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HLPE-FSN REPORT (2023) ON REDUCING INEQUALITIES FOR FOOD SECURITY AND NUTRITION

HLPE REPORT 18

REDUCING INEQUALITIES FOR FOOD SECURITY AND NUTRITION

CFS COMMITTEE ON WORLD FOOD SECURITY

HLPE High Level Panel of Experts

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FOREWORD

The High Level Panel of Experts on Food Security and Nutrition (HLPE-FSN) is the science-policy interface of the United Nations Committee on World Food Security (CFS), the foremost inclusive and evidence-based international and intergovernmental platform for food security and nutrition (FSN). The HLPE-FSN offers independent, comprehensive and evidence-based analysis and advice at the request of the CFS. It prepares its reports through a scientific, transparent and inclusive process, involving extensive consultations and incorporating diverse forms of knowledge and expertise, as well as a rigorous scientific peer review process.

The report, *Reducing inequalities for food security and nutrition*, has been produced by the HLPE-FSN at the request from the CFS to analyse quantitative and qualitative evidence regarding how inequalities within food systems impede opportunities to overcome food insecurity and malnutrition. The report seeks to identify ways to address those inequalities and their drivers and provides recommendations.

Inequalities in food security and nutrition, leading to hunger and all forms of malnutrition, exist in all regions of the world both among and within countries. Even in rich countries, low national prevalence of food insecurity may mask large local disparities. Inequalities in FSN reduce people's life chances and quality of life, lower their productivity, perpetuate poverty, and reduce economic growth. These inequalities are exacerbated by fast-evolving climate change and conflicts, disproportionately affecting already vulnerable populations. Furthermore, unequal FSN outcomes have contributed to political unrest, sparking protest and food riots. Addressing these inequalities is at the heart of the 2030 Agenda for Sustainable Development, which is based on a human rights approach and the pledge to "Leave no one behind".

Against this backdrop, the report provides a comprehensive analysis of inequalities in food systems, their deep, systemic drivers, and the ways in which they affect food security and nutrition outcomes. FSN inequalities exist throughout the food system, from farm to fork. They include inequalities in access to food production resources and market opportunities for small-scale producers, unequal power dynamics between large food corporations and food producers, as well as unequal access to adequate and nutritious food among consumers. Indeed, food security goes beyond food production and encompasses six dimensions: food availability, access, utilization, stability, sustainability and agency. Agency is key to reducing inequalities in food security and nutrition. It refers to "...the capacity of individuals or groups to make their own decisions about what foods they eat, what foods they produce, how that food is produced, processed and distributed within food systems, and their ability to engage in processes that shape food system policies and governance" (HLPE 2020).

Inequalities in FSN are often accompanied by a lack of agency in food systems, especially among marginalized people.

The report adopts an intersectional lens and considers FSN inequalities in a systemic way. Often, multiple disadvantages are compounded along the dimensions of gender, education, economic and social status, location or ethnicity. These multiple dimensions interact and have cumulative effects. Thus, inequalities in FSN, while affecting people in every country in the world, tend to systematically disadvantage certain groups: women, farmworkers and migrants, Indigenous peoples, informal workers and persons with disabilities. This finding has important implications for policy: progress in one dimension or driver of FSN inequality might be constrained or exacerbated by another dimension. The report shows these cumulative effects and potential trade-offs and the need for a holistic approach.

Because of the intersectional nature of inequalities in food systems, the report makes the case for a transformative agenda that would address the systemic drivers of FSN inequality. It highlights a set of principles for designing equity-oriented policies along the entire food system, addressing power imbalances and raising agency through the recognition and representation of marginalized groups, and redistribution of income and resources. The report proposes a set of actions and real-world examples of how to embed equity principles into policymaking; provide more equal access to food production resources; make public agricultural research sensitive to equity considerations and the needs of marginalized groups; develop inclusive value chains; and implement territorial, multisector approaches to food system development. The report emphasizes social protection as a key instrument for responding to food crises and reducing FSN inequalities. It also calls for the integration of universal health care into nutrition initiatives. The resulting recommendations are addressed to the CFS, governments, the United Nations and international agencies, the private sector and civil society, as well as academia.

Bold efforts are required in the face of persistent FSN inequalities and rapid climate change. The CFS and its members can use this report to increase public awareness of FSN inequalities and their drivers and to catalyse the implementation of equity sensitive and transformative strategies and policies.

On behalf of the HLPE-FSN Steering Committee, I would like to thank the international experts of the drafting team, led by Bhavani Shankar, whose expertise and dedication, and impressive (and pro bono) work on this report, have played a crucial role in shaping this comprehensive analysis of FSN inequalities as a call for action.

I would also like to express my sincere appreciation to the many experts, including the members of the HLPE-FSN Steering Committee, and institutions who participated in the public consultations and commented on the report in its previous drafts, as well as to the peer reviewers whose careful reading and suggestions have greatly helped to improve the report. Finally, I wish to thank the HLPE-FSN Secretariat for its tremendous support.

The HLPE-FSN mission is to produce scientific reports to inform the debate among CFS stakeholders and provide recommendations to policy convergence processes. Thanks to the work of the CFS, it is hoped that this report on FSN inequalities can have effective and long-lasting impact in eliminating hunger and all forms of malnutrition. Beyond the CFS, this report will surely be useful to advance the understanding of inequalities and how to address them for every individual or institution involved in food systems, agriculture, nutrition, health, environment and other related disciplines.

Yours sincerely,

Bernard Lehmann
Chairperson of the HLPE-FSN

ACKNOWLEDGMENTS

The High Level Panel of Experts on Food Security and Nutrition (HLPE-FSN) of the Committee on World Food Security (CFS) expresses heartfelt gratitude to all the individuals who made valuable contributions and provided insightful inputs and comments during the **two open e-consultations**. The HLPE-FSN works to address the many issues facing both policymakers and food and nutrition practitioners alike and these valuable insights have been fundamental in the working process, to guarantee legitimacy and scientific quality, as well as to ensure the incorporation of diverse forms of knowledge and expertise. The first consultation, focusing on the report's scope, received contributions from 38 participants, while the second consultation, on the "V0" draft of the report, involved 87 contributors working in different fields of expertise, affiliations and countries. These contributions were channelled through the FAO's Global Forum on Food Security and Nutrition (FSN Forum). All these contributions can be accessed on the FSN Forum website: https://www.fao.org/fsnforum/partners/high-level-panel-experts-food-security-and-nutrition-hlpe-fsn

Furthermore, the HLPE-FSN extends its appreciation to all the **peer-reviewers** for their precious feedback on the "V1" draft of the report. The list of all HLPE-FSN peer reviewers is available on the HLPE-FSN website: https://www.fao.org/cfs/cfs-hlpe/en

Participants in the **CFS public event** on 22 November 2022 on "Reducing Inequalities for Food Security and Nutrition" also deserve a warm thank for their valuable and timely inputs, which can be found on the CFS website: https://www.fao.org/cfs/events/events-details/en/c/1618469/

The following individuals have also contributed, in different capacities, to this report: Gregory Cooper, Stephen Devereux, Keetie Roelen, Matthew Fisher-Post, Emily Fivian, Suneetha Kadiyala, Helen Harris-Fry, Winnie Bell, Keith Lividini, Rikin Gandhi, Jessica Fanzo, William Masters.

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The partnership with Visiontime International LLC for the **design and layout** of the report was both enjoyable and productive.

It is important to note that the HLPE-FSN reports are independent collective scientific endeavours focused on topics requested by the Committee on World Food Security Plenary. These reports are considered global public goods, all the experts involved are working on a pro-bono basis and the process is entirely funded through **voluntary contributions**. The HLPE-FSN expresses gratitude to the donors who have contributed to the Trust Fund since 2010 or provided in-kind contributions, enabling the panel's work while fully respecting its independence. Since its establishment in 2010, the HLPE-FSN has received support from the following countries and other donors: Australia, the Province of Québec, China, Ethiopia, the European Union, Finland, France, Germany, Ireland, Monaco, New Zealand, Norway, the Russian Federation, Slovakia, Spain, the Sudan, Sweden, Switzerland and the United Kingdom of Great Britain and Northern Ireland.

ACRONYMS

AHEI	Alternative Healthy Eating Index
ASF	Animal-source food
CFS	Committee on World Food Security
COP	Conference of the Parties
COVID-19	Coronavirus disease 2019
DBM	Double burden of malnutrition
FAO	Food and Agriculture Organization of the United Nations
FEDCAFE	Colombian National Coffee Federation
FIES	Food Insecurity Experience Scale
FSN	Food security and nutrition
GBV	Gender-based violence
GDP	Gross domestic product
GFF	Global Financing Facility
GNI	Gross national income
GNP	Gross National Product
HIC	High-income country
HIV/AIDS	Human immunodeficiency virus/acquired immune deficiency syndrome
HLPE	High-Level Panel of Experts
IFAD	International Fund for Agricultural Development
ILC	International Land Coalition
ILO	International Labour Organization
IPCC	Intergovernmental Panel on Climate Change
IPES-Food	International Panel of Experts on Sustainable Food Systems
LIC	Low-income country
LMIC	Low- and middle-income country
MDB	Murry Darling Basin
MSME	Micro, small and medium-sized enterprise
NCD	Non-communicable disease
NGO	Non-governmental organization
NSA	Nutrition-sensitive agriculture

OECD	Organization for Economic Co-operation and Development
PLA	Participatory learning and action
PO	Producer organization
PoU	Prevalence of undernourishment
R&D	Research and development
SDG	Sustainable Development Goal
SSB	Sugar-sweetened beverage
UN	United Nations
UNDP	United Nations Development Programme
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
UNEP	United Nations Environment Programme
UNICEF	United Nations Children's Fund
UPAVAN	Upscaling Participatory Action and Videos for Agriculture and Nutrition
UPF	Ultra-processed foods
WASH	Water, sanitation and hygiene
WFP	World Food Programme
WHO	World Health Organization
WTO	World Trade Organization

SUMMARY

The report "Reducing inequalities for food security and nutrition" has been developed by the High Level Panel of Experts on Food Security and Nutrition (HLPE-FSN) following the request by the United Nations Committee on World Food Security (CFS) as included in its Programme of Work (MYPoW 2020-2023).

In particular, the CFS requested the HLPE-FSN to develop a report to: (i) analyse evidence relating to how inequalities in access to assets (particularly land, other natural resources and finance) and in incomes within food systems impede opportunities for many actors to overcome food insecurity and malnutrition; (ii) analyse the drivers of inequalities and provide recommendations on entry points to address these; and (iii) Identify areas requiring further research and data collection.

This report will inform the ensuing CFS thematic workstream on inequalities, aiming at **addressing the root causes of food insecurity with a focus on those "most affected by hunger and malnutrition".**

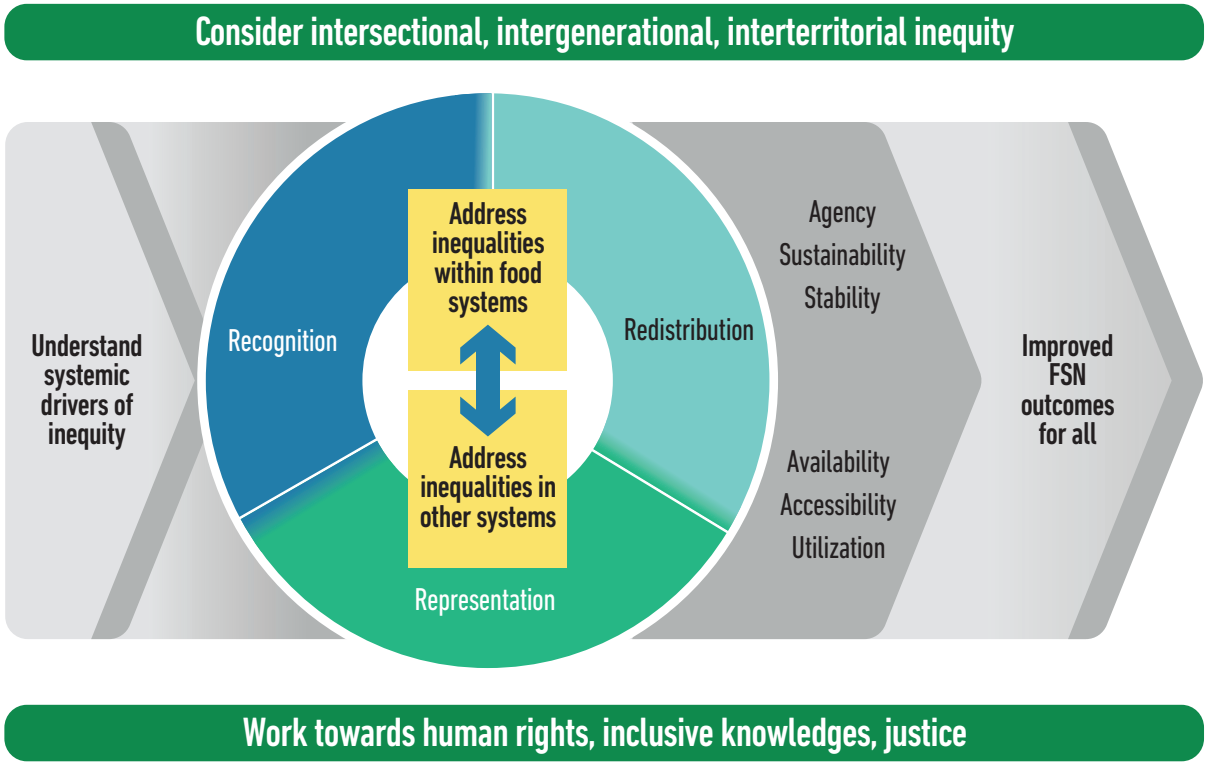
RATIONALE AND CONCEPTUAL FRAMEWORK

The report is organized around six chapters. **Chapter one explains the report's focus on inequalities and inequities**. Inequalities in food systems underlie inequalities in food security and nutrition (FSN). It is **vital to address inequalities because they threaten progress on FSN**. Reducing inequalities is **mandated in human rights covenants that states have committed to.** Doing so corresponds to a natural sense of human justice and fairness that is embodied in the 2030 Agenda for Sustainable Development to "Leave no one behind". The report contributes to a common understanding of key concepts and terms such as inequities and inequalities in the context of FSN. It **defines inequalities** in food systems as the **observed differences in FSN outcomes**, or **related food systems factors** (such as access to food production resources), **between individuals and groups** *(when disaggregated by social, economic and geographical position).* The latter are underpinned by **inequities, defined as the avoidable reasons why uneven distribution exists** and *why disadvantage accrues systematically, based on asymmetries in social position, discrimination and power.*

The report is developed within a broader framing of human rights and it draws on diverse forms of evidence and data. This includes academic research and reports; qualitative and ethnographic evidence; quantitative and modelled approaches; and Indigenous, local, situated, and tacit knowledge. It draws on different framings for action on inequality and inequity in FSN, including economic redistribution, human rights, and social justice.

