systems.” This report uses the definition of **food systems** outlined by the HLPE (2017, p. 11):

“*Food systems are all the all the elements (environment, people, inputs, processes, infrastructures, institutions, etc.) and activities that relate to the production, processing, distribution, preparation and consumption of food, and the output of these activities, including socio-economic and environmental outcomes.*”



The HLPE articulates a vision for **sustainable food systems** (2020a, p29) that are:

“*...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.*”

Transforming food systems requires focused engagement with the world’s young people, who seek economically rewarding, intellectually stimulating and meaningful careers (HLPE, 2020a, p. 42). At the same time, the current conjuncture of climate, health, and economic crises has sharpened recognition – especially for youth who are examining their prospects for the future with ever greater concern – of the underlying unsustainability of the world’s food systems. The rapid pace of both climate and technological change challenges the ability to make predictions about young people’s prospects for employment in future agriculture and food systems with any degree of certainty. This fragility presents

profound consequences for the realization of the human right to food, to employment, to a healthy environment, and for overall well-being, not only for youth but for all generations.

In sum, young people are on the front lines. They will have to cope with the effects of environmental and climate change, which are likely to accelerate and intensify during their lifetimes (Glover and Sumberg, 2020). Already prior to the COVID-19 pandemic, young people were growing up in a world that is not on track to achieve the targets of the Sustainable Development Goals (SDG) related to food security, a world where a third of the population is affected by at least one form of malnutrition, with an ailing food system as its main driver (Amiot, 2020). Global inequalities persist and grow (HLPE, 2020a, p. 34), and there is increasing concern over the crisis of youth employment (ILO, 2020a).

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 impacts of the current crises 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; IPESFood, 2020; UN, 2020a).

Although short-term actions responding to the COVID-19 crisis are important, in the longer term this crisis—like other crises before it—provides opportunities and momentum for a more fundamental and permanent transformation and re-balancing towards more inclusive, sustainable and resilient food systems.

At the level of intellectual and policy discourse, the recognition of the urgency of a fundamental transformation towards agro-ecological and small-holder-led modes of supplying the world's food needs has significantly increased in the past decade. In June 2021, the CFS endorsed policy recommendations supporting agro-ecological approaches to sustainable agricultural and food

systems that aim to address “ruptures to the inter-linkages between human, animal, and plant health and the environment [that] compromise both biodiversity and the well-being of people” (CFS, 2021). In 2019, under the authority of the United Nations General Assembly (UNGA), FAO launched the United Nations Decade of Family Farming 2019–2028 (UNDIFF). UNDIFF aims to strengthen political commitment for the support and empowerment of family farmers, including ensuring inter-generational succession and support for youth as key actors in food systems and sustainability transitions.

These developments at the level of knowledge and discourse have been matched with many encouraging initiatives on the ground. Serious questions remain, however, about whether the current focus on farm succession, diversification and localization is significantly changing the overall character and sustainability of the world's food systems now or if it will do so 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). Most governments and other institutions also still frame food systems policies within traditional economic models of gross domestic product growth and often do not prioritize policies to ensure the social and ecological sustainability of food systems (Chrysopoulou, 2020).

The challenge is to envision new pathways to achieve sustainable food systems. This includes policies that go beyond a growth-first approach to also consider the principles of ecological economics, de-growth and resilient economies of well-being (c.f. Amate and Molina, 2013; Martinez Alier, 2009), policies that provide an opportunity to reposition youth at the heart of innovative solutions for sustainable food systems based on the principles of resilient, circular economies of well-being (FAO, 2020b; IPESFood, 2020; UN, 2020a).

Youth and children (see **Box 1: Defining “youth”**) can be important actors in the dynamic transformation of contemporary food systems, with a role to play in achieving the Sustainable Development Goals (SDGs), especially SDG 2 on “Zero Hunger” and other relevant SDGs

that are directly or indirectly linked to agri-food systems. These include goals 1 on ending 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, to political power and to supporting institutions.

This report **assesses the status of current youth engagement and employment in agriculture and food systems, identifies the primary constraints and challenges that limit the engagement and employment of youth in agriculture and food systems (in particular, access to resources, knowledge and support for social innovation), and proposes a global youth agenda that constructs youth as active agents in agriculture and food systems.**

This report evaluates current narratives about young people in agriculture, in rural and urban food economies, and in food systems more broadly. It takes a critical look at perspectives on the “youth bulge” as alternatively a threat or as a demographic dividend. Youth bulge is a phenomenon that occurs when a country or region has significantly reduced child mortality while maintaining a high fertility rate, resulting in children and young adults representing a large share of the total population (Lin, 2012). Other narratives relate to young people abandoning rural areas and not wanting to farm and to those wanting to farm but unable to access land; views on young people’s awareness of the abundant opportunities for work and livelihood, building in a wide range of food systems professions in both urban and rural contexts; and young people as innovators holding the key to sustainability transitions well positioned to confront the challenges of climate change and the contemporary structural inequities in food systems.

BOX 1: DEFINING “YOUTH”

For legal and administrative purposes, United Nations (UN) agencies, national governments and their legal systems define the life stages of childhood, youth and adulthood by chronological age. The UN, for example, defines “childhood” as ages 0–17 and “youth” as ages 15–24 (thus, overlapping with “childhood” for three years during ages of 15–17) (UN, undated).

There are, however, 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 status begins legally at 12 years old in Mexico, but at 18 in Bolivia; it ends at 19 in the United Kingdom but at 35 in Tanzania and 40 in Malaysia (Youth Policy Labs, undated). While fully recognizing the importance of chronological age in defining “youth”, 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, 2008b; Jones, 2009; Wells, 2009), and some that combine the two (Ansell, 2016a; Panelli, Punch and Robson, 2007), this report recognizes childhood and youth in relational terms, defined by their position in inter-generational relations and across the life-course. However, when citing data, generally youth are defined according to age as persons aged between 15 and 24 years of age, unless specified otherwise.

The report draws on a broad range of theory and evidence, including the interdisciplinary fields of childhood and youth studies, to understand the challenges that youth face in finding meaningful and rewarding work in food systems and the policies that can enable youth engagement in a sustainable way. The report explores how goals supporting the recognition of youth rights, agency and equity can be achieved as part of broader initiatives supporting implementation of 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 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. These approaches are especially suited to placing youth in a central role in the transformation to sustainable food systems because they highlight the importance of recognition, agency, equity and rights of food system actors – all key concerns of youth participants in food systems. “Economies of well-being” are defined and further discussed in Chapter 2. With these starting points, the report is organized as follows.

Chapter 1, “Positioning youth as agents of change in a sustainable food systems framework”, develops a framework that defines the scope of the study and provides an understanding of what food systems might look like based on the principles of recognition, rights, equity and agency. The framework depicts how youth, through supportive pathways for authentic engagement and meaningful employment in sustainable food systems, can exercise agency in achieving SDGs and economies of well-being.

Chapter 2, “Understanding youth in food systems”, reviews what can be learned from childhood and youth studies and recent work on youth engagement in agriculture and food systems. The chapter considers key concepts in the understanding of young people’s lives, including generational relations and intersectionality and asks: What is known about the futures desired by today’s young people, including the complex issue of their aspirations? How should youth engagement in food systems be envisaged 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 multi-directional mobilities between places and sectors?

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

Chapter 3, “Youth employment and the right to work in agriculture and food systems”, asks how engagement in agriculture and food systems can promote not only the realization of young people’s right to work, but the guarantee that that work, and the livelihoods it supports, is decent and rewarding. What opportunities do trends in demography and structural transitions create for achieving these goals, and what threats do they pose?

Chapter 4, “Access to resources”, reviews the main barriers to young people’s access to resources for productive engagement in agriculture and food systems (including land, water, fish stocks, forests, markets, financial instruments, technology and knowledge). It also reviews innovative models of resource sharing and inter-generational transfer and provides examples of good practices to improve youth access to land and other resources.

Chapter 5, “Knowledge, biocultural heritage and inter-generational learning”, reviews how diverse ways of knowing and learning can be accessed and deployed by young people as they navigate complex and rapidly changing food environments. How can formal and informal educational and vocational initiatives promote the right to education, including sustainable food systems education specifically?

Chapter 6, “Innovation and technology”, explores the role of innovation as assemblages of traditional and novel forms of knowledge, technology, social and organizational practice, and institutional engagement. The chapter considers the intended and unintended consequences of innovative technology, including the digitalization of food systems, on employment, agricultural knowledge management and information sharing.

The “**Conclusion**” and “**Policy recommendations**” draw together the report’s main findings and their implications for action.

Chapter 1

POSITIONING YOUTH AS AGENTS OF CHANGE IN A SUSTAINABLE FOOD SYSTEMS FRAMEWORK



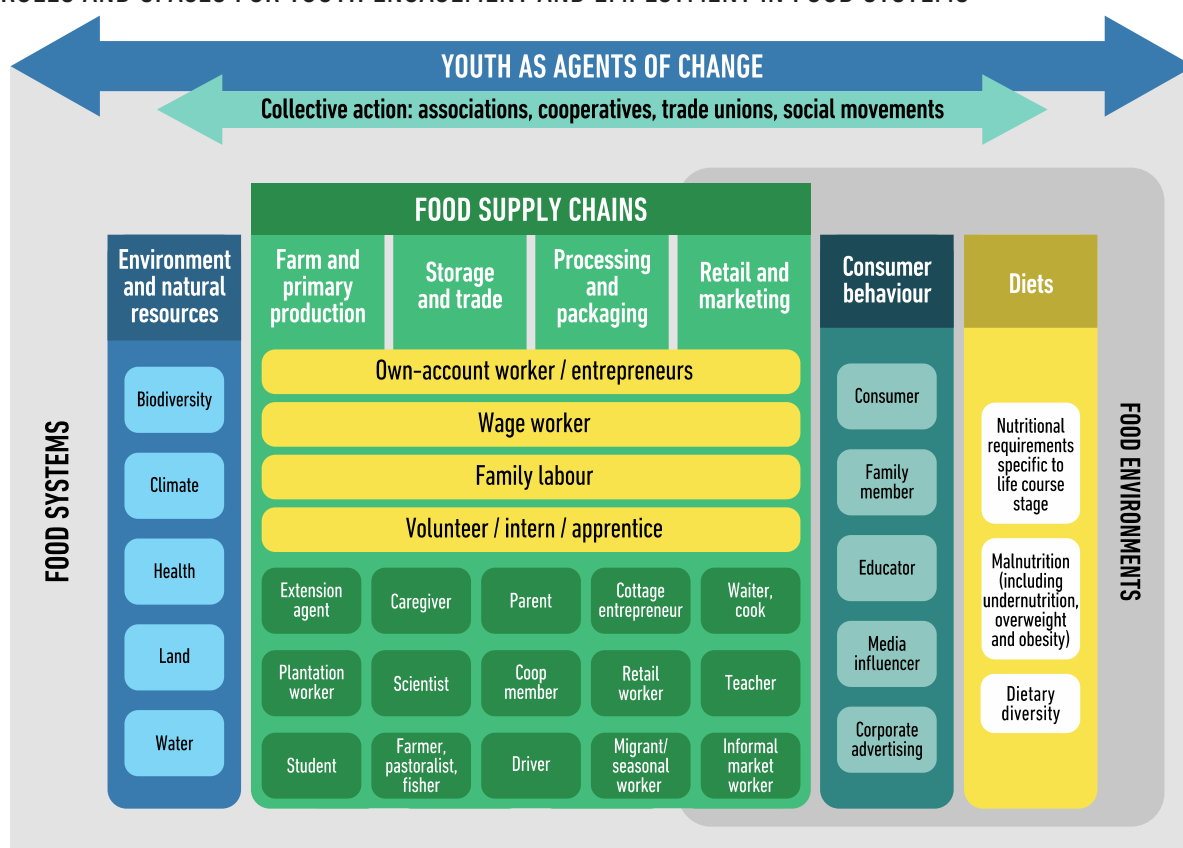
Youth, as agents of change, face significant and unique challenges across food systems. Food systems livelihoods continue to remain precarious for many of the world's most marginalized and vulnerable people, and food production is the single largest cause and is profoundly impacted by global environmental change (HLPE, 2020a; Willett *et al.*, 2019). As a result, there is an urgent need for a global transformation of food systems, with an intentional design that can deliver food security, nutrition and decent livelihoods while also being climate-resilient and socially and economically just. This chapter first describes the diverse roles that youth can play in this transformation – both as individuals and as part of broader collectivities – and then introduces the conceptual framework and theory of change that have shaped the remainder of the report.

Food systems incorporate actors at many intersecting levels and spaces. These range from the management of natural resources including agrobiodiversity, soil health, and forest and fisheries conservation, research and advisory services, and the development and production of agricultural inputs such as seeds and fertilizer, to primary agricultural production, trade, processing, retail marketing, consumption,

food literacy and nutrition education, and waste disposal (HLPE, 2017). These latter activities occur in food environments, or “the physical, economic, socio-cultural and policy conditions that shape access, affordability, safety and food preferences” (HLPE, 2020a, p. 12).

Food systems also integrate consumer behaviours, understood as individual, household or specific social group awareness and choices for food acquisition, preparation and consumption. Consumer behaviour and food environments shape diets and dietary outcomes, which have an impact on health and nutrition and, in turn, on the environmental, economic and social sustainability of food systems. Figure 1 builds on previous food systems models (e.g. HLPE, 2017, 2020a) to depict roles and spaces for youth engagement and employment in a food systems framework. This diagram recognizes “the complexity of relationships among the systems that support food production, food supply chains, food environments, the behaviour of individual consumers, diets, and nutritional and wider outcomes that feed back into the system” (HLPE, 2020a, p. 11).

FIGURE 1
ROLES AND SPACES FOR YOUTH ENGAGEMENT AND EMPLOYMENT IN FOOD SYSTEMS



SOURCE: ELABORATED BY AUTHORS BASED ON HLPE 2017, 2020a

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Youth are agents of change across all dimensions of food systems, ranging from consumer pressure groups to social movements to reclaim land, to self-organized local networks for food production and distribution, in addition to engaging through work and livelihoods. Collective action through youth cooperatives, formal and informal associations, and workers' unions and producers' organizations intersects all components of food systems and influences changes in modes of agricultural production and food distribution, as well as consumer choices.

Young people also engage in food systems through a range of intersecting roles and modalities, including in food and agricultural supply chains as a source of both jobs and livelihoods. In their roles as current and future stewards of land and bio-cultural heritage, young people are involved in research, conservation, and knowledge acquisition and transmission. In farming and primary agricultural production spaces, they are farmers, fishers, pastoralists, entrepreneurs and waged plantation workers; they also perform unpaid family labour – even

as children. In addition, youth are members of producers' cooperatives, volunteers in organic farms, and service providers such as agricultural extension agents, nutritionists and veterinarians. In storage and distribution components of food supply chains, their jobs range from transport and warehouse workers to informal traders and middle-persons. In food processing and packaging, a segment of food systems where youth, and particularly young women, are prevalent, temporary and seasonal employment is widespread. Retail and marketing spaces include informal and formal wet markets, integrated supermarket chains, restaurants and street food stalls, with jobs ranging from shop owners to cooks, to dishwashers.

Overall, agriculture and food systems, hereafter referred to simply as food systems, play a vital role in job creation for youth and economic development. This is the case not only in rural areas but also in urban and peri-urban contexts where food production, processing, distribution and retail sectors also provide opportunities for employment (Abay *et al.*, 2020; Piselli *et al.*, 2019).

As consumers, young people make food choices that increasingly influence family diets; this is reflected in child-and-youth-targeted food advertising, often focused on unhealthy food. At the same time, research and careers in the rapidly emerging field of food literacy cross-cut nutrition, early childhood education and sustainable food systems, aiming to support youth awareness of and engagement with healthier and more sustainable diets (Renwick and Powell, 2019; Vidgen and Gallegos, 2014; Widener and Karides, 2014). Consumer choices in the context of food environments shape dietary outcomes, which are age-sensitive considering both the increased nutritional requirements of children and youth, especially adolescent girls and young women during pregnancy and lactation, and the alarming rates of overweight and obesity among children and youth, which rose from 4 percent in 1974 to over 18 percent in 2018 (WHO, 2020).

Sustainable agriculture and food systems should contribute to nutritious and healthy diets, regenerating ecosystems, mitigating climate change and supporting social justice. There is a wide literature (e.g. Caron *et al.*, 2018; IPESFood, 2020; Pimbert, 2009; Wittman, Desmarais and Wiebe, 2010, among others) that stresses the importance of inclusive, rights-based and sustainable food systems and promotes diverse pathways towards the right to food, agroecology and other forms of sustainable agriculture to achieve the 2030 Agenda for Sustainable Development.

Positioning youth within a sustainable food systems framework allows one to see how, and in which ways, a wide range of drivers (biophysical and environmental, technological and innovative, economic and market, political and institutional, socio-cultural, and demographic) affect, and are affected by, youth in their particular societal and demographic contexts. 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, as well as with broader systemic and structural dynamics including climate change and economic globalization.

At the same time, global food systems, as well as many regional and national systems, are increasingly shaped by broader economic and political systems (Glover and Sumberg, 2020). Food systems have become progressively concentrated, moulding agri-food supply chains and enhancing the influence of large corporations with short-term agendas for growth, rather than long-term resilience and sustainability (HLPE, 2020). These over-arching power structures and economic processes can limit the ability of individuals, including young people, to exercise agency, both as consumers and as workers.

BOX 2: DEFINING SUSTAINABLE FOOD SYSTEMS

As defined by the HLPE (2020a, p. xv), **sustainable** food systems are:

- i) *productive and prosperous* (to ensure the availability of sufficient food);
- ii) *equitable and inclusive* (to ensure access for all people to food and to livelihoods within that system);
- iii) *respectful and empowering* (to ensure agency for all people and groups to make choices and exercise voice in shaping that system);
- iv) *resilient* (to ensure stability in the face of shocks and crises);
- v) *regenerative* (to ensure sustainability in all its dimensions);
- vi) *healthy and nutritious* (to ensure nutrient uptake and utilization).

YOUTH AND ECONOMIES OF WELL-BEING: A PRELIMINARY FRAMEWORK

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 met* in and of itself and as a *means to realizing sustainable development*. It draws on the concept of inter-generational sustainability – i.e. inter-generational collaboration and the evolving, dynamic balance between generations – as an essential driving force of development. As academic theorists have long pointed out, it is essential to consider a set of balances as ordering principles in relation to food and farming systems – 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 (e.g. Chayanov, 1966; van der Ploeg, 2013). A carefully built and maintained inter-generational balance and multi-directional exchange of generation-specific knowledge, resources and livelihood strategies 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.

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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, promote a healthy environment and uphold the right to food and food sovereignty (e.g. the right of nations, peoples and communities to define their own food systems and their approach to the achievement of food security and nutrition, including through new laws and policies grounded in human rights (Lambek *et al.*, 2014; HLPE, 2020a).

The concept of **well-being as “another form of development”** is an emergent policy discourse, recognized both in ancestral teachings about relationships between humans and nature in

a range of traditional societies, as well as in contemporary development theory and legislative reform (Vanhulst and Beling, 2014; Kothari *et al.*, 2014). This focus on well-being builds on and complements earlier work by Amartya Sen (Sen, 1985, 1999; Drèze and Sen, 1989) on the importance of prioritizing people’s capability to secure their own well-being in development interventions, responding to the failure of strategies overly concentrated on economic growth to adequately address societal inequities and to ensure food security and sustainability.

Building on key themes in policy discourses related to sustainable development (equity within and across generations, places and social groups, ecological stewardship, and human flourishing), **economies of well-being**, or *buen vivir* (the good life, or living well), re-emerged as a political discourse in the late 1990s.

Economies of well-being (or the “well-being economy”), as used in this report, refers to economic activities, relationships and structures which promote a return to harmonious relationships between people and nature; a fair distribution of resources to address economic inequalities; and healthy and resilient individuals and communities (Chrysopolos, 2020).

In Latin America, Indigenous and other social movements have considered the concept of an economy of well-being as a basis for cultural, social, and political renewal (Gudynas, 2011; Vanhulst and Beling, 2014; Kothari *et al.*, 2014). The *buen vivir* framework, for example, underpins constitutional reform in countries such as Bolivia and Ecuador to recognize the human right to a healthy environment and the right to food. In the case of Ecuador, the constitution also recognizes the right to food sovereignty and rights of the environment itself (Clark, 2017; Giunta, 2014; McKay, Nehring and Walsh-Dilley, 2014; Peña, 2016; Pratt and Warner, 2019; Radcliffe, 2012).

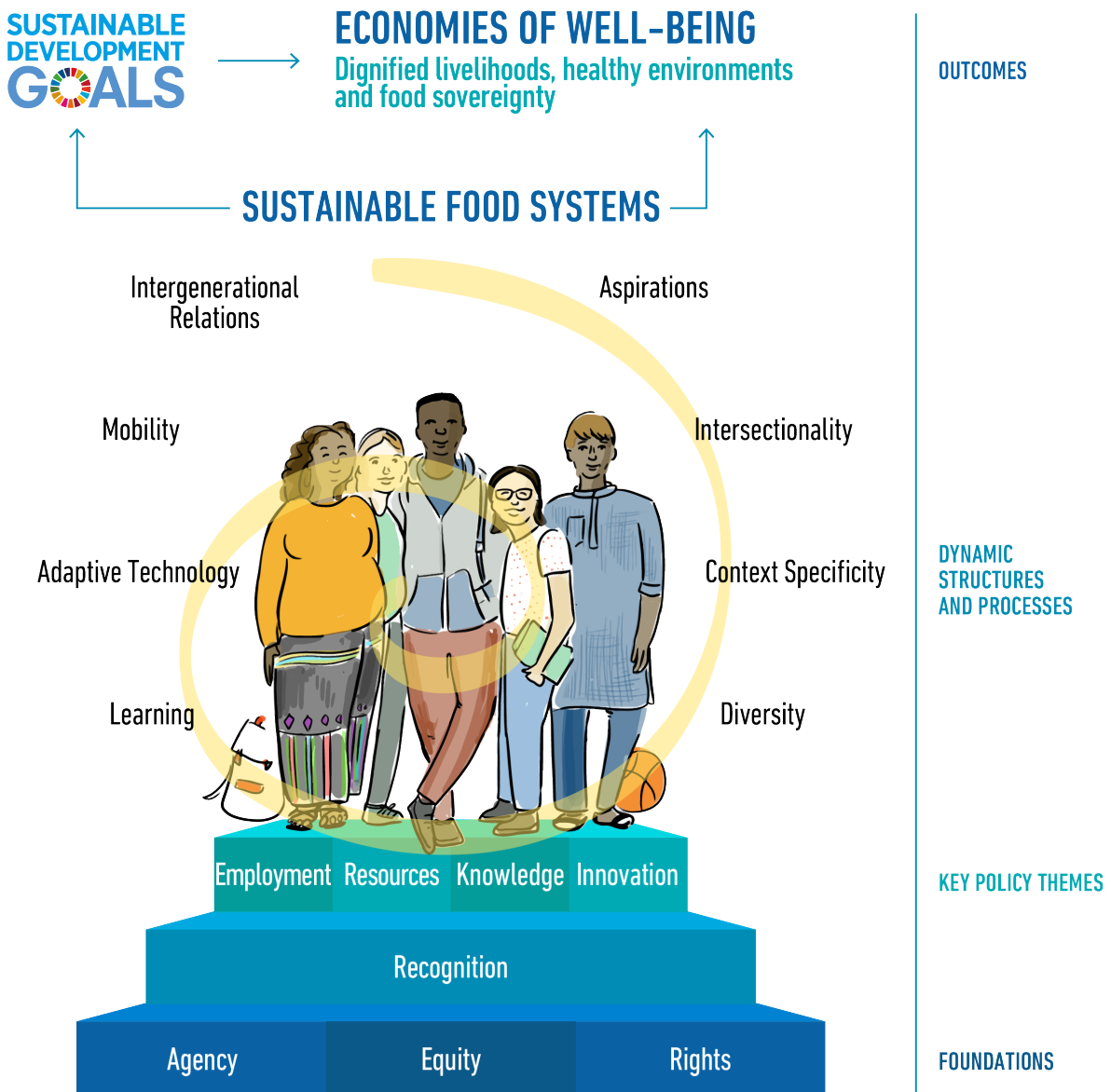
Overall, these emergent policy directions reinforce the idea that significant changes must be undertaken in economic and political systems today to protect the opportunities for the youth of the future to survive in the face of combined political, economic, ecological and health crises.

Policy transitions supporting the implementation of sustainable food systems, especially food systems that support youth as agents of change, therefore require a shift from “business as usual” in the current global economic framework to new goals and significant institutional changes. The economies of well-being approach is thus an important frame for considering the types of transformations required in

food systems that support and enhance the capabilities of youth.

This report suggests that strengthening youth employment and engagement in sustainable food systems to contribute to the achievement of economies of well-being depends on four foundational pillars. These are agency, equity, rights and recognition (FIGURE 2).

FIGURE 2:
DYNAMICS OF YOUTH ENGAGEMENT AND EMPLOYMENT IN FOOD SYSTEMS



SOURCE: AUTHORS WITH ILLUSTRATION BY SAM BRADD

The **agency** pillar underlines that the world's young people are not simply objects or instruments of development and economic growth but 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 engagement has been clearly expressed by young people involved in the CFS Civil Society and Indigenous Peoples' Mechanism:

“ 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). ”

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Agency, in its most basic meaning, refers to “the capacity to act independently.” It can apply both to individuals and to groups, as the concept highlights the ability to have some control not only over the direction one's own life takes but also over the direction of changes in society more generally (James and James, 2008a). It is a neutral, not a normative, term and therefore can refer to actions that either further or hinder transitions to desirable outcomes such as more sustainable food systems.

When applied to youth, agency recognizes that young people – including the very young – are active participants in society and not passive subjects of policies and social processes. But at the same time, young people's agency must be understood within the wider context of power relations in which they are involved, particularly age/generational power structures but also structures of inequality and exclusion based on, for example, class, gender, heteronormativity and ethnicity. Like all other social groups, young people's agency – their freedom and ability to define and express their identities and aspirations and to act according to them – is “constrained” or “bounded” (Jones, 2009, pp. 32, 56, 103).

The notion of young people's agency is also embodied in international conventions and declarations on the rights of children and youth. In the UN Convention on the Rights of the Child (UN CRC, 2016), for example, children and adolescents are entitled not only to various protections but also to progressively exercise their rights according to their evolving capacities; as children's capacities grow, so does their agency, their ability to have a voice, to participate and to be listened to (Zermatten, 2014, p. 23). Based on these considerations and for purposes of this report, young people's agency is defined as:

“ *The capacity of young people, individually or collectively, to act independently, to take control over the direction of their lives and also to influence the direction of changes in society more generally. Young people’s agency is bounded by their positions in intersecting structures of inequality and exclusion based on age/generation, class, gender, heteronormativity, ethnicity, etc. but also involves their efforts to change these structures.* ”

To exercise agency means not only to take responsibility for individual or collective decisions on what to eat, what to produce and how to engage in the world, but also to work towards breaking down structural barriers to food systems sustainability including structural racism, sexism and socio-economic inequality (Bowness *et al.*, 2020; James *et al.*, 2021). This report extends HLPE’s emphasis on ensuring that socio-political systems and governance arrangements provide the context for youth agency to be expressed and enacted (HLPE, 2019, 2020a) as they take increased roles and responsibilities in spaces that range from the household to educational institutions, to market and value chain dynamics, and to territorial and policy governance.

The ability to exercise agency is also essential for young people’s achievement of dignified livelihoods. The International Labour Organization (ILO) (2008b) has defined decent work as that which occurs in conditions of

freedom, equity, security and human dignity; that which provides a fair income and improves economic and social well-being for all; and that which gives people the freedom to participate in decisions that affect their lives. Both access to spaces in which to make those decisions and control over the resources necessary to sustain livelihoods are integral parts of a dignified livelihood.