The **conceptual framework** describes how inequalities in FSN outcomes are best reduced by addressing inequalities in food systems and in other related systems. **Sustainable change requires understanding and addressing the systemic drivers and root causes of inequity in context.** Understanding inequity and inequality involves recognizing who is marginalized from food and nutrition opportunities, and how and why. In coming to this understanding, it is vital to consider how inequity is intersectional (inequalities interact), intergenerational (inequities are passed on over time), and interterritorial (inequities are spatially and geopolitically determined). In addressing inequality and inequity, **actions must work through processes of recognition** (acknowledging the specifics and history of inequity in each context), **representation** (ensuring that marginalized groups are genuinely empowered to have agency over the choice of actions to address inequity), and **redistribution** (ensuring the opportunities and resources are allocated fairly and that costs do not fall on those with less political power). Actions to address inequalities in FSN outcomes and the inequities that underpin them should work through human rights and justice principles, and consider the range of knowledges and evidence available in framing issues and actions.

FIGURE 2:
CONCEPTUAL FRAMEWORK: ENGINE OF EQUITY FOR FSN



Source: Authors' own elaboration.

MAJOR FINDINGS

Chapter two leverages existing data to describe patterns and trends of inequality in FSN outcomes. While inequalities in food security are particularly seen to affect populations in Africa, South Asia and the Caribbean, **inequality in nutritional status exists globally**. Further, despite gains made in reducing undernutrition in LMICs, the global rise in overweight and obesity among both adults and children undermines the past progress made in nutrition and since 2015, food insecurity has worsened is most regions of the world.

Context motivates the **variability** seen in the factors that contribute to within-country inequality, except for certain **consistently marginalized groups –** women, those without education, Indigenous Peoples and the poor.

More qualitative (lived experience data) and **adequately disaggregated data** along gender, location, economic status, ethnicity, other social group and physical ability is required to systematically quantify and track FSN inequalities. Finally, it is recognized that **many important inequalities are intersectional**, but insufficient data exist to characterize this intersectionality and to identify those most vulnerable in a timely and consistent manner.

Chapter three examines **the proximate drivers of FSN inequalities within food systems and in other systems relevant to FSN.** Within food systems, it explores three broad areas: (i) inequalities in food production resources; (ii) inequalities in food supply chains (iii) inequalities in food environments and consumer behavior.

Within food systems, large, persistent, and often increasing inequalities that constrain FSN exist across the food chain. This includes inequalities in distribution of food production resources, access to knowledge and finance, ability to engage with and gain from modern value chains and markets, storage, processing and distribution, and international food trade. Moreover, size and economic status (for instance, small vs large farms) and gender are major inequality dimensions across the food chain, but other sources of inequality, such as Indigeneity and geographical location, are also frequent constraints to FSN. **Food environments** also **provide highly unequal opportunities for FSN**, with low-income populations and minority groups particularly impacted by the inequalities.

Inequalities in other relevant systems, which affect FSN, such as education and health systems, contribute to inequalities in FSN outcomes. As a consequence, **multisectoral governance of FSN provides opportunities to reduce FSN inequality, but requires careful rules of engagement to mitigate power imbalances.**

Chapter four takes a broader social and historical perspective and examines the **deeper systemic drivers and root causes of FSN inequalities.** It is essential to view the vast inequalities in FSN outcomes not just as outcomes of inequalities in food and related systems, but also as the result of deeper, systemic drivers. **Many drivers that act on food systems have underlying drivers within food systems themselves.** For example, climate change and environmental decline harm food system workers and are a threat to FSN, particularly where people and places are most vulnerable to change. However, food systems themselves are major drivers of climate change. Breaking this harmful feedback has considerable potential for reducing inequalities in FSN outcomes.

Economic and market drivers have fundamentally changed food systems, by shaping market dynamics, flows of finance, and patterns of global trade to consolidate decision-making power and ownership. These changes have **altered dietary patterns in complex ways and curtailed the agency of most food system workers.** While some nutritional benefits accrue, there are concerns about the impacts of a transition towards a Western obesogenic diet that exacerbate FSN outcomes, initially affecting the wealthiest in society but then gradually becoming a problem for the most marginalised or socio-economically disadvantaged sections of society.

Policies related to different dimensions and actors in the food systems **have remained siloed**, and seldom focus on the needs of the most marginalized. In many cases, this has exacerbated pressures and created vulnerabilities. **Violence and conflict are the main drivers of acute and chronic hunger,** undermining people's agency and exacerbating poor FSN outcomes for the most vulnerable. Geopolitical interests often determine whether the impacts of conflict on FSN outcomes are exacerbated or ameliorated, and where. **Reaffirming the right to food in all geopolitical conflicts can help reduce inequalities in FSN outcomes.**

Sociocultural drivers intersect with all categories of drivers, to create barriers that produce and reinforce existing inequalities. **Historical inequities** will therefore persist, unless explicitly challenged with equity-sensitive policies and practices.

AREAS FOR ACTION

Chapter five presents **actions that can be taken within food and other systems to improve FSN.** These actions are not meant to be exhaustive, but they present priority areas that hold significant potential for reducing FSN inequalities. Equity-informed policy and programmes must be informed by these **first principles: being adaptive to context; focusing on agency and working to undo inequitable norms; and addressing power imbalances.** Business as usual, including incremental action, is too slow to address the scale of injustice in food systems and the rate of change in

relation to climate and environmental threats: **transformative change that explicitly addresses inequality and inequity is needed now.**

To be adapted to local contexts, a variety of actions to address inequalities are necessary across food and related systems. These are clustered into four broad categories: food production; food supply chains; food environment and consumption; and enabling environment, broader context and governance.

Within **food production,** major action areas to reduce inequalities for FSN include: (i) enabling more equal access to land, forests, livestock and fisheries; (ii) applying agroecological principles across production and broader food systems; (iii) establishing inclusive producer organizations; and (iv) investing in equity-sensitive public agricultural and food- systems research and other rural public investments.

The action areas in **food supply chains** include: (i) adopting inclusive value chain approaches; (ii) developing labour-protection policies, strategies, and programmes for food-system workers; (iii) considering territorial approaches in food system and regional development planning; (iv) investing in equity-sensitive storage, food processing and distribution infrastructure; and (v) investing in improved information systems, leveraging digital technologies.

Under **food environment and consumption,** the main action areas include: (i) food-environment planning and governance; (ii) incorporating behavioural insights into policymaking and programming; and (iii) strengthening social protection.

Several action areas pertaining to the **enabling environment, broader context and governance** include: (i) food- and nutrition-sensitive policy and planning; (ii) addressing corporate power asymmetries in governance; (iii) universal health care that integrates nutrition care; (iv) a holistic approach to climate and sustainability; and (v) inclusive growth for FSN, and policy that goes beyond growth.

INTRODUCTION

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The High Level Panel of Experts on Food Security and Nutrition (HLPE-FSN) Note on critical and emerging issues from 2017 (HLPE, 2017a) described the relevance of inequalities for food security and nutrition in very clear terms. During its 46th plenary session (14–18 October 2019), the Committee on World Food Security (CFS) adopted its four-year Programme of Work (MYPoW 2020-2023), which included a request to its High Level Panel of Experts on Food Security and Nutrition (HLPE-FSN) to produce a report on "Reducing inequalities for food security and nutrition", to be presented at the 51st plenary session of the CFS in 2023 (CFS, 2019).

In the rationale of the CFS request for this report, it was stated that:

Sustained disparities between vulnerable and other social groups – reflecting inequalities between and within countries - can slow growth and lead to political instability, migration fluxes, with related adverse consequences on food security and nutrition. Stark inequalities – including between rural and urban areas – in access to basic services and assets lead to unequal processes of economic growth and transformation. These inequalities affect households' prospects for overcoming rural poverty, food insecurity and malnutrition (CFS 2019/46/7, 2019, p. 9).

The report will provide recommendations to the CFS workstream on inequalities.

In particular, the CFS requested the HLPE-FSN to develop a report to: (i) analyse evidence relating to how inequalities in access to assets (particularly land, other natural resources and finance) and in incomes within food systems impede opportunities for many actors to overcome food insecurity and malnutrition; (ii) analyse the drivers of inequalities and provide recommendations on entry points to address these; and (iii) identify areas requiring further research and data collection (CFS 2019/46/7, 2019, p.10).

This report will inform the ensuing CFS thematic workstream on inequalities, aiming at **addressing the root causes of food insecurity with a focus on those "most affected by hunger and malnutrition"**, with a focus on inequalities within food systems. The workstream will provide an analysis, based on this HLPE-FSN report, on drivers of socioeconomic inequalities between actors within food systems that influence food security and nutrition outcomes.

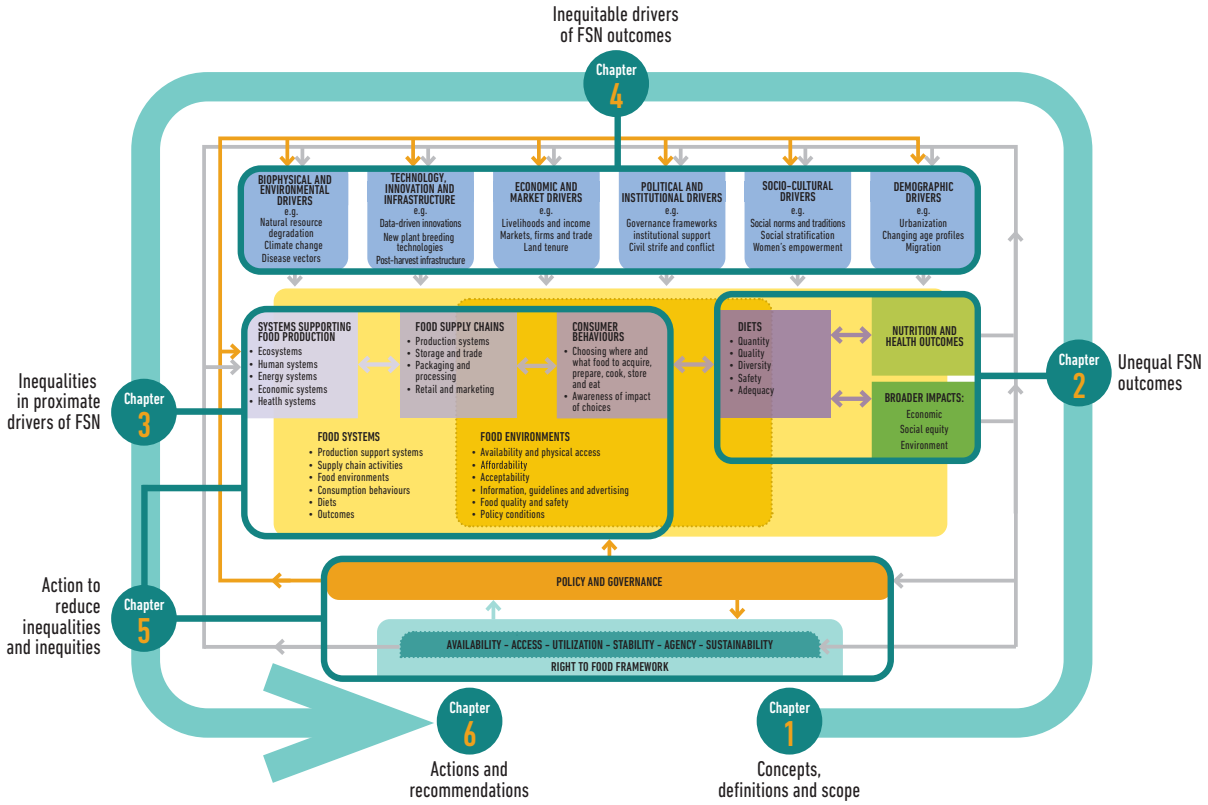
CONTENT OF THIS REPORT

This report is a snapshot of the current state of knowledge regarding inequality and inequity related to FSN. Much of the evidence presented is contemporary, illustrating inequalities among population groups using the most recent data. Building back from the present time, we focus where possible on change in inequalities over

time (mobility); on how inequities are passed on over time (intergenerationally); and on the historical drivers of current inequities. Building forward, we also focus on important future trends in inequalities, such as those driven by climate change, and on how action on equity could mitigate these trends. It is not possible in a single report to consider every inequality and inequity that relates to food systems and FSN outcomes. Rather, we focus on key issues and populations that particularly highlight these issues, and call for further research and context-specific action.

This report has six substantive chapters, organized according to the HLPE-FSN food systems framework (HLPE, 2020), that probe issues and solutions for inequalities and inequities across the system (FIGURE 1). After CHAPTER 1, which provides key concepts and definitions, as well as a conceptual framework, the following three chapters describe inequalities in FSN outcomes and examine their drivers. CHAPTER 2 characterizes the major inequalities in FSN outcomes across and within countries. CHAPTER 3 examines major inequalities within food systems and other FSN-relevant systems that influence unequal FSN outcomes. CHAPTER 4 examines the deeper layer of structural drivers fundamental to understanding inequity, including sociocultural, economic and political aspects. Then chapters 5 and 6 discuss solutions: CHAPTER 5 examines actions within food systems and other FSN-relevant systems as well as approaches to broader transformation, and CHAPTER 6 concludes the report with a prioritized set of recommendations.

FIGURE 1:
STRUCTURE OF THE REPORT IN RELATION TO THE FOOD SYSTEMS FRAMEWORK



Source: Adapted from, HLPE 2020. *Food security and nutrition: building a global narrative towards 2030.* A report by the High Level Panel of Experts on Food Security and Nutrition of the Committee on World Food Security. Rome.

Chapter 1

CONCEPTS AND FRAMEWORK

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KEY INSIGHTS

- Inequalities in food systems underlie inequalities in food security and nutrition (FSN). It is vital to address inequalities because they threaten progress on FSN, and because this is mandated in global goals and human rights covenants that states have committed to. Doing so corresponds to a natural sense of human justice and fairness that is embodied in the 2030 Agenda for Sustainable Development to "Leave no one behind".
- This report defines inequalities as the observed differences in FSN outcomes, or related food systems factors (such as access to food production resources), between individuals and groups (when disaggregated by social, economic and geographical position). The latter are underpinned by inequities, defined as the avoidable reasons why uneven distribution exists and why disadvantage accrues systematically, based on asymmetries in social position, discrimination and power (BOX 1).
- The analysis intentionally draws on diverse forms of evidence, including academic research and reports; qualitative and ethnographic evidence; quantitative and modelled approaches; and Indigenous, local, situated and tacit knowledge. It draws on different framings for action on inequality and inequity in FSN, including economic redistribution, human rights, and social justice.
- The conceptual framework describes how inequalities in FSN outcomes are best reduced by addressing inequalities in food- and in other related systems. To do this sustainably entails tackling root causes: understanding marginalization in context and pursuing policies of recognition, representation and redistribution for marginalized groups and others, both directly in food systems and in related areas of policy and governance.

1.1 WHY FOCUS ON INEQUALITY AND ITS RELATIONSHIP TO INEQUITY?

The world is characterized by inequalities in both opportunities and outcomes. Such inequalities are particularly stark within food systems (BOX 1), where they exacerbate already alarming conditions of hunger and malnutrition, presenting a serious impediment to any successful transformation. One in five children under five years is stunted. One in three people lacks access to adequate food (Development Initiatives, 2021). At the same time, three billion people are unable to afford a healthy diet and, as of 2016, obesity affects 671 million adults and 124 million children (FAO *et al.*, 2021; Herforth *et al.*, 2020; The GBD 2015 Obesity Collaborators, 2017). Crucially, these outcomes are not distributed equally across countries, or across social groups. For example, child stunting prevalence is highest in Melanesia, central Africa and among poor people in rural contexts globally. In contrast, child overweight is highest in certain populations of Australia and Aotearoa New Zealand, and adult overweight falls heavily on socioeconomically disadvantaged communities in many wealthy contexts.

Inequalities carry considerable economic, environmental and social costs, which through various pathways constrain FSN. Poor FSN in turn reduces people's life chances and quality of life, lowers their productivity, perpetuates poverty and reduces economic growth both directly (such as through medical costs) and indirectly (such as through lost productivity) (Kleinman *et al.*, 2014; World Obesity Federation, 2017). Indirect costs related to obesity, for example, have been estimated to reach 8 percent of gross national product (GNP) in some countries (Popkin *et*

al., 2006) and costs related to micronutrient deficiencies can reach 11 percent of GNP (Horton and Steckel, 2013). Inequalities in food distribution and consumption contribute to an estimated one-third of food produced for human consumption going to loss and waste, costing USD 70 billion annually, and the unnecessary loss of land, water and biodiversity (FAO, 2013). Biodiversity and dietary diversity are inextricably linked, and the loss of one affects the other, both impacting most heavily the most marginalized populations (Harris *et al.*, 2022b). In addition to the environmental and economic impacts, these vast inequalities have historically led to political unrest, with hunger and uncertain food security sparking protest and food riots (Bush and Martiniello, 2017).

Inequalities affect people in every country in the world, and often multiple disadvantages are compounded. For example, being female in a place where women are disadvantaged by society may be even more difficult for women who are also of a marginalized ethnicity or caste – a compounding of negative effects known as "intersectionality". This means that the most marginalized people in society also tend to be those most left behind in food systems (Development Initiatives, 2021; Harris *et al.*, 2021; Nisbett *et al.*, 2022).

These multifaceted and dire impacts of inequality underscore why addressing inequality is at the heart of the 2030 Agenda for Sustainable Development, applicable to high- and low-income countries alike. Any goal that aims to reduce all forms of malnutrition, non-communicable diseases (NCDs), hunger and food insecurity must embrace the principle of leaving no one behind (UNSDG, 2023). FSN is addressed in human rights frameworks where, through several international conventions, states universally affirm that "All human beings, regardless of their race, colour, sex, language, religion, political or other opinion, national or social origin, property, birth or other status have the right to adequate food and the right to be free from hunger" (UNHCR, 2010). There are calls for a strengthening of the relationship between human rights and inequality (De Schutter, 2023): if inequalities create human rights violations, such as barriers to achieving the right to food, states have a legal obligation to correct those inequalities (OHCHR, 1966).

This report tackles the issue of inequality and its determinants, both within and across countries and regions. It builds on previous work of the HLPE-FSN and draws on multidisciplinary evidence and forms of knowledge to strengthen the ways in which the global community might acknowledge, assess and address inequalities in FSN. As such, the report sets out to: i) clarify meanings and definitions around inequality and its determinants, in order to facilitate clearer debate and action (CHAPTER 1); ii) describe the state of inequality in FSN outcomes (CHAPTER 2); iii) depict how inequalities in food systems and other related systems drive these FSN outcomes (CHAPTER 3); iv) expand on the deeper systemic drivers of these inequalities (CHAPTER 4); and v) establish how these inequalities can best be addressed (CHAPTER 5), providing a set of recommendations for more equal and equitable food systems for FSN (CHAPTER 6).

1.2 THE CASE FOR TRANSFORMATIVE OVER INCREMENTAL ACTION

Transformative action on inequality in FSN has been framed in different ways, from enacting significant changes within the existing policy space (such as improving access to knowledge and technology, and supporting consumers to afford and choose healthy foods) (Ruben *et al.*, 2021), to significant changes in structures of power and politics (to reduce resistance by powerful vested interests, or the misapplication of incremental change in ways that only exacerbate inequalities) (Béné *et al.*, 2021; Newell *et al.*, 2021). It is clear that the scale of the challenge in food systems (and various other human and natural systems covered in the 2030 Agenda for Sustainable Development) requires thinking that integrates consideration of human and planetary health and well-being, and these complex challenges are best addressed through actions designed to tackle the root causes

of food security and malnutrition in all its forms at the same time (Hawkes *et al.*, 2020). Now is the time for multiple actions that work simultaneously on the interrelated and systemic drivers that concentrate negative food system impacts on the most marginalized populations (Swinburn *et al.*, 2019).

Transformative change is needed for three reasons: 1) the rate of progress towards global targets, working through incremental actions, is too slow; and a failure to focus on inequality is delaying progress overall because FSN outcomes are slower to change for more marginalized groups (Development Initiatives, 2021; GloPan, 2020; Harris *et al.*, 2021; HLPE, 2020). 2) Eco system services and biodiversity provided to food systems by natural systems are under unprecedented threat, adding urgency to transformation (ILC, 2020; Steffen *et al.*, 2015; UNCCD, 2019), and the impact of natural resource degradation is felt most acutely by those most marginalized within the food system, including Indigenous Peoples, smallholder farmers, fishers, landless labourers and migrants who together produce a majority of the world's food (UNCCD, 2019). 3) The pace of human-induced climate change has outstripped earlier predictions (UNEP, 2022) and has fundamental impacts on the ability of humans to produce food in the ways we have been doing, with greater impacts on the most marginalized producers – those who have contributed least to climate change in the first place (UNEP, 2022).

This report defines transformative change in FSN as actions taken across the entire food and economic system, entailing fundamental changes to food systems governance and to wider political systems to redress power imbalances that have normalised high rates of food insecurity and malnutrition (Devereux *et al.*, 2022). Transformative change needs to happen at a pace that matches scientific consensus on rapidly escalating and fundamental threats to human and planetary health, but without exacerbating existing inequalities or placing the burden on future generations.

1.3 CONCEPTS AND DEFINITIONS

1.3.1 FOOD SECURITY

Since the first FAO widely-accepted definition of food security in 1974, which focused on food supply, the concept of food security has continued to evolve. Most recently, the four previously identified dimensions of food security – availability, access, utilization and stability – have been extended to include agency and sustainability; and the right to food has been acknowledged as central to food security (Clapp *et al.*, 2022; HLPE, 2020). Previous definitions of food security had not adequately engaged with the conditions within which food was produced or distributed, nor with who was hungry or malnourished and why (Development Initiatives, 2021; Sunam and Adhikari, 2016). Framing food systems through a lens of agency signals the need for policy and programmatic responses that place power in the hands of those most affected by poor FSN and marginalized in the systems that produce our food; and that people are supported to demand accountability from those with the duty to support them. The incorporation of the sustainability dimension explicitly links food security outcomes to the nature of food systems and calls for radically transformed systems that are "empowering, equitable, regenerative, productive, prosperous" and that "boldly reshape the underlying principles from production to consumption" (HLPE, 2020). Both agency and sustainability require that policies and practices address systemic unfairness, injustice and exclusion in food systems (described in this report as "inequity") to address systematic differences in FSN outcomes (described in this report as "inequality"). BOX 1 provides definitions for key terms related to inequality and FSN. (See Annex 1 for further key definitions used in this report.)

1.3.2 EQUALITY AND EQUITY

Differences between people and populations have always existed, due to natural variations associated with where people live and the resources available to them. For example, differences in

BOX 1:
KEY DEFINITIONS

A **food system** represents all the elements (environment, people, inputs, processes, infrastruc-tures, institutions, etc.) and activities that relate to the production, processing, distribution, prepara-tion and consumption of food, and the outputs of these activities, including socio-economic and envi-ronmental outcomes (HLPE, 2014).

Food security exists when all people, at all times, have physical, social and economic access to sufficient, safe, nutritious food that meets their dietary needs and food preferences for a healthy and active life (FAO, 2001). The key dimensions of food security are availability, access, sustainability, agency, utilization and stability (HLPE, 2020).

Inequalities are the observed differences in nutritional or food security outcomes or related food system factors (such as access to finance) between individuals an groups, based on social, econom-ic, and/or geographical position (for instance, socioeconomic status, race or ethnicity, sex or gender (Nisbett *et al.*, 2022).

Inequities are the socially, economically or politically driven reasons why systematic differences in food system opportunities or the distribution of food security and nutritional outcomes exist, related to how social groups are seen and treated by the rest of society, both within and outside the food system (WHO, 2008).

Agency has been defined in previous HLPE-FSN reports as "what a person is free to do and achieve in pursuit of whatever goals or values he or she regards as important" (Sen, 1985, p.203). Empow-erment is a key aspect of agency, such that people can participate and engage in society, and con-tribute to shaping and bettering their own lives and well-being (Alsop and Heinsohn, 2005).

Source: Authors' own elaboration.

geography and natural resource endowment mean that people living in some locations have less freshwater, less fertile soils or smaller areas of land, forest and marine resources available to them, resulting in a lower capacity to directly produce or catch food. Natural differences are often not the major impediments to FSN, however: differences are also created and exacerbated by society. For example, women have historically been excluded from economic and political processes and opportunities, and the result is that measures of economic engagement, health outcomes and educational attainment remain lower for women than for men across all countries (Nussbaum, 2000; UNDP, 2015; WEF, 2021). There is, therefore, a need to support some populations differently, or more, to achieve the same outcomes – whether differences are due to 'natural' variation or man-made. This is sometimes referred to as affirmative action (Romany and Chu, 2004).

The focus of this report is on cases where the action (or inaction) of society either creates variations or makes natural variations worse (WHO, 2008). For instance, the impact of poorer natural resource endowment on FSN is worsened by a consistent lack of oversight and investment in such places, as well as a lack of representation of these subpopulations when it comes to decision-making. Thus, the natural variation (endowments) becomes an avoidable **inequality** (difference in outcomes), when the actions of society allow such differences to endure or even exacerbate them. This may be further compounded when particular social groups are relocated from traditional lands to less favourable environments, as has happened to many Indigenous communities. Thus, even a

seemingly "natural" inequality in FSN, driven by natural resource endowment, may well have a socially driven cause as well.

The actions of society (including social, political and economic actions) are shaped by how a society sees itself and sees the different people within it. In every society, cultural norms and values shape social position based on identities such as gender, ethnicity, race, religion, age, disability and other socially-determined characteristics. Different groups hold different positions of power within societies based on these ideas. Some hold power to shape policy and society, whereas others are marginalized from these processes. When social norms systematically disadvantage or marginalize certain groups based on their characteristics, this is defined as **inequity** (WHO, 2008).

This set of variations, inequalities and inequities creates a cyclical and intergenerational situation of marginalization and disadvantage accruing to certain social groups in certain contexts, which is hard to break without direct intervention to create more equitable conditions and decrease inequalities. Marginalization directly affects FSN outcomes in a similar cyclical pattern because poverty and other forms of disadvantage are directly linked to food insecurity and poor nutritional status, and poor FSN can also drive further poverty and marginalization, including through intergenerational mechanisms (for instance, malnourished mothers give birth to low birthweight children) (Perez-Escamilla *et al.*, 2018).

These definitions are informed by extensive research spanning different disciplines (including sociology, public health and health equity, economics, human rights and public health nutrition) so that different disciplinary points of view are reflected in this report.

1.4 CONCEPTUAL FRAMEWORK

The conceptual framework for this report (FIGURE 2) is rooted in diverse literatures on justice, inequality and inequity (CSDH, 2008; Fraser, 2009; Nisbett *et al.*, 2022) which anchor the framework at three levels: systemic drivers of inequality; inequalities within food systems and in other related systems; and unequal FSN outcomes.

Understanding and addressing the deepest drivers of unequal FSN in context is the most transformative way to reduce inequalities in FSN. Doing this requires, first, recognizing *which* economic or social groups are most marginalized (for instance, small-scale producers, the urban and rural poor or those discriminated against on the basis of their identity; and recognizing *why* that is the case (for example, because they lack access to information or to decision-making processes and power, or because their values, cultures and systems of knowledge are not represented in the dominant institutions and systems of governance). In the conceptual framework of this report, this is labelled "recognition": that is, recognition of who is marginalized, why and how (Fraser, 2009).

Next, understanding and addressing the core drivers of unequal FSN requires asking *who* is represented in decision-making at multiple levels, from the local level to national policymaking and beyond; and, importantly, *how* they are included or excluded. However, having a seat at the table is not enough if recognition (above) is incomplete or if resources to participate fully are insufficient. In the framework we call this "representation": representation of marginalized groups themselves, or their chosen representatives, in making decisions that affect them, a principle often expressed as "nothing about us, without us" (Charlton, 1998).

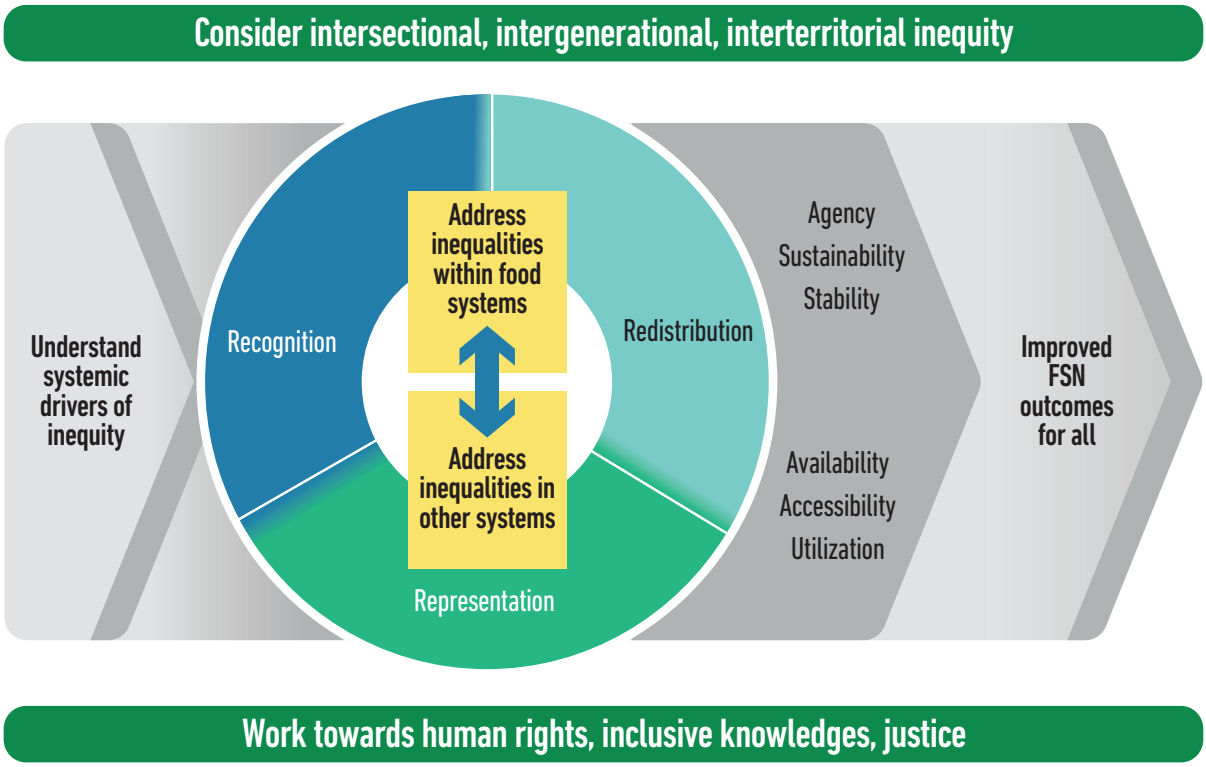
Addressing the systemic drivers of unequal FSN then requires asking *why* economic opportunities and resources are distributed in the way they are, and *how* redistribution of these can be achieved in favour of marginalized groups (for instance, directing investment towards previously under-represented areas; or ensuring social protection reaches groups previously not recognized as marginalized). In the framework we call this "redistribution": redistribution of resources, opportunities or whatever has been denied to those marginalized groups that has held them back from reaching their FSN potential.