The **equity** pillar reflects the fact that current generations of children and youth are growing up in a context of persistent and increasing inequalities in income and wealth, both within and between societies. In the face of these inequalities, the policy shifts needed to support the 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 inequalities related to generation, race and gender but also to such areas as rural-urban and digital divides. Equity is also inherent in the “non-discrimination” principle of the “triangle of rights” in the rights pillar, as described below.

Recent analyses argue that redistributive policies are critical for rebuilding equitable food systems in the face of compounding crises such as COVID-19 (Bowness *et al.*, 2020; James *et al.*, 2021). Redistribution requires reducing the current extreme levels of concentration of natural and financial resources at global and national levels. Seen from a youth perspective, the historical experience of redistributive reforms (such as agrarian reform) has often involved severe gender and generational imbalances in redistribution. The equity pillar is therefore a reminder that (1) *all* redistributive interventions need to ensure that previously marginalized and resource-poor groups, including youth, are included and (2) “engagement of youth” in food systems transformation requires policies promoting the redistribution of resources, voice

and power from older to younger generations, without compromising the legitimate needs of the elderly.

The **rights** pillar incorporates the general “triangle of rights” (to protection, non-discrimination and participation), as applied in various UN conventions and declarations, and also many specific rights. These include the right to food, which has been adopted by all UN Member States, the rights of Indigenous peoples (UNDRIP, 2007), the rights of peasants and people working in rural areas (UNDROP, 2017), the rights of women (CEDAW, 1979), and of children (often overlapping with the period of youth) (CRC, 1989) and the right to work (ICESR, 1966, Part III, Art. 6; UN General Assembly, 1948, Art. 23.1).

Youth are a relatively neglected group in international human rights discourse and instruments. Many countries have national laws on youth, but there is no UN convention on the rights of youth. Young people, however, are holders of all the rights established in the various Conventions and Declarations just mentioned (which are guaranteed without discrimination by age or other factors); and some youth (those below age 18) are holders of all the additional rights established in the Convention on Rights of the Child.

Rights and responsibilities are two sides of the same coin. In human rights frameworks, individuals and groups are “rights-holders” that can make legitimate claims, and States and other actors are “duty-bearers”, responsible and accountable for their acts or omissions. The linking of rights and claims on the one hand and of responsibilities and obligations on the other helps to identify who is entitled to make claims and who has a duty to take action, to regulate the exercise of power and to ensure that those who wield power are answerable to those who do not.

Many or most human rights lose their meaning and traction if the responsibilities of duty-bearers are not recognized and taken seriously. For example, the rights to land of Indigenous peoples, peasants and others living in rural areas cannot be realized if states do not take

actions to curb the expropriation of the same lands by powerful corporate actors. The UN Committee on Rights of the Child, in its work on the rights of adolescents, notes that adolescents’ ability to exercise agency depends on their “being guaranteed the right to be heard, to challenge rights violations and to seek redress”, which in turn requires states to guarantee those rights in practice (UN CRC, 2016, para. 16).

As such, the fourth foundational pillar, **recognition**, is a crucial condition for youth to be accorded space in society and be acknowledged as valuable members on a par with other groups. Recognition (and its converse, mis-recognition)¹ is an important dimension of social justice, alongside (mal)distribution. Recognition as a foundational pillar means that young people as a social group have attained “the status of a full partner in [social] interaction, capable of participating on a par with the rest” (Fraser, 2000, p. 113) through the exercise of agency, the pursuit of equity and the realization of rights. It is a necessary element for the agency, equity and rights foundations to have practical meaning for youth.

Figure 2 illustrates how the foundations of rights, equity, agency and recognition are necessary to improve young people’s access to and experience with employment, resources, innovation and knowledge, shown in the centre of the diagram and discussed in detail in Chapters 3, 4, 5 and 6. 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 creating opportunities for young people’s engagement and employment in food systems, Figure 2 highlights eight.

First, it is essential to have a coherent understanding of the diverse contexts, needs, and *aspirations* of young people, taking into consideration various cross-cutting

1 (Mis)recognition: the “institutionalized meanings or norms on the relative standing of social actors”. (Mal)distribution: “the allocation of disposable resources to social actors” (Fraser, 2000, p. 116).

(“intersecting”) factors such as gender, class, culture, ethnicity, and different forms of knowledge and learning. The acknowledgement of *intersectionality*, *context-specificity* and *diversity* enables one to see youth not as a single and homogenous group (Wyn and White, 1997) but rather as 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. There are also diverse forms of food systems across regions and countries, with different histories and trajectories that determine young people’s engagements, as well as the models these food systems may take for a sustainable transformation.

Dynamics related to *learning* (Chapter 5) are intended to encapsulate a diverse epistemology of knowledge that not only stems from formal schooling and Western science but also involves the recognition of the importance of traditional and Indigenous as well as intra-generational and inter-generational knowledge flows. *Adaptive technology* and *innovation* (Chapter 6) are 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 below, the often-assumed role of young people as innovators rests on shaky empirical evidence and should be seen as a matter of debate.

Mobility reflects the recognition that young people’s life-course today often includes a high degree of movement between places (pluri-locality) and sectors (pluri-activity) (White, 2020b, 2012).

These mobilities (for example, migration between rural and urban locations, forced displacement due to conflict or 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.

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

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 those spaces to advocate for their interests and to directly structure their capacity to shape *policy*, to claim rights and to address rights violations. This includes participation in formal democratic governance institutions and also the shaping of opportunities for democratic engagement through activism and protest, including, for example, through global social movements such as food sovereignty, climate resilience, and the rights of women and youth (see Box 3 for an example of food sovereignty as a rights-based approach to food systems engagement).

BOX 3: YOUTH ADVOCACY FOR FOOD SOVEREIGNTY

The rights-based discourse embedded in food sovereignty advocacy calls for a fundamental shift towards all people's rights to grow and eat healthy and culturally appropriate food and to define their own food and agricultural systems (Claeys, 2012; FAO, undated; Wittman, Desmarais and Wiebe, 2010), and policy reforms that are specific to regional and national contexts (HLPE, 2020a). Youth aspirations for advancing their rights to sufficient, healthy and culturally appropriate food are in many ways resonant with these underlying goals of food sovereignty. Many young people as active citizens (agents) are demanding access to more equitable food systems, in which all – including communities of colour, vulnerable societies such as Indigenous peoples and low-income communities disproportionately harmed by current food systems – can fully participate, prosper and benefit.

Through youth activism, young people are enacting their agency to ensure they play an active role in the transition towards sustainable food systems. Young activists involved in the food sovereignty movement are thus demanding a paradigm shift away from industrial agriculture to place the right to food, traditional knowledge, innovation and practices of healthy food systems at the heart of initiatives aiming to achieve food and nutrition security.

Examples of global youth movements promoting rights to land, food and cultural heritage are La Via Campesina youth movement (LVC, undated), Slow Food Youth Network (Slow Food International, 2015), Agroecological Movement of Latin America and the Caribbean (MAELA, undated), the Fishermen's Pastoral Council (MPP, undated) and the Afrika Youth Movement (Afrika Youth Movement, 2018).

The dynamic structures and processes outlined in Figure 2 – to which others would need to be added for particular contexts and particular subgroups 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. Youth play an integral role in transforming visions for inclusive, equitable and sustainable food systems from discourse into action. In turn, youth can stimulate food systems transformation as part of a more general readjustment of economic and social life into "economies of well-being" involving a balance between human and living nature, food sovereignty, dignified and rewarding livelihoods, healthy environments and interactions of cooperation and solidarity.

SUMMARY

This chapter has presented a conceptual framework for visualizing the importance of youth agency, equity, rights and recognition as an essential foundation for building sustainable food systems of the future. Policy to support youth employment and engagement in food systems must recognize the diversity, intersectionality, and context-specificity of youth aspirations and experience across the globe; revitalize diverse knowledge and action pathways, facilitate youth mobility and innovation, and address structural inequality.

Chapter 2

UNDERSTANDING YOUTH IN FOOD SYSTEMS



When positioning youth as agents of change in transforming food systems, it is important to understand the diversity and intersectionality of youth across world regions, identities, cultures and socio-economic status. This chapter draws from literature in childhood and youth studies, as well as evidence from studies focusing on youth aspirations for food systems employment and engagement, to understand what is distinctive about youth in food systems. It reviews the growing gap between youth aspirations and structural constraints that limit their agency in food systems transformation and reframes youth roles in food systems as characterized by livelihood mobilities between sectors and localities.

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; youth were concentrated in Asia (Central and Southern Asia with 361 million youth and Eastern and South-Eastern Asia with 307 million, followed by sub-Saharan Africa with 211 million youth) (UNDESA, 2019). In most countries, an often-assumed "youth bulge" is

now a thing of the past, with the youth population declining as a 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).

In exploring young people's actual and potential engagement in transitions towards sustainable food systems, this report draws extensively on key concepts in the field of childhood, youth and generation studies. While its focus is mainly on youth, it also considers the role of 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 from an early age, as consumers with considerable power to influence household dietary practices (Wertheim-Heck and Raneri, 2020) Schools, families and advertising media play 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 must consider what strategies can be put in place to ensure that entry into 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

As indicated in Box 1 in the Introduction to this report, there is no universal definition of “youth”, as youth can be defined according to biological age and/or with respect to their relationality, in other words, their position in inter-generational relations and their life cycle. 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 or earlier, while 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, as young people stay enrolled in education longer than their parents did and as 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 opportunities for 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 (Roberts, 2012; White, 2020a).

While biological age is of course relevant, this report foregrounds relationality in discussing the concept of “youth”, following from key advances in generation studies (Huijsmans, 2016), childhood and youth studies (James and James, 2008b; Jones, 2009; Wells, 2009), other relational approaches to understanding youth (Ansell, 2016a; Panelli, Punch and Robson, 2007). By focusing on childhood and youth in relational terms, defined by their position in inter-generational relations and across the life-course, one 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, 2008b).

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).

WHAT IS DISTINCTIVE FOR YOUTH IN RELATION TO 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, inter-generational relationships, and many others” (p. 1), including ethnicity, religious affiliation, migrant/nonmigrant status and 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).

While inter-generational and intersectional relations are key to this report's understanding of young people and 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 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 responses.

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 (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). 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.

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; White, 2020a 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.

Nutrition is an important area in which young people have specific needs from food systems. 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 (FAO, IFAD, UNICEF, WFP and WHO, 2020), and the caloric and nutritional needs for youth can be significantly higher than for adults. Early interactions with food and food systems begin during childhood and influence physical, psychological and cognitive development. Children and youth's nutritional needs are particularly acute during puberty; there is some evidence to show that this time is a “second window of opportunity” to catch up on inadequacies in poor nutrition during childhood (Glover and Sumberg, 2020, p. 7). With young people gaining about 40–50 percent of their adult weight and 15–20 percent of their adult height during puberty, young people require increased quantities of protein and energy, as well as many micronutrients to assist the production of blood, bone cells, sex steroids and growth hormones. Diets inadequate in energy and nutrients during this time can have implications for cognitive health and vitality later in life, for the capacity to work, and for the ability to bear children safely (Glover and Sumberg, 2020). There are also marked gender variations in the dietary requirements of young women and men. 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 (FAO, IFAD, UNICEF, WFP and WHO, 2020, p. 91).

Those already suffering from malnutrition are at particular risks of sickness in case of crises, which may correlate with worse outcomes related to COVID-19 (Headey *et al.*, 2020). While child undernutrition (wasting,

stunting, underweight) was decreasing prior to the COVID-19 crisis, undernutrition is still the main underlying cause of death (45 percent) of children under the age of five; 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 (FAO, IFAD, UNICEF, WFP and WHO, 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. Increasingly in low and middle-income countries, the rates of childhood over-weight 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 (FAO, IFAD, UNICEF, WFP and WHO, 2020).

Recent synthesis work has shown a significant link between the practice of agroecology and food security and nutrition outcomes in low- and middle-income countries (Bezner Kerr *et al.*, 2021; Madsen *et al.*, 2021); and other nutrition-sensitive agroecological interventions have been shown to increase children's dietary diversity, reduce household food insecurity, and improve sustainable agriculture, women's empowerment and women's well-being outcomes (Santoso *et al.*, 2021). In Chapter 5, we assess trends and opportunities in youth-oriented training, education, innovation and inter-generational knowledge networks to advance agroecological transitions that support food security and nutrition (HLPE, 2019).

Glover and Sumberg (2020) suggest that **youth mobility** is a key driver through which the food practices and habits of young people will change. As young people leave their homes, they are exposed to new types of foods as well as to new health risks and hazards. Their food practices can be expected to change, as youth become responsible for sourcing and producing their own

foods from their new environments. Migration also affects food environments through the availability and accessibility of certain "ethnic" foods in countries of destination, affecting consumers' choices: youth are often at the forefront of mixing and experimenting with different food cultures (Abbots, Klein and Watson, 2016). For many youth migrants, the affordability, accessibility and convenience of ready-made and processed food might also be associated with food intake that is energy-dense but lower in nutrients (Holdsworth and Landais, 2019).

Youth and children are also a significant demographic cohort of those **displaced internally and internationally** due to armed conflict, violations of human rights, and humanmade and natural disasters. Despite this, the needs of youth are rarely recognized by international humanitarian interventions, with adolescent girls being especially invisible. Young people who are displaced suffer from a number of vulnerabilities, including challenges in accessing education and health services, the right to work, being separated from parents and caregivers and being the victims of sexual and gender-based violence (Evans and Forte, 2013). In a study of displaced young people living in urban areas in Afghanistan, Schmeidl and Bose (2016) discuss how young people can feel that they are "caught in limbo", with disrupted education, employment largely limited to precarious options in the informal sector and the inability to transfer farming skills to the urban market. In the State of Palestine, for example, constraints to accessing agricultural and fishing resources and the requirement of permits to work legally in Israel, among other challenges, contributed to youth unemployment rates of 27 percent in the West Bank and 56 percent in Gaza in 2016, the highest in the region (UNCTAD, 2017).

Beyond these aspects, several other dimensions of youth distinctiveness in relation to food systems are relevant and are addressed in specific 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 **information 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, 2020a, and the many references they cite). The ways in which youth engage and shape food systems can have a profound influence not only on their own economic and social development outcomes later in life but will also set the foundation for future generations.

YOUTH ASPIRATIONS, IMAGINED FUTURES AND FUTURE ORIENTATIONS

Youth aspirations are conceptualized 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, and the other that understands it as "hopes and dreams", conceptually separate from "expectations" (Leavy and Smith, 2010). Frye (2012) discusses how aspirations can also be understood as orientations to the future that shape the present. Understood this way, aspirations are "assertions of identity", and "models for self-transformation" where young people construct their present selves so that they are in alignment with idealized futures (Frye,

2012, p. 1566). Huijsmans *et al.* suggest that aspirations can be understood as "an orientation towards a desired future" where the future occupies an active affective or cognitive place in the present, by "imagining possibilities, doubting trajectories, and navigating the relations through which futures unfold" (2021, p. 3).

While they may be experienced and expressed at the level of the individual, aspirations are produced socially, shaped by institutions and social relations (Carling and Collins, 2018; Huijsmans, Ansell and Froerer, 2021). Thus, aspirations cannot be understood separately from the dominant political-economic paradigms of a particular time. Drawing on Pierre Bourdieu's work, Zipin *et al.* (2015) distinguish between doxic and habituated aspirations, where doxic aspirations are based on dominant norms about worthy futures, propagated by the populist ideologies of the time, and permeate into all social-structural positions as the "taken-for-granted status". At the same time, the aspirations of individual young people are also produced through habituated logics, embodied dispositions manifesting within the "possibilities-within-limits of given social-structural positions" (Zipin *et al.*, 2015, p. 234), such as gender, class, caste and ethnicity.

For instance, a number of studies have explored how the future orientations of young people have evolved under neoliberal political economies where the ideal citizenworker is self-reliant, flexible, entrepreneurial and mobile (Davies and Saltmarsh, 2007; Pimlott-Wilson, 2017). In Kenya, Mwaura (2017) explores how educated middle-class young people, under a labour market that no longer guaranteed white-collar employment, utilized their social and economic capitals to construct new identities as successful agribusiness owners and "agripreneurs", thus maintaining their elitism from the stigma of small-holder farming. In the United Kingdom, Pimlott-Wilson (2017) discusses how young students articulated a strong sense of individual responsibility to ensure educational and career success, through aspiring "high" based on individual endeavors, regardless of the structural constraints from inequalities in the education

system and labour market facing many of these youth.

“Raising aspirations” features as a more explicit objective in recent revisions to many educational policies, discourses and curricula (Ansell *et al.*, 2020; Dost and Froerer, 2021; Frye, 2012; Naafs and Skelton, 2018; Pimlott-Wilson, 2017). Success and failure in education and work are individualized (Naafs and Skelton, 2018; Pimlott-Wilson, 2017) and blamed on “a defectology of youth” (White, 2021, p. 56). Educational systems and policies feature prominently in policy documents on youth as part of the Human Capital Theory, where investments in education are expected to support a linear progression into secure employment and higher incomes (White, 2021). According to Ansell *et al.* (2020), school enrolment by its very nature implicitly instils in students aspirations to “move forward” by working towards future goals or, more immediately, through the hierarchy of classes. However, “moving forward” is predominantly depicted as moving towards salaried, non-manual employment (Huijsmans, Ansell and Froerer, 2021). This human capital model underemphasizes structural constraints to educational and career success (Frye, 2012; Naafs and Skelton, 2018; Pimlott-Wilson, 2017). This is despite extensive empirical evidence showing how young people and their social networks, including family and teachers, subscribe to the idea of education as a means of moving forward, expending considerable effort and resources on achieving this goal, even as they understand that their chances of making the desired education–employment transitions remain tenuous (Ansell *et al.*, 2020; Dost and Froerer, 2021; Frye, 2012; Jakimow, 2016; Radcliffe and Webb, 2016).

Formal 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). As discussed further in Chapter 5, rural and farming livelihoods are under-represented, at times even devalued and depicted as problematic, in

educational programmes (Ansell *et al.*, 2020) even in remote rural areas whose populations are surplus to the requirements of the global economy. Drawing on ethnographic research conducted in primary schools and their neighbouring communities in rural areas of Lesotho, India and Laos, we explore how young people, their parents and teachers experience schooling in places where the prospects of incorporation into professional employment (or any well rewarded economic activity) there appears to be no parallel evidence on young people’s aspirations regarding engagement in other (non-farming) locations in food systems.

Entrepreneurship is a characteristic often ascribed to today’s youth, in the education and youth employment discourses of many countries (White, 2012; Davies and Saltmarsh, 2007; Pimlott-Wilson, 2017). It must be noted that there is no one standard definition for entrepreneurship; these range from approaches that focus on individual behavioural traits, self-employment and new business development to more collective notions focused on the building of social capital (Lans, Seuneke and Klerkx, 2017). Entrepreneurship includes commercial endeavors that develop a product or service to be marketed for profit; social entrepreneurship and social innovation (discussed at greater length in Chapter 6 on Innovation) are characterized by an explicit objective of addressing social problems, often in response to the gap left by public institutions and non-governmental organizations (NGOs) not meeting community needs for services, markets, and even educational initiatives (UN, 2020b; UNICEF, 2019). While entrepreneurship is often associated with youth ‘idealism’, UN (2020a) notes that many young people living in marginalized environments may not be able to take advantage of either commercial or social entrepreneurship due to family and other responsibilities that require them to pursue waged employment where it is available, including via migration.

Similarly, “agripreneurship” or entrepreneurship in agriculture (GFRAS, 2021) can take many forms: some young people may identify with a stewardship approach to their agricultural enterprise, where

an individual identifies with an attachment to the land as a family home with a generational perspective (Alsos, Carter and Ljunggren, 2014; Gasson and Errington, 1993). Another identity is exhibited by “lifestyle entrepreneurship”, where youth may identify with values and goals that are non-financial in nature such as quality of life, family, and the community they live in (Alsos, Carter and Ljunggren, 2014). For example, the growing interest of youth from urban backgrounds to develop new peri-urban or rural enterprises and identities is increasingly well documented (Halfacree, 2007; Mailfert, 2007; Ngo and Brklacich, 2014; Wittman, Dennis and Pritchard, 2017).

Entrepreneurial activities undertaken at a family farm can be heavily dependent on both the family and business life-cycle. Over time, next-generation family farmers may incorporate emerging practices and technologies (Carter, 1999), balancing social and lifestyle considerations with risk and resource assessments (Hansson *et al.*, 2013). Finally, institutional arrangements, whether formal (political or legislative) or informal (norms, values, and attitudes), influence the ability of young people to engage in entrepreneurial activities (De Wolf, McElwee and Schoorlemmer, 2007; Stenholm and Hytti, 2014).

THE GROWING GAP BETWEEN YOUTH ASPIRATIONS AND OUTCOMES

A major study of young people’s aspirations and job satisfaction in 32 countries in Africa, Asia, Europe, Latin America and the Caribbean included both rural and urban youth, and compared the aspirations of young people (aged 15-29) who were still in school or further education with the realities and job satisfaction of those in the same age group who were already working (OECD, 2017). At all education levels, young people entered the labour market with high career expectations. The great majority of those not yet working aspired to public-sector employment and to high-skilled occupations;

self-employment and private-sector employment were less favoured but relatively more attractive to those in richer countries. For those already working, self-employment produced relatively higher job satisfaction than wage employment, but only if it was engaged in “by choice” or as part of a family decision, not as default after failing to find a formal-sector job. The most important factors in job satisfaction were job security, formality and earnings (in that order) (OECD, 2017, p. 13).

However, as shown in Chapter 3 of this report, secure, formal-sector jobs are increasingly declining as a proportion of young people’s employment today. There was an enormous gap between young people’s aspirations for highly skilled work (80 percent of all those not yet working) and the low percentage of youth actually working in highly skilled occupations (only 20 percent of those already working). This gap between career expectations and the reality of the labour market is seen at all education levels, including tertiary. A comparison of these expectations with ILO employment projections in the 32 countries confirms the disturbing conclusion that around 60 percent of those students who aspire to work in a highly skilled occupation will be unable to fulfil their career expectations (OECD, 2017, p. 13). The OECD study thus concludes that “the career aspirations of young people have little in common with current and expected labour demand and that several job characteristics that young people value and that raise their job satisfaction are pretty rare” in most of the 32 countries. These general findings – which unfortunately cannot be disaggregated by employment sector and branch to focus specifically on food-system aspirations, occupations and job satisfaction – are a sobering reminder of the enormous policy challenges in promoting attractive, but also realistic, employment futures in food systems.

YOUTH ASPIRATIONS FOR WORKING IN THE FOOD SYSTEM

Systematic surveys, anecdotal evidence and “common knowledge” all suggest that today’s rural youth, including the children 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). Leavy and Hossain’s (2014) study in ten countries across Asia, Africa, and Latin America points to a “generational break” in how rural youth aspirations intersect with agriculture. 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. White (2020a) suggests this may not be a recent trend. Although there are hardly any studies on this subject, it is highly likely that – at least since the availability of formal education in rural areas – many 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, 2020a).

These changing aspirations are partially connected to the systemic and structural barriers to making agriculture and other food systems livelihoods, including small-holder food production, viable and dignified. These include barriers shaped by gender inequities, racism and colonial histories that work against Indigenous peoples, peasants and other rural dwellers, often denying them rights to land and resources (CSM Youth Working Group, 2021, p. 35). They are also related to the quality of life in rural areas and of rural infrastructure, which are often neglected in government investments (Leavy and Hossain, 2014; White, 2012).

Leavy and Hossain (2014) discuss how, for many young people as well as older family members, agriculture has proven to be financially unrewarding, physically and mentally strenuous, involving “working in the mud and water” and under the sun, and perceived as low-status work. Sruthi *et al.* (2016) and Li (2012) discuss similar reasons for the decline of young women

in small-scale fishing. Urban livelihoods, such as employment in factories, in comparison were regularly perceived as a more regular source of income. A nationwide survey of youth in Myanmar by Deshingkar *et al.* (2019), for example, finds that chronic poverty, debt, and shocks and changes that small-holder families are ill-equipped to cope with were among the major triggers for young people to move out of their home villages for employment. Studies among young people from marginalized, Indigenous, and other landless and land-poor communities in India find that, for them, moving forward in life was inextricably related to secure, salaried employment through education and independent from agricultural livelihoods, associated with diminishing landholdings and increasing precarity (Dost and Froerer, 2021; Jakimow, 2016).

At the same time, for other young people, farming was associated with a sense of freedom and the self-reliance of being self-employed (Leavy and Hossain, 2014). In the Global North, Haalboom (2013) finds that the prospects for independent lifestyles and routines were a motivation for young farmers from non-agricultural backgrounds from Nova Scotia, Canada, to seek careers in farming.

Increased formal schooling and new forms of connectivities and mobilities are also linked to desires for “modernity” and progress, against the backdrop of an increasingly globalized culture of modern life (Leavy and Hossain, 2014). Metropolitan cities are often the locus of national claims about modernity (Naafs and Skelton, 2018). Mills (1997, 2017) discusses the role of aspirations for autonomy, modern identities and participation in new forms of commodity consumption in shaping the out-migration of poorer rural women for urban factory employment across Asia, even where the labour conditions they are met with are often low-paid and of low social status. In many parts of the world, the Internet, social media, online discussion spaces (We Are Social Ltd., 2020) and other non-place-based sources of information and opportunities are increasing determinants of youth aspirations, reducing the influence of place-based aspects of youth identity.

As aspirations are produced socially, young people's envisioned futures in food systems cannot be separated from geographical, political, economic and social contexts, social and cultural norms, the influence of family members, peers and others, gender, class, and education and media, among other factors that shape the livelihood possibilities available to them (Bossenbroek, van der Ploeg and Zwartveen, 2015; Elias *et al.*, 2018; Leavy and Smith, 2010). Sumberg *et al.* describe these "opportunity spaces", as the "spatial and temporal distribution of the universe of more or less viable options that a young person may exploit as she/he attempts to establish an independent life" (2012, p. 5).

Gender is a particularly important determinant of the roles individuals occupy in the food system, including the division of productive and reproductive labour, access to resources, and the risks and benefits from food systems livelihoods and employment (Mashiri, Chakwizira and Nhemachena, 2009; see Weeratunge, Snyder and Sze, 2010, for fisheries), even as these roles are subject to constant change. The gendered aspirations of young rural youth related to work in the agriculture sector are shaped by socio-cultural norms about appropriate masculine and feminine forms of engagement; Elias *et al.*'s (2018) multi-country review of the gendered aspirations of rural young people found that young women expressed a stronger hesitation to engage with agricultural futures than young men.

While most work on gender and food systems livelihoods has approached gender as female and male, more recent studies have looked at the experiences of sexual and gender minorities in engaging with farming systems. For example, Leslie *et al.* (2019b) and Wypler (2019) discuss how gender and sexual dynamics determine who is considered a farmer, as well as inequalities in access to resources, under agricultural systems where heteropatriarchal norms are hegemonic. Leslie (2019) examines how, in farming landscapes in the United States of America organized around the system of family farming, where heteronormativity influences decision-making and division of labour, queer

farmers are navigating and reshaping how gender and sexuality determine farmers' livelihoods and practices. Although younger lesbian, gay, bisexual, transgender, queer and intersex (LGBTQI+) farmers increasingly enjoy more supportive systems than older farmers, for queer farmers, the decision on where to farm can be strongly based on perceptions and experiences of heterosexism and transphobia of a particular place, intersecting with other forms of discrimination such as racism and the difficulties involved in finding partners and queer support systems and networks (Leslie, 2019).

CHANGING IDENTITIES AND EXPERIENCES WITH FOOD SYSTEMS LIVELIHOODS

Other studies have stressed the importance of more nuanced perspectives in understanding how young people's envisioned futures involve food systems livelihoods. It is notable also 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 farming is combined with another source of income (White, 2020a, p. 115). In Morocco, Bossenbroek, van der Ploeg and Zwartveen (2015) show how young people are finding ways to merge rural and "modern" identities, through farmer-entrepreneur models in high-value horticultural crops and organic farming, although young men were more receptive to such "modern" agricultural futures than young women. Similarly, Elias *et al.* (2018) find that young people (especially young men) envisioned farming futures based on "modern", knowledge-intensive farming models and were interested in careers such as agronomists and agricultural scientists as well as trading in agricultural products and supplies.