This process of recognition, representation and redistribution (the circle in the middle of FIGURE 2, the "engine of equity") is important in ensuring full redressal of the multiple social and political disadvantages that drive FSN inequalities. Each part of this engine needs to work with the other parts to bring about fundamental transformations in the unequal experience of FSN. Beyond addressing these issues at their most fundamental social roots, they can also be addressed within food systems, for example by acting to reduce inequalities in access to food production resources, finance, information and value chain opportunities.

Given the multisectoral basis of FSN, there are also opportunities to address these inequalities within other related systems such as economic, health and education systems, and in the context of other fundamental rights, such as housing and water. Such multisectoral action is important in improving FSN as there are synergies between actions to reduce inequalities in across systems. Addressing inequalities in the other systems requires the same process: recognition of who is affected by marginalization and inequity within the system, and why and how; genuine representation of marginalized groups alongside others in framing solutions and finding ways to address unequal power; and often, redistribution of resources or opportunities to enable those groups to participate on a level playing field with others. Working through the classic FSN pathways of food availability, accessibility and utilization, alongside food systems stability and sustainability, and the agency of all those affected, the "engine of equity" can lead towards improved FSN outcomes for all.

An overarching principle is that inequity is frequently intersectional in nature# (several inequalities interacting in detrimental ways) and that its impacts are intergenerational (affecting the same social groups repeatedly over time) and interterritorial (while they may play out differently in different contexts, we see the same equity issues across all places). These aspects of inequity appear at the top of FIGURE 2 and should always be considered when thinking through solutions in context. A key and established goal of equitable systems that should not be forgotten as we work towards reducing inequality and inequity is working towards the progressive realization of human rights, and through the inclusion of different bodies of knowledge and framings of issues of inequality and FSN. These appear along the bottom of FIGURE 2, and are discussed in the next section.

FIGURE 2:
CONCEPTUAL FRAMEWORK: ENGINE OF EQUITY FOR FSN



Source: Authors' own elaboration.

1.5 APPROACHES TO EQUITY RESEARCH AND PRACTICE

1.5.1 FORMS OF KNOWLEDGE AND EVIDENCE

This report incorporates multiple forms of scientific knowledge and approaches to understanding inequity and inequality in FSN, from the Gini coefficients and Lorenz curves familiar to economists; to population-level outcome data disaggregated by subpopulation familiar to epidemiologists; to qualitative ethnographies of people's lived experience of inequity familiar to anthropologists.

The report also draws on diverse ways of knowing, such as knowledges of Indigenous Peoples and local communities and traditional ecological knowledge, to understand and address FSN inequities. Recognition and support of diverse knowledge systems helps to acknowledge different epistemologies, ontologies and ethical considerations in addressing the complex equity and equality issues in food systems (Huambachano *et al.*, 2022; Kennedy *et al.*, 2022; Vijayan *et al.*, 2022), and is crucial to sustainably transforming food systems and increasing the agency of marginalized populations within their historic and natural environments (Coté, 2022a; Huambachano, 2020) . Excluding these bodies of knowledge has deepened food security inequalities by disregarding marginalized people's

own solutions. However, care must be taken to avoid removing this knowledge from its cultural context, distilling and synthesizing it to the extent that its original meaning and ongoing capacity for validation, change and adaptation are undermined (Casimirri, 2003).

Furthermore, the report acknowledges a range of approaches to understanding equity, equality and justice. The conceptual framework draws predominantly on concepts of justice (Fraser, 2009; Rawls, 1999) and human rights (De Schutter, 2012) from Western thought traditions. However, the report interprets these ideas not only in terms of individual rights and wellbeing, but also in terms of living well relationally, and concepts of interconnectedness, interdependence and community, which are embodied in African *Ubuntu* (Jecker, Atuire and Kenworthy, 2022), Indigenous socio-ecological values and principles (Huambachano, 2018) and Asian ideas of justice (Norden, 2013). The report takes a universal development approach (Longhurst, 2017), meaning that in defining issues and approaches to equality and equity, we adopt global lessons, from the North and the South, from high-income and low-income countries.

1.5.2 A DIALOGUE WITH HUMAN RIGHTS

Human rights are an established principle of the United Nations, and the Voluntary Guidelines of the United Nations Committee on World Food Security (CFS) draw on principles of human rights such as human dignity, non-discrimination, participation, accountability, transparency, empowerment and the rule of law (CFS, 2021). Specifically, the right to food as inseparable from other rights has been recognized since 1948 and gradually specified and strengthened over time through various international instruments endorsed by most UN Member States. International human rights covenants have been signed and ratified by most countries in the world and have shaped national legislation in many contexts; the right to food has also been recognized and incorporated into national law in

many countries (De Schutter, 2012; Harris *et al.*, 2022a) and is covered in the constitutions of well over 100 countries (Knuth and Vidar, 2011). The right to food gives rise to legal obligations of states to respect, protect and fulfil the right to food.

Human rights have established a 'floor' of decent living for many, but have been less involved in addressing the 'ceiling' of economic inequality (Ragnarsson, 2020), so there is further scope for rights to consider equity. Rights already intrinsically incorporate "status equality", meaning that discrimination based on social attributes (such as those of commonly marginalized groups outlined above) is prohibited (UNGA, 1948). In this way, the focus of human rights-based approaches (on recognition of marginalized groups, and their representation and participation in issues concerning them), overlaps substantially with definitions of equity. However, it has been suggested that in focusing on achieving minimum standards for a dignified existence, human rights have not engaged sufficiently with issues of wealth inequality, and with the distribution aspect of equity (Brinks, Dehm and Engle, 2020). Foundational concepts of both human rights and equity overlap significantly, and human rights bring a useful legal and multilateral strengthening of the moral and ethical calls to action of movements working to advance equity, equality and justice. But rights approaches will be stronger when combined with a strong equity focus, to achieve improved FSN for all
(Braveman, 2010).

Chapter 2

PATTERNS AND TRENDS OF INEQUALITY IN FOOD SECURITY AND NUTRITION OUTCOMES

KEY INSIGHTS

- While **inequalities in food security are particularly seen to affect populations in Africa, South Asia and the Caribbean, inequality in nutritional status exists globally**. Despite gains made in reducing undernutrition in LMICs, the global rise in overweight and obesity among both adults and children undermines progress made in nutrition.
- **Context motivates** the **variability** seen in the factors that contribute to within-country inequality, except for certain **consistently marginalized groups – women, those without education, Indigenous Peoples and the poor**.
- More **lived experience data as well as adequately disaggregated data** along gender, location, economic status, ethnicity, other social group and physical ability is required to systematically quantify and track FSN inequalities.
- **Many important inequalities are intersectional, but insufficient granular data exist to characterize this intersectionality and to identify those most vulnerable** on a consistent basis.

This chapter discusses inequalities in FSN outcomes across and within regions and countries (ultimately underscoring that the right to food has not yet been fully realized by duty bearers in many contexts). While inequalities in FSN outcomes are presented here, with subsequent chapters describing inequalities in more proximate factors that drive these FSN outcomes (CHAPTER 3), and the historic and systematic structural drivers (CHAPTER 4), many of these inequalities often overlap and are mutually reinforcing. The chapter draws on existing literature and evidence; new analyses have not been undertaken as per the mandate of the HLPE-FSN.

Metrics and indicators of nutritional status and diet-related dimensions of food security, specifically availability, access and utilization, serve as the primary FSN outcomes of focus here (FAO and Intake-Center for dietary assessment, 2022; INDDEX Project, 2022). In addition, the components of food security related to quality, quantity, preference and sustainability are addressed, as appropriate. Inequalities are examined across global populations, between regions and countries and within countries, along the primary axes of inequality including geographies, gender, place (urban vs rural), income and poverty, ethnicity, indigeneity, race and socioeconomic status, and their intersections, with heavier emphasis on some than others, due to data availability.

2.1 GLOBAL AND REGIONAL FSN INEQUALITIES

Unequal distributions of food insecurity and malnutrition in all its forms, in adults and children, is present across the world, even if the axes of inequality differ. This inequality in FSN is revealed from global and regional perspectives using the key SDG 2 indicators depicted in TABLE 1 and explained in Annex 1, informed primarily by the latest representative data available and recent trends, from the 2022 State of Food Security and Nutrition in the World report (FAO *et al.*, 2022) and from Joint Child Malnutrition Estimates, 2021 Edition (UNICEF, WHO, and World Bank Group, 2021). A confluence of these unequal distributions with globalization, urbanization, conflict and war, pandemics, climate change and other environmental crises, as well as systemic and institutional drivers, has created conditions in which no region or country in the world is exempt from vulnerability to hunger, food insecurity or malnutrition inequalities (FAO *et al.*, 2022; Swinburn *et al.*, 2019). From a global perspective, the prevalence of food insecurity (measured by the Food Insecurity Experience Scale

[FIES]), undernutrition in women (underweight and anaemia) and undernutrition in children under five years of age (stunting) is highest in the African continent. The same indicators are lowest in the regions of Europe, North America, Australia and New Zealand, which, in contrast, have among the highest burdens of overweight (Body Mass Index >25) and obesity (Body Mass Index >30).

2.2 GLOBAL AND REGIONAL INEQUALITIES IN FOOD SECURITY AND HUNGER: STATUS AND TRENDS

Beyond the disparities between regions in the prevalence of food insecurity (moderate/severe), within regions there are significant variations in the levels of severity of food insecurity. Within each of the major regions (Africa, Northern America and Europe, Latin America and the Caribbean, and Asia), the highest burden of severe food insecurity is found in Middle Africa (37.7 percent), Southern Europe (2.8 percent), the Caribbean (30.5 percent) and Southern Asia (21 percent). Furthermore, there is pronounced inequality in trends of worsening food insecurity within regions between 2015 and 2019 (TABLE 1). At the other end of the food security distribution, the prevalence of mild food insecurity and food security is observed in South Africa (75.5 percent), Western and Northern Europe (>95 percent), Central America (65.9 percent) and Eastern Asia (93.8 percent). In Africa, within-region trends for the prevalence of undernourishment (PoU), or hunger, and the prevalence of food insecurity follow similar patterns. PoU increased sharply between 2019 and 2020, and, to a lesser extent, during the following year. Over 60 percent of undernourished people on the continent reside in Middle and Eastern Africa; a statistic consistent since 2005. TABLE 1 describes pertinent differences within and across regions.

2.2.1. GENDER GAPS IN GLOBAL AND REGIONAL FOOD SECURITY PATTERNS

Gender differences in food insecurity trends (2014–2019) are consistently noted over time both globally and between regions; a gap that has further widened everywhere, except Africa, between 2020 and 2021 (TABLE 1). Around the world, more women than men are experiencing food insecurity, and women experience more severe food insecurity than men (FAO *et al.*, 2021). Within-region estimates show that the same gender patterns hold, except for a slightly higher prevalence of severe food insecurity among men vs women in Eastern, Southern and Western Europe; Australia and New Zealand; and Central, Eastern and Southeast Asia. A notable data gap is the lack of gender disaggregated data in subregions with the highest food insecurity prevalence, such as Middle Africa (FAO, 2022e).

Gender gaps in food security do not narrow as country income levels increase. Evidence shows that GNI plays a minimal role in attenuating inequalities by gender. Regardless of country income status, women are consistently the most food insecure, spanning up to a 19-percentage point difference between men and women within countries (Broussard, 2019). Gender inequality frequently intersects further with ethnic and geographical divides and indigeneity, producing further vulnerability to food insecurity (Lemke and Delormier, 2018).

Finally, both qualitative and quantitative evidence from a meta-analysis shows that in LMICs, food insecurity is associated with higher odds of reported violence against women and girls (Hatcher *et al.*, 2022). While the mechanisms of this relationship are unclear, this study found that possible reasons for how and why food security and violence against women and girls are related are: inequitable gender norms, economic deprivation and social isolation. This gives further weight to the precarity of women and girls as it relates to food insecurity.

2.2.2. ACUTE FOOD INSECURITY AND INEQUALITY

Globally, populations identified in crisis (Phase 3), emergency (Phase 4) or catastrophe/famine (Phase 5) situations are those with the most urgent needs of livelihoods protection and among whom the risk of mortality due to food insecurity is highest, as characterized by the Integrated Food Security Classification (IPC, 2022). The most

recent estimates indicate that 258 million people living in 58 countries are experiencing acute food insecurity. The countries with the highest numbers include Afghanistan, the Democratic Republic of the Congo, Ethiopia, Myanmar, Nigeria, Pakistan, Syrian Arab Republic, Sudan, Ukraine and Yemen (FSIN and Global Network Against Food Crises, 2023). Data gaps exist in monitoring acute food insecurity across countries, as well as which groups within countries are most vulnerable, one of the reasons being non-standardized approaches to data collection and reporting. However, based on existing data, those groups consistently classified as IPC Phase 3 or above include displaced persons, those living in conflict areas, pregnant and lactating women, children under five years of age (FSIN and Global Network Against Food Crises, 2023).

2.2.3. AVERAGE INCOMES, INCOME INEQUALITY AND LINKS TO FOOD SECURITY GLOBALLY

Economic growth and increase in average incomes at the country level may not be sufficient to ensure prevalence of food security nor high levels of equality in food security across groups.

Despite a steady decline in global poverty since 1990 (World Bank, 2020, 2023a), hunger has increased since 2010, worsened recently by the COVID-19 pandemic and the war in Ukraine (CGIAR, 2022; FAO *et al.*, 2022). This suggests that factors beyond average income and poverty prevalence are important in driving FSN outcomes. Income poverty only partially reflects the multifaceted nature of hunger, food insecurity and the biological (among other) aspects of nutritional outcomes (Barrett, 2010; Prydz, Jolliffe and Serajuddin, 2021; Webb *et al.*, 2006). A global analysis of individuals across 134 countries shows that, regardless of country income level classification, salient factors associated with a higher likelihood of food insecurity are: low levels of education, weak social networks, less social capital and low household income (Smith, Rabbitt and Coleman- Jensen, 2017a).

Even where food security prevalence improves with income, inequalities in food security across groups may persist or even grow. (Wesselbaum *et al.*, 2023) examine global data based on the Food Insecurity Experience Scale (FIES) and find a Kuznets curve (inverted U-shaped curve) relationship between food security prevalence in the population and inequality in food security within the population. They conclude that within-population inequality in food security is highest in middle-income countries. Their findings suggest that countries aiming to reduce food security inequality should invest in safety nets and other social protection policies and institutions rather than simply relying on growth in average incomes.

Beyond increases in average income, actions to reduce income inequality can help improve FSN and reduce inequalities in FSN across groups, but are unlikely to be sufficient by themselves. The potential for economic growth to lift people out of poverty is compromised by high or increasing levels of income inequality (World Bank, 2016). In this situation, the poorest people may face food insecurity in the face of strong country or regional economic growth. (Holleman and Conti, 2020) analyse the associations between food insecurity (FIES) at the individual level and GDP per capita and Gini coefficients at the country level. They find that individuals living in countries with high income inequality have a significantly higher probability of facing moderate or severe food insecurity, compared to individuals living in countries with lower income inequality. They also find that high income inequality erodes the potential of higher GDP per capita to reduce individual food insecurity (Holleman and Conti, 2020). However, Alao *et al.* (2021) in their systematic review conclude that the literature linking income inequality with nutrition outcomes is too slight to make firm conclusions. Although there is some indicative evidence on the intuitive notion that high income inequality worsens food insecurity and malnutrition, the evidence base is surprisingly thin, and this is an important area for future research (Alao *et al.*, 2021).

Thus, the evidence from these studies suggests that, for countries aiming for a high level of food security prevalence as well as low inequality in food security within their population, income (including low-income inequality) matters, but it is not enough. Policies and action in a range of complementary areas, and consideration for other dimensions of disadvantage, are important.

TABLE 1:
SUMMARY OF INEQUALITIES IN FOOD SECURITY AND NUTRITION ACROSS AND WITHIN REGIONS

FOOD SECURITY OR NUTRITION METRIC	NOTABLE DISPARITIES ACROSS AND WITHIN REGIONS	RECENT CHANGE (2015—2019, UNLESS OTHERWISE SPECIFIED)	NOTABLE INEQUALITIES ACROSS GENDER AND OTHER GROUPS
PREVALENCE OF UNDERNOURISHMENT (HUNGER) (SDG Indicator 2.1.1)	• Africa has the largest hunger prevalence at 20.2 percent of population, compared to less than 10 percent in Asia and Latin America, and less than 2.5 percent in North America and Europe (FAO *et al.*, 2022). • Eastern (29.8 percent) and Middle Africa (32.8 percent) have particularly high prevalence, but South Asia has the highest numbers of hungry people (331.6 million) (FAO *et al.*, 2022). • Northern America and Europe, in contrast, has the lowest prevalence (<2.5 percent), followed by Oceania (5.8 percent) (FAO *et al.*, 2022). • The disproportionately higher PoU in Eastern and Middle Africa, Southern Asia and the Caribbean contribute to the overall regional burden of hunger in Africa, Asia and Latin America and the Caribbean, respectively (FAO *et al.*, 2022).	• Asia was experiencing a slow but steady decline in hunger between 2015 and 2019 (↓0.6 pp), while hunger had increased in Africa (↑1.6 pp), Latin America and the Caribbean (↑0.9 pp) (FAO *et al.*, 2022). • However, all regions experienced an increase in hunger between 2019 and 2021: Africa (↑2.8 pp), Asia (↑1.7 pp), Oceania (↑0.2 pp) and Latin America and the Caribbean (↑1.9 pp) (FAO *et al.*, 2022). • Southern Asia has experienced a steeper increasing trend (↑4.5 pp) since 2017, compared to any other Asian subregion (<0.3 pp).	• Longer-term downward trends in hunger in countries of all income levels from 2004–2006 to 2021 have been noted, except for high-income countries where the prevalence has remained unchanged (FAO *et al.*, 2022).
PREVALENCE OF MODERATE OR SEVERE FOOD INSECURITY (SDG Indicator 2.1.2)	• Africa has the highest prevalence (57.9 percent of population), compared to just under 25 percent in Asia, 40.6 percent in Latin American and the Caribbean and 8 percent in North America and Europe (FAO *et al.*, 2022). • Eastern (66.9 percent) and Middle Africa (75.3 percent) and the Caribbean (64 percent) have particularly high prevalence (FAO *et al.*, 2022). • Southern Asia and sub-Saharan Africa have the highest number of people experiencing moderate/severe food insecurity (FAO *et al.*, 2022).	• Food insecurity has increased between 2014 and 2021 across Africa (↑13.5 pp), Asia and Latin America and the Caribbean (↑16 pp) since 2014 (FAO *et al.*, 2022). • There were particularly sharp increases in Western Africa (↑23.9 pp), followed by Central Asia (↑11.7 pp), Southern Asia (↑13.3 pp), Latin America (17.1 pp) and South America (↑22.5 pp) (FAO *et al.*, 2022). • In Northern America and Europe food insecurity decreased during this period (↓0.7 pp) (FAO *et al.*, 2022).	• In every region of the world, food insecurity is higher and more severe among women than men (FAO *et al.*, 2022).

FOOD SECURITY OR NUTRITION METRIC	NOTABLE DISPARITIES ACROSS AND WITHIN REGIONS	RECENT CHANGE (2015—2019, UNLESS OTHERWISE SPECIFIED)	NOTABLE INEQUALITIES ACROSS GENDER AND OTHER GROUPS
PEOPLE UNABLE TO AFFORD A HEALTHY DIET (FAO *et al.*, 2022)	• In **Eastern, Middle and Western Africa,** more than **85 percent** of the population is unable to afford a healthy diet, followed by **Southern Asia,** with **70 percent** (FAO *et al.*, 2022). • Less than 2 **percent** of the population in **Europe** and **North America** face this challenge (FAO *et al.*, 2022). • Unaffordability of healthy diets follows a monotonic pattern by country income group status – **88 percent** in LICs, **69.4 percent** in LMICs, **15.2 percent** in UMICs, **1.4 percent** in HICs (Bai, Herforth and Masters, 2022; Raghunathan, Headey and Herforth, 2021).	• The recent increase in food prices, accompanied by income shocks during the pandemic, have worsened the affordability of diets **in almost all regions** (FAO *et al.*, 2022). • Countries with persistent unaffordability **(>90 percent** of population unable to afford a healthy diet) since 2017: **Angola, Burundi, Central African Republic, Congo, Guinea, Madagascar, Malawi, Mozambique, Nigeria, Sudan** (FAO *et al.*, 2022).	• **Women**, **girls** and **rural populations** are especially unable to afford a healthy diet (Bai, Herforth and Masters, 2022; FAO *et al.*, 2022; Raghunathan, Headey and Herforth, 2021). 
PREVALENCE OF ANAEMIA AMONG WOMEN (SDG indicator 2.2.3)	• Anaemia prevalence among women is highest in **Western Africa (51.8 percent)**, followed by **Southern Asia (48.2 percent)** and **Middle Africa (43.2 percent)** (FAO *et al.*, 2022). • Inadequate data is available to evaluate the burden of anaemia in HICs (Bai, Herforth and Masters, 2022; Development Initiatives, 2020; Raghunathan, Headey and Herforth, 2021).	• There has been **little progress** in anaemia reduction among non-pregnant women in the last decade (Development Initiatives, 2020). • Among pregnant women, most recent estimates reveal **a decreasing trend from 41 percent (in 2000) to 30 percent (in 2019)** (Stevens *et al.*, 2022). • Between 2000 and 2009 and 2010 and 2019, **only Guatemala and the Philippines have made sufficient progress** to meet the World Health Assembly target for anaemia reduction (Stevens *et al.*, 2022).	• Anaemic women are **more likely to be poor, to have no formal education and to be from rural areas** (FAO *et al.*, 2022). 

FOOD SECURITY OR NUTRITION METRIC	NOTABLE DISPARITIES ACROSS AND WITHIN REGIONS	RECENT CHANGE (2015—2019, UNLESS OTHERWISE SPECIFIED)	NOTABLE INEQUALITIES ACROSS GENDER AND OTHER GROUPS
PREVALENCE OF ADULT OBESITY	• Adult obesity prevalence is highest in **North America, Europe** and **Australia and New Zealand**. • **Asia** and **Africa** have significantly lower obesity prevalence, although some countries in the **Middle East and North Africa** have prevalence comparable to that of the Western nations. • The top 3 countries with the highest country prevalence of obesity (**41** to **65 percent**) among males and females are the **island states of Micronesia, Melanesia and Polynesia** (Global Obesity Observatory, 2023). • Over one-third of men in **Australia, Canada, Kuwait, Malta, New Zealand, Qatar, Saudi Arabia and the United States of America are obese. Among women, over two-fifths of women in Bermuda, Egypt, Jordan, Kuwait, Libya, Palestine, Puerto Rico, Qatar, Saudi Arabia, South Africa, Türkiye and the United Arab Emirates** are obese.	• Adult obesity has trended upwards in **all regions** of the world over the last two decades. • Sex-specific and age-standardized global trends show an increase in prevalence of obesity of **↑7.6 pp** and **↑8.5 pp** in men and women, respectively, between 1975 and 2014.	• Overweight **women are more likely to be urban and from wealthier households**. Overall, **wealthier countries have overweight and obesity rates that are five times those of poorer countries** (Development Initiatives, 2021).  • **In high-income countries – Australia, Canada, New Zealand, the United States of America – and among Indigenous Peoples,** there is a disproportionately higher prevalence of obesity (Batal and Decelles, 2019; Goins *et al.*, 2022; Thurber *et al.*, 2018). 

FOOD SECURITY OR NUTRITION METRIC	NOTABLE DISPARITIES ACROSS AND WITHIN REGIONS	RECENT CHANGE (2015—2019, UNLESS OTHERWISE SPECIFIED)	NOTABLE INEQUALITIES ACROSS GENDER AND OTHER GROUPS
PREVALENCE OF STUNTING IN CHILDREN UNDER 5 YEARS (SDG indicator 2.2.1.)	• Stunting prevalence is highest in **Melanesia (40.6 percent)**, followed by **Middle Africa (36.8 percent)**, **Eastern Africa (32.6 percent)**, **Western Africa (30.9 percent)** and **Southern Asia (30.7 percent)** (FAO *et al.*, 2022). • In contrast, stunting prevalence is only **3** to **5 percent** in **Europe** and **North America**. • The largest numbers of stunted children are in **Southern Asia.** Of the three countries that are home to almost half **(47.2 percent)**of all stunted children, two are in Southern Asia, namely **India and Pakistan** (Development Initiatives, 2020).	• Child stunting has declined steadily in the last two decades and has become more concentrated in LICs. However, some countries in **Northern Africa, Oceania and the Caribbean** have had a recent uptick in stunting.	• Stunted children are **more likely to be male, live in rural areas, be poor and have mothers with no formal education.**
PREVALENCE OF WASTING IN CHILDREN UNDER 5 YEARS (SDG indicator 2.2.2.)	• Child wasting prevalence is highest in **Southern Asia (14.1 percent)** followed by **Oceania (Melanesia, Micronesia and Polynesia) (9.0 percent)**. • The countries with high prevalence of wasting **(>15 percent)** are **Djibouti, India, Niger, Sri Lanka and Sudan** (Development Initiatives, 2020). • Wasting is negligible in **Europe and North America**.	• Wasting reduction is occurring at a rate insufficient to meet the **5 percent** global target even if some countries are making progress. This is especially concerning given the association between wasting and mortality and that 1 in every 5 under-five deaths can be attributed to severe wasting. Worse still, **wasting worsened during the pandemic,** which is especially of concern for South and Southeast Asia, where the burden is high (FAO *et al.*, 2022).	• Child wasting shows relatively weak associations with socioeconomic groupings. However, **those in poorer rural households and with mothers with no formal education are more vulnerable to wasting** (Development Initiatives, 2020).
PREVALENCE OF OVERWEIGHT IN CHILDREN UNDER 5 YEARS (SDG indicator 2.2.2)	• Child overweight prevalence s highest in **Australia and New Zealand (16.9 percent)**, followed by **Northern Africa (13 percent)** and **Southern Africa (12 percent)**, **Eastern Europe (9.9 percent)** and **North America (9.1 percent)** (FAO *et al.*, 2022).	• Overweight prevalence is increasing in many countries in **Southern Africa, Southeast Asia, Oceania and South America and the Caribbean** (FAO *et al.*, 2022).	• Overweight children are **more likely to be from wealthier households and have mothers with at least secondary school education** (Development Initiatives, 2020).

Note: Definitions of food security and nutrition metrics can be found in ANNEX 1.

Source: Authors' own elaboration.

2.2.4. PLACE AND SPACE CONSIDERATIONS RELATED TO FSN INEQUALITIES GLOBALLY

Place (urban vs rural) and space (spatial variation or location) are associated with FSN inequalities. Place-based food security inequalities may reflect issues of structural inequality, with some areas receiving less political attention and investment. Remoteness, arising either from challenging geophysical features or due to disadvantages in investment, is especially detrimental to nutrition (Headey, Hoddinott and Park, 2017).

Global-level analysis of urban–rural differences in food security are sparse (Ruel *et al.*, 2017) but more such analyses are now available by pooling national survey data that employ the FIES module to allow for sufficiently powered disaggregated estimates. One such analysis, shows that living in a rural area vs a large city increases the probability of food insecurity (Smith, Rabbitt and Coleman- Jensen, 2017b). In LMICs, evidence shows that not only do women have a higher probability of experiencing food insecurity compared to men but that this inequality is more pronounced among rural women compared to rural men (D'Souza and Jolliffe, 2013; Sinclair *et al.*, 2022). However, disaggregating countries by their development status, we see that urban populations are not always protected against food insecurity. A study that analysed FIES data from 146 countries collected in 2014-2015, found that in least-developed countries 50 percent of urban populations were food insecure, compared with 43 percent in rural areas (Tefft *et al.*, 2017). Similarly, evidence from a country-level analysis of twelve African countries that assessed food security using energy availability per capita found that, in most of the countries, energy availability per capita was lower in urban vs rural areas (Smith, Alderman and Aduayom, 2006). Poverty intersects with place rendering the urban poor more vulnerable to food insecurity. During food, fuel and financial crises, the urban poor are among the groups (together with the rural landless and net buyers) made most vulnerable to food insecurity, malnutrition and economic shocks (Ruel *et al.*, 2010).

Worldwide, forest communities are often in a situation of FSN vulnerability, given their high dependence on a dwindling resource (HLPE, 2017b). The global forest area has declined by 81.7 million hectares, a loss contributing to the more than 60 percent decline in global forest area per capita (Estoque *et al.*, 2022). This loss threatens biodiversity and impacts the lives of 1.6 billion people worldwide as well as their food security and water, most of whom live in the Global South, in remote areas (Louman *et al.*, 2015). These findings highlight the importance of considering context and examining within-country inequalities in FSN.

2.3 GLOBAL, REGIONAL AND COUNTRY-LEVEL INEQUALITIES IN DIET AND NUTRITIONAL STATUS

2.3.1. DISPARITIES IN NUTRITIONAL STATUS AND THE DOUBLE BURDEN OF MALNUTRITION

Child undernutrition

Middle Africa and Eastern Africa not only face the challenge of high prevalence of hunger and severe food insecurity but, additionally, a high proportion of their populations are unable to afford healthy diets (>85 percent) and one-third of their under-five child population is stunted (FAO *et al.*, 2022). Southern Asia also endures a high prevalence of child stunting and wasting, although gains have been made in reducing stunting between 2000 (48.3 percent) and 2020 (30.7 percent) (Development Initiatives, 2022). More broadly, a study of 67 countries shows that globally, between 1993 and 2014, there has been a consistent reduction in the prevalence of stunting (da Silva *et al.*, 2018). However, the rate of decline was faster for rural compared to urban children and wealth-related inequalities in stunting have increased in low-income countries. A systematic review (Alao *et al.*, 2021) of the evidence on global and regional economic inequality in malnutrition, and the associations between economic inequality and malnutrition, shows that food insecurity and child undernutrition are concentrated among low-income households globally, even if moderately high stunting prevalence has been revealed to persist in wealthier households in certain contexts, such

as Ethiopia and India (Nguyen *et al.*, 2021). Another study, primarily representative of LMICs, showed that the major axes of inequality in child malnutrition are wealth (being poor), location (rurality), and low maternal education. Differences by these factors, including gender, were negligeable for wasting and overweight (Development Initiatives, 2020).