Young people also emphasize the need for rural areas to be better places to live and

work, in line with a more holistic approach to well-being as involving multiple facets of life and livelihoods. Young Africans, responding to a large-scale online survey delivered by text message, stated that rural areas could be made more attractive for young people with improvements to employment, education, technology, infrastructure, electricity and water, as well as better supports for agriculture (Melchers and Büchler, 2017). In their study of older and younger male and female farmers in three European and five African countries, Žmija *et al.* (2020) 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). Overall, many young people express a clear understanding of the generational and other constraints which make access to land and to successful farming difficult or impossible, at least while still young (White, 2012).

Sumberg *et al.* (2012) 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. White (2020a) stresses the need to look at young people’s aspirations and visions for their future as a part of possibilities for pluri-active (where farming income is combined with non-farming sources) and pluri-local livelihoods. Sumberg *et al.*’s (2021) study in selected African countries also finds that agriculture does have a place (alongside other activities) in young rural people’s imagined futures. From work on rural youth in Kenya, LaRue *et al.* (2021) also indicate that youth aspirations in relation to farming are better understood as in between the dichotomies of full-time farming and no farm work at all, where many young people expected farming to continue to play a considerable role as a part of mixed livelihood strategies.

Even when youth do migrate to urban spaces for waged opportunities, urban mobilities are not always expected to be permanent. 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”, a term for those who decided to leave but later returned to the rural agricultural setting (Manalo and van de Fliert, 2013; White, 2020a). Thus, Elias *et al.* (2018) suggest a shift towards supporting young people in achieving their aspirations, allowing for young people to “move in and out of agriculture over their life-course, combining it with other activities, in parallel or sequentially, to generate capital to establish their independent lives and livelihoods” (p. 103).

YOUTH MOBILITIES BETWEEN PLACES AND SECTORS

Young people’s mobility and migration are embedded within the socio-economic and cultural contexts of food systems transitions, in which rural and urban areas are increasingly connected as a continuum. 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 contribute essential financial resources for the development of local food supply chains. Migration (including seasonal migration) can provide the needed labour-force in food processing and services; but they can also create labour shortages and affect the capacity to cultivate in areas of origin, including through the loss of place-based skills and knowledge (FAO, 2018b). Finally, migration can also contribute to enhancing skills and entrepreneurship potential of youth, which, upon return, they can reinvest back in the local food systems (Orozco and Jewers, 2019); however, the ongoing trend of the movement of individuals

with higher educational qualifications from the Global South to the North can deprive the areas of origin of the skills these individuals possess (Beine, Docquier and Rapoport, 2008), hindering local food systems' capacity to innovate.

Changes in agriculture and food systems influence the number and types of jobs created or destroyed, as well as the skills demanded or that become obsolete, which can influence 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, which influence natural resources management and environmental sustainability, which in turn can be contextual factors affecting migration (Behrman and Kent, 2018). Health and nutrition status indirectly affects youth's educational attainment and human capital accumulation, having a direct impact on labour market and migration decisions and outcomes. Some studies suggest that 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", comprised of pre-decision, pre-departure, migration and return (Castagnone and Termine, 2018; JMDI and IOM, 2015).

As will be discussed in Chapter 3, conventional statistics on youth employment by sector, based on the reporting of a single (main or primary) occupation during a specified reporting period, do not capture the diverse realities of youth pluri-activity, where incomes are generated from farming and non-farming livelihoods and opportunity spaces for engagement in food systems. A different picture may emerge when data is available that consider young people's characteristic mobilities and record the proportion of young people's working time devoted to different activities. For rural Asia, for example, Jonathan Rigg *et al.* (2020) suggest

that people can no longer – if they ever could – be neatly pigeonholed 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).* ”

How young people engage in labour markets is changing, requiring a move away from a view in which young people have (or do not have) only one job, are only rural or urban, and are either migrants or not, to one that recognizes typical patterns of sectoral and spatial mobility and frequent job changes (Rigg *et al.*, 2020). 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 Urich, 2000; Manalo and van de Fliert, 2013). Young people are a significant cohort of those who migrate. A trend observed especially in the Global South is the relatively younger age of migrants, where youth are more likely than adults to migrate (Global Migration Group, 2018). Some youth migrate out of farming communities with the intention to return after acquiring

capital to invest in their local communities (Manalo and van de Fliert, 2013).

As such, the relationship between food systems, youth aspirations, employment and mobility is complex and does not follow a linear path. In parallel with migration trends, many parts of the world, but particularly Asia and Africa, are experiencing a “feminization of agriculture”, as agrarian transitions and labour markets are deeply gendered (De Schutter, 2013). In South Asia, patterns of rural out-migration that are primarily male have 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 (Pattnaik *et al.*, 2018; Spangler and Christie, 2019). In Nepal, this is particularly the case for marginal, tenant and landless labour households, where male out-migration is the highest, but where women have the least capacity and resources to cope (Sugden *et al.*, 2014).

YOUTH ENGAGEMENT IN AGRICULTURE AND FOOD SYSTEMS

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 consumerism, 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 fastfood) diet, grows food on

a rooftop, cooks a meal, does volunteer work or joins a food-related campaign or movement, they are engaging in food systems.

Parents and family play an essential and active role in the development of children’s food preferences and dietary habits (Scaglioni *et al.*, 2018). Parental attitudes and roles practiced in cooking, food purchase, interest towards food origin, food safety and nutritional value influence children’s approach to food throughout their lives (Hughner and Maher, 2006; Reitmeier, 2014). In fact, research shows that “food socialization” starts in the womb, where food preferences or aversions begin to develop, and continues to be shaped and strengthened during early childhood. Children’s first experiences with specific flavours and tastes, dishes, diets and eating affect 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 also impact opportunities and awareness related to engaging with food systems through food consumption, and children are taking a broader role both as independent consumers and as targets of food marketing campaigns (Roberts, Blinkhorn and Duxbury, 2003).

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 a predominantly plant-based diet, buying and consuming chemical and/or genetically modified-free, locally-produced food and/or food with reduced environmental impact (Lockie *et al.*, 2002) – may be motivated by various reasons, including health concerns and an interest in contributing to a healthier and more sustainable future (Tandon *et al.*, 2020). In this regard, it must be emphasized that having the possibility to eat (or not eat) specific food and to 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, as well as to assume their own roles as consumers of food. 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). Young people as consumers also appear to have a stronger preference than other age groups for ethically and sustainably produced food, as found in surveys in Asia, Europe and North America (Financial Times, 2017; Keeble, 2013). These preferences are mediated by personal attitudes, social influence and the perceived “availability” of sustainably produced products (Vermeir and Verbeke, 2008). However, Annunziata *et al.* (2019) also found that, while there was increased demand for “sustainably produced” food, many young people were unfamiliar with the meaning of sustainability labels. On the other hand, children and youth are an important target group for the marketing of high-fat, high-sugar foods and other unhealthy foods, both for their potential as future consumers and for their “pester power” (Gaber and Wright, 2014; Story and French, 2004). This speaks to the importance of improved food literacy and nutrition programming (c.f. Renwick and Powell, 2019), discussed further in Chapter 5.

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]). Young people are taking more visible roles in putting agriculture and food-related issues in political discussions and promoting a critical approach to current food systems within their communities (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 (see also Chapter 5 on training for food literacy).

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 siblings, older members of their community, children, as well as their peers. By bringing more sustainable practices into everyday life, young people can play a role in progressively transforming 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 inter-generational exchanges, intra-generational interactions and activities undertaken with peers may influence food systems transformation at a macro level.

YOUTH AGENCY AND ENGAGEMENT WITH SUPPORTIVE INSTITUTIONS

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. Yet, 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). Organizations can be effective mechanisms for engaging young people in food systems and for increasing their social capital (CTA, 2019), through knowledge exchange related to sustainable production and processing, the establishment and management

of entrepreneurial and business initiatives, financing, and markets in rural and urban areas.

Concrete experiences show that organized groups of producers or consumers can reduce inequalities, even in situations of crisis (FAO, 2020b). According to their environmental, economic, social and political contexts, as well as cultural norms and specific needs, associations, cooperatives and social movements can improve the access to services and the recognition of their members both in public policies and by society (FAO and IFAD, 2019). The inclusion of youth in existing rural or urban networks and the establishment of new youth organizations can significantly contribute to youth empowerment.

In considering access to supporting institutions for young people in food systems, there is sometimes a tension between, on the one hand, promoting young people's involvement in existing adult-based institutions, organizations and movements and, on the other, supporting their self-organization in dedicated youth institutions and organizations they own and run. 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, 2020a).

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). Similarly, FAO, the United Nations Children's Fund (UNICEF) and the United Nations Framework Convention on Climate Change (UNFCCC) have advocated for giving youth organizations observer 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). Many other 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. IFAD's Rural Youth Action Plan (RYAP) is an example of an initiative that boldly aims to increase youth sensitivity across their country strategies (IFAD, 2019). One of the action areas of the RYAP is "policy engagement, partnerships and resource mobilization" where some identified actions include establishing Rural Youth Advisory Councils and campaigning for rural youth empowerment. Other examples are listed in Box 4.

BOX 4: YOUTH ORGANIZATIONS

The 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 from 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.

<p>The Youth Food Movement Australia (YFM)</p>	<p>implements food education projects for young people to build the skills and knowledge to create a better food system in Australia; Art 4 Agriculture is a network which connects young rural Australians and is dedicated to improving the image of farming and encouraging other young Australians to consider agricultural careers. In Costa Rica, Colectivo Boreal organizes art events that promote environmental awareness and support farmers and seed exchanges.</p>
<p>MyFood30</p>	<p>a 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.</p>
<p>Mkulima Young</p>	<p>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 middlepersons 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.</p>
<p>The Young Farmers Champions Network (YOFCHAN)</p>	<p>is a network of young Agripreneurs (14–40 years old) working together to shape the future of agribusiness in Uganda.</p>
<p>The Young Farmers' Federation of Uganda (UNYFA)</p>	<p>provides an umbrella for young farmers across 54 district young farmers' associations, youth farmers' groups and school agricultural clubs totaling 24 000 individual young farmers.</p>
<p>The Rwanda Youth in Agribusiness Forum (RYAF)</p>	<p>is a platform established to bring together youth organizations, individual young farmers and entrepreneurs working in one or many of the sub-sectors: crop production, livestock, agro-processing, inputs and other agro-services (extension, marketing, food packaging, farm mechanization, seed multiplication etc.) as well as ICT for agriculture. The platform aims to orient youth to reach out to other farming groups to raise awareness of the practice of business-oriented agriculture.</p>

YOUTH MOBILIZATION AND POLITICAL ADVOCACY

Young people's engagement and agency in food systems can also take place through 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 to pursue employment or even elected office in policy and other governance spaces. Although there has been a tendency towards 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. 233-234).

Many young people participate in social and/or collective organisations and activist roles in claiming, advocating and protesting for a sustainable food systems transformation. For example, the "Food Sovereignty Movement", "Wir haben es Satt" and "Fridays for the Future",

among others, are other visible modalities of youth engagement in today's food systems. Youth agency has been increasingly visible, for example, in recent actions against the climate crisis where young people used unconventional means (including school strikes) to take the leading role in policy discussions. In North America, young people are also playing a role in redressing a history of environmental and sustainability movements that have excluded communities of colour and Indigenous communities. Gibson-Wood and Wakefield (2013) and Garibay and Vincent (2018) discuss the "white, middle-class nature of some environmentalisms" (Gibson-Wood and Wakefield, 2013, p. 642) in North America, where mainstream environmental movements have historically ignored issues of environmental justice.

Many youth-led movements are characterized by a greater willingness to address these racialized, colonial and patriarchal dynamics within their groups and focus on who is included, whose voices count and who has opportunities for leadership (Burton, 2019; Curnow and Dunphy, 2019). During the COVID-19 pandemic, while youth have experienced increasing difficulties in accessing policy processes as a result of confinement measures, especially in low and lower-middle-income countries, they have been increasingly engaged in volunteer activities and helping others (ILO, 2020f, p. 13).

SUMMARY

This chapter has defined "youth" in relational terms, as both individuals and collectivities situated in uneven relations of power which are further compounded by other social differences. Each young person's relationship with food systems is determined by the specific intersections of age and generation with other factors such as gender, class and ethnicity. Young people's livelihoods and other forms of engagement with food systems should be understood in the context of structural barriers to agroecological and small-holder food production and the expanding provision of formal education. Their aspirations for future lives and work continue to feature food systems, and increasingly as part of livelihoods across multiple sectors and localities. Young people also engage with food systems as consumers and have specific nutritional needs as children and youth. They also influence the sustainability of food systems, both through their own food habits and preferences and through youth mobilizations and political advocacy. The multiple voices, participation and leadership that young people can bring to a sustainable food systems transformation needs to be recognized, facilitated and legitimized.

Chapter 3

YOUTH EMPLOYMENT AND THE RIGHT TO WORK IN AGRICULTURE AND FOOD SYSTEMS



In a world characterized by high and rising rates of youth unemployment – already in evidence before and exacerbated by the COVID-19 crisis – and following the four pillars of agency, equity, rights and recognition in the framework elaborated in Chapter 1, this chapter starts with a discussion of the human right to work. After reviewing the status of youth employment globally, it then focuses more closely on both the formal and informal labour involved in food systems and food supply chains. Finally, it discusses not just the availability of food systems jobs but also the conditions of employment in food systems in relation to principles of sustainable and dignified livelihoods.

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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). In promoting these rights (to work, to fair working conditions and to protection against unemployment), the International Covenant on Economic, Social and Cultural Rights indicates 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). The SDGs have explicitly integrated the goal of full and productive employment and decent work for all, including specific attention to “substantially reduce the proportion of youth

not in employment, education or training” (UN, undated, online, cited 1 March 2021).

These rights, however, do not match current realities. In most regions, youth unemployment was rising even before the current COVID-19 crisis (ILO, 2020b). In recent decades, the world’s youth have been increasingly disengaged from the labour market. Overall, unemployment rates for youth are three times higher than for adults in all world regions, with a vast majority of unemployed youth being young women (ILO, 2020b). Young women have the lowest participation rates in the labour market, often because of a “discouragement” effect and a gendered perception of acceptable jobs (ILO, 2020b). It is not surprising, therefore, that young people’s access to employment is a serious and growing concern within the SDG framework (see SDGs 1, 3, 4, 5, 8, 9, 12, 13 and 17).

COVID-19 has shed new light on the precarity of youth engagements with labour markets, especially in food systems. The pandemic is expected to increase job vacancies and lay-offs across the globe, particularly in sectors of the economy disproportionately affected by the crisis, such as food services (ILO, 2020f). This is expected to have significant consequences for young people, a demographic cohort particularly vulnerable to crises (ILO, 2020f). Education and training of youth have also been severely disrupted, which will contribute to making these impacts long-lasting (ILO, 2020f). As with the intersectional nature of

youth employment discussed throughout this report, young men and women have been affected differently – young women reported higher levels of job loss, reduced hours and lost income, as well as a progressive disengagement from the labour market. Looking towards 2030 and beyond, what role can agriculture and food systems play in the realization of young people’s right to work?

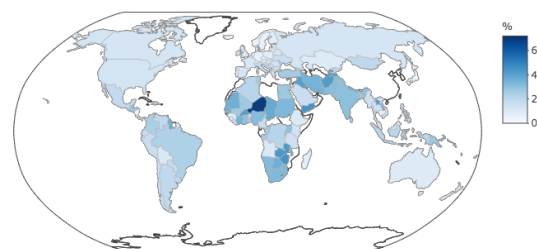
Agriculture and food systems were already in rapid flux, with many implications for the provision of employment, types and quality of jobs, rural livelihoods and mobility, and both new threats and new opportunities for engagement (FAO, 2018a; HLPE, 2017). As such, this chapter explores the position of youth employment in relation to the diverse components of food systems from agricultural production to food processing and engagement with markets, to new roles in food systems and nutrition training and education. The chapter also discusses diverse vulnerabilities that youth face with regards to access to decent work and livelihoods in food systems, that is access to economic, socially and environmentally beneficial and sustainable jobs. It explores aspects related to the right to work, including legal considerations of working conditions and job quality. Finally, it takes a livelihoods approach, suggesting how decent work in agriculture and food systems can contribute to food security and well-being, in ways beyond the simple provision of income (IFPRI, 2019).

THE POSITION OF YOUTH IN THE GLOBAL LABOUR MARKET

To understand youth’s position in the labour market, it is necessary to look at a variety of different indicators, including unemployment, labour-force participation, NEET status (not in employment, education or training), as well as the prevalence of young people in vulnerable, informal employment and working poverty, and at how these may differ between agriculture and food systems and other sectors. From 1999 to 2019, the global labour-force participation rate of youth declined from 53 to 41 percent, while the share of youth in NEET status increased,

although with marked regional variations (ILO, 2020b), as shown in Figure 3 below. 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 were no longer looking for a job, and 41 million were about to enter the labour-force (ILO, 2020b).

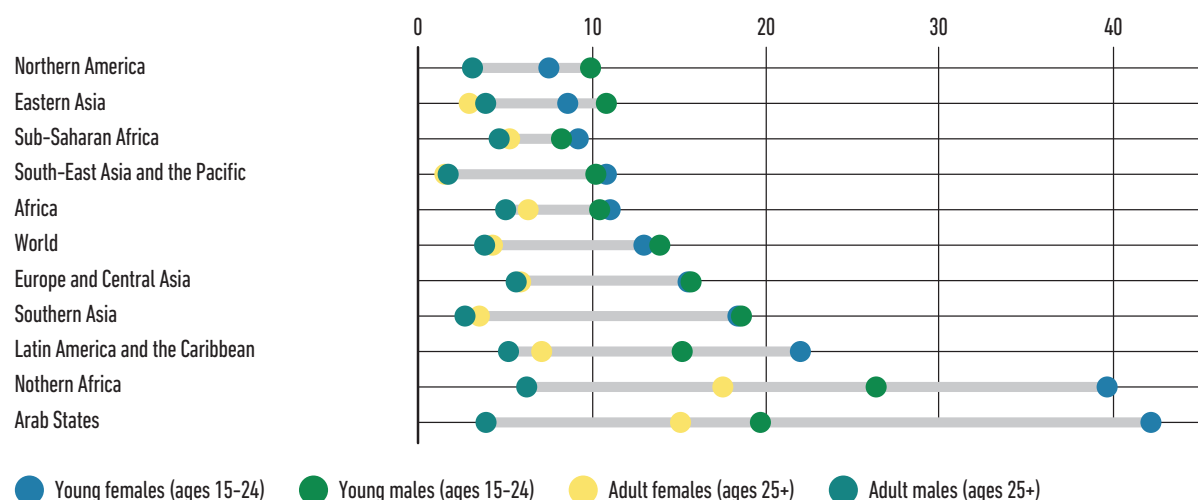
FIGURE 3:
SDG INDICATOR 8.6.1. PROPORTION OF YOUTH (AGED 15-24 YEARS) NOT IN EDUCATION, EMPLOYMENT OR TRAINING (NEET)



SOURCE: ILOSTAT, UNDATED, CITED 26 SEPTEMBER 2020

Other aspects of concern for those youth who 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). 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 Lintel, 2012; UNESCAP, 2015; White, 2020a). Other intersectional differences further disadvantage young people. Amarasuriya (2010) discusses how class shapes the jobs available for youth in the private sector in Sri Lanka, where those employed in low-paying and informal work, such as the export garment industry, are largely those without the social and cultural capital for higher positions. Young women, especially, tend to be over-represented in indices of unemployment and vulnerable employment (ILO, 2020b) (SEE FIGURE 4).

FIGURE 4:
YOUTH UNEMPLOYMENT RATES IN 2019, BY AGE, GENDER AND REGION



SOURCE: ILO, 2020D

The age group of younger youth between 15 and 17 years of age also needs specific attention, they have reached the minimum legal age for employment (normally set between 15 and 16 years of age, in accordance with the Minimum Age Convention (1973, No. 138) in most countries. Youth in this age bracket are in an important physiological and mental developmental phase and are thus especially vulnerable to hazardous work and abuse. Globally, agriculture accounts for the majority (62 percent) of children in hazardous work (ILO, 2018a). In addition, in most countries, youth under age 18 are denied the right to property ownership, such as land or other productive assets, and the right to representation in workers' unions or producers' organizations, despite being legally employable. 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 into the labour market or through enrolment in higher education (Cavero and Ruiz, 2016; FAO, 2017a).

or household surveys), with the result that there is not yet a commonly accepted estimation. Also, many of those deriving livelihoods from agriculture and food systems are under informal contractual arrangements and often combine different livelihoods in different sectors. It is clear, however, that the number of people working in agriculture has fallen overall from over 1 billion in 1992 (44 percent of total employment), with marked variations between regions and countries (ILOSTAT, undated), and despite population growth. The ILO estimated for 2020 (pre-covid) a total of 880 million workers in agriculture, forestry and fishing, comprising 26.5 percent of the global workforce (ILOSTAT, undated). Other efforts have estimated the global number of farms at 608 million, of which more than 90 percent are family farms, producing 80 percent of the world's food value, and more than 510 million are farms smaller than 2 hectares (Lowder, Sánchez and Bertini, 2021).

In addressing food systems employment as a whole, 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. Historically, growing per-capita incomes, urbanization and associated food systems transitions have tended to shift the balance of food systems employment away from primary production to processing, retail and other food-related services (Reardon *et al.*, 2015). as shown in the examples below comparing

YOUTH EMPLOYMENT IN FOOD SYSTEMS

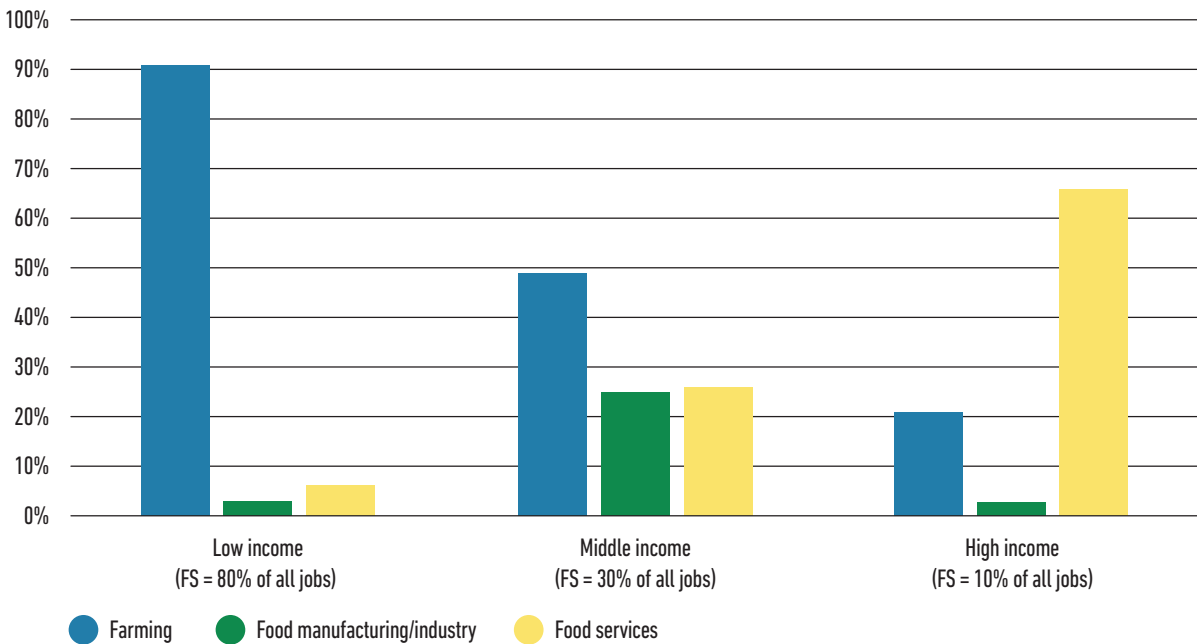
Global estimates on the number of workers in food systems vary widely, due to the different data sources used to calculate the numbers of workers (labour-force surveys) and the number of farmers (often through agricultural censuses

selected Eastern and Southern African countries with Brazil and the United States of America (Figure 5). Reliable estimates of the number of people employed in downstream segments of food systems, including food services, and manufacturing related to food processing are not available. The UN estimates—rather conservatively considering the above—that food systems overall—from primary production to all aspects of the food supply chain—directly employ more than one billion people worldwide, and provide livelihoods to more than three billion (UNSG, 2020).

These estimates rarely provide indications of the age composition of workers, and certainly not in aggregate global terms. 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. Recent estimates suggest that 70 percent of all child labour is in agriculture, accounting for about

112 million children, the majority of whom are engaged as (unpaid) contributing family labour on family farms or enterprises, and that the prevalence of child labour in rural areas is almost three times that of urban areas (ILO and UNICEF, 2021). 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. While there is global consensus – also endorsed by the CFS (for example in CFS, 2014) – 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 about whether or in what ways school and work can be combined without harming the child (Bourdillon *et al.*, 2010, p. 205).

FIGURE 5:
COMPOSITION OF JOBS WITHIN FOOD SYSTEMS (FS), SELECTED COUNTRIES



SOURCE: DERIVED FROM TSCHIRLEY ET AL., 2015, MOREIRA, KURESKI AND DA VEIGA, 2016, AND USDA, N.D., CITED IN BENFICA, 2017

According to a study by the OECD (forthcoming) undertaken for five sub-Saharan African countries, Namibia, South Africa, Tanzania, Uganda and Zambia, between 60 and 80 percent of all youth employment in these countries is in the food economy (consisting, according to this study, of four segments: **food agriculture** for human consumption, **food manufacturing** and processing, **food marketing** and **food awayfromhome**, such as food service and restaurants). The majority of these young workers in the food economy (up to 90 percent in low-income countries) are in the agriculture production segment. The study also sheds light on the conditions of employment, finding that **informal employment** constitutes the vast majority of youth's employment in the food economy and is generally higher in primary production than in the other "downstream" segments, except in South Africa.

In understanding youth employment in food systems, 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 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 (1) 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 (2) the individual is asked to report only one "main job", being the activity "with the most hours usually worked" (ILO, undated). As discussed in Chapter 2, rural young people's livelihoods in reality tend to be more pluri-active, combining non-farm jobs (which may be those more likely to be reported) and farm work. Surveys that record secondary or even tertiary occupations have been more accurate in shedding light on the complexity of youth employment in agriculture and food systems (e.g. Living Standards Measurement Study [LSMS] surveys).

Surveys of actual time use between different work activities avoid both these pitfalls and therefore provide a more accurate picture. However, these 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) 794 households with 460,654 individuals spanning Africa, Asia, and Latin America, we explore employment of youths across rural zones (peri-urban, intermediate, hinterland. 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 (ibid.).

TABLE 1:
EMPLOYMENT OF RURAL YOUTH (AGES 15–24) IN FARMING AND AGRI-FOOD SYSTEMS (SHARE OF TOTAL WORKING TIME IN FULL-TIME EQUIVALENTS, PRE-COVID-19)

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

NOTE: PERCENTAGES ARE ROUNDED.

SOURCE: DOLISLAGER *et al.*, 2020

As seen in Table 1, agri-food systems (AFS) work represents half or more of young people's working time in Africa, Asia and Latin America. Aggregating the regions and showing variations by age group in Table 2, in terms of *status in employment* and occupations, shows a clear pattern in which younger youth (ages 15–17) are involved more in "own farm" work than other kinds of work. Participation in "own farm" work

declines quite markedly among older youth (ages 18–24) and younger adults (ages 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. Finally, in this study farm wage work was more significant in Asia and Latin America contexts than for African youth.

TABLE 2:
SHARES OF RURAL YOUTH AND ADULT WORKING TIME BY SECTOR AND AGE GROUP (SELECTED AFRICAN, ASIAN AND LATIN AMERICAN COUNTRIES, IN FULL-TIME EQUIVALENTS, PRE-COVID-19)

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

NOTE: PERCENTAGES ARE ROUNDED.