Anaemia and underweight among women

Western and Middle Africa and Southern Asia have the highest prevalence of anaemia among women. Moreover, inequality in the prevalence of anaemia among women is modest by location (rural – 41 percent, vs urban – 38 percent) (UNICEF, 2023). The burden of anaemia is higher among pregnant women (Development Initiatives, 2020). Global trends show some gains in reducing the prevalence of anaemia in pregnant women from 2000 (41 percent) to 2019 (36 percent), but there has been insignificant change among non-pregnant women (Stevens *et al.*, 2022). The prevalence of underweight among women and adolescent girls is high (>10 percent) in most of Africa (apart from Northern Africa) and South Asia. Underweight in adolescent girls is disproportionately high in South Asia (19 percent) (UNICEF, 2023). Limited nutritional status data on adolescent boys and men is available to evaluate gender differences in status.

Overweight and obesity

Europe, North America, Australia and New Zealand have among the highest prevalence of child overweight and adult obesity. However, the problem of overweight and obesity is not exclusive to these regions. The prevalence of child overweight in Northern as well as Southern Africa is very high, as is the prevalence of adult obesity in some countries in the Middle East and North Africa (TABLE 1) (FAO *et al.*, 2022). Prevalence of overweight and obesity is concentrated among high-income households in many parts of Asia and Africa, whereas it is concentrated among low-income households in Europe and North America (Alao *et al.*, 2021).

The double burden of malnutrition

The double burden (DBM) is defined as the coexistence of undernutrition (stunting and wasting) along with overweight, obesity or diet-related non-communicable disease at all levels of population from individual to household to community and country. Underlying the DBM phenomenon is rapid economic growth and a globalized food system, accompanied by changing dietary patterns towards less healthy diets and more sedentary lifestyles (Malik, Willett and Hu, 2013; Popkin, Corvalan and Grummer-Strawn, 2020a; Wells, 2020). Popkin, Corvalan and Grummer-Strawn, (2020) report that sub-Saharan Africa, South Asia and East Asia and the Pacific carry particularly large burdens of DBM (Popkin, Corvalan and Grummer-Strawn, 2020b). Since 1990, much of the growth in DBM has happened in countries in the lowest income quartile, while fewer countries from the higher income quartiles have significant DBM. This is driven by increasing overweight in low-income countries that have not managed to reduce undernutrition rapidly enough (Popkin, Corvalan and Grummer-Strawn, 2020a). Another study (Seferidi *et al.*, 2022) shows that, in countries with a lower GNI, mother–child pairs from higher-income classes were more likely to have DBM. But as the country GNI increased, the highest-income class mother–child pairs were less likely to have DBM, compared to the poorest wealth quantiles. A regional analysis of adolescent girls and adult women in sub-Saharan Africa shows that, since 2000, DBM patterns are emerging (defined as coexistence of underweight, anaemia, overweight and obesity within a country), with a rapid rise in overweight and obesity, alongside declining but persistently high rates of underweight and anaemia (Jiwani *et al.*, 2020).

Groups at high risk of DBM identified in different settings include Indigenous, First Nation and ethnic minority populations in Australia, Canada and the United Kingdom of Great Britain and Northern Ireland, respectively. African Americans in the United States of America and tribal populations in India are also at high risk of DBM, linked to higher levels of low birthweight and increased risk of

obesity and non-communicable diseases (Wells, 2020). Women are also at higher risk of DBM.

Communities that live in or rely entirely on forests are harder to reach and often may not be captured in larger surveys. Characterizing the extent of their dependence on forests for food security in different geographies is critical. There is, however, evidence of the links between forest exposure or proximity and child nutritional outcomes. In 27 developing countries in Africa, Central and South America, Southeast Asia and Eastern Europe, forest cover is associated with a >25 percent higher dietary diversity among children with high versus low forest cover exposure, but the relationship is moderated by market access and roads (Rasolofoson *et al.*, 2018), implicating remoteness as an important consideration. In Africa, rurality also is a consideration, where proximity to higher forest cover is associated with better nutritional outcomes in urban areas and worse outcomes in rural areas. (Pienkowski *et al.*, 2018). Overall, forest conservation is essential, but it is insufficient in alleviating FSN inequalities.

2.3.2. DIETS AND CHILD FEEDING

Disparities in **child-feeding practices** for infants and young children, particularly in relation to exclusive breastfeeding which is a "first food" must be addressed. Aggressive marketing of formula in all settings, but especially in LMICs, coupled with unsupportive environments and policies for breastfeeding, threatens displacement of breastmilk, further driving inequalities in FSN outcomes (Champeny *et al.*, 2019).

A lower proportion of infants belonging to rich versus poor households in LMICs are exclusively breastfed, and breastfed in general, highlighting that suboptimal feeding practices do not follow the income/wealth gradient often observed (Neves *et al.*, 2020). UNICEF reports that one in five babies in HICs, compared to one in twenty-five in LMICs, are never breastfed (UNICEF, 2018). Across LMICs, there is high variation in national breastfeeding rates, ranging from 2 percent in Chad to 88 percent in Rwanda, based on 2018 data (Bhattacharjee *et al.*, 2021). The Dominican Republic, Tunisia, Thailand and Yemen have had persistently low mean exclusive breastfeeding prevalence (<25 percent). Suriname has a particularly low breastfeeding prevalence, at ~6 percent, which has been the rate for close to a decade ((Neves *et al.*, 2020; Victora *et al.*, 2016). There have been notable trends of improvement in exclusive breastfeeding prevalence over a decade in certain LMICs, particularly Cambodia, Democratic Republic of the Congo, Guinea-Bissau, Lesotho, Liberia, Sudan and Turkmenistan (Bhattacharjee *et al.*, 2021).

The practice of breastfeeding carries time, energy and cost burdens on mothers, even if considered "free". Inequalities in feeding practices, specifically continued breastfeeding (up to 2 years), the introduction of solid and semisolid or soft foods, and minimum meal frequencies, are present by location (worse in urban areas), wealth (worse among the poorest), maternal education (worse among no or primary education) (Development Initiatives, 2020).

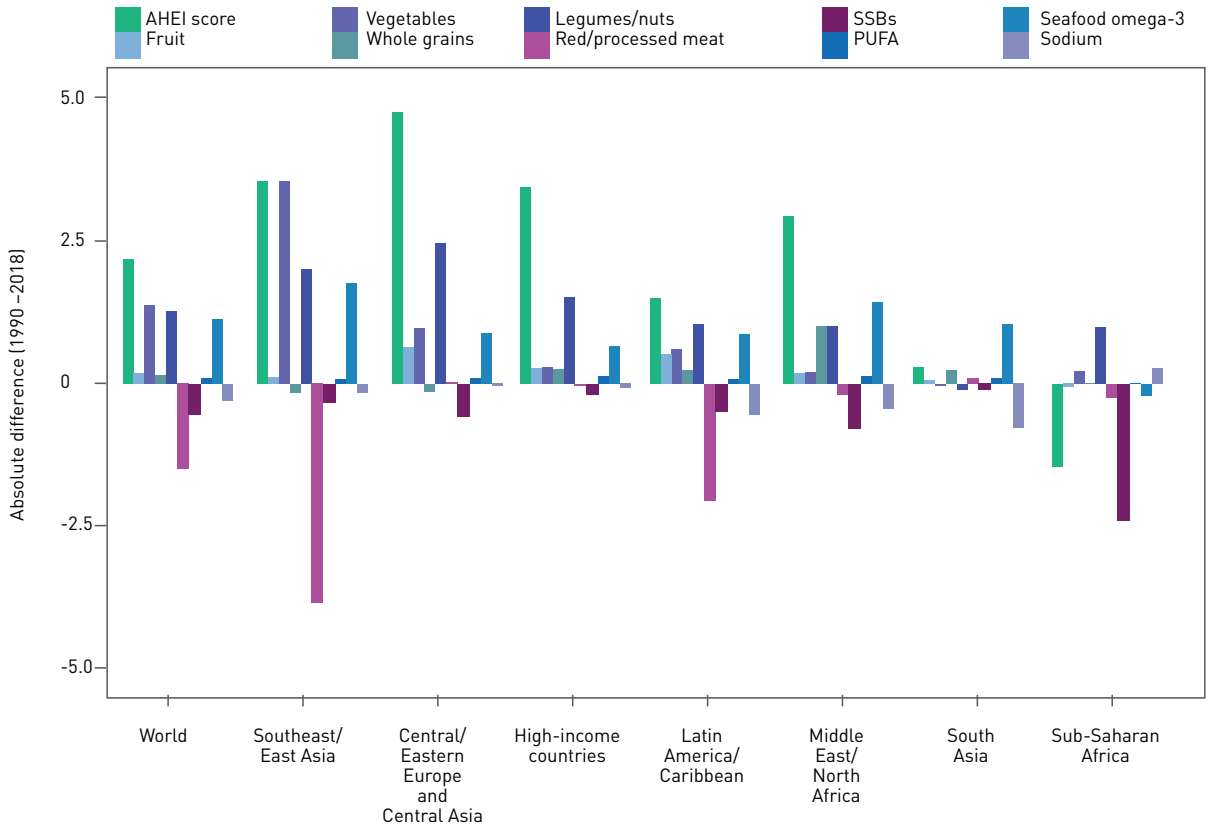
Diet quality is a critical link between food security and nutritional well-being. But there is a lack of recent individual-level dietary data, limiting the ability to make comparisons between countries. Recently, more countries have invested more in dietary surveys, but there remains a large gap in overall dietary data, especially in dietary data for specific marginalized subpopulations (FAO, 2022e). There have been efforts, however, to create databases with existing individual-level dietary data and modelled estimates, to examine global dietary patterns (FAO and WHO, 2023; Miller *et al.*, 2021). Global dietary quality is revealed to be moderate at best, as measured by the Alternative Healthy Eating Index (AHEI) – a validated diet quality metric that assigns a score – from low (0) to high (10) – based on adherence to a dietary pattern (comprised of (un)healthy components). The healthy components include fruit, non-starchy vegetables, legumes/nuts, whole grains, polyunsaturated fatty acids and seafood omega-3 fat. The unhealthy components include red/processed meat, sugar-sweetened beverages (SSBs) and sodium. Low AHEI scores have been shown to be associated with the risk of NCDs, namely cardiovascular diseases, diabetes and cancer (Schwingshackl, Bogensberger and Hoffmann, 2018). Differences in dietary quality exist

globally and regionally, driven by consumption of different food groups (Miller *et al.*, 2022).

Among both adults and children, the average AHEI score was highest among the populous countries of the India, Indonesia, the Islamic Republic of Iran and Viet Nam; and lowest in Brazil, Mexico and the United States of America. Regionally, patterns show that South Asia and sub-Saharan Africa have a relatively higher consumption of healthier foods, with low intake of SSBs and red and processed meats. Central and Eastern Europe, Northern Africa, Central Asia and the Middle East consume relatively high amounts of healthy foods, such as fruits, legumes and omega-3 fats, but also relatively high amounts of red and processed meats and sodium. An increasing trend in the average AHEI score (indicating healthier diet patterns) between 1990 and 2018 is observed in five of seven regions, with no change in South Asia and a decreasing trend in sub-Saharan Africa (FIGURE 3).

Notably, diet quality scores were found to be higher among women than men. This finding was primarily seen in HICs. AHEI scores did not differ by rural–urban residence of individuals, but there were inequalities by educational attainment: Individuals with a higher level of education in all regions, except for the Middle East, Northern Africa and sub-Saharan Africa, had higher AHEI scores.

FIGURE 3:
GLOBAL AND REGIONAL MEAN ABSOLUTE DIFFERENCES IN ALTERNATIVE HEALTHY EATING INDEX COMPONENT SCORES IN ADULTS, BETWEEN 1990 AND 2018



Notes: The Alternative Healthy Eating Index (AHEI) score comprises nine components, scored from 0 to 10, and scaled to ten components (correction not shown). The absolute difference by time was computed as the difference at the stratum level and aggregated to the global and regional mean differences using weighted population proportions for 2018. SSB: sugar sweetened beverages. PUFA: polyunsaturated fatty acids.

Source: Miller, V., Webb, P., Cudhea, F., Shi, P., Zhang, J., Reedy, J., Erndt-Marino, J., Coates, J. and Mozaffarian, D. 2022. Global dietary quality in 185 countries from 1990 to 2018 show wide differences by nation, age, education, and urbanicity. *Nature Food*, 3(9): 694–702.

Adolescence is a critical life stage where optimal nutrition is crucial. Recent studies reveal that diet quality decreases between infancy and adolescence globally, especially in sub-Saharan Africa and South Asia (Miller *et al.*, 2022). Further, low dietary diversity is observed, especially in adolescent girls and women from poor households, with nutrient-rich foods being prohibitively costly for this group (Headey and Alderman, 2019; UNICEF, 2023).

The 2022 global report, 'Measuring what the world eats' (Global Diet Quality Project, 2022), which covers over 40 countries, uses a rapid Dietary Quality Questionnaires (DQQ) tool to assess diet quality. The report reveals that most people are not consuming diets that even minimally adhere to dietary guidelines. In 34 of the 41 countries in the report, less than 50 percent of the population consume all five recommended food groups – starchy staples, vegetables, fruits, pulses, nuts and seeds, and animal-source foods. China, Indonesia, Mexico, Nicaragua, Sri Lanka and Tajikistan are the only countries where most of the population consumes all food groups (Global Diet Quality Project, 2022).

2.4 LONG-RUN TRENDS IN INEQUALITY

The discussion above suggests there are significant disparities in FSN outcomes across countries. An examination of long-running trends, however, shows movement towards cross-country equalization in some indicators. Bell, Lividini and Masters, (2021) present Gini coefficients (0=perfect equality; 1=maximum inequality) for a range of food supplies (availability), nutrient supplies and nutrition outcomes based on country-level data from across the world (Bell, Lividini and Masters, 2021). These are illustrated in FIGURE 4. In interpreting these results, it is important to note that the food and nutrient data used are based on national-level supplies and are not derived from information on individual diets. As shown in FIGURE 4, although inequality persists, countries have become more similar over the period of 1970 to 2010 with respect to food supplies and certain nutrition outcomes.