SOURCE: DOLISLAGER *et al.*, 2020, P. 8

TABLE 3:
JOBS AND LIVELIHOODS AT RISK IN FOOD SYSTEMS, ALL AGES (MILLIONS)

	Food systems		COVID-19*			
	Jobs	Livelihoods	At-risk jobs	% of food systems jobs	At-risk-livelihoods	% of food systems livelihoods
Primary production	716.77	2,023.30	152.35	21%	404.76	20%
Food processing	200.73	434.54	126.44	60%	290.72	60%
Food services	163.97	339.44	101.38	60%	203.66	60%
Distribution services	96.34	241.48	57.81	60%	144.89	60%
Transportation service*	41.61	101.05	16.64	40%	40.42	40%
Machinery	6.51	13.18	1.72	26%	3.48	26%
Inputs	4.49	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: UN, 2020a

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 remains a key source of livelihoods and economic growth, to the extent 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). In sub-Saharan Africa, the number of people working in agriculture has had an absolute increase of more than 80 percent in the last 20 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 could be further, absorbed by agriculture and food systems.

Thus, farming jobs are an important source of employment for rural youth – and often the single biggest source of employment – although not the major source of employment in many regions (with the exception of some African countries). Non-farm food systems jobs are increasingly important for youth employment, especially in proximity of urban or high-density areas. Youth being more mobile than adults, between geographic areas and between occupations, tends to further blur the distinction between urban and rural areas and between sectors of occupation.

The COVID-19 crisis has exposed the stratified nature of the distribution of challenges, risks and vulnerabilities in labour markets, particularly in food systems employment, and these have been disproportionately felt by young people (see Box 5). Early estimates indicated that the pandemic could put at risk more than 450 million jobs and more than one billion livelihoods in food systems alone (UN, 2020a). Food systems jobs that appear to be more at risk are those in food processing, services and distribution, while those in primary production (farming, fisheries, forestry) are less affected (see Table 3; UN, 2020b).

BOX 5: THE IMPACT OF COVID-19 ON YOUTH EMPLOYMENT

In 2020, the COVID-19 pandemic crisis caused the loss millions of jobs, and there is ongoing uncertainty on the timing and extent of the eventual labour market recovery (ILO, 2021)). What we do know is that the majority of these losses have been borne by young people, who were already in a more vulnerable situation in the labour market. The impact of COVID-19 is visible both in terms of increased unemployment, and also – more significantly – because of increased levels of underemployment and inactivity (ibid.).

The crisis negatively impacts the prospects for youth through three channels: job disruptions from reduced working hours and lay-offs, disruptions in education and training as they try to complete studies, and difficulties transitioning from school to work and moving between jobs (ILO and ADB, 2020, VII). This makes it particularly challenging for the many young people who have not yet entered the labour market to secure jobs in the future.

Youth, and especially young women, are disproportionately bearing the brunt of the COVID-19 crisis, not only because of their higher prevalence in the hardesthit sectors but also because of their prevalence in vulnerable forms of employment, including informal jobs (FAO, 2020a; ILO, 2020e). A recent survey indicated that almost onequarter of youth aged 18–24 who were employed prior to COVID-19 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, 2020f).

Many of the sectors hard hit by COVID-19 were those that employed large numbers of youth. Prior to the onset of COVID-19, 178 million young people globally, or more than 4 out of every 10, worked in wholesale and retail trade, manufacturing, accommodation, and food and other services, including real estate (ILO, 2020g). These job losses are also not distributed evenly among social groups; for example, in Italy, the overwhelming majority of job losses were women’s jobs (ISTAT, 2020). In India, young people and women lost jobs at a disproportionately higher rate than other workers; almost 60 percent of workers aged 15–24 years lost employment during or after the lockdown. At the same time, agriculture was one of the sectors with the least volatility in India during the pandemic, absorbing 42 percent of construction workers and 40 percent of health and education workers that had lost their jobs elsewhere early in the pandemic (Abraham *et al.*, 2021).

Emerging data from the Asia-Pacific region shows that youth are more likely than adults to work in sectors that are more severely affected by the crisis, such as accommodation and food services, which alone account for 11.5 percent of all youth employment in the region. In the Asia-Pacific region, agriculture, forestry and fishing comprise the largest share of youth employment (21.2 percent of all youth employment), and although it is a sector that has been more moderately affected by the crisis, its importance for youth employment means that even a small percentage loss of jobs affects a large number of young people (ILO and ADB, 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); they also have 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).

Young people have also played a role in developing coping mechanisms to address the crisis that can inform “building back better.” For example, young “agripreneurs” responded to COVID-19 by adapting their business models to find new opportunities. In response to the pandemic, there has been an accelerated move to online marketing and sales, such as orders on social media and home delivery, and an increase in mobile payments. Such “agripreneurs” also started to work more with adding value to primary products, and many of them began to use locally sourced agricultural inputs (Mungai *et al.*, 2020).

YOUTH EMPLOYMENT BEYOND RURAL AND PRIMARY PRODUCTION

The literature increasingly underlines the importance of peri-urban food systems activities and jobs as part of a rural-urban continuum, supporting youth mobility between food manufacturing and retailing, agripreneurship, and primary production in or close to urban areas (Abay *et al.*, 2020). Recent estimates show that postharvest activities, including food processing and packaging, are very important for youth in any location (urban, peri-urban and rural areas) and that their relative share increases getting closer to urban centres.

According to a (forthcoming) OECD study, employment forecasts in selected African countries for 2030 show the highest growth rates in the downstream (non-farm) segments of the agro-food value chain. Taking into account income growth and urbanisation and the consequential increase in food consumption by a rising middle-class, the OECD study estimates that by 2030, for 11 African countries on average, the food processing, food marketing and food-away-from-home segments will grow by 21, 39 and 43 percent respectively, compared to 17 percent for the agriculture production segment (OECD, forthcoming). However, investments in agriculture research, rural infrastructure, and food production and distribution systems heavily lag behind to create efficient local and regional food markets.

The World Bank estimates that the global contribution of value-added **(food manufacturing/ processing)** of agricultural products approaches USD 3.2 trillion (Nieuwkoop, 2019). In 2019, 48 percent of food manufacturers planned to add employees (Wiley, 2019), and youth represented approximately 12 percent of people employed in the food manufacturing sector in Canada and the United States of America (Canada, 2018; US Bureau of Labor Statistics, 2020). Yet, industry professionals note the reluctance of young

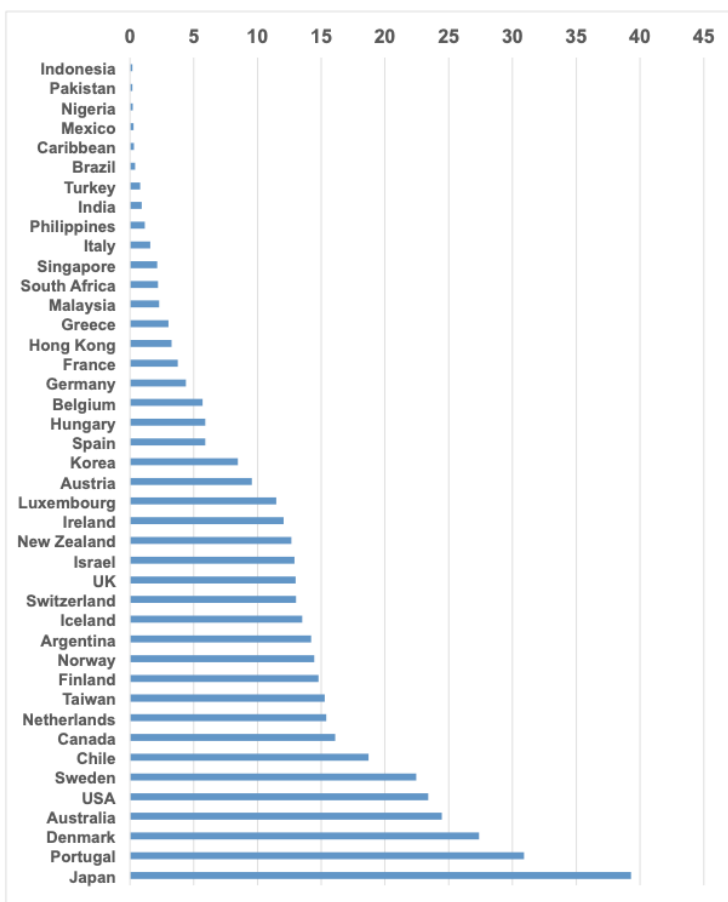
people to participate in a sector that has traditionally relied on cheap, manual labour. One survey showed that less than 25 percent of those surveyed had a positive perception of jobs and careers in the industry (Harris, 2017). The food processing sector today includes a much wider range of careers beyond the “factory floor”, including food safety, food science research and development, sales and marketing, finance, and technology operations and development. Training programmes in these fields, both in formal education and in vocational apprenticeships, are expanding quickly to meet demand, as discussed in more detail in Chapter 5 and 6, but ongoing concerns about working conditions and wage inequity in food manufacturing continue to challenge the sector.

Recent trends show growing domestic demand for diversified and nutritious processed food in many developing countries, as a result of increased urbanization, women’s labour market participation rates and changing lifestyles (FAO, 2017b). While this has significant, and often negative, implications for diets and nutrition, it presents opportunities for jobs creation in the food economy both in farm and non-farm activities, while relatively increasing the share of jobs in downstream activities in the supply chain, such as transport, processing, packaging and retailing (e.g. Reardon *et al.*, 2021). A recent report draws attention to the high growth of demand for processed food in sub-Saharan Africa, where it grew more than 1.5 times faster than the global average between 2005 and 2015, to the extent that that sub-Saharan Africa’s food market is expected to triple to reach USD 1 trillion by 2030 (AUC and OECD, 2018). In the meantime, Africa’s agricultural production systems have not been able to keep up with this growing demand, which is currently met through food imports, estimated at USD 35 billion annually (World Bank, 2013). Much of the imported foods could be produced and processed locally or traded regionally through better integration, although, as shown in Figure 6 above, jobs in food manufacturing across the region are currently highly informalized.

Other food systems professions, including, for example, **dietitians and nutritionists**, are also rapidly increasing in prevalence. The number of dietitians and nutritionists registered as part of the International Confederation of Dietetic Associations grew from 135 000 to 209 362 (55 percent growth) between 2000–2016. The distribution of dietitians and nutritionists as a proportion of the total population varies widely

(see Figure 7), growing as food literacy and food systems education become increasingly important in public health campaigns for the treatment and profession of diet-related disease (ICDA, 2016). Dietitians and nutritionists work in hospitals, in food service/hospitality, in food products manufacturing, in sports facilities and gyms, in private practice or out-patient clinics, in academia and research, and in community food projects.

FIGURE 7:
GLOBAL VARIANCE IN REPRESENTATIVE EMPLOYMENT OF DIETITIANS AND NUTRITIONISTS
 Number of ICDA dietitians-nutritionists/100,000 population



SOURCE: ICDA, 2016

Representation in the field of nutrition and dietetics has been critiqued, particularly in North America, however, for its lack of socio-cultural diversity and the challenges that this poses to provide culturally competent and gender-affirming guidance on food consumption and practices across the intersectional drivers of youth diversity discussed earlier in this report. In parallel to other health care professions, over 85 percent of nutrition and dietetics

professionals in the United States of America were identified as white and 94 percent as female (Robinson, 2020). The increasing attention to the food systems–health nexus could increase demand for these skills and create jobs in these occupations.

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, 2020d). In 2015, the concept was included in the SDGs under SDG 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 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), and 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, 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 generally regarded as a hazardous sector, due to exposure to chemicals, 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 and working poverty and among the lowest rates of access to social protection (Allieu and Ocampo, 2020; Eurofound, 2014; ILO, 2018b; Townsend *et*

al., 2017), which are being further aggravated by the COVID-19 crisis.

Youth 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 by the concept of decent work. 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, all facilitate labour rights violations at every stage in food systems (Clapp, 2018; ILO, 2008a).

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; because the employment relationships are informal and often intertwined with family relationships; or because legislation is not adequate to meet the specificity of employment in food systems, especially with respect to primary production activities (Alemahu, 2018). In many cases, children and youth engaging in unpaid family labour in agriculture and small-scale family enterprises in food processing, retail and catering are even more excluded by the application of labour laws, as their work is not recognized as being part of an employment relationship. 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 preclude 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 under-represented 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 (ESSERIC, 2020; OCED, 2020), which shows a

disengagement of youth from traditional forms of representation. Youth's decreasing reliance on unions is mirrored by the emergence of new forms of representation and collective action, especially significant around issues of sustainability.

ENHANCING DEMAND IN FOOD SYSTEMS' LABOUR MARKETS FOR YOUTH

As shown in Chapter 2, an exclusive focus on enhancing skills and employability alone (e.g. a focus on the supply side) does not solve the issue of insufficient demand for youth's work. Increasing youth employment in food systems requires policies and interventions to boost demand and create jobs through investing in food systems infrastructure and public employment programmes and providing wage subsidies for sectors offering social and economic benefits to society.

Jobs in **critical food infrastructure** can include investments in building regional food hubs, food processing facilities and farmers markets (Brown, 2021). This can comprise both short-term jobs in building physical infrastructure (construction, renewable energy facilities for food processing and packaging, and ongoing development) but also job creation in the engineering and maintenance of critical infrastructure (Pinstrup-Anderson and Shimokawa, 2008). In turn, the availability of shared public infrastructure can address market failures (Shengen *et al.*, Jitsuchon and Methakunnavut, 2004) to provide opportunities for young people lacking capital to invest and develop food processing and marketing enterprises.

Public employment programmes have long been used by governments to support both economic development (Labao and Hooks, 2003; Rose *et al.*, 1985) and job training (Almeida *et al.*, 2012), including for youth. These can include direct public employment as well as **public wage subsidies for cooperative or other skills development training programmes**. Agriculture

and Agri-Food Canada, for example, funds the Youth Employment and Skills Program for youth ages 15–30, which provides wage subsidies of up to 50 percent to enterprises that hire youth for summer jobs in farming, agricultural marketing and distribution, and food processing (AAFC, 2020). The EcoTalent federal programmes, in Canada and the United Kingdom of Great Britain and Northern Ireland, are aimed at university students seeking cooperative on-the-job training. They provide a 75 percent wage subsidy for youth working in environmental and natural resource professions, including those related to sustainable agriculture (EcoCanada, 2021; Our Bright Future, 2021). Regional programmes also target context-specific youth employment development. One example is the Columbia Basin Trust, a regional agricultural development organization that involves local government districts and tribal councils and supports student employment, apprenticeship, internship and summer wage subsidies for youth working in the region on agricultural and land management programmes, with the aim to stimulate economic development, to provide training opportunities and job creation for youth, and to increase Basin residents' access to locally grown, healthy food (Columbia Basin Trust, 2021).

The experience of public employment programmes focusing on agriculture and food systems shows that important results can be obtained through sustained investments. The well-known and ground-breaking India's Mahatma Gandhi National Rural Employment Guarantee Act (Government of India, 2005), and its related programme (MGNREGA), which was rolled out starting in 2006, since its inception has had the explicit objectives to generate employment, sustain income and create durable assets for agricultural and the natural resources base. It has been assessed also to broadly contribute to empowerment and to improve labour markets, including through implicitly sustaining a minimum-wage floor in rural areas. Investments in building rural infrastructure through the public works have contributed to increased yields and expansion of agricultural production and incomes, as well as to food security (Narayanan, 2020).

Incubators for youth enterprises in food systems, which are structures that provide both infrastructure (labs, computers, equipment, demonstration plots) and services (coaching, training and direct support to access resources) have proven in many contexts to promote the employability and labour market participation of youth and to create wage jobs in youth-led enterprises, together with encouraging dynamism and collaboration at territorial level. For example, the incubators of agricultural enterprises supported by the Tunisian Agence de Promotion de l'Investissement Agricole (APIA, Tunisian Agricultural Investment Promotion Agency), represent an innovative government initiative that helps young entrepreneurs transform their ideas into feasible projects and implement them, through targeted support, including to fill technical, management and soft skills, through a period between 12 and 24 months. APIA provides further support to identify and access new markets by promoting youth's participation in agricultural fairs and by creating networks among agricultural entrepreneurs. An

important feature of this approach is the creation and certification of the agricultural profession of "agricultural coaches" (APIA, 2021). The coaches act as agents of change, providing both technical guidance in agricultural techniques and motivational coaching and encouragement, which has proven fundamental to build the confidence and self-esteem to succeed as an entrepreneur (Termine and Castagnone, 2018).

These are key examples of initiatives supporting youth to work in food systems that provide good working conditions and adequate wages and that aim to fulfil their expectations in terms of well-being, quality of life and environmental sustainability (FAO, 2018d; HLPE, 2020a). The next two chapters take up two of the primary drivers affecting youth employment outcomes in the food system: access to resources, such as land and finance, and knowledge, learning and innovation.

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 socially and economically sustainable, while young people will not aspire to work in food systems that are not meaningful, economically rewarding and intellectually stimulating.

Yet, the right to work, to fair working conditions and to protection against unemployment do not match the current realities of young people's engagements with labour markets. Food systems, while being the largest employer of young people, particularly in the Global South, fail to provide decent work for a large proportion of young people. The COVID-19 pandemic has highlighted the urgent need to address these inequities, and the need for food systems to provide jobs and livelihoods that are resilient to disruptions and crises.

Chapter 4

ACCESS TO RESOURCES



Access to resources – including land, labour, knowledge, finance and markets – is a key barrier to young people’s participation in food systems, from primary production to food distribution and consumption. Resource distribution should be targeted to align farming and rural livelihoods to new trajectories that both reduce emissions and are climate-resilient; to de-risk livelihoods, farms and value chains to deal with the increasing vagaries of weather and extreme events; and to reduce emissions from diets and value chains, targeting health and climate outcomes (Steiner *et al.*, 2020).

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This chapter considers how the rights and access to resources can be realized for young people, and in particular to promote their engagement in small-holder farming and small- and medium-scale enterprises in the food system. As discussed previously, young people’s access to resources involves a set of intertwined processes shaped by class, gender, generation, as well as racism and heteronormativity (Leslie, 2019; Leslie, Wypler and Bell, 2019b, 2019a). The chapter therefore asks: what are the barriers to young people’s access to resources, and how can these barriers be overcome without jeopardizing the needs and rights of older generations?

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 external resources but rather on their 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 resource and knowledge transfer between (kin and non-kin) actors, as well as solidarity during the phases of common work and life based on unities of interest, objectives, standards and sympathy, can establish the foundation and the framework of collaboration and facilitate a “smooth transfer” (Potter and Lobley, 1996, p. 286), of resources, managerial control and enterprise-specific knowledge.

Though farm (and other food enterprise) succession is differently defined by scientists, most authors approach it as an inter-generational process; e.g. transfer to the next-generation of the ownership and managerial control of a farm (or other enterprise), together with relevant skills and knowledge (Gasson and Errington,

1993; Kimhi, 1997; Lobley, Baker and Whitehead, 2010; Potter and Lobley, 1996). The simultaneous transfer of tangible and intangible assets, including the knowledge and creativity of generations of Indigenous and local farmers, is discussed in Chapter 5. 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.

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). Indigenous peoples have the right to the lands, territories and resources which they have traditionally owned, occupied, or otherwise used or acquired ... States shall give legal recognition and protection to these lands, territories and resources (UNDRIP, 2007, Art. 26).* ”

Reports by authoritative panels of international experts (see, for example, FAO and IFAD, 2019; HLPE, 2019, 2020a; IAASTD, 2009; Ricciardi *et al.*, 2021; Herren, Haerlin, and IAASTD+ Advisory Group, 2020) have confirmed the economic, social and ecological advantages of small-scale farming and other small- and medium-scale food systems enterprises in terms of their resilience and adaptive capacity (see Box 6 for a definition of small-holder and family farming). These studies have shown that perhectare yields are generally higher on small-holder farms than on large industrial farms and that small-holder farms produce better outcomes in terms of food security and nutrition, employment, community development, and environmental sustainability.

In addition, the right to land and other natural resources is recognized as a human right of Indigenous peoples, peasants and other people living in rural areas, as established in the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) and the United Nations Declaration on the Rights of Peasants and Other People Working in Rural Areas (UNDROP). The CFS Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security also recognize that “land, fisheries and forests are central for the realization of human rights, food security, poverty eradication, sustainable livelihoods, social stability, housing security, rural development, and social and economic growth” (FAO, 2012, p. 6).

Yet, the right to land and other natural resources is not readily realizable. The concentration of agricultural land and forests raises ongoing concerns about the ability of young people to access land and other natural resources as they aim to build new food systems enterprises. A commitment to the promotion, preservation and support of “family farming” or small-holder farming as the backbone of future world food production is confirmed in the documents of the United Nations Decade of Family Farming, for example:

“ *It is generally recognized that family farmers are the main contributors to food security and nutrition, management of natural resources, rural community cohesion and cultural heritage. Notably, they produce the majority of the world’s food, and they are a major investor in the agricultural sector and the foundation of the local business and economic structure of rural areas (FAO and IFAD, 2019, p. 2).*



Policies therefore need to focus on ways to preserve and, when necessary, extend small-holder-based systems of land and resource tenure for coming generations.

Importantly, many young rural people and would be farmers, even if their parents have land, are themselves landless until their parents, and/or the broader community, make some of it available (European Commission, 2016a; Monllor, 2012). The inter-generational transmission of land, fisheries rights and other resources include both intra-familial transmission (e.g. from parents to their children through inheritance) and extra-familial transmission (e.g. between community members). In some cases, young people may have access to natural resources in agriculture, fishery and forestry as “newcomers” (Monllor, 2012), meaning without farming family backgrounds (European Commission, 2016a). They might also find alternative entry channels such as starting to farm on a piece of land that is bought or rented individually or with a group of people, or they may be able to work on a farm with an elderly farmer without successors in the family.

BOX 6:

SMALL-HOLDER AND FAMILY FARMING

This report generally refers to “small-holders” and “small-holder farming” rather than “family farming”. While the UN International Decade of Family Farming notes that “there is no single definition of family farming”, in 2014 the UN International Year of Family Farming Steering Committee adopted this definition: “[family farming] is a means of organizing agricultural, forestry, fisheries, pastoral and aquaculture production which is managed and operated by a family and predominantly reliant on family labor. The family and the farm are linked, coevolve and combine economic, environmental, reproductive, social and cultural functions”.

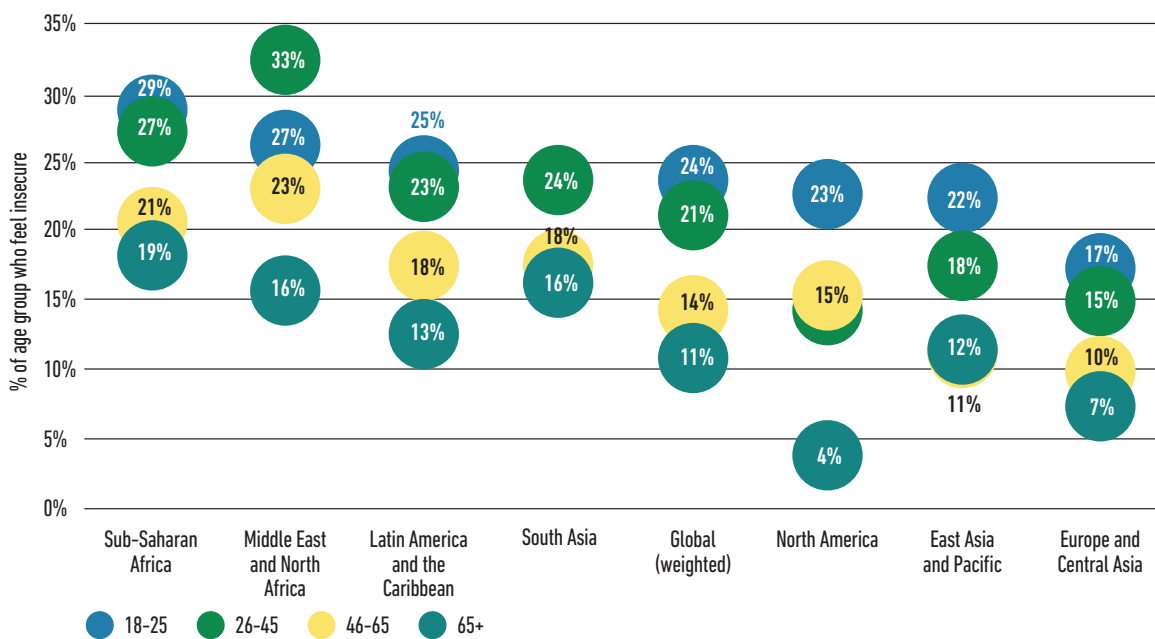
Authors concerned with defining family farming have noted that size is not the only or primary criterion. While the size of an economically viable family farm holding can vary according to the region in which it is located, family farms are generally characterized by a farm production strategy which relies predominantly on household labour, lower use of externally sourced inputs, and limited access to off-farm labour opportunities (Graeb *et al.*, 2016).

This report uses the term “small-holder”; while the majority of small-holder farms are also “family farms” as defined above, small-holder farms may also be run – and many are – by a single person; a small collective, or – as seen in a large number of cases today around the world – by farm operators whose spouse and other family members have little to do with the farm operation. In the United States of America, for example, the hegemonic idea of the “family farm” – and the division of labour within it – are relatively recent social constructions. They did not exist a century ago and historically were inculcated in the minds of young rural people through the 4H system, a US Department of Agriculture led youth development programme active in over 50 countries (Leslie, Wypler and Bell, 2019b; Rosenberg, 2015). As such, “small-holder” refers not only to the size of the farm unit but also, more importantly, to the manner of its operation, where the owner or tenant farmers manage and work on the farm themselves, often – but not necessarily – with the help of family members, and not ruling out the occasional use of hired workers (see, for example, the discussion in White, 2020a, pp. 14–15).

Young people also potentially experience higher levels of land tenure insecurity. The most recent Prindex report indicates that, across all regions, young people feel much less secure about land tenure than adults and that perceptions of security of tenure increases with age. For example, in sub-Saharan Africa, one in three youth aged 18–25 feel insecure (33 percent)

compared to just one in six (16 percent) of people aged 65 or above (see Figure 8). Among the reasons for this higher insecurity are that young people are more likely to live in rented accommodations and have lower incomes (Prindex, 2020). The survey also noted that perception of security of tenure is not correlated to level of education.

FIGURE 8:
PERCEPTIONS OF TENURE INSECURITY: SHARE OF PEOPLE IN EACH AGE GROUP AND REGION WHO FEEL INSECURE



Note: *Regional overages weighted by country populations; **Perceived tenure insecurity as measured across all properties and plots of land that a respondent has rights to access or use, not just their 'main' property.

SOURCE: PRINDEX, 2020

Land rights are also connected to gender gaps. A 2018 FAO report on gender gaps and land rights concluded that “women are significantly disadvantaged relative to men with regard to their land rights” (FAO, 2018e, 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). For example, in the United States of America, Leslie *et al.* (2019b) discuss how women are more likely to operate smaller farms

and less subsidized forms of agriculture and to use sustainable farming practices that require less land, mechanization and capital. In addition, Leslie *et al.* (2019b) discuss the structural constraints faced by queer farmers in obtaining farmland in the United States of America, under a family farming model dominated by heteropatriarchy, and how queer farmers are navigating this in multiple and creative ways, for instance through collective queer farmlands and queer cohabitation, the latter also redefining the family farm model. Land rights can also be shaped by other forms of discrimination such as race, ethnicity and class. In the United States of America, white landowners account for the

ownership of nearly 98 percent of all private agricultural land (Gilbert, Wood and Sharp, 2002). In India, despite land distribution policies following colonial rule, the scheduled castes and tribes continue to be less likely to own land (Desai and Dubey, 2012).

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

In regions where rights to fishing grounds – both in marine and inland waters – are regulated and private property rights exist, young people may also face issues of access. Fisheries as a common pool resource are 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). The privatization of previously 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.

To realise their rights to land and other natural resources, several studies have shown that young would-be farmers, fishers or pastoralists whose parents do not have access to these resources, or who have them but are not yet ready to pass them on to the next-generation,

would benefit from support to access resources from other sources (FAO, 2014; Skrzypczyński *et al.*, 2021; Wittman *et al.*, 2017). 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 small-holder aquaculture in Bangladesh (Belton, Ahmed and Murshed-e-Jahan, 2014).

CORPORATE LAND ACQUISITION AND ACCESS TO LAND AND OTHER RESOURCES

From the European enclosures to contemporary large-scale land acquisitions for oil palm and other commodity crops, small-holder 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 small-holder farming option, for young people (Graeub *et al.*, 2016). The initial dispossession may leave the original land users in place in enclaves where 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 instance, water for fishing in the case of dam construction for hydro-power (Béné and Friend, 2011; Friend *et al.*, 2009). Various studies have documented the gendered effects of large-scale land acquisition (Carney, 2004; Elmhirst *et al.*, 2017; Julia and White, 2012; Levien, 2017).

Given the better performance of small-holder farming over large-scale industrial agriculture in both economic and social terms, the adverse consequences of large-scale land acquisitions for young people’s access to land and independent farming, and the recognition of access to land as a human right for peasants, for

others living in rural areas and for Indigenous peoples (see above), this report underlines the conviction of Olivier de Schutter (UN Special Rapporteur for the Right to Food 2008–2014) that large-scale land acquisitions should be seen as the “last and least desirable option” (De Schutter, 2011). With respect to large agricultural investments, while since 2000 the pace of large-scale land acquisitions has been decreasing, the pace of implementation of agricultural projects has been increasing (with aggregate numbers being relatively stable (The Land Matrix, 2021). 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 on the expiry of the lease and their transition – where necessary, with the needed improvement of degraded lands and other support (see below in 4.2) – to larger numbers of highly productive and diversified small-holder operations, accessible to young people with secure use rights.

With increasing global capital accumulation in agriculture and the ongoing concentration of land since the mid-20th century, those interested in farming are facing a shrinking level of access to land, not only in the Global South but also in Europe (Franco and Borrás, 2013). Looking at the trends in the European Union, statistical data reveals a “tremendous and rapid land concentration” (Kay, 2016, p. 14) with a clear tendency towards fewer and bigger farms. Since the 1970s, European agriculture has been characterized by a decrease in the number of farms and farm-related jobs (European Commission, 2011). Between 2005 and 2016, the total number of farms declined by one-quarter, resulting in the loss of up to 4.2 million farms (EUROSTAT, 2018).¹ The majority of farms (about 85 percent) that closed in this period were small farms under 5 hectares. Between 2010 and 2016, the average size of agricultural holdings in the EU-28 increased from 14.4 hectares to 16.6 hectares per holding (EUROSTAT, 2018). Data also confirms that farms which close down are

not maintained as such but most likely will be merged into other farms.

Thus, to complement the accessibility of land to young people and strengthen their tenure rights, there is growing recognition of the need to improve the focus of investment so that it benefits those who need it most. The 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 ten principles – in particular, Principle 4 to “engage and empower youth” – are broad in scope, covering all types and sizes of agricultural investment in all stages of the value chain in various industries, for example, forestry, fishery and livestock (CFS, 2014).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, from Indigenous and local communities’ view of collective ancestral rights to land to the Anglo-Eurocentric view of land as best owned by individuals and companies as private or corporate property (Huambachano, 2018; UNDROP, 2017; Wittman, Desmarais and Wiebe, 2010). As already noted, the rights of Indigenous peoples to their lands, territories and resources are enshrined in the UNDRIP (Huambachano, 2020; UNDRIP, 2007) as well as by the UNDROP, which establishes the same rights and protections to “peasants and other people

¹ The latest available data on Farm and farmland was presented in 2018 and was planned to be updated in January 2023.

² The ten principles are (1) Contribute to food security and nutrition, (2) Contribute to sustainable and inclusive economic development and the eradication of poverty, (3) Foster gender equality and women’s empowerment, (4) Engage and empower youth, (5) Respect tenure of land, fisheries, and forests, and access to water, (6) Conserve and sustainably manage natural resources, increase resilience, and reduce disaster risks, (7) Respect cultural heritage and traditional knowledge, and support diversity and innovation, (8) Promote safe and healthy agriculture and food systems, (9) Incorporate inclusive and transparent governance structures, processes, and grievance mechanisms, and (10) Assess and address impacts and promote accountability (CFS, 2014).

living in rural areas” (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 people can successfully make a claim on these resources when they are ready to farm (Nemogá, 2019).

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 inter-generational transmission of land, fisheries resources and livestock is a key factor in the perpetuation and strengthening of inequalities (Mulder *et al.*, 2009). Where inheritance of land is partible (can be divided among more than one heir) and ambilineal (both sons and daughters having inheritance rights), fragmentation may become a problem.

The principle of collective or community ownership and (secure, but periodically redistributed) individual use rights – espoused by the global peasant and Indigenous movement La Via Campesina, among other organizations – avoids some of these problems and 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, and land acquired or allocated for urban farming, among others (Assies, 2009). 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, 2020a, pp. 91-99).

REIMAGINING ACCESS TO LAND FOR YOUNG PEOPLE? EXAMPLES OF GOOD PRACTICES

This Chapter has shown 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 small-holders. 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 can governments (whether at national, regional or local level) and communities commit themselves to a promise of land rights and access to ancestral lands (in the case of Indigenous peoples) for all young people who wish to engage in farming, livestock grazing or marine/inland fisheries? There are many ways in which this has been and 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 Viet Nam 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 small-holder farms now represent more than onethird 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 small-holder 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 have led to a rapid expansion of migrant peasant workers, reaching 169 million in 2015. This has resulted in a diversification of livelihoods among those rural households comprised of the 158 million 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 programmes 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 (Hairong and Yiyuan, 2015). Those advocating support for peasant or family farming in China suggest that “capitalization from below” can be achieved through both pluri-activity (including mobility of family members between rural and urban labour markets) and regionalized and cooperative responses to “market failures”, enabling regionally-connected markets and agroecology 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 small-holder plots and the allocation of some or all of these plots to young would-be farmers. The same applies to government-owned land, which can support consolidation of land to be cultivated by collectives or groups of landless workers, including youth, especially those excluded from access to land such as young women. See, for example, the successful group farming by women on state lands in India (Agarwal, 2018, 2020).

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 (Movimento dos Trabalhadores Rurais Sem Terra, MST) (Wolford, 2003). In some other countries, peasants and landless workers have occupied plantation lands that have been neglected, or whose longlease concessions have expired, and returned them to successful small-holder 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 have not taken 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. For Indigenous people across the globe, the colonization of Indigenous lands beginning in the 16th century has denied rights to ancestral lands worldwide (HoltGiménez, 2006; Huambachano, 2019b). Young people’s involvement in these movements also opens doors to their engagement in innovative modes of revitalization of sustainable Indigenous food traditions, as in the example in Box 7 below; see also Hoover (2016, 2017) for a discussion of youth involvement with revitalizing their own community seed systems and political advocacy for Indigenous food sovereignty in North America.

BOX 7:**IHUMĀTAO: A BATTLEGROUND TO RECLAIM INDIGENOUS LAND IN AOTEAROA³ (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. In 1841, Māori chiefs signed the *Te Tiriti o Waitangi* (Treaty of Waitangi) with the British Crown, which guaranteed Māori the full exclusive and undisturbed possession of their lands, estates, forests, fisheries and other properties. Yet increasing dispossession by settlers 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 that, since November 2016, has been occupying their ancestral land. Māori protesters, especially youth, continue to revitalise their culture and foodways by growing traditional foods such as *kūmara* (sweet potatoes) to 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, including setting up water storage and solar panels to preserve their food systems and ways of life.

“Matching” initiatives to facilitate extra-familial farm transmission

Land matching is a relatively new programmatic area rising from demographic and cultural change, particularly in countries and regions where many older farmers have no successor, where land values are rising and where younger farmland seekers are increasingly from non-farming backgrounds (Pillen and Hinrichs, 2014; Wittman, Dennis and Pritchard, 2017). “Matching” and mediation initiatives facilitating extra-familial farm transmission between generations are becoming increasingly important. In the United States of America as of 2018, there were more than 50 “farm-link” programmes in operation with the common aim of connecting new farmers and landholders and creating new opportunities for farming (Land for Good, 2019; Valliant *et al.*, 2019).

More of these programmes may emerge in middle-income countries in the coming decades—see Box 8 for a range of examples. However, 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; inter-generational farm transmission therefore needs to ensure that the livelihoods of the elderly are not jeopardized.

In Japan, while only half of the ageing small-holder 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. 12). Young prospective farmers can receive tuition-free training at agricultural schools, interest-free loans and stipends of about USD 15 000 per year for their first few years of farming. In the five years after its inception in 2012, more than 45 000 young people enrolled in the “Young Farmers’ Fund” and received these subsidies. The Taiwan Council of Agriculture’s “Small Landlords, Large Tenants Programme”, initiated in 2008, facilitated

3 Aotearoa is the Māori word for New Zealand

elderly farmers in leasing their land on a long-term basis to young farmers and to farmers' organizations through a 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 younger-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, Hagenhofer and Handl, 2016).

BOX 8: ONLINE "MATCHING" PLATFORMS

There are several examples of online "matching" platforms where elderly farmers without successors can be linked with prospective young farmers. Most of them also go beyond "matching" to provide personal advisory services to those involved.

A good Englishlanguage example is Canada's FarmLINK.net, sponsored by the NGO Farm Start. Currently, 92 percent 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 programmes such as the Young Agrarians Land Matching Program and Quebec's ARTERRE farm incubators 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 the acreage, facilities and type of farm, the "desired farming practices" (from conventional to certified or noncertified organic and biodynamic), and the type of opportunity offered (on-farm employment, mentoring, internship, business partnership, lease, leasetoown).

The Netherlands' Boer zoekt boer (farmer seeks farmer) Platform – winner of the European Union's 2017 award for the best European young farmers' project – is a similar initiative, sponsored by the 8 000member "Netherlands' Young Farmers Contact" (NAJK) association in partnership with the Rabobank and various agrarian business companies (Nederlands Agrarisch Jongeren Kontakt, undated). Like FarmLINK, it not only provides a matching service but also advises both parties on the sometimes complex procedures and options for farm transmission.

In Germany, the portal hofsuchtbauer.de provides an advice service aiming to bring together landholders with young 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 ensure a successful farm transfer.

In Austria, investigations of the extra-familial 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 small-holder farmers. Members of the association recognized 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). Since its establishment in 2017, the Platform contributed to about 80 successful farm successions, farm cooperatives and farm start-ups and has been providing support for 900 new and 250 existing farmers.

In Switzerland, three farms close their doors daily while many welltrained young people are looking for farms to work. In 2014, the Small-holders' Association (Kleinbauern Vereinigung) in collaboration with the Ministry of Agriculture, set up a "Contact point for extra-familial farm handover". As in the above initiatives, the contact point matches farm seekers with farmers without successors free of charge, regardless of the size of the farm or membership in the Small-holders' Association.

Programmes allocating land to new and young farmers

As part of Thailand's Agricultural Land Reform, the Agricultural Land Reform Office (ALRO) of the Ministry of Agriculture and Cooperatives launched a dedicated initiative to support young farmers (especially those coming from non-farming families) to access land for agricultural production, living and dwelling. The programme promotes young people's access to land and resources, while also providing training on theoretical and practical knowledge for young people, without discrimination of gender. Young people, upon successful completion of training, can request access to agricultural land for a six-month trial period, under the supervision and regular evaluation by the ALRO. Following a positive assessment, the land is then allocated to the youth. To date, more than 1 200 young people have joined the young farmers' programme.

The Department of Agrarian Reform of the Philippines launched a programme in 2020 that awards new graduates of agricultural courses a parcel of government-owned land of up to three hectares. The graduates must come from a school which the Commission on Higher Education (CHED) recognizes, on top of the requirements that they should be landless and that their parents should not be beneficiaries of the country's agrarian reform programme. Another important qualification is that the young person must be a resident of the municipality in which the land to be offered is located (Department of Agrarian Reform, 2020).

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 encouraged 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 beekeeping 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 Noubaria Rural Development Project, similarly allocated land to unemployed graduates for purchase 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. 26-27).

Land access for collective and group youth farming

While most land allocation programmes, as described above, provide access to individual farmers or farm families, others take a more collective approach. For example, Bhutan's Land Use Certificate Programme, established in 2015, supports groups of unemployed youth to take up commercial farming. By 2018, 69 young men and women had been allocated land in six different sites, where they practice organic and integrated farming (SaZhi, 2018; The Bhutanese, 2021).

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 12 months (minimum). 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 people 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. 28–29).

ACCESS TO OTHER RESOURCES FOR YOUTH ENGAGEMENT FOR SUSTAINABLE FOOD SYSTEMS

This report has already noted the intertwined nature of the processes and constraints involved in young people’s access to the material and non-material resources they need for productive engagement in food systems. They often encounter generational and gender barriers due to their lack of access to non-land resources including knowledge and extension, financial institutions, and markets. These are discussed in the following sections.

BOX 9:

A YOUNG PEOPLE’S COLLECTIVE FARMING PROJECT IN JAVA

In all Indonesian villages, state-sponsored youth groups called Karang Taruna are active in organizing sports, preparing for the national Independence Day festivities, etc. In the Javanese village of Kaliloro, one of the Karang Taruna groups successfully applied to rent a plot of rice land from the village government to experiment with collective farming, despite initial opposition from the village government. Most of the members are in secondary school and are the first generation that has rarely helped their parents with 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 lead. As in the previous examples, the collective nature of the initiative has been the key to the young people’s enthusiastic participation and the continuity of their initiative (White and Wijaya, 2019).

KNOWLEDGE AND EXTENSION

Young people’s food systems-related knowledge and their access to food systems training and educational programmes are discussed in detail in Chapter 5. The present section limits discussion to the importance of rights, equity and agency when it comes to accessing knowledge for sustainable food systems. Access depends 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 changing weather conditions, sustainable land management practices for specific geographic areas and local market conditions.

Aspiring young people entering into farming may bring a number of ideas and resources gained outside of farming – skills, networks, financial capital, marketing and management practices – with them, allowing them to introduce modifications and innovations at the farm (European Commission, 2016a). This knowledge, however, often requires careful adaptation to and consolidation with the local environmental and socio-economic conditions in which it is embedded (Korzenszky, 2019). In a multi-generational collaboration, actors continually readjust their relation to each other and to the farm: older generations would gradually disengage from farming and farm-related activities, with the younger generation taking over those activities. Multi-generational

knowledge of farming, fishing and pastoralists communities, deriving from the array of tasks and responsibilities of various actors, are essential to facilitate access to knowledge for youth. For example, through mutual observation, youth can learn from elderly farmers about the practical operation and management of natural resources. This period of “supervisor/student” relationship provides the opportunity for the elderly to transfer their knowledge and experience to the next-generation, while youth are able to learn locally-specific agricultural practices – the baseline for sustainable innovation (Korzenszky, 2019). Handler (1994) described this process as similar to a dance: until the former farm manager/operator has moved from one stage to the next, the coming generation (successor) cannot step forward. The metaphor highlights the progressive transmission of knowledge, experiences, leadership and decision-making authority as a mutual role adjustment between actors from different generations (Korzenszky, 2017).

In addition to community-based inter-generational 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. Fabregas *et al.* (2019) point out that while over 400 000 public agricultural extension agents are working in low and middle-income countries, the ratio of extension agents to farmers exceeds 1 000 to 1 in many regions; the authors also suggest that only 6 percent of farmers in India would have received advice from an extension agent over a year’s time. Similar considerations apply to knowledge and information resources at other points in food systems, from input supply to processing, distribution and consumption.

Access to extension is highly gendered – one FAO study showed that women receive only 5 percent of extension services worldwide and that only 15 percent of extension officers were female (FAO, 2011a, p. 32). A series of studies in Sub-Saharan Africa found that that differences in yield between male and female farmers could be ascribed primarily to differences in access to resources and extension services (cited in

FAO, 2011a, undated). 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 infrastructure and knowledge services (see Chapter 6 and Mehrabi *et al.*, 2020).

Almost three-quarters of people living in low and middle-income countries own a phone, and one in three has access to the Internet (Fabregas, Kremer and Schilbach, 2019), leading to great enthusiasm for the potential of digital agriculture advice to democratize and equalize previously gender- and generation-biased knowledge and information systems. In the context of the agri-food system, ICT has allowed for research, extension and advisory services to become collaborative in many ways (see Box 10), including creating connections between stakeholders, facilitating 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). This is one among many reasons why digital divides in all their manifestations—whether class, gender, generation or location-based—must be overcome while acknowledging that the starting conditions for such initiatives differ significantly across national and regional contexts (see Chapter 6).

BOX 10:

ICT AND DIGITAL EXTENSION SERVICES IN THE PHILIPPINES

In the Philippines, many farmers seek services for farm planning and management. A youth-led enterprise called Dream Agritech Consultancy Services (Dream Agritech, undated) created a pool of consultants from young professionals who specialize in different fields of agriculture – including animal science, horticulture, agronomy, agricultural extension, forestry, environmental science, agricultural systems and soil science – to provide farm planning, management and retainer services for clients.

This enterprise has partnered with another business called 360 PH (360 PH, undated) for drone imagery services or the creation of virtual tours if clients wish to have a digital walkthrough of their farms or farm tourism sites. In 2020, Dream Agritech created a new section called Dream Agrimedia to produce webinars and talk shows to increase access to advisory services during the lockdowns caused by the COVID-19 pandemic. This company has also benefited from mentoring programmes, such as that from the Archipelagic and Island States (AIS) Blue Start-up Hub of the UNDP (Nadira, 2020). Finally, Dream Agritech has created an initiative called Agriworks to employ youth and young professionals who have obtained national certificates in agricultural courses from the Technical Education and Skills Development Authority (TESDA) of the Philippine government. This pathway provides employment to youth while addressing the need for farm labour, supervisory and managerial roles with clients of Dream Agritech.

The Philippine Rice Research Institute (PhilRice) has also established an “Infomediary Campaign” (PhilRice, 2014) using ICT to help educate high school students in rice farming communities on updated rice cultivation techniques. The PhilRice Text Center responds to text messages by farmers about how to address diseases that they observe in the rice fields.

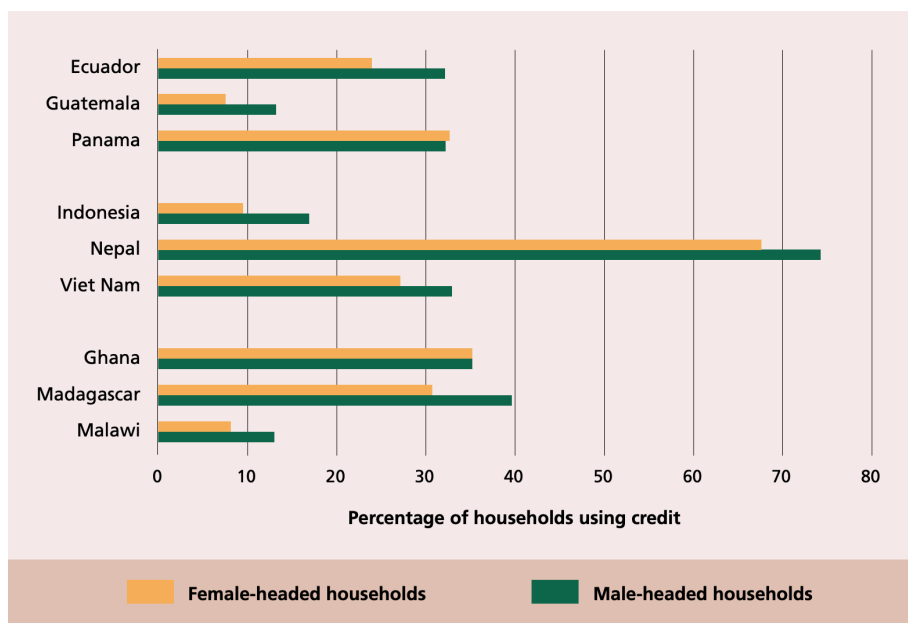
The Pinoy Rice Knowledge Bank maintains a website that has the latest information and studies on rice cultivation (Philippine Rice Research Institute, undated). For areas where Internet connectivity was unavailable, the content of the Pinoy Rice Knowledge Bank was transferred onto a compact disc (CD) so that students could use the resources offline.

CREDIT AND OTHER FINANCIAL INSTRUMENTS

Complementing access to natural resources and knowledge, financial services are instrumental to facilitate youth empowerment and engagement in food systems. Social factors including gender (see Figure 9), race, class and caste can influence access to resources such as credit (Donnelly, 2019), and young people are “disproportionately left out of the financial system” (IFAD, 2015a). At the same time, it is important to note that, while youth may acquire capital through various forms of financial instruments to help them to overcome challenges and realize their projects, borrowing and lending from financial institutions (often with a low interest rate in the beginning) risks making and keeping young people dependent on financial

institutions at an early life stage. Financial instruments therefore should prioritize schemes that allow young people to gradually become independent again (fi-compass, 2020).

FIGURE 9:
CREDIT USE BY FEMALE AND MALEHEADED HOUSEHOLDS IN RURAL AREAS IN SELECTED COUNTRIES



Note: Calculations made using nationally representative household surveys. The gender gap is calculated as the difference between the percentages of male- and female-headed households that use credit.

Sources: FAO, RIGA team, and Anríquez, 2010

In addition to challenges that adults may face—e.g. restrictions in the legal and regulatory environment, or problems with existing services which are unable to address risks and challenges in agriculture and food systems—youth may encounter barriers to access finance: given their limited experience with financial transactions, youth are often considered by banks or other financial institutions as risky clients (FAO, 2014). Young women face additional challenges to access credit or other services, despite evidence which shows that they are more reliable than men (World Bank, FAO and IFAD, 2009).

In Kenya, for example, low levels of savings, “weak or no credit history, lack of conventional collateral, low- and irregular-income flows, lack of a guarantor, and the financial institutions’ diffused bias against lending to this specific client category” (Benni, Berno and Ho, 2020, p. 15) were registered as main bottlenecks of youth access to finance, especially agricultural finance.

Young people have more difficulty accessing credit by banks or financial institutions when these require collateral or previous land ownership. The World Bank’s Global Financial Development Index states that only 6 percent of youth report borrowing from a formal financial service provider, in comparison to 11 percent of adults; a study of rural young farmers showed that over 70 percent reported access to finance as their most significant challenge (IFAD, 2014, and DemirgucKunt *et al.*, 2013, cited in IFAD, 2015b). In addition, financial products that do not require fixed collateral are more suitable for young people who have fewer assets, and crowdfunding platforms and other forms of impact investment can provide opportunities for youth aspiring to become entrepreneurs (Njeru, 2017; Rutten and Fanou, 2015). The report of the International Agri-Food Network’s 2021 High Level Dialogue on Finance and Investment focuses on five topics, one of which is “inclusion” and, in that context, mentions specifically women and youth. It does not, however, address the collateral problem that many young people face when negotiating loans in the formal-sector (IAFN, 2021).

Small-holder agriculture, for example, is a relatively capital-intensive activity, compared to many types of small and medium-scale non-farm enterprises. At the same time, it is among those sectors which often provide low levels of capital return. Beyond land itself, purchasing and maintaining tools, machinery, farming or fishing equipment, storage and cooling facilities, and processing and postharvest 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 – the youth group of Via Campesina Germany) estimated the business start-up costs in Germany around EUR 25 000 in 2013 (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 EUR 50 000 to new farmers (i.e. those under 40 years old). One precondition is that they give preference to growing vegetables and fruits or raising 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.

EMERGING EXAMPLES OF INNOVATIVE FINANCING

New sources of financing for youth to support food systems ventures include social and collective impact funds and informal financing mechanisms such as crowdfunding

(Simmonds, 2017). Hoey *et al.* (2017) describe the Collective Impact model for addressing food systems challenges, which facilitate

collaboration across sectors and institutions to achieve systemic impact. Collective impact initiatives often involve shared financing and backbone organizations. In one example, the Michigan State University's Centre for Regional Food Systems led a range of activities to support Michigan's Good Food Charter whose goals included "increasing local food purchasing that is profitable for local farmers and fair for their workers; building local agri-food business infrastructure; improving access to affordable, healthy food; and improving kindergarten-through-twelfth-grade (K12) school meals and curricula."

Community economic development investment funds (also called "impact investing", where local investors have a direct link to the enterprises they support) have been utilized in several jurisdictions in Canada to support rural and agricultural enterprises, including those that aim to increase youth access to land for sustainable farming and food processing enterprises (Stephens *et al.*, 2019; Amyot, 2014). FarmWorks, a community economic development investment fund in Nova Scotia, Canada, allows investors to purchase common shares in a diversified portfolio of food-related enterprises (FarmWorks, 2017); FarmWorks then provides loans to farms, food processors, retailers and restaurants using the concept of "relationship lending", without requiring collateral or immediate repayment (Kennedy *et al.*, 2017). Farmworks also offers mentorship programmes with the intent to create economic opportunities to keep young people in the community. In another example, to address high farmland prices, British Columbia's Community Farms Program and Foodlands Trust Cooperative support community groups to purchase or hold land in trust and mentor young people (often from urban backgrounds) to start sustainable food enterprises (Wittman *et al.*, 2017). In yet another example, Agricultural Value Chain Finance (AVCF) organizations in Africa support contract farming, warehouse receipts, financial leasing and factoring, social impact investing, challenge funds, and crowdfunding (Rutten and Fanou, 2015).

Financial support programmes to young farmers are also available in the Russian Federation. Since the beginning of 2020, the Ministry of Agriculture has implemented several different support systems for farmers and rural cooperation, including grants for agricultural start-ups. Both newly organized farms and Russian citizens who reside in rural areas are eligible to access this grant, which aims to support jobs for young professionals and retain qualified personnel in rural territories. The project also encourages the establishment of agricultural consumers' cooperatives. By financing the development of the cooperatives' material and technical base, the project creates sales points, cooperative markets and farm product stores, facilitating markets for small-holders' products. Since its start, the project, assisted by the Russian Agricultural Bank, provided support for 1340 beginner farmers and 176 consumers cooperatives (Agrofarm, 2020).

In Switzerland, start-up aid is granted as an interest-free investment loan on a one-off basis to young farmers up to the age of 35. The aid is provided in cases of both owned farms and farms leased outside the family. This assistance encourages farm succession, the establishment of multi-generational farming communities (until the young farmer reaches 35 years old) or the lease of a farm within the family (Swiss Federal Office for Agriculture, 2004). Similarly, in France, the Young Farmers' Grant (Dotation jeune agriculteur) is granted on condition that the applicant (1) holds a professional agricultural capacity degree (i.e. that he or she has undergone specific training), and (2) has designed a four-year business plan for an economically viable setup project that will generate sufficient agricultural income. This subsidy is 80 percent financed by the European Common Agricultural Policy and 20 percent by the French State. This aid can be increased if it takes into account difficulties linked to the conditions of the setup (outside the family framework, in a difficult area, with important investments) or if it requires efforts to adapt the project in response to societal expectations (project with an agro-ecological

commitment and/or creating added-value and/or employment).

The Department of Agriculture of the Philippines recently developed two programmes to finance and build the capacity of youth. The Kapital Access for Young Agripreneurs (KAYA) Program seeks to finance the capital expenditure of youth's start-up and existing farm and fishery businesses by providing loans of up to PHP 500 000 (approximately USD 10 402) that do not require collateral. These loans have zero interest and can be repaid within a five-year period. The programme benefits youth aged 18-30 who have completed either a formal or nonformal education. The other programme is called Mentoring and Attracting the Youth in Agribusiness (MAYA). It offers a six-month internship programme which aims to develop a competent and skilled workforce of youth who are employable (Department of Agriculture, 2020).