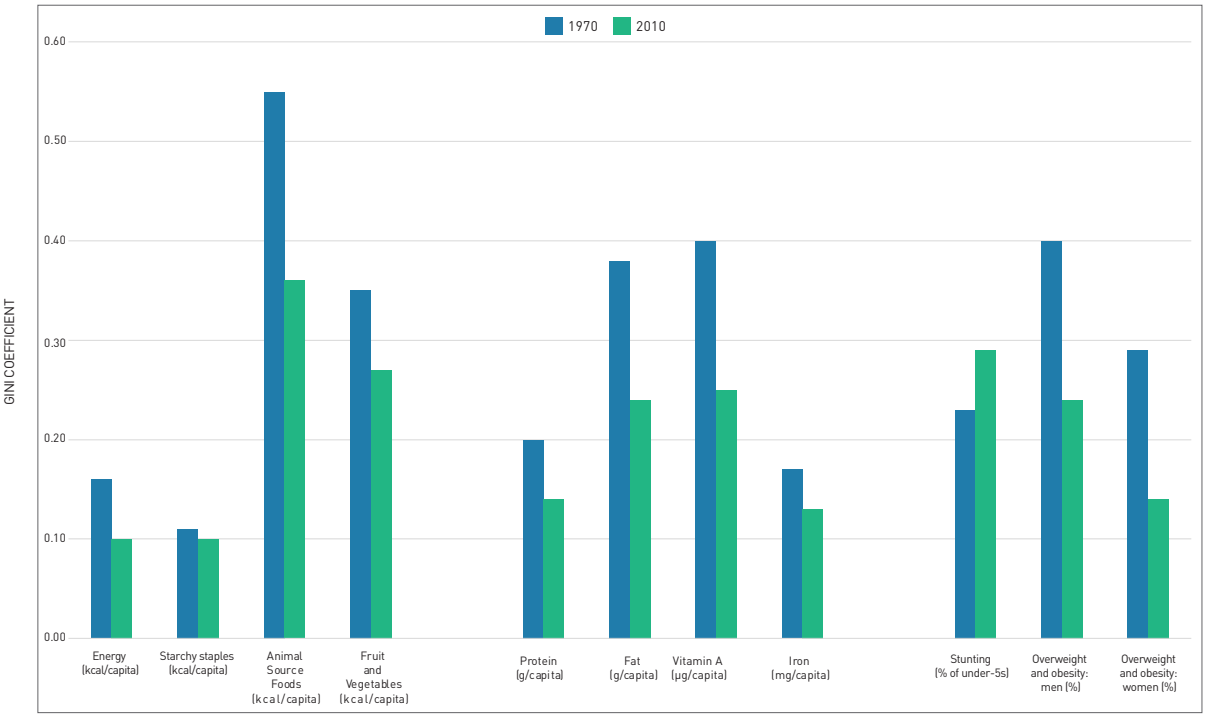
Animal-source foods (ASFs) and fruits and vegetables are particularly important sources of vitamins, minerals and energy, but they are generally expensive. Accordingly, the supply of these foods across countries is much more unequally distributed than supplies of starchy staples and food in general (proxied by overall energy intake). However, country-level food availabilities across the globe have become more equal over time, particularly in the case of ASFs, even though these are not always accessible to the poorest populations (Bai *et al.*, 2021; Headey and Alderman, 2019). With dietary patterns worldwide changing to include more meat and ASF, environmental sustainability and health and nutrition benefits, which often are not correlated, must be considered, along with the trade-offs of promoting and restricting ASFs in the development and revision of food-based dietary guidelines (Fanzo, 2019; Weis, 2013).

As food supplies across the globe have become more equal over the decades, country-level nutrient supplies have also become more equal (Bell *et al.*, 2021). With the gradual convergence of food supplies across the world, the prevalence of overweight and obesity has also become less confined to a limited number of countries, that is, it has become more equally distributed within populations – a negative outcome. Stunting prevalence is the only metric shown in FIGURE 4 that has witnessed an increase in the cross-country Gini coefficient, as more countries have made progress in reducing the prevalence of stunting, and stunting is increasingly concentrated in a smaller number of countries. As Bell, Lividini and Masters (2021) note, the reduction in cross-country inequalities in food and nutrient supplies and in nutrition outcomes over the decades implies that inequalities are increasingly concentrated *within* countries and populations.

2.5 A DEEP DIVE: WITHIN-COUNTRY INEQUALITIES

As with between-country inequalities, within-country FSN inequalities are closely tied to inequalities in wealth and income (Restrepo-Méndez *et al.*, 2015; Victora *et al.*, 2021),

FIGURE 4:
GINI COEFFICIENTS OF GLOBAL FOOD/NUTRIENT SUPPLIES AND NUTRITION OUTCOMES



Source: Bell, W., Lividini, K. and Masters, W.A. 2021. Global dietary convergence from 1970 to 2010 altered inequality in agriculture, nutrition and health. *Nature Food*, 2(3): 156–165.

geographic location (urban/rural) (Ruel *et al.*, 2017) and education (see CHAPTER 3, Section 3.6.3). Additionally, significant inequalities in FSN arise between groups distinguished by ethnicity, caste, religion, gender, disability and age. Children under the age of five are particularly vulnerable to food insecurity and malnutrition (Ahmed, Hossain and Sanin, 2012; FAO *et al.*, 2022). Illustrative examples portray that the most important basis for inequality may vary from country to country and is context specific.

2.5.1 FOOD INSECURITY INEQUALITIES WITHIN COUNTRIES ALONG DIFFERENT AXES OF INEQUALITY

There is significant geographic variation in food security within countries. This has been captured by leveraging routine national surveys. Low national prevalence may mask large local disparities. Taking the United Kingdom as an example of a HIC, while hunger is low (as measured by prevalence of undernourishment at the country level, food insecurity estimates from a representative sample of private households in 2022 showed that, nationwide, ~16 percent of households experienced food insecurity in the previous 6 months, but ~43 percent experienced food insecurity in Blackburn with Darwen borough. Further, disproportionately higher proportions of food insecurity were seen observed across persons with disabilities vs those without (10.4 percent among persons without disability vs 36 percent among persons with disability), and across white vs non-white populations (15.7 percent among white populations vs 34.5 percent among non-white populations) (Food Foundation, 2023; University of Sheffield and Food Foundation, 2021).

People with disabilities are at greater risk of food insecurity given they are also more likely to be living in poverty (Schwartz, Buliung and Wilson, 2019) and may face special challenges

in acquiring food. Disabilities span physical, mental, cognitive, sensory and psychiatric issues. In the United States of America, adults with disabilities have twice the odds of those without disabilities of being food insecure (Brucker and Coleman-Jensen, 2017), while in Trinidad and Tobago, those needing assistance with daily living activities had three times higher odds of being food insecure than those not needing assistance (Gulliford, Mahabir and Rocke, 2003).

Relative disadvantage in FSN defined by social groupings and, oftentimes, their intersectionality with place, is also evident in many HICs. In remote rural areas of Australia, for instance, there is often inadequate availability of and access to healthy foods (Whelan *et al.*, 2018). Older Indigenous adults in Australia have five to seven times higher risk of experiencing food insecurity than their non-Indigenous counterparts (Temple and Russell, 2018). In North America, inequality in food security is evident along the axes of race, ethnicity, indigeneity and wealth. In 2021, the national prevalence of household food insecurity in the United States of America was 10 percent, compared to 32 percent among households under the poverty line (USDA ERS, 2021).

Black non-Hispanic households have a higher proportion of food insecurity (22.7 percent) compared to White non-Hispanic households (8.7 percent) (D'Souza and Jolliffe, 2013). BOX 2 provides insights on how the intersection of multiple identities shape food insecurity experience among vital members of our food systems – temporary immigrant farmworkers - and immigrants in the United States of America more broadly.

Another study from Canada shows that First Nations, Métis and Inuit people have disproportionally higher prevalence of food insecurity, compared to the general population. Further, the study reports barriers related to the ability to obtain traditional foods as well as high food prices. Coping mechanisms include changing their traditional diet, rationing, sharing food and changing purchasing patterns (Skinner *et al.*, 2013).

There is evidence that, in some parts of the world, certain religious minorities experience barriers to food access arising from discrimination, although which religious minorities are discriminated against depends on the country context. Lived-experience research illustrates some of the ways in which

BOX 2:
HOW INTERSECTIONAL IDENTITIES COMPOUND FSN OUTCOMES – INSIGHTS FROM THE UNITED STATES OF AMERICA

Approximately one-third of farmworker families are food insecure in the United States of America, and immigrant populations in the country have disproportionally higher food insecurity compared to the general population (Coleman-Jensen et al., 2022). In a study conducted by Quandt et al. on household food security among migrant and seasonal Latino farmworkers in North Carolina, they found that almost half (47.1 percent) the households interviewed were food insecure and the levels of food insecurity were even higher in households with children (56.4 percent vs. 36.2 percent). Leveraging in-depth interviews, the study revealed how, to spare children, adults would adopt different strategies, with the parents ultimately enduring further deprivation. One study (Quandt et al., 2004, p.572) participant reported:

> *"I told my wife to eat what she could while I would go with my cousins and friends. I would do it sometimes just to leave. I would eat lunch and stay gone all day in the fields so my wife and children would have more to eat. We have had to do this at times"* [FW23—male, age 38].

Mothers with low levels of education, the existence of children, and the use of the Special Supplemental Nutrition Program for Women, Infants and Children (a social protection programme),[a] were found to be significant predictors of household food insecurity. Most mothers in the study population (>70 percent) had a primary level of education or less. Coping strategies included informal borrowing to be able to pay for food for their families (Quandt et al., 2004, p.573).

> *"We have borrowed money from other people and then bought food. Then when we returned to work, we would pay this money back"* [FW06—female, age 33].

Similar outcomes in food insecurity among regular immigrants in California, Texas and Illinois were reported by (Kasper et al., 2000). That study found that households faced a higher risk of food insecurity if their income was less than the federal poverty level, if respondents had poor English-speaking ability, or if there were children in the household (Kasper et al., 2000). This evidence shows that the intersectionality of different identities such as gender, ethnicity, migration status, education level and having children can greatly impact food security outcomes among marginalized populations.

Note:
[a] https://www.fns.usda.gov/wic

Sources: Coleman-Jensen, A., Rabbitt, M.P., Gregory, C.A. & Singh, A. 2022. *Household Food Security in the United States in 2021*. Economic Research Report. 309. U.S. Department of Agriculture, Economic Research Service; Kasper, J., Gupta, S.K., Tran, P., Cook, J.T. & Meyers, A.F. 2000. Hunger in legal immigrants in California, Texas, and Illinois. *American Journal of Public Health*, 90(10): 1629–1633; Quandt, S.A., Arcury, T.A., Early, J., Tapia, J. & Davis, J.D. 2004. Household food security among migrant and seasonal latino farmworkers in North Carolina. *Public Health Reports* (Washington, D.C.: 1974), 119(6): 568–576.

discrimination leading to FSN inequality is experienced by religious minorities in certain settings: attacks on the community while farming, high food prices in their neighbourhoods, gender-based violence against women while they are acquiring food for their families, and lack of access to public services and public protection (Howard *et al.*, 2021). These findings provide evidence that FSN inequalities are often deeply rooted in social hierarchies that are very context specific.

Gender is at the core of intrahousehold dynamics in how resources are distributed within the household. Estimates of food insecurity prevalence by gender within countries may be underestimated, as food insecurity is often measured at the household, rather than the individual level. There is a lack of sex-disaggregated, individual-level food insecurity data to ascertain gender differences in FSN, and most analyses are restricted to the use of aggregate data to draw conclusions about food insecurity (Barrett, 2010). Nevertheless, within many countries there is evidence of nutritional deprivation within households among the most vulnerable (women and children) regardless of household wealth (Brown, Ravallion and van de Walle, 2017). Studies have shown that foods and nutrients are inequitably allocated within households, with men typically consuming more nutrient-rich foods and having higher dietary adequacy compared to women. The latter is a consistent finding over time in Bangladesh, Nepal and Senegal (De Vreyer and Lambert, 2021; D'Souza and Tandon, 2015; Gittelsohn, 1991; Harris-Fry *et al.*, 2018). An added layer in gender inequalities within countries is the shift in inequality throughout the life course of women within households. As girls become older and become adolescents, they sometimes transition into experiencing food insecurity and malnutrition. For example, female adolescents from households that are food insecure were shown to be two times more likely to have excess weight, compared to those from food secure households in Brazil, a relationship not apparent in childhood (Schlüssel *et al.*, 2013). In Ethiopia, among households with high food insecurity, and comprised of adolescent boy-girl sibling pairs, 40% of girls reported experiencing food insecurity while their brothers did not (Headey and Alderman, 2019).

There is also evidence of FSN inequalities among transgender and non-conforming gender groups. In the United States of America, for example, one-third of transgender people live in poverty, compared to 12 percent of the general population. A qualitative study of transgender individuals reported gender-based discrimination and stigmatization, limiting economic opportunities and ultimately impacting their ability to afford adequate quantity and quality of food, often involving frequent skipped meals (Russomanno, Patterson and Jabson, 2019).

Gender frequently intersects with other drivers of food insecurity, such as conflict. In the post conflict setting of Colombia, for example, rural areas experienced a disproportionally high prevalence of food insecurity, especially

concentrated among women whose opportunities were particularly curtailed by armed conflict (50 percent food insecurity among rural women vs 40 percent in the general population) (Sinclair *et al.*, 2022). Other intersectional disadvantages related to FSN suffered by women include belonging to lower socioeconomic groups, not having formal education, ethnicity and indigeneity (Botreau and Cohen, 2020; Munro, Parker and McIntyre, 2014). Broader social forces also shape FSN inequalities faced by women through patriarchal societal and cultural norms (Akter, 2021; Jung *et al.*, 2017).

2.5.2 NUTRITION AND DIET INEQUALITIES WITHIN COUNTRIES ALONG DIFFERENT AXES OF INEQUALITY

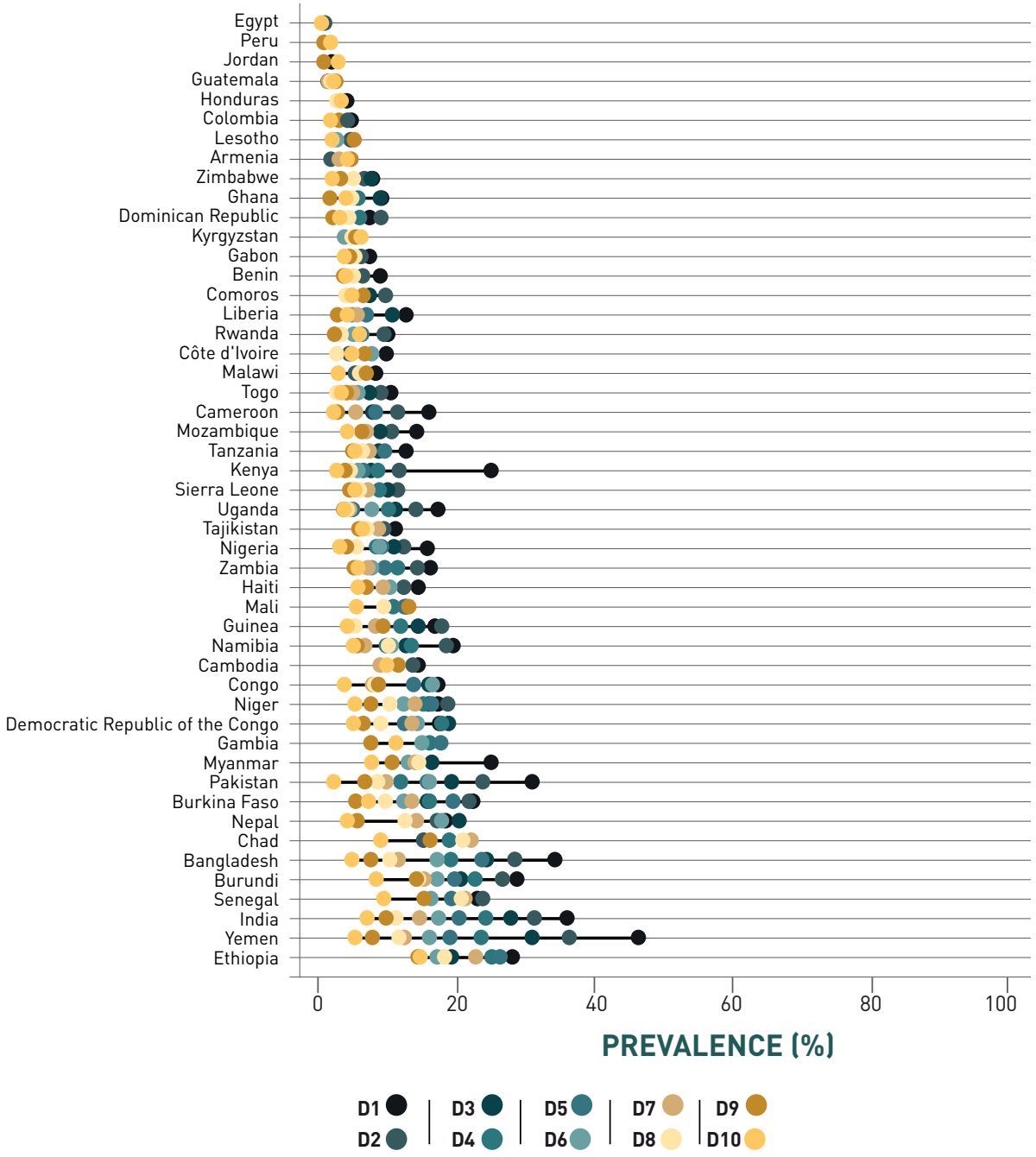
Wealth and income are a common basis of within-country inequalities in nutritional outcomes. In the case of childhood stunting in LMICs, cross-sectional analyses, further supported by large cohort studies, show that children belonging to higher quartiles of wealth have lower likelihood of being stunted (Schott *et al.*, 2019). Among women, inequalities in underweight have been shown to have a strong wealth basis, particularly in LMICs with high prevalence of underweight (Reyes Matos, Mesenburg and Victora, 2019) (FIGURE 5). Bangladesh, Kenya, Pakistan and Yemen are among the countries showing the most pronounced inequalities in underweight prevalence according to wealth status.