Two young Kenyan entrepreneurs set up Umati Capital, which leverages technology to provide innovative supply chain financing to farmers and small and medium-scale enterprises that supply larger entities. The Umati platform constitutes an electronic backbone for the dairy value chain, from farmers delivering milk to the collection points, to the final delivery to the dairy plant. Through the platform, farmers are paid within 48 hours of milk delivery, with buyers (dairy plants) repaying Umati Capital within 60 days. Farmers can request funds and be paid through their mobile phones. Apart from the entrepreneurs who set up such factoring systems, beneficiaries include all those in the value chain – with the largest benefits accruing to young farmers who have the least access to alternative sources of funding (Rutten and Fanou, 2015).

Crowdfunding is increasingly being used to finance agriculture and potential youth agripreneurs in Africa. Kiva is a prominent crowdfunding platform that works with field partners to deliver loans to poor, unbanked and underserved farmers in the developing world. Kiva allows a minimum loan size of USD 25 and is run by 450 volunteers around the globe. Since its creation in 2005, Kiva has enabled approximately 1.3 million lenders to provide

more than USD 700 million in loans via 295 field partners in 86 countries. A little more than 1.6 million borrowers have received an average of USD 416.50 through Kiva. Kiva Zip is an interest-free model being tested in the United States of America and Kenya that relies on organizational testimonies about recipients in lieu of interest or collateral. Kiva is not the only crowdfunding platform in Africa with the potential to finance youth in agriculture. Homestrings, for instance, worked with entrepreneurs in more than 20 African countries to leverage funding (over USD 25 million) from impact investors, including from regional migrants located in the diaspora (InfoDev, 2013).

More examples exist elsewhere, such as in Fiji and Jamaica. Loving Islands, a youth-led sustainable development organisation in Fiji focusing on technology-driven organic value chain development, accessed grant funds to deliver 12 months of training and development programmes for poor communities in Fiji as a pilot. It subsequently generated income from training on organic farming and business development. Farm Credibly, a Jamaican online business using block-chain technology to help unbanked farmers access loans and credit, has won several Pitch AgriHack competitions, which have helped it to start its operations (Bafana and Hosenally, 2019; Migné, 2018).

BOX 11:

YOUTH LAND CREDIT PROGRAMME IN BRAZIL – NOSSA PRIMEIRA TERRA

The Programa Nacional de Crédito Fundiário (PNCF, “National Program for Land Credit”) has operated since the 1990s to reduce rural poverty by supporting family farming (small-scale and/or landless rural workers) through facilitating access to land and supporting improved production practices. Advocacy by social movements (e.g. La Confederación de Organizaciones de Productores Familiares del Mercosur Ampliado, COPROFAM) and dialogue with the federal government resulted in the extension of the programme to rural youth.

With the aim to decrease youth exodus from rural areas, in 2003 the Government of Brazil introduced a youth-specific land credit policy called Nossa Primeira Terra (NPT, “Our First Land”). The NPT provides access to complementary production assets, including financial resources, technical services and infrastructure. The age-specific credit programme was introduced to increase the ability of young people “to create autonomous projects and legitimize their importance as social actors, who can grow by realizing their ideas and projects in the Brazilian field”. (Ministério Desenvolvimento Agrário, 2013; Rodríguez and Conterato, 2016).

The NPT beneficiaries include youth aged 16 to 31 (initially 18 to 29) trained in agrotechnical schools with a gross annual family income of BRL 15 000 (USD 7 250 (2003) to BRL 30 000 (USD 14 500). Credit lines up to BRL 80 000 were available for land acquisition, technical assistance and infrastructure. The credit interest rate was set at 1 percent per year (PROCASUR and IFAD, 2014). For the period of 2013–2017, the Ministry of Agrarian Development reported 437 families who gained access to this credit (Brasil, 2017, cited in Rodrigues and Ramos, 2017).

Although not without challenges, the NPT programme – often in combination with other credit lines and other public policies under the National Program for Strengthening Family Agriculture (PRONAF) – allows youth to obtain financing from banks or other direct support through public policies (COPROFAM, 2020).

MARKETS

In a world where virtually all food producers sell part or all of 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, in both rural and urban contexts. The dominant trend in conventional food markets

has been an increase in vertical integration and control by large private corporations, whose supply chains are often long and complex (and, as 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, they have tended to shift their activities more regionally, and this tendency can be expected to continue as a result of growing global economic and trade uncertainties (World Bank, 2020).

The recently published *Africa Agriculture Status Report* (2020) highlights key areas that could be of interest for youth now and in the future. According to the report, cities currently provide the largest and most rapidly growing agricultural markets in Africa. Out of total urban food sales of roughly USD 200-250 billion per year, over 80 percent originates from domestic African suppliers. In the coming decades, demographic projections forecast rates of African urbanization as the highest in the world. Today, Africa's rapidly growing cities and food markets offer the largest and fastestgrowing market opportunity available to the continent's 60 million farms, and this will continue into the future. Onehalf of these farms involve young people, contrary to widely held perceptions (AGRA, 2020).

There are many examples of emerging (and sometimes longstanding) alternative food networks and shorter food supply chains aiming to offer more sustainable and healthier foods, variously named value-based supply chains, alternative agri-food networks and nested, territorial markets (Goodman, 2004; Jarosz, 2008). These market forms reduce the physical and social distance between producers and consumers and promote new relationships – producerconsumer, rural-urban – within food systems. Farmers' markets and communitysupported agriculture networks are also included here as examples of nested markets (CSM, 2016; van der Ploeg, Ye and Schneider, 2012; Schneider, Salvate and Cassol, 2016).

FAO and INRA (2016) characterize several forms of "institutional innovations" that enable markets to act as incentives for sustainable agriculture, based on a particular set of problem framings, while also cautioning that market

demand alone is insufficient as an incentive for sustainable agricultural transition (p. 335). For example, farmers pursuing fair trade and organic certifications gain a market incentive, usually in the form of a price premium that may partially offset higher labour costs in organic agriculture. Participatory guarantee systems (PGS) take this social innovation one step further, involving consumers and peertopeer networking to develop regional markets for organic and agroecological production systems (IFOAM, 2007).

Public procurement programmes that create mediated or structured market space for producer segments (such as small-scale or family farmers, women, or youth, such as in Brazil's Zero Hunger policy platform) can also help open market opportunities for youth engagement in food supply chains (Wittman and Blesh, 2017). Farmtoschool marketing programmes connect young people to food systems through associated food literacy programming (Heiss *et al.*, 2015; Kloppenburg, Wubben and Grunes, 2008; Powell and Wittman, 2018), while also supporting structured market development for rural producers (Soares *et al.*, 2013). Public procurement and other forms of mediated market provision, including "homegrown school feeding" programmes, have also shown to link sustainable agriculture transitions to improved public nutrition programmes in youth-focused and other educational contexts (c.f. Espejo, Burbano and Galliano, 2009; FAO, 2015; Guerra *et al.*, 2017; Masset and Gelli, 2013; Otsuki, 2011; Quaye *et al.*, 2010).

Based on relationships and values of trust, solidarity, reputation, knowledge sharing, local development and environmental protection, these newly emerging and alternative markets have a significant transformative potential for structures of both food production and food consumption. In addition, the shortening of supply chains, along with dietary shifts to less GHG-intensive food products, has the potential to limit negative environmental impact, food losses and packaging (Jarzębowski, Bourlakis and BezatJarzębowska, 2020; Hinrichs and Lyson, 2007; Webber and Matthews *et al.*, 2008).

Table 4 below shows some important contrasts between conventional and newly emerging agri-food markets, with attention to aspects of

these market structures that may present either structural constraints to or opportunities for increased youth participation.

TABLE 4:
COMPARISON OF CONVENTIONAL AND NEWLY EMERGING AGRI-FOOD MARKETS

	CONVENTIONAL MARKETS	NEWLY EMERGING MARKETS
WHO OWNS WHAT?	Most linkages between food production, processing, distribution and consumption controlled by corporations	Shorter circuits owned or coowned by food producers and (sometimes) consumers
WHO DOES WHAT?	Farmers' role limited to delivery of raw materials for the food industry	Multifunctional farmers undertaking on-farm processing, direct sales and redesign of production processes to better meet consumers' expectations
WHO GETS WHAT?	Valueadded concentrates in corporations	Farmers get higher shares of valueadded
WHAT IS DONE WITH THE SURPLUS?	Accumulated surplus finances firm expansion and takeover of other enterprises	Extra incomes used to increase resilience of farm production, strengthen multifunctional farming and improve livelihoods

SOURCE: BASED ON VAN DER PLOEG *ET AL.*, 2012, AND SCHNEIDER *ET AL.*, 2016

A grassroots-level example of a new food market is the community-based Pā to Plate Project in Aotearoa, New Zealand, which aims to reconnect young Māori now living in cities with their ancestral *marae* (community) to teach them about traditional agriculture so they can grow their own food in *maraes* and earn a living from it. Pā to Plate produce is grown on marae gardens, *kōhanga reo* (Maorilanguage preschools) and Māori land trusts initially in the Waitangi River catchment. Young Māori work on the land as a collective, share produce with their families and community and sell what they do not need, and as a result support regional economic development (Huambachano, 2019a; McAleer, 2018). Another example is the Slow Food Peru organisation that embodies the growing network of small-scale Indigenous and nonIndigenous young farmers and seed keepers working to educate city dwellers on biological and cultural heritage through the development of farmtofork relationships between rural producers and urban consumers. Slow Food Peru also bolsters the recognition of young women seed farmers in preserving biodiversity and supporting food security in Peru

(Huambachano, 2019a; Slow Food International, undated).

In order to create an enabling environment for young people to embrace agriculture and agribusiness, the government of Kenya is implementing the Kenya Youth Agribusiness Strategy 2018–2022. The Strategy seeks to provide new opportunities for youth in agriculture and its value chains (MoALF, 2018). Together with the African Development Bank (AfDB), Kenya's Ministry of Agriculture, Livestock and Fisheries is also implementing the Empowering Novel AgribusinessLed Employment (ENABLE) programme. The programme aims at creating youth agripreneurs through skill acquisition and developing an enabling environment in which youth become owners of profitable agribusinesses; this is attained through training, nurturing and mentorship in the Youth Agribusiness Incubation Centres (YABICs). The overall goal of the programme is to contribute to job creation, food security and nutrition, income generation, and improved livelihoods for youths in both urban and rural areas. The specific objective of the ENABLE Youth project is to create business opportunities and decent

employment for young people along priority agricultural value chains.

As part of its rural development strategy, Albania has been increasing interministerial collaboration to further promote national agritourism. In the context of the National Strategy of Agriculture and Rural Development 2018–2020, the country developed an integrated policy framework to boost agritourism by supporting local producers to diversify economic activities and markets in rural areas, with special attention dedicated to youth. The Ministry of Tourism and Environment has established a certification system for agritouristic activities (see Prime Minister's Office decision Nr. 22) by defining a set of criteria related to land, livestock, accommodation, food and activities. In the national "Rural Renaissance Program", agritourism is seen as an essential element of sustainable rural tourism and is defined as an activity to host visitors at farms or other agricultural units to promote traditional, local products. To complement this certification system, the Ministry of Agriculture and Rural Development provides funding to improve agritourism-related infrastructures, including for building or renovating houses with four to ten rooms and for setting up shops to market local goods. Monetary support is also available for the establishment of production areas or to purchase machinery. Youth can access additional support, such as grants for incubators, that specifically targets the development of agritourism business plans. While the government is successfully strengthening the supply side of agritourism, to facilitate the takeoff of the industry, more needs to be done to promote the demand for agritourist services among potential tourists (Besra, 2018).

Continued growth in demand for valueadding food and agricultural products in developing countries makes a strong business case to invest further in the development of agri-food value chains for domestic and regional markets. Unlocking this potential will require focused attention on what young people want, as well as better provision of infrastructure and services and skills provision, especially in rural areas and for rural communities, through integrated

development frameworks. Agricultural value chain development programmes need to apply a youth-employment lens and youth-sensitive approaches and purposefully set rural youth inclusion and decent employment as objectives. None of these initiatives can be successful and sustainable without enabling policies and comprehensive local development strategies. While youth entrepreneurship is a promising approach for certain young people with the right assets and attributes, this approach is not suitable for all young people, many of whom have to find wage jobs. However, such jobs are not always readily available to young people. An ILO study finds that the majority of rural youth in sub-Saharan Africa are employed in informal family work and self-employment, considered "vulnerable employment" by the study (Elder *et al.*, 2015, pp. 41). As such, there is an important role for government in supporting the expansion of wage employment, such as greater investment in rural areas to tap into the comparative advantage of these areas and to support access to markets. Government programs can also support both improved nutrition and increased number of jobs in farmers markets and local food economies through programs such as the Women, Infants, and Children Farmers Market Nutrition Program (WIC FMNP) and the Supplemental Nutrition Assistance Program (SNAP) in the United States of America through the provision of coupons and cash vouchers to be spent at farmers market (Briggs *et al.*, 2010; Tessman and Fisher, 2009). Other government programs such as the USDA Farmers Market Promotion Program support farmers to improve and expand farmers markets, roadside stands, and other direct-marketing venues, and are targeted to economically disadvantaged communities and to promote training and development for young farmers (USDA, 2021). This will contribute to the creation of on-farm and off-farm wage employment (CTA, 2019).

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 multi-func-

tional farm producers, as actors in the organization of these markets and networks (now increasingly through online 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, it is necessary 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).

Overall, this chapter has shown that organized networks – associations, cooperatives and social movements – can help youth access natural resources, financing and markets (see also Chapter 2). Collective initiatives can facilitate practical arrangement for the sharing and collective use of production and processing or postharvest tools, machinery and equipment, storage and cooling facilities. Youth lacking access to capital can particularly benefit from such cooperation. Beyond sharing tangible assets, “organizations often carry out education,

business development, communication, insurance, cultural or health services for their members, arrange childcare and support elderly people in their communities. These services provided at local level are fundamental, as they are often the only accessible ones for the rural population” (FAO and IFAD, 2019, p. 48).

SUMMARY

Access to material and nonmaterial resources is a precondition for young people’s active and continued engagement in food systems. Land, water, forests, labour, knowledge, information, extension, finance, credit, markets, technology and supporting institutions should be accessible for youth, which may require redistributive and mediated market policies. While young people meet different resource barriers depending on the type of activities they engage in (farming, processing, selling, consuming, etc.), they have similar difficulties when it comes to accessing credit, technology, markets, and organizational and policy support, in addition to facing discrimination according to gender, race, class, generation and caste.

The chapter has reviewed a range of existing approaches to the sustainable use, sharing and management of resources from different parts of the world, which carefully maintain the balance between the needs and rights of different generations. Existing and wellfunctioning models of collective or community farming, land distribution programmes, farm succession mechanisms, youth-inclusive financial instruments, structured and direct market schemes, and collective youth initiatives represent adaptable strategies to promote young people’s rights and access to those resources which they need to exercise their agency in food systems and beyond.

Chapter 5

KNOWLEDGE, BIOCULTURAL HERITAGE AND INTER-GENERATIONAL LEARNING



This chapter draws on diverse epistemologies including traditional knowledge, Indigenous knowledge, and knowledge based on Western science to address two questions: How do diverse systems of knowledge, learning and innovation contribute to young people's engagement in sustainable food systems? And what challenges and opportunities do these knowledge systems provide to young people? The chapter presents an inclusive understanding of how knowledge, education and innovation are accessed and applied by youth as they navigate multi-faceted and rapidly changing food environments, economic structures and cultures. Food systems knowledge is context and location-specific and includes inter-generational and other forms of knowledge transfer, 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.

This report supports UNESCO's advocacy for life-long 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 and 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 recognized as legitimate, nor is the application

of this knowledge always supported. This chapter highlights the importance of recognizing young people's practical skills, in addition to specific technical skills, which many young people learn through increasing access to knowledge services and ICT. At the outset, it is important to remember that gender and other social and cultural norms influence how a young person interacts with processes of knowledge, learning and innovation.

The transition to more sustainable food systems also requires 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 (2018), the chapter argues 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.

The following is a review of the opportunities and challenges for inclusive food systems knowledge and training in formal educational systems, including technical and vocational training, new curriculum developments in sustainable food

systems education from early childhood, and supportive, horizontal knowledge-sharing based on regional and inter-generational grassroots and Indigenous knowledge networks.

TRADITIONAL ECOLOGICAL AND LOCAL COMMUNITY KNOWLEDGE EXCHANGE

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) and 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). 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 generations, 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/cosmovision based on a kinshipcentric system wherein all community members, human and nonhuman, have duties and responsibilities to respect nature and care for one another (LaDuke, 1994; McGregor, 2004; Nemogá, 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 nonhuman (mountains, rivers and deities) making up a collective system of knowledge

(McGregor, 2004; Huambachano, 2020). For example, youth learn agricultural skills by actively working 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. Children can acquire diverse traditions, knowledge, beliefs and practices that allow them to have a better understanding of their surroundings and environments, as they go on to play roles as producers, recipients or keepers of knowledge.

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 that are often marginalized by formal scientific disciplines, this report adopts 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 in 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 United Nations Framework Convention on Climate Change [UNFCCC]). Empirical studies of TELCK related to agro-biodiversity 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 have also 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 the preservation of traditional knowledge, culture, culinary practices and biocultural heritage as youth engage in transforming food systems (Huambachano, 2019b; McGregor, 2004).

HORIZONTAL KNOWLEDGE EDUCATION: GRASSROOTS AND INTER-GENERATIONAL NETWORKS

Since formal education is increasingly perceived as an important accomplishment for young people and they spend more time and focus on schooling, their daily interactions with the environment and in helping with household livelihoods decline. This transition has the potential to weaken traditional livelihood and ecological skills and knowledge these experiences help transfer (Punch and Sugden, 2013). Out-migration is another phenomenon widely discussed in relation to weakening inter-generational cycles of TELCK transmission (Iniesta-Arandia *et al.*, 2015; Punch and Sugden, 2013; Robson, 2009). At the same time, 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, in particular for the maintenance

and transmission of place-based agroecological production methods for climate resilience (e.g. Heckelman, Smukler and Wittman, 2018).

In addition to other forms of inter-generational knowledge transfer, some training programmes offer alternative modes of knowledge exchange to those delivered through formal education systems. These include grassroots training programmes such as farmer-to-farmer field schools across a number of contexts. An example of this is “Education of the Countryside” curriculum developed by the Brazilian Landless Rural Workers Movement (MST), 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 a 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 (IFPACRMB, 2011, p. 5, cited in Meek and Tarlau, 2016). Another example of the important potential of agroecology training, education and information is the successful agroecology programme in Malawi (Box 12).

BOX 12: PARTICIPATORY EDUCATION AND AGROECOLOGY IN MALAWI

Using participatory education and agroecology in Malawi, thousands of rural families have seen dramatic improvements in maternal and child nutrition, food security, crop diversity, land management practices and gender equality. Central to the success of this long-term programme has been iterative, participatory and transdisciplinary research methods that have used multiple measures to assess and improve farming and social change with participating farmers (Bezner Kerr and Chirwa, 2004; NyantakyiFrimpong, 2017). Agroecology education has been integrated with nutrition and social equity issues through interactive, dialogue-based methods, such as recipe days, discussion groups and theatre (Satzinger *et al.*, 2009; Bezner Kerr *et al.*, 2016a; Bezner Kerr *et al.*, 2018, cited in HLPE, 2019, p. 43).

Other social movements globally have been pursuing a wide range of critical food systems education projects, programmes and initiatives – in both urban and rural contexts – to raise awareness of the challenges to sustainability in current food systems and to advocate for agroecology, food sovereignty and food equity (Meek *et al.*, 2019). Examples of such models that encompass agroecology as a science, a practice and as a social movement include farmertofarmer training initiatives (Bezner Kerr *et al.*, 2018; HoltGiménez, 2006; MartínezTorres and Rosset, 2014; Rosset and MartínezTorres, 2012), training on local solidarity partnerships between producer and consumer networks (Urgenci, 2020), the Slow Food movement, internships, volunteer programmes, inter-generational mentorships (and critical views thereof) (Ekers *et al.*, 2016; Levkoe and OffehGyimah, 2020; Weiler, Otero and Wittman, 2016) and learning journeys that connect producers and consumers (Nyasimi *et al.*, 2017; Sustainable Food Lab, 2019).

Apprenticeships can act as a hybrid training tool that allows young people to learn directly from the experience of others by working in a company or a farm while simultaneously enrolled in academic training. In Europe, the Erasmus+ programme promotes international apprenticeship training to foster an exchange of pedagogical practices, the development of social and learning networks and other innovations (European Commission, 2016b).

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. The rapid development of ICT online/virtual platforms has created new opportunities for young people to learn and pass on knowledge, especially evident in the face of COVID-19. The ability to access asynchronous learning platforms can also help bridge gender gaps in access to knowledge (OECD, 2018). However, barriers such as inadequate infrastructure needed for access to online systems remain a challenge. Many global

locations still lack sufficient levels of electricity and Internet connectivity infrastructure. Improving this digital divide requires financial and political commitments (Mehrabi *et al.*, 2020).

In France, Operational Groups bring together professionals, academic institutions, researchers and students to share scientific and traditional knowledge at the territorial level (cf. Ministère de l'Agriculture et de l'Alimentation, 2019b). These follow a “living laboratories” model to support public and private companies, associations and individuals to test new services, tools and uses. Universities also support junior enterprises that operate on the model of a consulting firm managed and administered by student volunteers (JEMA, 2018).

Intentional mentoring programmes can also serve as knowledge exchange spaces as explored by face-to-face, online, conference and peer-to-peer models. A review of Young Professionals for Agricultural Development (YPARD) mentoring programmes found that some young people were able to “unlock life skills that they never thought they had” as they explored personal development trajectories with their mentors and peers (YPARD, 2017).

The Purpose Road Map is an example of a tool which mentees develop with their mentors' guidance; it plots a trajectory from where they are to where they want to be, while identifying what they need to develop to reach their goals, all in their respective fields of agriculture and food systems (e.g. agribusiness, research, extension). As a result, positive outcomes in terms of employment were reported by mentees due to their engagement through the mentoring programmes. It was noted, however, that such programmes could deliver more impact if barriers in policies or in accessing finance, land and education were removed. Several recommendations on how to better implement mentoring programmes for youth in agriculture were provided (YPARD, 2017, p. 4546). These include enhancing communication access between mentors and mentees through the provision of travel and communication stipends; ensuring clarity in mentoring pair goals; creating a conducive environment where mentees can

freely ask for help; bridging mentees to funding and practical opportunities (e.g. partnerships, internships, scholarships); long-term monitoring and evaluation to assess the real impact of mentoring which is not observed in the short term.

The assessment of the mentoring programmes led to a subsequent pilot of a YPARD country chapter-led mentoring programme in the Philippines (del Valle, 2018). Some of the recommendations addressed were the need to (1) source mentors locally for the mentees that had a better chance of meeting them regularly, and (2) provide some travel and communications stipends to facilitate face-to-face mentoring sessions. Mentors were selected based on the needs and aspirations of the selected mentees. Mentoring pairs represented various fields in agriculture (agricultural extension, agribusiness, entomology, research in general) and, most notably, included a pair that focused on developing the agriculture-arts interface.

FORMAL EDUCATION SYSTEMS

Formal modes of education can be defined as institutionalized, chronologically graded and hierarchically structured (LaBelle, 1982, cited in McCarter and Gavin, 2011) and has the potential to improve the delivery of educational objectives. This paper explores perceptions of the value of TEK to formal education curricula on Malekula Island, Vanuatu. We conducted 49 interviews with key stakeholders (local TEK experts, educators, and officials). While significant discrepancies to access to education remain between countries, between rural and urban locations, and by gender (FAO, 2014), the number of young people, particularly rural youth, enrolled in formal education is increasing worldwide (White, 2012). Schooling enrolment is also shaped by other inter-sectionalities; for example, gender plays a role in shaping educational enrolment and occupational aspirations, with girls often doing

BOX 13

AGRICULTURE AND ARTS

A Filipino YPARD mentee wrote a musical play that explored how theater can communicate the need for youth in agriculture. In 2017, YPARD Philippines partnered with UP Broadway Company and received funding from the Office for Initiatives in the Culture and the Arts of the University of the Philippines Los Baños (UPLB) to produce “Agra: A New Musical” (Cano, 2017). Filipino youth from different fields of study (agriculture, engineering, biology, environmental science, communication arts, theater, development communication) came together to produce the musical. Around 2 000 high school students watched the play. As a result of the mentoring programme in 2018, the mentee has pursued graduate studies in theater arts, a distinct turn from her background of genetics, to further develop the skills that would allow her to better communicate through the arts her advocacy for youth in agriculture.

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The lessons learned from the different iterations of mentoring helped YPARD shape the YPARD Mentoring Toolkit (Kovacevic, 2018) along with its organizational partners – the International Forestry Students’ Association (IFSA) and African Women in Agricultural Research and Development (AWARD). Funded by the Global Forum on Agricultural Research and Innovation (GFAR) and the European Union, the toolkit helps organizations develop mentoring programmes from planning and designing them to implementing and sustaining them.

better in school but stopping school earlier, than boys (Elias *et al.*, 2018).

The declining trend in youth labour-force participation worldwide reflects the longer time that young people are spending in school but also the growing number who are not in education, employment or training, among whom are disproportionate numbers of young women (ILO, 2020b). Figure 3 (in Chapter 3) illustrated the percentage of youth aged 14–24 who fall

into this category. This should not be thought to imply that all or most youth with NEET status are “idle”, as many are engaged in forms of work or other activities, such as unpaid work within the household, that may not be captured in conventional employment statistics.

The assumption that investment in formal 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. As this report has outlined in Chapters 2 and 3, while many young people aspire to acquire an education and move into formal-sector blue-collar and white-collar jobs, these aspirations are not matched by labour market realities. Young people cannot get formal-sector jobs without the relevant diplomas, but in today’s overcrowded labour markets, having these diplomas does not in any way guarantee access to such jobs (Bessant, Farthing and Watts, 2017).

Thus, it is important not to interpret young people’s difficulties in finding employment as being 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 – were 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 “de-skilling” in preparedness for agricultural livelihoods and rural life (Katz, 2004; White, 2012, Ch. 3). Rural and other agricultural livelihoods are often depicted, either intentionally or inadvertently, as disconnected from the salaried employment that is supposed to accompany the completion of schooling (Ansell *et al.*, 2020) even in remote rural areas whose populations

are surplus to the requirements of the global economy. Drawing on ethnographic research conducted in primary schools and their neighbouring communities in rural areas of Lesotho, India and Laos, we explore how young people, their parents and teachers experience schooling in places where the prospects of incorporation into professional employment (or any well rewarded economic activity) are limited. For example, Ansell *et al.* (2020) even in remote rural areas whose populations are surplus to the requirements of the global economy. Drawing on ethnographic research conducted in primary schools and their neighbouring communities in rural areas of Lesotho, India and Laos, we explore how young people, their parents and teachers experience schooling in places where the prospects of incorporation into professional employment (or any well rewarded economic activity) are limited. This paper notes how four primary non-farming occupations – teacher, nurse, soldier and police officer – appear with remarkable consistency from schooling textbooks in India, Laos and Lesotho, despite their radically different economic and cultural contexts.

As such, rather than focusing primarily on preparation for jobs in formal-sectors, formal education systems can be an opportunity to develop 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) and has the potential to improve the delivery of educational objectives. This paper explores perceptions of the value of TEK to formal education curricula on Malekula Island, Vanuatu. We conducted 49 interviews with key stakeholders (local TEK experts, educators, and officials). This approach considers 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 potentially 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. Ansell *et al.* (2020) even in remote rural areas whose populations are surplus to the requirements of the global economy. Drawing on ethnographic research conducted in primary schools and their neighbouring communities in rural areas of Lesotho, India and Laos, we explore how young people, their parents and teachers experience schooling in places where the prospects of incorporation into professional employment (or any well rewarded economic activity go beyond this to provocatively question how schooling can do more than simply valuing and training youth for their potential as workers to achieve a broader set of “rights in education” (p. 34).

SUSTAINABLE AND INCLUSIVE FOOD SYSTEMS EDUCATION

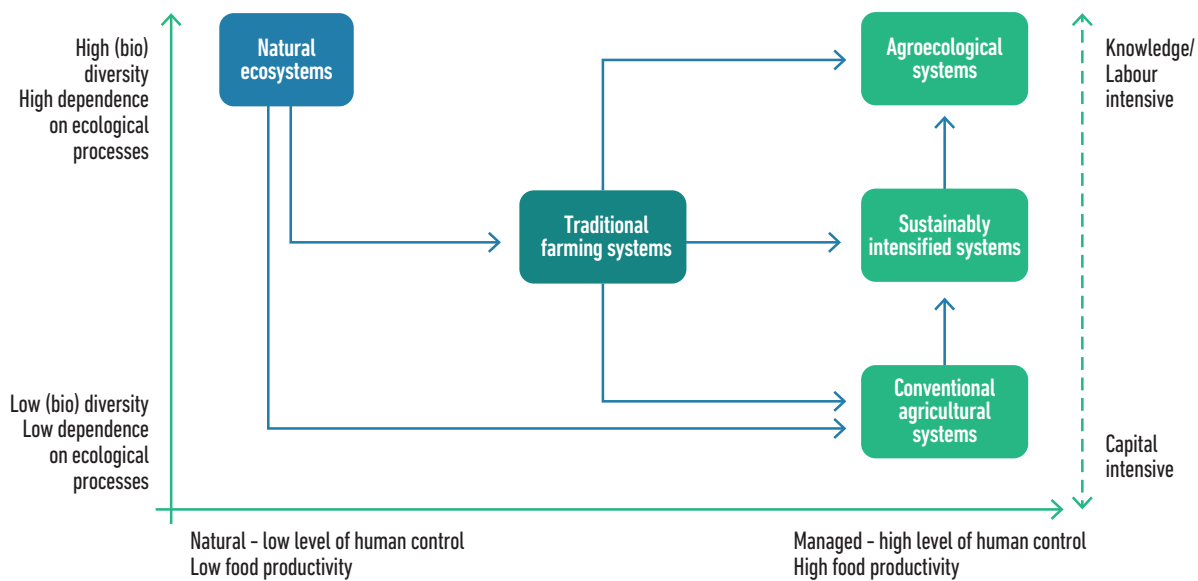
Formal food systems education programmes often follow linear cause and effect models that focus on a limited range of objectives (e.g. agricultural yield, micronutrient intake or return on investment) (Jordan *et al.*, 2014) food sustainability, security, quality, equity and justice. However, in preparing young people for food-related engagement and careers, educators must address complex issues of ecological sustainability, food safety and security, food sovereignty, and 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 interconnected 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).

In response, within the last decade, formal food systems education programmes in many countries, including in Europe, Latin America and North America, have begun to take a “food

systems approach”, starting with primary and secondary school and leading into the university sector (Valley *et al.*, 2018). New sustainable food systems education programmes that help students understand processes of the whole food system and support the development of agronomists, nutritionists, crop breeders, policy advocates and food entrepreneurs who are capable of “systems thinking” (Jacobsen *et al.*, 2012; Jordan *et al.*, 2014; Valley *et al.*, 2018). Critical food systems education programmes also engage with broader themes of food justice, food sovereignty, and agroecology (Meek and Tarlau, 2016) as well as other forms of resilient, climate-smart agriculture, data-driven and digital technology and other forms of sustainable agriculture (Rose and Chilvers, 2018). One can 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 recently released United Nations Environment Programme (UNEP) publication “GEO 6 for Youth” suggests there will be an increased demand for people skilled in conservation agriculture, climatesmart agriculture, organic farming, precision agriculture and urban farming, in the context of a green economy (UNEP, 2021).

Increasingly, formal education programmes involve experiential learning formats, as part of training on a “spectrum” of “sustainable” agricultural practices, from conventional to ecological, to organic, to agroecological. Both formal and experiential technical training in agroecology is offered through the Latin American Institutes of Agroecology (IALAs) and in over 50 different locations globally in a network affiliated with La Via Campesina (LVC, undated). These programmes are designed to aid young people – who aim for careers not just in farming but also in agricultural extension, environmental monitoring and other food systems professions, to support transitions in agricultural systems that are more knowledge-intensive, rather than capital-intensive (Figure 10), as a way of reducing barriers to youth participation in food production.

FIGURE 10:
TRANSITION PATHWAYS FOR SUSTAINABLE AGRICULTURAL SYSTEMS



Note: The figure shows multiple trajectories from natural ecosystems to traditional farming systems, then to the predominant conventional (largely monocultural) agricultural systems and from these to innovative sustainably intensified and agroecological systems. The dotted lines around nodes indicate variability in status of different types of system and dotted arrows indicate variable and multiple transition pathways between states. Grey arrows indicate predominant transitions.

SOURCE: ADAPTED FROM GRIFFON (2013) AND HAINZELIN (2016).

In France, the action plan “teaching to produce differently” (L’Aventure du Vivant, 2020; Ministère de l’Agriculture et de l’Alimentation, 2019a) encourages agricultural education institutions to promote agroecological transition by undergoing curricula and pedagogical reform in agricultural education institutions, as well as tools for demonstration and experimentation. The plan also includes actions to train the trainers needed for a transition towards more sustainable production systems.

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, to use food to teach other curricular goals (e.g. school gardens are used as experiential

methods to teach biology, mathematics, culture, botany, ecology, nutrition and climate change), and to “support school and community connectedness” through sharing knowledge between children, parents, teachers and community members (Powell and Wittman, 2018).

One example of such a programme is the SchoolPlusHome 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 support school-based feeding programmes and are used for demonstration and training gardens to scale the gardening–feeding model to student homes. The programme aims to increase both students’ and their parents’ understanding of nutrition in household diets while reducing food expenses (Calub *et al.*, 2019). The project’s conceptual framework puts into context how the schoolandhome gardens can contribute to the

goals of food security and nutrition and, similarly, to the economies of well-being.

In Kyrgyzstan, a project jointly implemented by FAO, the World Association of Girl Guides and Girl Scouts (WAGGGS) and the Youth and United Nations Global Alliance (YUNGA) works to increase children's awareness of and participation in biodiversity conservation. Teachers across Kyrgyzstan use playful and creative individual and group methods, such as singing, drawing and writing poems, to achieve these objectives (FAO, 2011b). As a result, Kyrgyz schoolchildren, like in the AKBeketov secondary school in the Kemin rayon of Chui province, involved members of their community to establish a school garden, plant trees and collect waste paper (FAO, 2019b).

However, formal food systems education programmes, particularly at the tertiary level, often are characterized by disciplinary silos evident in traditional agriculture, food science, plant science, animal biology, economics and nutrition programmes (Jordan *et al.*, 2014) food sustainability, security, quality, equity and justice. They are also not always inclusive of all social groups. Garibay and Vincent (2018) discuss how in the United States of America, students of colour remain under-represented in environmental and sustainability degree programmes and in environmental careers. Despite the expansion of these programmes in US colleges and universities, many are yet to fully integrate environmental justice perspectives, which focus on the disproportionate distribution of environmental harms experienced by low-income communities and communities of colour (Garibay *et al.*, 2016). Garibay and Vincent (2018) suggest that greater inclusion of environmental justice and community engagement in environmental and sustainability curricula, as well as greater student compositional diversity, are likely to lead to a greater number of students of colour enrolling in these programmes (Garibay and Vincent, 2018; Garibay, Ong and Vincent, 2016).

Recent data shows that women's participation in formal agricultural studies at the tertiary level is also significantly lower than that of men (Mukembo *et al.*, 2017). This holds true even in regions where women participate in tertiary

education in nearly equal numbers as men. In addition, there are considerably fewer women than men enrolled in science and engineering, which also has a bearing on agricultural planning and policy in all regions (GOSPIN, 2019). This gap has been connected to a diversity of factors, including the lack of female role models, gender stereotyping, and gender bias (Enns and Martin, 2015). For example, in sub-Saharan Africa, only one-fourth of the students enrolled in agriculture-related courses at the postsecondary level were female (Kruijssen, 2009), while only 20 percent of the scientists in most agricultural research organizations in the Global South were found to be women (Beintema, 2006). In the United States of America, while there was an increase in the representation of women in agricultural science between 1979 and 2005, there is still a gap in female leadership in academia (Cho, Kang and Park, 2017). In sub-Saharan Africa, the shortage of female professional agriculturists (Beintema and Di Marcantonio, 2019; Kanté, Edwards and Blackwell, 2013) has been attributed to low enrollment and high attrition rates (Beintema, 2006).

Efforts to encourage girls to enroll in science based subjects such as agriculture at the elementary and high school levels may facilitate greater diversity in science based programmes of study at college and university, including courses related to food production (World Bank, FAO, and IFAD, 2009). Muñoz Sastre and Mullet (1992) posited adolescents begin to become aware of their career aspirations and interests as early as 14 years of age, and this is a particularly important period to explore a wide range of skills development (Super, 1990). As such, some studies suggest that systemic changes in agricultural policy, governance and education systems will be required to support the effective participation of women and girls in agriculture and food systems globally (e.g. Glazebrook, Noll and Opoku, 2020). Gender training for instructors themselves would facilitate early career awareness about the diverse opportunities available in agriculture, which may in turn also support increase female participation (Mukembo *et al.*, 2017). Female students' interactions with same sex role models and peers can also

influence their career aspirations (Kracke, 2002; World Bank, FAO, and IFAD, 2009). For example, increased numbers of women in agricultural research can make research more gender sensitive and inclusive, and in contexts such as Latin America, where women tend to follow the advice of other women, it is important to employ women as extension agents (Glazebrook, Noll and Opoku, 2020). Mukembo and others note that field trips to agricultural research organizations,

trade fairs and universities as part of students' training programmes can provide opportunities to interact and network with professionals and peers who share similar interests (Mukembo and Edwards, 2016; Mukembo et al., 2014). The development of horizontal social networks among youth and adults with similar career aspirations is another way to create more inclusive pathways for careers in agriculture and food systems (Kruijssen, 2009).

BOX 14:

ADDRESSING THE GENDER GAP IN AGRICULTURAL RESEARCH

African Women in Agricultural Research and Development (AWARD) works toward inclusive, agriculturedriven prosperity for Africa by strengthening the production and dissemination of more genderresponsive agricultural research and innovation. AWARD invests in African scientists, research institutions and agribusinesses so that they can deliver agricultural innovations that better respond to the needs and priorities of a diversity of people across Africa's agricultural value chains (AWARD, 2021).

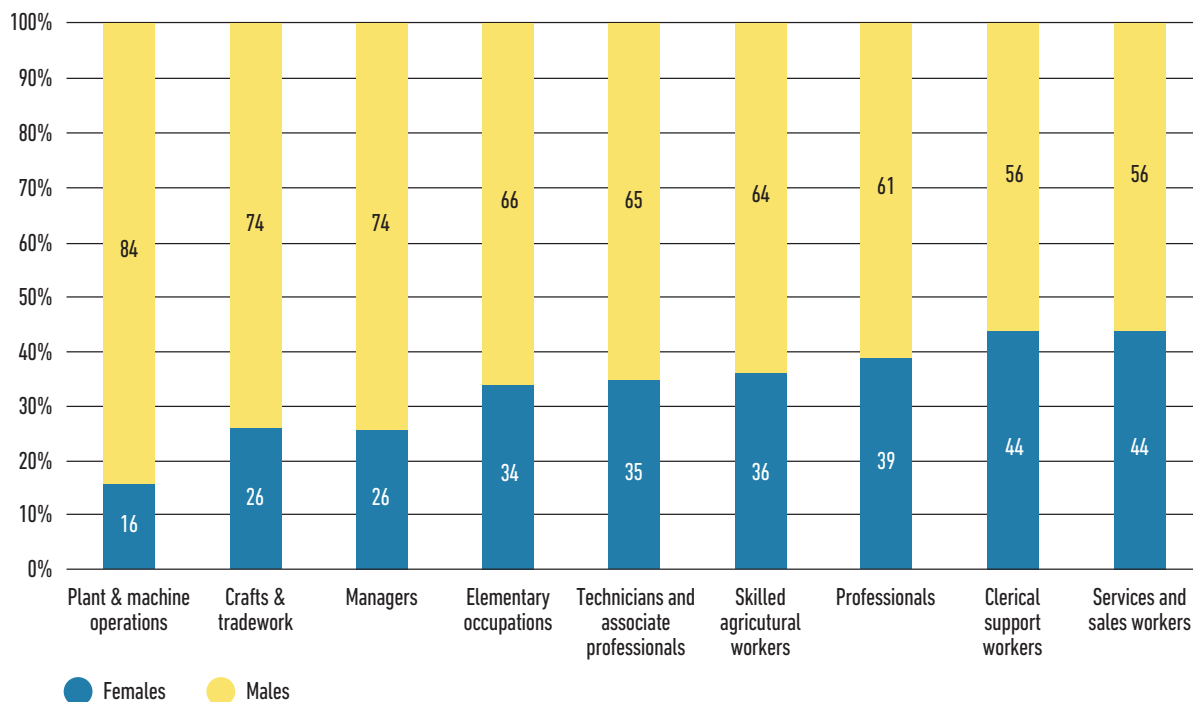
TECHNICAL, VOCATIONAL, AND EXPERIENTIAL TRAINING

Technical and vocational education and training (TVET) has, since WWII, provided an applied and experiential approach to education and job training in both developed and developing countries. TVET is defined as "those aspects of the educational process involving, in addition to general education, the study of technologies and related sciences, and the acquisition of practical skills, attitudes, understanding and knowledge relating to occupations in various sectors of economic and social life" (UNESCO, 1989, p. 1). With consistent emphasis on education for occupational skills, TVET programmes in developed countries have been largely situated as either an addendum to secondary education or within the postsecondary education context, as an alternative to university training. In developing countries, the situating of TVET has historically been less clearly defined, with programmes and institutions ranging from alternatives to general primary and secondary education (including non-formal educational settings like field-based

training), to job-specific skills training, to more traditional vocational colleges and certification programmes (King, 2012).

According to the UNESCOUNEVOC International Centre, TVET has the potential to promote the productive participation of women in the labour market, equipping them with the necessary skills to undertake the jobs of the future. However, this potential remains challenged in certain occupational sectors, particularly those requiring training in science, technology, engineering and mathematics (STEM). In the majority of developing countries, women are much less likely than men to enrol in TVET, with even lower enrolment numbers in STEM fields (UNESCOUNEVOC, undated) (see Figure 11).

FIGURE 11:
PARTICIPATION BY GENDER IN OCCUPATIONAL TVET GROUPS



SOURCE: ADAPTED FROM UNESCOUNEVOC WEBSITE BASED ON ILO DATA FROM 2017 (ILOSTAT, UNDATED)

The perception that TVET programmes remain overly theoretical and “academic” (Chea and Huijsmans, 2018) has led some employers to develop the required skills “in house” or actively create private or commercial TVET institutions, according to Richard Hawkins, a senior adviser for the International Centre for Development-Oriented Research in Agriculture at a plenary session on skilling African youth (Ligami, 2018). Other experiential learning programmes have been developed to increase training and participation in food sector activities facing challenges to generational renewal (see Box 15).

BOX 15:**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 an 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 in each course) receive two months of theoretical training and four months of hands-on training on livestock farms in Catalonia and the French Pyrenees. Students come from Catalonia and other parts of Spain, as well as 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 percent, thus breaking the mould in what is otherwise a highly masculinized 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. 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).

The state can also be a key player in supporting applied and experiential learning. In Andhra Pradesh in India, the state-led community-based Natural Farming Programme develops 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, p. 42). Morocco's national strategy for youth (2015–2030), which includes a strong education and training axis, is another example of state-led interventions. In the agricultural sector, training and knowledge acquisition are part of the "Green Morocco Plan" which aims to develop technical, vocational and managerial skills for the integration of young people into working life (Kingdom of Morocco, n.d.).

Technical and vocational training in the food sciences and food manufacturing sector is also increasingly offered by the private sector, which faces an ageing workforce and the ongoing perception of food industrialization as providing poor quality employment. Some large companies have placed food ambassadors on university campuses in Europe and North America to "build a more positive image", while

others have created technical apprenticeship schemes leading to postsecondary employment in food manufacturing companies (West, 2016). Addressing the practical digital divide given the emerging trend of digitization is also crucial, where the inclusion of technical tools for digital learning in curricula from early years of schooling to higher education is key to narrowing the gap. The Smart Farm Training for Employment project identifies ICT skills that agricultural digitization would require (Table 5) (EIPAGRI, 2019).

TABLE 5:
ICT SKILLS REQUIRED FOR DIGITAL AGRICULTURE IMPLEMENTATIONS

DIGITAL AGRICULTURE IMPLEMENTATION	ICT AND OTHER SKILLS NEEDED
Internet of things (IoT)	Sensor technology, electronics development, logic controller programming, electronics development, 3D printing, remotecontrol systems, sensor, control and robot technologies
Digital infrastructure establishment	Data communication, network installation and configuration
Software, web and mobile application development	Data analysis, computer programming, software engineering, digital electronics, data processing and analysis, data communications
Electronic hardware repair and maintenance	Digital electronics, electronics development, equipment, sensor technology
Drone operations	Drone piloting, maintenance
Decision support systems (crop health monitoring and precision agriculture)	Farming, data analysis, data processing, geographic information systems (GIS)
Hydroponics (including automated vertical hydroponic systems)	Plant physiology, agricultural chemistry, sensor technology, data analysis and communication, programming
Farm robotics	Data processing and analysis, remotecontrol systems, technologies in automation, control, sensors, robot surveillance

SOURCE: ADAPTED FROM ERASMUS, 2019

SUMMARY

Young people engage in learning about food systems through their roles in inter-generational and other forms of knowledge transfer, as generators of knowledge themselves and as knowledge brokers and intermediaries within social networks and institutions. Food systems in which all young people can engage with meaning and dignity require an inclusive and participatory knowledge paradigm, one that respects and legitimates diverse forms of knowledge systems and recognises young people as important actors in these systems.

Young people's roles in food knowledge systems, including place-based and Indigenous knowledge networks, should be understood in the context of increasing access to both formal and grassroots horizontal and experiential education and skills and knowledge sharing networks, including through novel digital networks and platforms. Formal education systems should equip young people with the systems thinking, critical reflection, and theoretical and practical knowledge to engage with a range of livelihood options in food systems and more broadly as actors in driving the transformation of sustainable food systems.

Chapter 6

INNOVATION AND TECHNOLOGY



This chapter highlights the role of innovation as developing assemblages of old and new food systems *practices* and organizational *processes*, using both traditional and diverse forms of knowledge, coupled with improved access to resources and dynamic education and training initiatives, as described in previous chapters. In this holistic approach, it acknowledges the importance of social components, just as much as technological innovation domains, as essential to developing more effective spaces for youth engagement and opportunities to improve equity in employment and livelihoods. The chapter considers the technological innovation–labour market nexus, the role of innovation in changing food production, rural technical advisory and distribution practices, and the potential of social enterprise development to break down barriers for youth engagement.

The HLPE (2019) has previously defined innovation as “the process by which individuals, communities [and/]or organizations generate changes in the design, production or recycling of goods and services... 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” (p. 15). That said, innovation is not something that happens suddenly but is a continual process and reflects how actors (in this case, young people) 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 postharvest practices, or developing new market relationships in new, more efficient and sustainable ways. For example, Indigenous peoples’ innovations (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; it heavily depends on inter-generational learning, passed down mostly through oral history from one generation to the next, and is 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).

This chapter considers the double-edged role of technological innovation as having the potential to both destroy and create opportunities for youth employment. It reviews the possibilities for promoting youth-inclusive innovations that advance young people’s right to decent work and to protection from unemployment across food systems (IFPRI, 2019). How can innovations play a worthwhile

role in the transition to inclusive and sustainable food systems and foster better opportunities for young people to engage productively with them? This report considers that innovations should be assessed for their accessibility and influence on the interconnected drivers of food systems in their entirety, including potential unintended outcomes on ecological and social structures.

DEFINING YOUTH'S ROLE IN SOCIAL INNOVATION FOR SUSTAINABLE FOOD SYSTEMS

Social innovation is a process involving shifts in ideas, values, roles and relationships, as well as new and hybrid organizational models that create and implement fresh solutions to social and ecological problems, with the benefits to these solutions shared with the broader community (Tracey and Stott, 2017). These models operate across public, community, and private spheres, with the fundamental aim of “transforming routines” that have heretofore led to, in the focus of this report, unsustainable and non-inclusive food systems. Social innovation thus goes well beyond the dominant focus of innovation studies, which have traditionally focused on new methods of profit-creation in the context of private markets and firms (Tracey and Stott, 2017); instead, social innovation can appear in the form of time banks and other forms of a barter economy, social and community enterprises, and community finance, marketing and development initiatives. “Social” innovations in ownership regimes, networks, organisations, and knowledge production encourage people to act in ways that promote conviviality and collaborative problem solving (Anderson, 2020, p. 31; Haxeltine *et al.*, 2018).

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 based on certain “essentialisms,” such as youth being more innovative and entrepreneurial than other age groups, this connection remains 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 age and a higher propensity for innovation. The evidence from technology adoption studies, in addition, is mixed (Chamberlin and Sumberg, 2021).

At the same time, the rapid emergence of new technologies, and their increased rate of dissemination, poses both new opportunities and new potential challenges for addressing youth equity, rights, and agency in the food system. For example, the explosion of the internet and communications technologies (ICT) in propagating information and knowledge potentially enables young people to circumvent some of the more exclusionary aspects of research and educational institutions and routes of knowledge provision and creation. Increased access to ICT has the potential to alter access challenges, such as financial and physical barriers to attending school, that may be based on gender, socio-economic status, or 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, to foster more inclusive and participatory ways of knowing that enable “knowledge democracy” to flourish (Pimbert, 2018).

While young people as a demographic are widely considered to be active participants in and consumers of online media, these opportunities are not equally accessible to all young people, and therefore a digital divide can further exacerbate inequalities. 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 socio-economic, racial,

gender and other inequalities in societies and labour economies. Other concerns remain. As young people participate in the digital world, their attention and data are commodified and transacted for profit, including through how advertising and information are targeted back to them (Lombana-Bermudez *et al.*, 2020).

THE TECHNICAL INNOVATION–LABOUR MARKET NEXUS

The nexus between technological innovation and the 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) and availability of and access to digital infrastructure (e.g. Mehrabi *et al.*, 2020). Another important context-specific factor is gender; 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) and ICT fields, where growing opportunities may occur for new jobs in the tech sector, requiring unprecedented levels of digital literacy (UN ESC, 2018).

Technologies that could potentially cause a massive shedding of labour, both less skilled and middle-skilled, in agriculture and other branches of food systems are already available (Kucera, 2017), although fears of job destruction due to nascent technologies that replace human labour with precision agriculture methods and robotics are yet to be widely confirmed. However, there is also little evidence to support the optimism, going back over a century, that labour-saving technologies will facilitate full employment through reduction of working hours, thus providing both more job opportunities and more leisure time (Friedman, 2017; Keynes, 2010).

For example, one estimate suggests that almost half of US jobs are at risk of automation by computercontrolled equipment in the next 10–20 years (Frey and Osborne, 2017), and

another states that over half of jobs in five countries of the Association of Southeast Asian Nations (ASEAN) (namely, Cambodia, Indonesia, Philippines, Thailand and Viet Nam) are at an elevated risk of displacement from automation technologies (Chang, Rynhart and Huynh, 2016). Food harvesting automation and robotics are emerging particularly in contexts of labour scarcity. While mechanization in agriculture is not a new solution to labour scarcity, or inefficiency, Carolan (2020) notes that the number of human labour hours needed to farm one acre of corn in the United States of America dropped from 38 hours per acre in 1900 to 10 hours in 1960; further reductions in labour requirements are expected for large-scale and commodity agriculture systems due to the ongoing advances in mechanization and precision agriculture. For example, robotic milking systems are expected to increase by 2030 percent annually in the United States of America “for the foreseeable future” (Mulvany, 2018, quoted in Carolan, 2020). Rotz *et al.* (2019) noted the displacement of a substantial number of migrant labour jobs in food harvesting, packing and processing due to automation and to the need for higher-skilled jobs. These trends show the need for more specialized skillsets, which translates into increased demand for labourers who can operate and maintain sensors and robots. Thus, training and vocational programmes discussed in Chapter 5 must include training in computer programming, agronomic knowledge and business management in a digital economy.

With labour markets segmented by age, the impact of automation is expected to be different for younger workers. Young people both have a higher chance of being in occupations that are more automatable and, within these occupations, more likely to hold entrylevel tasks that are more susceptible to automation (ILO, 2020b). For example, in the United States of America, nearly half of young workers aged 16–24 who work in the food preparation and serving sector are in occupations considered to be highly automatable, compared to only 34 percent of adult workers (Muro, Maxim and Whiton, 2019). Where automation might lead to job cuts, young people

have a higher risk of redundancies, as they are less costly to dismiss and tend to be over-represented in informal employment (ILO, 2020b).

Technological innovation has also led to the further informalization of many workers in the “gig” economy, including, for example, app-based transportation and food delivery workers, who are classified in many regions as independent contractors rather than regular employees (Schor, 2020; UN ESC, 2018). With the reconfiguring of labour markets in numerous parts of the world under neoliberal political-economic systems, employment opportunities for many young people entering the workforce are increasingly in such digitally mediated platforms, where they are more and more often faced with highly casualized work options with low pay, reduced benefits eligibility and high levels of job insecurity (Anwar and Graham, 2020; Churchill, Ravn and Craig, 2019; MacDonald and Giazizoglu, 2019)2019.

TECHNOLOGICAL INNOVATION AND CHANGING FOOD PRODUCTION

We live in a time of rapid technological innovation in food production and distribution. 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, by increasing access to markets and broader sources of knowledge, and by providing evidence bases for farmer decision-making such as climate and market forecasts (World Bank, 2019).

Other recent technological advances such as new food processing techniques – including cellular agriculture for meat alternatives (Stephens *et al.*, 2018) and urban and vertical agriculture (hydroponics, aquaponics, aeroponics) – are potential avenues of increased employment in both peri-urban and rural food systems, and as such are potentially attractive to youth. These areas of innovation, however, are highly capital and energy-intensive and thus will

require significant investment from public and private sources of capital (see Chapter 6).

For those users with access to both ICT and the knowledge and capital to use the infrastructure for data-intensive food production, 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). For example, a metaanalysis review by Fabregas *et al.* (2019) showed that the sharing of agriculture advice via mobile technologies in sub-Saharan Africa and India increased yields by 4 percent; this also corresponded to a 22 percent increase in the odds of adoption of recommended agro-chemical inputs. Amongst small-scale fishers in India, the Fisher Friend Mobile application has enhanced both safety and productivity (Anabel *et al.*, 2018).

Yet, resource-poor farmers are 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). Many big data platforms for precision agriculture and “smart farming” were designed for, and marketed to, large-scale and industrial farms who can benefit from higher levels of automation at scale. Given the high capital investment needed for launching new ICT-based food production and advice dissemination innovations, there is a concern that agricultural service delivery and ICT-based innovation will continue to be effectively privatized for the purpose of marketing agricultural inputs.

There is an emerging debate about these recent technological innovations – including digital farming that relies on both satellite-connected digital sensors on farm equipment, such as tractors, and on drones and biotechnology in plant breeding – especially with respect to their implications for the distribution of benefits and unintended social and ecological consequences, which are highly context-dependent (Rotz *et al.*, 2020; Clapp and Ruder, 2020). Some scholars, for

example, suggest that biotechnology can play a significant role in sustainable agriculture (Fraser *et al.*, 2016; Singh and Mondal, 2018) and that digital technology can aid farm decision-making and delivery of inputs for capital-intensive food production systems (Trendov, Varas and Zeng, 2019). Critical food and environmental justice scholars (Gliessman, 2015; Howard, 2015; Huambachano, 2018; Kloppenburg, 2004; Rosset and MartínezTorres, 2012; Nazarea, Rhoades and AndrewsSwann, 2017), on the other hand, have raised a note of caution regarding some of these agricultural innovations. These scholars warn that transgenic and gene-edited crops can disrupt biodiversity and threaten the livelihoods of Indigenous and local peoples who rely on healthy soils for their food sustenance (Fitting, 2006; Stone, 2007; Stone and Glover, 2017). Still others suggest that more regulatory insight is needed (Montenegro de Wit, 2020) 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.

As with all technological change, the potential risks and benefits of technological innovation and digitalization, and to which youth these risks and benefits accrue, depend entirely on the context

of their applications. Hence, as Hilbeck 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?” (Hilbeck and Tisselli, 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 FAO (2019c), Hilbeck and Tisselli summarize perceived differences between conventional/ technoindustrial and agroecological modes of digitalization, as shown in Table 6.

Being aware of these perceived differences may help to expand, rather than restrict, access to innovative approaches to digital agriculture – such as precision farming, artificial intelligence, remote sensing, blockchain technology, Internet of things (IoT), ICT, light detection and ranging (LIDAR), and traceability solutions (Clercq, Vats and Biel, 2018) – and reduce inequalities in access to information, knowledge, technologies and markets (World Bank, 2019). This could assist young people with many of the challenges traditionally faced in food systems livelihoods (also discussed through examples in Chapters 4 and 5).

TABLE 6:
CONTRASTING MODES OF DIGITALIZATION IN AGROECOLOGICAL AND TECHNOINDUSTRIAL AGRICULTURE

AGROECOLOGICAL	TECHNOINDUSTRIAL
Diversity: context-specific and lowbarrier-to-entry ICT applications	“One size fits all” digital tools; disruptive business models based on data and platforms
Co-creation and sharing of knowledge: farmers as co-creators of technological platforms	Topdown solutions by “expert” sources; farmers as sources of information for 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 considered inefficient: replacement of human work by algorithms and ICT devices
Circular and solidarity economy: emphasis on reciprocal, noncompetitive and socially beneficial principles	Start-up impact investment model for quick returns

SOURCE: ADAPTED FROM HILBECK AND TISSELLI, 2020

Along these lines, emerging grassroots data commons are increasingly used by youth networks for data activism. For example, the proliferation of smart devices and smaller processing computers such as Raspberry Pi has created a “doityourself” trend, where farm operators are able to buy relatively inexpensive devices off the shelf and assemble them as they follow community-generated and open-access tutorials (video and text-based), on online platforms (see, for example, networks such as FarmHack and the Gathering for Open Agricultural Technology). FarmHack is a network of farmers that work to share knowledge on the right-to-repair and on practices that can reduce reliance on farm machinery, software, and sensors primarily owned and managed by multinational corporations (Carolan, 2017). Likewise, social media tools enable sharing information about agricultural produce and agricultural marketing, assisting food systems actors to overcome difficult nodes in food chains or value chains and geographical constraints. Another example is InfoAmazonia, a platform linking journalists, data scientists and land rights activists to respond to land dispossession and displacement in Brazil (Fraser, 2020). Indigenous women in Brazil are also experimenting with drones as a method to map and protect their territories, and other communities are using satellite images to monitor deforestation by agribusiness (Nyeléni Forum for Food Sovereignty, 2019, p. 3). Traceability solutions involving big data and blockchain can also be used to document the source of food materials and even reflect the labour involved in the production of such commodities (Rotz *et al.*, 2019). The rapid drop in the costs of environmental sensors and the increased availability of ICT at lower price points (noting ongoing regional digital divides) have also led to an increase in interest in digital agronomy by small-scale farmers and others practicing more complex, diversified agroecological systems.

However, there is some concern that the benefits of many of these rapid technological advances are skewed towards the ongoing vertical integration and control by large private corporations and could further disadvantage small-holder producers, including youth.

Farmers across the globe have expressed concerns about the capture of their farm data by multinational agribusiness enterprises, to be then used for commercial and marketing purposes (Fraser, 2020). The growing data-driven concentration in online food retailing and delivery services depends on data analytics that rapidly document and then reshape changes in consumer demand, with impacts that quickly ripple down the supply chain to food warehouse workers, distributors, and farmers on the ground. Those food systems workers “left out” of the digital revolution can be further marginalized and distanced from traditional food marketing and consumer outlets.

SOCIAL INNOVATION AND SOCIAL ENTERPRISE DEVELOPMENT FOR VALUES-BASED FOOD SYSTEMS

Food hubs, cooperative food systems and farmers’ markets led by youth are challenging the concentration of food supply chains and making them more accessible to young people with limited access to capital. Food hubs connect individuals and groups of farmers, consumers and other food systems entrepreneurs to share food production, food marketing and distribution, and food processing infrastructure oriented to the long-term strengthening of local and regional food economies and livelihoods, rather than short-term profitability (Dimitri *et al.*, 2011; Levkoe *et al.*, 2018). Food hubs provide an institutional context and infrastructure for sharing the costs of both physical and digital resources (such as the costs of setting up an online store, marketing, advertising, and sharing warehouse and packing space), as well as the knowledge and resources to access different markets. Sharing resources for value-adding activities and links to new consumer networks can overcome some of the capital and knowledge barriers that youth experience in trying to access concentrated commercial food marketing channels. By providing market access for

beginner and youth farmers, local food systems also ensure that land continues to remain in agricultural production (O'Hara, 2011) thereby continuing to be available for future farmers.

While agricultural cooperatives and farmers' markets are not new, they traditionally have been place-based and involve a defined set of members who share collective resource and financial management decisions, profits, and risks. What is innovative is the expanded uses of these distributed market models to address broader social issues related to food security, nutrition and environmental sustainability. An example of this is the resurgence of "food hubs", which are a social innovation that follows the values-based orientation of traditional cooperatives but are more decentralized, with different actors playing roles according to their various and intersecting interests, resources and aspirations. Food hubs are social enterprises that generally have a lower barrier to entry and exit than traditional cooperatives. Food hubs can connect regional food businesses, bulkbuying groups and ecological farmers to support shared goals related to food security,

public health and environmental conservation (Food Connect Shed, 2020). An example is the Youth Farmers' Market (YFM) Coalition which, for over a decade in partnership with Denver Urban Gardens (DUG), Slow Food Denver (SFD) and various Denver Public Elementary Schools, has been fostering social change by delivering school garden programmes to Denver public schools (Denver Youth Farmers' Market Coalition, 2021). These food hubs foster social change by educating the public on the value of growing food and by supporting and running localized food systems. The youth farmers' markets support promoting nutrition, demonstrating healthy meal preparation in partnership with local chefs, and developing community capacity and leadership. In doing so, these initiatives contribute to building resilient communities and promoting economic justice.

As an example of another social innovation supporting a digital sharing economy, the Open Food Network (Box 16) supports community marketing systems to push back against food system concentration, using the tools of digitalization for social good (De Schutter, 2019).

BOX 16:

THE OPEN FOOD NETWORK: A SOCIO-TECHNICAL INNOVATION TO BUILD LOCAL FOOD ECONOMIES

The Open Food Network is an opensource software platform and network that supports independent community food enterprises. Started in 2012 in Australia, it is now operating in nine countries including Belgium, Canada, France and South Africa. Individual farmers can use the platform to easily set up their own online stores, create food hubs and collectives, extend the reach of traditional farmers' markets through online sales, and share knowledge and resources. The Open Food Network is values-based rather than profit-based and, as such, licenses its software as a Commons that "doesn't belong to a single entity, but instead to a community". The global software development team brings together dedicated staff and volunteers to achieve continual updating of online functionality for more resilient and regionally adapted marketing opportunities, particularly in the face of COVID-19.

A small-scale Australian farmer and baker using Open Food Network assesses the potential of these new alternative food market channels this way: "The goal...is about increasing transparency, giving people the tools to know where their food comes from while creating new distribution channels – so new, in fact, that they bypass conventional supply chains entirely... The argument that you need to get bigger is an outmoded one. Getting bigger means creating market distortions... It's about putting the little guys out of business, failing to realize that those small businesses help to create vibrant communities and neighbourhoods, and help households stay afloat financially. Why bother getting big? Getting together is far more optimal for everyone involved" (quoted from Carolan, 2017).

Under the conditions of diversity, co-creation, and sharing of knowledge, values and solidarity economy, the applications of data commons and other socio-technological innovations are utilized by agrarian social movements under conditions which protect their livelihoods, traditional biocultural knowledge and data sovereignty.

SUMMARY

Youth-centred innovation for sustainable food systems involves developing assemblages of old and new systems of knowledge and practice, with more equitable access to resources, technological infrastructure, and more democratic and inclusive governance and organizational models. Digital technologies have the potential to “expand knowledge democracy” and improve access to the potential benefits of datadriven agriculture; but ongoing digital divides exist that can disadvantage youth, especially those without access to high levels of financial capital. Ensuring that innovation and automation create, rather than reduce, job opportunities, will also be critical to leverage these new technologies to support youth engagement and employment in food systems. Similarly, employment opportunities in digitally mediated platforms require improvements in working conditions, job security and the eligibility of benefits. Finally, social innovations to share resources and strengthen regional food economies and livelihoods are increasingly filling the gaps left by the lack of public investment in food supply chain infrastructure.

CONCLUSION

This report makes the case for positioning young people at the heart of the transformation of food systems. Youth engagement and employment in sustainable food systems must be considered as simultaneously a goal to be realized and a means for the radical transformation of food systems, the achievement of SDGs and the realization of economies of well-being.

This report reviews the evidence on policies, practices and programmes that address structural inequalities to effectively support youth engagement in building sustainable food systems of the future. It identified core principles that underpin the realization of this transformation – rights, equity, agency, and recognition of the role of youth as individual and collective agents of change. Equally important is the need to adopt a context-specific and relational approach, acknowledging the various intersectionalities of young people, their diverse roles and aspirations, and important inter-generational dynamics between young and old, including in relation to the transfer of knowledge and resources.

The report also found that many food systems jobs do not provide decent and meaningful work and adequate livelihood opportunities to those engaged in them. Its review of the impact of the COVID-19 pandemic on food systems jobs – which are in an employment sector among the most vulnerable to disruptions and crises – also highlighted the urgent need to address labour

market and governance policies to improve the conditions and demand for young people's work in a way that promotes secure livelihoods and fair working conditions.

Improved access to resources – including land, water, forests, labour, knowledge, information, extension, finance, credit, markets, technology and supporting institutions – is also essential for supporting young people's active and continued engagement in food systems. Redistributive policies and programmes and support for inter-generational transfers of wealth, land, and knowledge – including to innovative and cooperative food systems enterprises and investment in shared regional food supply chain infrastructure – are necessary to address existing inequalities and provide a foundation for youth to exercise their agency in food systems and beyond.

A critical assessment of topics related to knowledge, biocultural heritage, inter-generational learning and innovation – involving assemblages of new and old systems of knowledge and practice – was critical to understanding the role of both formal and informal educational programmes in supporting youth's involvement in food systems. Sustainable food systems education can begin in the home environment and continues throughout primary, secondary and university settings. Experiential education, technical and vocational training, participation in place-based and Indigenous knowledge networks, and improved access to information and communications technology

and infrastructure that bridge digital divides are essential to equip young people with systems thinking, critical reflection, and theoretical and practical knowledge to engage with a range of livelihood options in food systems.

Based on the review of findings in this report, this chapter concludes with recommendations for policies, institutions and approaches to create an enabling environment for youth engagement and employment in sustainable agriculture and food systems. The report suggests areas of action for states, civil society, farmers' and workers' organizations, the private sector, social movements, and youth themselves to work together to promote young people's inclusive, equitable, productive and rewarding participation in agriculture and food systems renewal.

Recognition of **youth voices** is fundamental in normative, legislative and institutional frameworks of international (intergovernmental) agencies, governments and state actors, civil society organizations and institutions, and their organized youth articulations. Policy implementation processes can be continuously improved by working with and providing participation spaces for youth and by incorporating the experiences, diverse and place-based needs, and aspirations of young people in policy development and evaluation.

A wide range of global instruments and initiatives already exist that can support policy processes to improve youth engagement and employment in food systems. Often, these global policy instruments include youth among the main target groups (See Appendix). Yet, state engagement with and implementation of these global frameworks – whether binding UN conventions or voluntary UN declarations and guidelines – are often far from adequate. States and other levels of institutional governance need to be challenged to take responsibility for their roles as duty-bearers for the realization of rights. This will support the delivery of policies and the implementation of programmes that are better attuned to the rights-based, intersectional, inter-generational and context-specific challenges of regional food systems and youth positioning in political and economic landscapes. Young people today are

also interested both in engaging in formal policy-making processes and in exploring policy spaces outside the formal political sphere. Actions should encourage social and cultural life to flourish through strengthened intra-generational and inter-generational collaboration, supporting youth participation and leadership in rural, urban and rural-urban organizations.

Policies targeting youth often define their beneficiaries based on a specific age cohort. Better support for youth in food systems requires an understanding of youth involving not only age, but also other features of young people's positioning in cross-cutting (intersecting) relationships and hierarchies of generation, gender, class, culture, ethnicity, and different forms of knowledge and learning. The report also highlights that the age category and social positioning of young people are temporary conditions. Youth-targeted policies for education, engagement and employment in food systems should be regularly reviewed and renewed, building on the results and lessons learned from earlier interventions. At the same time, youth-targeted policies, including those that provide infrastructure and social protection, require a clear connection and pathway to policies and programmes for those who have grown out of youth into adulthood. Finally, considering youth as a relational category, young people should be targeted by policies both as an independent group and in relation to other older or younger citizens.

In sum, youth agency, equity and rights can be supported by policies and programmes that encourage the civic and political engagement of younger generations from an early age, take seriously their challenges to current policy agendas, and provide the structural conditions for them to be able to participate. This is an important requirement for the creation of enabling environments for youth engagement and for processes in which policies, programmes and other initiatives are made not *for* youth but negotiated *together with* youth in horizontal modes of inter-generational collaboration based on sharing power.

The policy recommendations provided by this report are structured across five cross-cutting areas, the specificities of which will be determined by the dynamic structures and processes that influence youth engagement and employment in food systems across different contexts:

- providing an enabling environment for youth as agents of change
- securing dignified and rewarding livelihoods
- increasing equity and rights to resources
- enhancing knowledge, education and skills
- fostering sustainable innovation.

POLICY RECOMMENDATIONS

1. PROVIDE AN ENABLING ENVIRONMENT FOR YOUTH AS AGENTS OF CHANGE

RIGHTS

- a. Ensure the **realization of the human right to food and the right to work in safe and healthy working conditions** for all young people and guarantee freedom from discrimination based on origin, nationality, race, colour, descent, sex, sexual orientation, language, culture, marital status, property, disability, age, political or other opinion, religion, birth, or economic, social or other status.
- b. Implement existing **global policy instruments**, engage with ongoing initiatives which support policy **processes that explicitly include youth** as a locus of action related to well-being, food security, land rights and food systems development, and **create accountability mechanisms** in legislation for all of the above.

PARTICIPATION AND GOVERNANCE

- a. Support youth **participation and leadership in rural, urban and rural-urban organizations** (including workers, farmers, fishers, cooperatives and women's organizations), incentivize union affiliation for young people, and remove barriers to participation for effective social dialogue on holistic food systems interventions.

- b. Recognize the **multiple and diverse voices** that young people can bring to sustainable food systems transformations, and **guarantee and encourage equal, nondiscriminatory and active participation of youth in formal governance mechanisms** on food security and nutrition and in other decision-making fora at all levels (e.g. civil society, private sector, CFS, national and local policy-making spaces).

POLICY INSTRUMENTS AND REGULATIONS

- a. Ensure **youth-oriented policies take cross-cutting (intersectional) relationships and hierarchies** into account, providing additional supports to improve equity and resources across generation, gender, class, culture, ethnicity and citizenship status.
- b. Strengthen **labour monitoring and statistics together with appropriate metrics** for more accurate reporting on **young people's employment and wage patterns**, going beyond recording a single labour-force status and only primary occupations to incorporate schoolwork combinations, informal and migrant work, and multiple occupations.
- c. Improve **the documentation of different forms of youth participation in food systems**, including through involving young people in research on adequate and healthy diets and in policy and governance spaces, to inform proactive policy development on youth engagement.
- d. National and regional governments, civil society and private sector mechanisms should

regularly review and renew youth-targeted policies for education, engagement and employment in food systems, building on the results and lessons learned from improved data sources and earlier interventions.

- e. Support youth participation in environmental monitoring and regulation, agro-ecology transitions, and other actions to preserve the natural resource base (land, forests, water) for coming generations, based on a systematic review of the social, economic and environmental consequences of existing land-use practices.

INFRASTRUCTURE AND SOCIAL PROTECTION

- a. Enhance standards of living and reduce vulnerability for youth through human rights-based social protection and safety nets in an equitable approach that includes gender and social inclusion.
- b. Ensure youth have access to basic infrastructure and services (sanitation, formal and informal education, health services, infrastructure, energy, information and communication technology and broadband access, extension services) in the rural-urban continuum to guarantee good standards of living for themselves and their children.
- c. Meet the specific food and nutrition needs of children and adolescents, including through school-feeding, public nutrition and nutrition-sensitive agriculture combined with food literacy education.

2. SECURING DIGNIFIED AND REWARDING LIVELIHOODS

LABOUR MARKET POLICIES

- a. Ensure that employment and labour market policies and labour demand interventions, including public employment programmes,

explicitly target young people. These policies not only can contribute to creating jobs for youth but can also directly support transitions to sustainable food systems by restoring the natural resource base, strengthening social and physical infrastructure, and contributing to territorial markets and food security.

- b. Implement comprehensive active labour market policies to increase youth employability and enhance their employment outcomes in food systems through a combination of interventions such as job search assistance, employment services, training and skills development, job matching, entrepreneurship coaching and incubators, in conjunction with demand-side measures to create employment opportunities.
- c. Facilitate the transition from school to work and labour-market entry, in collaborations between the private and public-sectors, including, for example, youth-targeted wage subsidy programmes in the private (formal) sector, and ensure equitable access to these programmes across gender, ethnicity and citizenship status.

EMPLOYMENT LEGISLATION AND GOVERNANCE

- a. Improve labour law and regulations to establish thresholds and explicit protection for living wages and working conditions in all types of economic activities in food systems, taking into account informal work and the gig economy, as well as young migrant workers. This includes reducing hazardous exposures and supporting occupational health, provision of personal protective equipment, safe hours, and unemployment insurance. End the exemption of agricultural and fisheries workers from existing labour laws and protections.
- b. Develop social protection programmes that recognize and compensate young people's unpaid contributions to food systems through their engagement in reproductive work and

in volunteer and community development activities. Consider ways to legitimize and value care work, especially that performed by young women in the context of food systems (e.g. through the provision of public childcare, parental leave subsidies and other paid community service programming).

- c. Strengthen **labour governance to make it more youth-friendly**, through support to **labour inspection systems** in sectors and occupations where young people are prevalent, such as temporary, apprenticeship and entry-level occupations. Support **community-level monitoring and other forms of ensuring compliance to labour legislation** and respect of labour rights, including through awareness, training and education campaigns and support for union affiliation.

INCENTIVES AND SOCIAL FINANCE

- a. Recognize and create an **enabling environment for youth pluri-activity in food systems**. Provide holistic opportunities for dignified engagement and decent work in collectives and as individuals, whether as entrepreneurs, wage labourers, or autonomous or own-account workers.
- b. Support **youth entrepreneurship in both individual and collective enterprises through innovative social finance and resource distribution**, including through the provision of mentorship, land and infrastructure sharing opportunities, and granting programmes.
- c. Use **incentives** to promote agro-ecological and other innovative practices in food systems technologies, practices and organizational modalities **with the explicit intent to generate new, decent jobs** and enhance the quality of existing jobs for youth.

3. INCREASING EQUITY AND RIGHTS TO RESOURCES

ACCESS TO NATURAL AND PRODUCTIVE RESOURCES

- a. Promote the development, review and implementation of programmes and policies to support the **rights of rural youth to access, conserve and protect land, seeds and biodiversity, fisheries, and forests** by applying guidance provided in international instruments. Ensure the **recognition of their legitimate tenure rights**, especially for Indigenous and customary collective land ownership, including through agrarian reform.
- b. Provide supportive **legal measures and regulation to facilitate the inter-generational transfer** of natural and productive resources and other food systems-related enterprises (e.g. processing, retail, distribution, food literacy and nutrition education) by supporting succession and start-ups.
- c. Incentivize the **establishment and functioning of cooperatives and other organizations** to facilitate young farmers' **access to productive assets** such as tools, machinery, farming and fishing equipment, storage and cooling facilities, processing and postharvest equipment, and new, adaptable technologies.

ACCESS TO FINANCE

- a. Promote the development and availability of **affordable and inclusive financial services** (direct funds, favourable interest rates, cash transfers, targeted subsidies, micro-credit and other credit programmes, start-up capital, insurance) and advisory services (extension, training) tailored to the needs of young farmers and other own-account workers in food systems.
- b. Create a **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).

- c. Provide support and insurance for **community-based collective impact investment** and cooperative and flexible financing programmes to support youth-led enterprises.

ACCESS TO MARKETS

- a. Improve **shared public infrastructure** (irrigation, processing and packaging facilities, food safety measures, physical and virtual market spaces, supportive zoning and regulation, roads that link urban and rural markets, and start-up funds) **for informal, newly emerging and alternative markets that promote short food supply chains** to improve income and lower barriers to entry for youth producers, entrepreneurs and traders.
- b. Support the development of **incubators, digital tools and market niches**, as well as **certification and price premium programmes** for agro-ecological, fair trade, organic, denomination of origin, and other ecological and animal welfare-oriented programmes to enable youth entry and engagement with sustainable food supply chains.
- c. Enhance **public procurement and other forms of structured and mediated markets**, such as farm-to-school and public nutrition programmes, **for sustainable and youth-led enterprises**, using fair and transparent prices.

ensuring that technological innovations do not eliminate jobs on a large scale.

- b. Engage youth in **research** related to sustainable food systems and resource conservation, and strengthen opportunities for youth to participate in **community-based research partnerships** through the development of methodologies that integrate diverse ways of knowing and communicating.
- c. Support educational **curriculum development and reform in primary and secondary schools** on needs and practices for transforming food systems, including **agro-ecology, food literacy, food systems and health**.
- d. Reform **vocational training curricula** to develop community-education-business partnerships based on collaborative assessments of local community needs, focusing on the **entry points of most interest to youth, such as agro-ecological production, nutrition and dietetics, food value chains, marketing, and food systems education**.
- e. Promote the **inter-generational and intra-generational exchange of information, knowledge and practices** (including direct exchange of experiences) through **mentorship, role models and peer-to-peer engagement** in a complementary role to formal education programmes.
- f. Encourage youth to practice **agro-ecology and other sustainable innovations** by connecting knowledge that is locally-specific (traditional and inter-generational) with horizontal and formal training and education programmes, as well as advisory and extension services, to improve the **resilience of agriculture, farming systems and food systems** to environmental and social shocks.

4. ENHANCING KNOWLEDGE, EDUCATION AND SKILLS

- a. Promote updated **training programmes for professions and creation of jobs in food systems that require a wide range of skills** (including digital), such as nutritionists, food educators, extension and advisory service providers and agricultural coaches while

5. FOSTERING SUSTAINABLE INNOVATION

- a. Provide opportunities for **social innovation that recognizes and shares inter-generational and indigenous knowledge** and that stimulates research and documentation related to sustainable food systems.
- b. Support the provision of youth-sensitive and youth-specific **rural and urban advisory and extension services** including through new information-sharing platforms.
- c. Develop the **digital skills and capacities of young workers**, as well as of those transitioning from school to work, in sustainable and innovative approaches for urban, peri-urban and rural agriculture.
- d. Invest in **digital infrastructure and complementary nondigital infrastructure** in rural and remote areas to ensure rural connectivity, digitize the activities of public agricultural bodies, and build the digital skills of public-sector workers to support change.

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APPENDIX

MAIN POLICY INSTRUMENTS FOCUSING ON YOUTH RIGHTS, EQUITY, AND AGENCY

UNITED NATIONS (UN) DECLARATIONS		
UNITED NATIONS CONVENTION ON THE RIGHTS OF THE CHILD (UNCRC)	1989	The first Convention specifically addressing the rights of children. The UNCRC is based on four principles: 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" (ages 15-17) 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 people's access to land and other natural resources.
UN 2250 Resolution on Youth, Peace and Security	2015	The resolution highlights the need to use youth employment as part of prevention and disengagement and reintegration programmes in UN Member Countries.
UN Convention on the Elimination of All Forms of Discrimination against Women (CEDAW)	1979	Calls for states to implement laws that ensure elimination of all acts of discrimination against women and to ensure women's equal access to and opportunities in economic and political life, including in education, health and employment, and to affirm their reproductive rights.

VOLUNTARY GUIDELINES		
COMMITTEE ON WORLD FOOD SECURITY (CFS) 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.
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 acknowledgement of differences between individuals.
General comment No. 20 (2016) on the implementation of the rights of the child during adolescence	2016	Focuses on “childhood” (ages 15/17) 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.
CFS Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication	2014	Calls on 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 children and young people.
CFS Voluntary Guidelines on Food Systems and Nutrition	2020	Calls on states, intergovernmental organizations, and private sector and other relevant stakeholders to engage, encourage and empower youth, acknowledging their diversity, to be actively involved in food systems by enhancing their access to land, natural resources, inputs, tools, information, extension and advisory services, financial services, education, training, and markets, and promote their inclusion in decision-making processes in accordance with national legislation and regulations and to strengthen urban–rural linkages.
COMMITTEE ON WORLD FOOD SECURITY POLICY RECOMMENDATIONS		
Investing in Small-holder 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.”
Water for Food Security and Nutrition	2015	Calls for youth’s equal access to water through legislation, policies, programmes, reforms and investments.

Connecting Small-holders to Markets	2016	Promotes the empowerment of young small-holders and their organisations through inclusive policy and institutional arrangements and partnerships related to the functioning of value chains; provides access to resources and capacity development for young small-holders in collective action and in forming cooperatives, associations and networks to increase their bargaining power, their control over their economic environment and their participation in food value chains; supports 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) and inclusive finance and to facilitate youth access to land and resources.
GLOBAL INITIATIVES AND NETWORKS		
UN World Programme of Action for Youth	1995	Has a section on employment, and supports 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.
UN InterAgency Network on Youth Development (IANYD)	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. Focuses on youth engagement in policy processes.
Global Initiative on Decent Jobs for Youth	2015	UNwide 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. Focuses on rural youth, with attention to broader food systems and skills development.
Young Professionals for Agricultural Development (YPARD)	2006	YPARD is an international movement by young professionals for young professionals. Its mission is to enable young agricultural leaders to shape sustainable food systems to achieve a shared vision of a world that is food secure where young people are enabled to fully contribute. The network has regional coordinating units in Africa, Asia, Europe, and Latin America and the Caribbean.
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 Committee on World Food Security (CFS45).

This report, prepared at the request of the Committee on World Food Security, explores the trends, constraints and prospects of young people's engagement and employment in agriculture and sustainable food systems. Today's youth live in a world facing a confluence of crises, including climate and environmental change and global inequalities in food security, nutrition, employment and human well-being, vulnerabilities further heightened by the COVID-19 pandemic. The need for a radical transformation of global and local food systems has never been more pressing. This report assesses the status of current youth engagement and employment in agriculture and food systems to identify the primary constraints and challenges that limit the ability of young people to contribute to shaping food systems and to derive dignified livelihoods from them. Focusing on access to resources, knowledge and employment and on support for social innovation, this report proposes a global youth agenda which constructs young people, both as individuals and collectively, as active agents of change in agriculture and food systems. The report offers a paradigm shift to understand youth engagement and employment in food systems as simultaneously a goal to be realized and a means to sustainably transform food systems and achieve resilient economies of well being. Approaches and policies towards this goal must be based on a foundation of agency, rights, equity and recognition of the role of youth as agents of change across all dimensions of food systems.