There is a higher prevalence of overweight/obesity among the higher wealth deciles in LMICs, as shown in FIGURE 6, along with a wide difference in prevalence between the higher and lower wealth deciles as compared to these same patterns for underweight in FIGURE 5. This difference is attenuated when the national prevalence of overweight/obesity is high (>20 percent), in countries such as Honduras, Gabon, Ghana, Lesotho and Peru (Reyes Matos, Mesenburg and Victora, 2019), but the inequalities in overweight/obesity are still significant.

Other evidence supports these findings in the context of LMICs. However, although the prevalence of overweight/obesity is highest among the wealthiest households, there seems to be a tipping point in the overweight/obesity and wealth gradient as economies grow (Jones-Smith et al., 2012; Neupane, K.C. and Doku, 2016). This signals that FSN inequalities exist within countries regardless of national economic status. This pattern has been observed in both men and women in studies that have included countries of multiple income ranges (HICs and LMICs) (Masood and Reidpath, 2017).

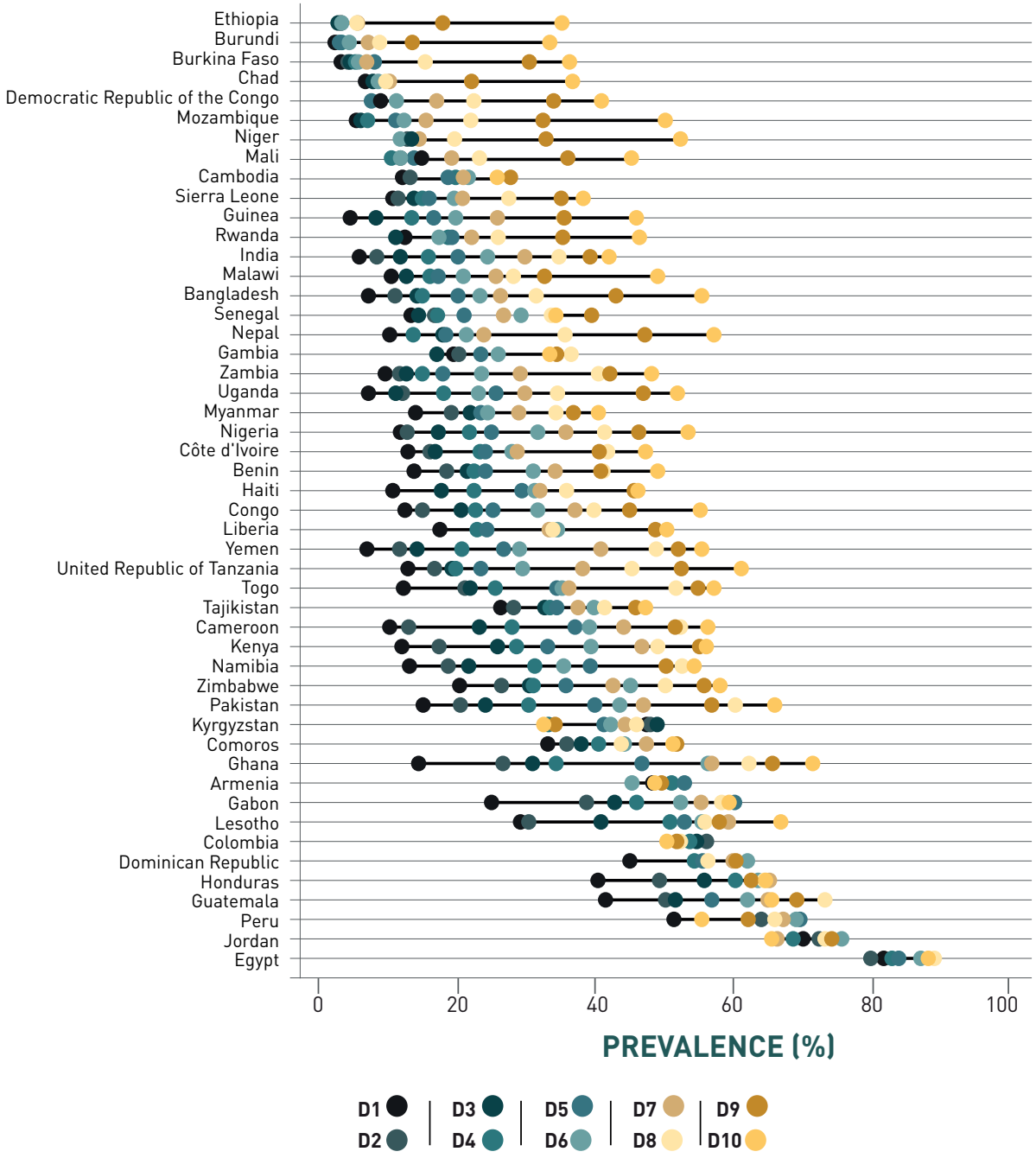
Moving beyond wealth and income, recent intersectional gender analysis from India highlights the importance of addressing different aspects of identity and socioeconomic disadvantage – gender, caste, education and socioeconomic status – in order to improve diet outcomes (BOX 3).

FIGURE 5:
UNDERWEIGHT IN WOMEN BY DECILE OF WEALTH



Source: Reyes Matos, U., Mesenburg, M.A. & Victora, C.G. 2019. *Socioeconomic inequalities in the prevalence of underweight, overweight, and obesity among women aged 20–49 in low- and middle-income countries*. International Journal of Obesity, 44(3): 609–616.

FIGURE 6:
OVERWEIGHT/OBESITY IN WOMEN BY DECILE OF WEALTH



Note: The wealth index is divided into deciles (D1-D10) reflecting a gradient of wealth. The first decile (D1) is the poorest 10 percent, and the tenth decile (D10) indicates the wealthiest 10 percent of all households in the sample.

Source: Reyes Matos, U., Mesenburg, M.A. and Victora, C.G. 2019. *Socioeconomic inequalities in the prevalence of underweight, overweight, and obesity among women aged 20–49 in low- and middle-income countries. International Journal of Obesity*, 44(3): 609–616.

Intergenerational inequalities of undernutrition are well documented in the literature, with undernourished (and young) mothers having a higher likelihood of not only low birth weight infants but also stunted children, and this intergenerational cycle of undernutrition is noted in higher magnitude among women who marry early, do not complete secondary education and are from lower socioeconomic status groups (Aizer and Currie, 2014; Perez-Escamilla et al., 2018). Further, evidence from Bulgaria and Kenya reveals that female adolescents and women of reproductive age with disabilities have been noted to have worse nutritional status, compared

BOX 3:
IMPORTANCE OF AN INTERSECTIONAL APPROACH IN UNDERSTANDING WHY PROGRAMMES MAY DIFFERENTIALLY BENEFIT DIFFERENT GROUPS

There is a lack of understanding of how intersectional inequities impact nutrition. A recent systematic review finds that most of the literature on this is limited to the United States of America (Fivian *et al.*, 2023). The review also reveals a stark absence of literature on how nutrition programmes reach and affect various intersectional groups.

An analysis of data from the Upscaling Participatory Action and Videos for Agriculture and Nutrition (UPAVAN) project, which aimed to improve nutrition and agricultural outcomes in rural India, demonstrates the importance of taking an intersectional approach. UPAVAN worked with an existing government platform of women's self-help groups and was designed to enhance the inclusion of marginalized women (Kadiyala *et al.*, 2023). Of relevance in this setting is how women's caste and education intersect to influence outcomes. Analysis along a single dimension, education, showed that dietary improvements were equal among women with high vs low education. However, when looking at the intersection of education and caste, among women from the non-scheduled tribe group, women with low education had greater increases in dietary diversity than those with high education, narrowing diet inequality between these caste–education intersectional groups by 12 percentage points. However, among women from the scheduled tribe group (the most disadvantaged caste group), the opposite occurred: women with high education had greater dietary benefits than those with low education.

This intersectionality analysis highlights two important takeaways. First, analyses looking only at a single equity dimension mask how and why nutrition programmes benefit various groups differently. Intersectional analyses are needed to understand the experiences of the most marginalized members of society. This requires better data systems. Second, programmes must be deliberately designed to reach and benefit groups at the intersection of multiple vulnerabilities to ensure equitable nutrition outcomes.

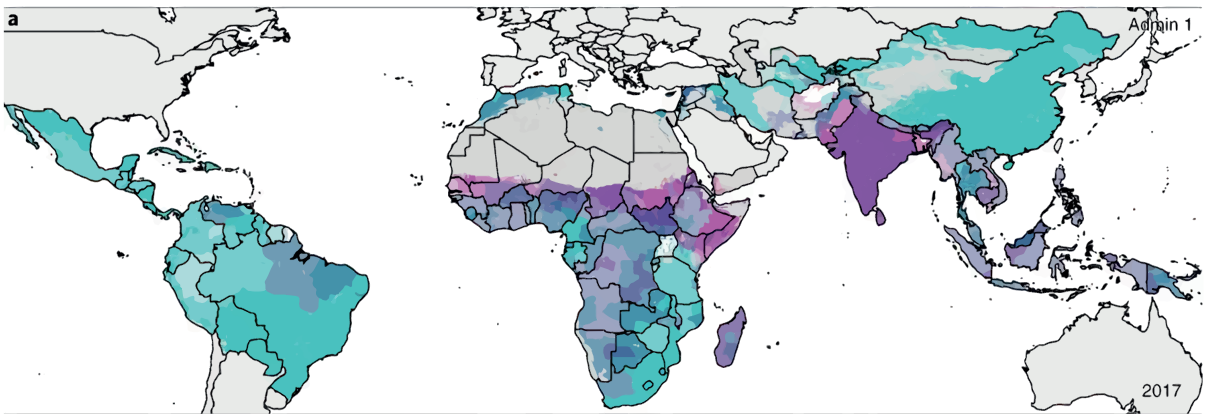
Sources: Fivian, E., Harris-Fry, H., Shankar, B., Pradhan, R., Mohanty, S., Parida, M., Padhan, S. et al. (forthcoming). *An intersectionality investigation of nutrition-sensitive agriculture interventions on women's dietary inequalities in rural Odisha, India;* Kadiyala, S., Harris-Fry, H., Pradhan, R., Mohanty, S., Padhan, S., Rath, S., James, P. et al. 2021. Effect of nutrition-sensitive agriculture interventions with participatory videos and women's group meetings on maternal and child nutritional outcomes in rural Odisha, India (UPAVAN trial): a four-arm, observer-blind, cluster-randomised controlled trial. *The Lancet Planetary Health*, 5(5): e263–e276.

to their counterparts without disabilities thus highlighting the potential for intergenerational transmission of these poor nutritional outcomes to their offspring (Groce et al., 2013; Kuper et al., 2015). While limited research exists in this area, issues not only of food access but of overall nutrition are a hurdle for people with disabilities.

Place-based inequalities are apparent in child nutritional status within LMICs, even where progress has been made in reducing the overall undernutrition burden over time. For example, South Africa has high geographic variability in malnutrition in children. The national prevalence of overweight was 24.9 percent in 2017. However, while Siyanda in the Northern Cape, a remote rural district, had 12 to 14 percent of overweight children, Ugu in the Eastern Cape, bordering Durban, reported 32 to 36 percent prevalence of child overweight (LBD Double Burden of Malnutrition Collaborators, 2020). While not part of the study's analysis, district profiles of these areas reveal racial differences, but more significantly, Ugu compared to Siyanda had notable reductions in poverty (ZF MGCAWU District Northern Cape, 2020) which is hypothesized to be explain these observed inequalities beyond place. Mapping of subnational estimates of DBM, here defined as co-occurrence of child wasting and overweight, shows 70.5 percent of LMICs have moderate prevalence of DBM (⩾5 percent estimated prevalence of both conditions), 11.44 percent have high prevalence (⩾10 percent of both overweight and wasting) and 2.9 percent have very high prevalence (⩾5 percent and ⩾15 percent prevalence of wasting and overweight, respectively) (FIGURE 7).

Place-based nutrition inequality can be observed in a granular way when data are available at subregional level. For example, in the Indian state of Maharashtra, which fares well overall on economic and social development indicators, regional stunting prevalence ranges from 40 percent of children in North Maharashtra and Marathwada to 22

FIGURE 7:
OVERLAPPING POPULATION-WEIGHTED QUARTILES OF OVERWEIGHT AND WASTING PREVALENCE IN CHILDREN UNDER 5 ACROSS LMICS IN 2017



Notes: Prevalence of moderate-to-severe overweight and wasting among children under 5 years of age in 2017 at a 5 × 5-km resolution. Quartile cut-offs were 0–5 percent, ≥5–10 percent, ≥10–15 percent and ≥15 percent. Maps reflect administrative boundaries, land cover, lakes and population; grey-coloured areas have grid cells classified as 'barren or sparsely vegetated' and had fewer than ten people per 1 × 1-km grid cell in 2017 or were not included in these analyses. Maps were generated using ArcGIS Desktop 10.6.

Source: LBD Double Burden of Malnutrition Collaborators. 2020. Mapping local patterns of childhood overweight and wasting in low- and middle-income countries between 2000 and 2017. *Nature Medicine*, 26(5): 750–759.

percent in West Maharashtra. Illustrating the issue of intersectional inequality, we see these geographic inequalities in Maharashtra overlap with undernutrition concentrated in rural areas and between certain social groups, namely scheduled tribe and caste groups (Khadse and Chaurasia, 2020). With regard to diet in India, we see an improvement in diet quality since the 1990s but with large heterogeneities by state, with improvements largely driven by better diets in the eastern and southern states (Tak, Shankar and Kadiyala, 2019).

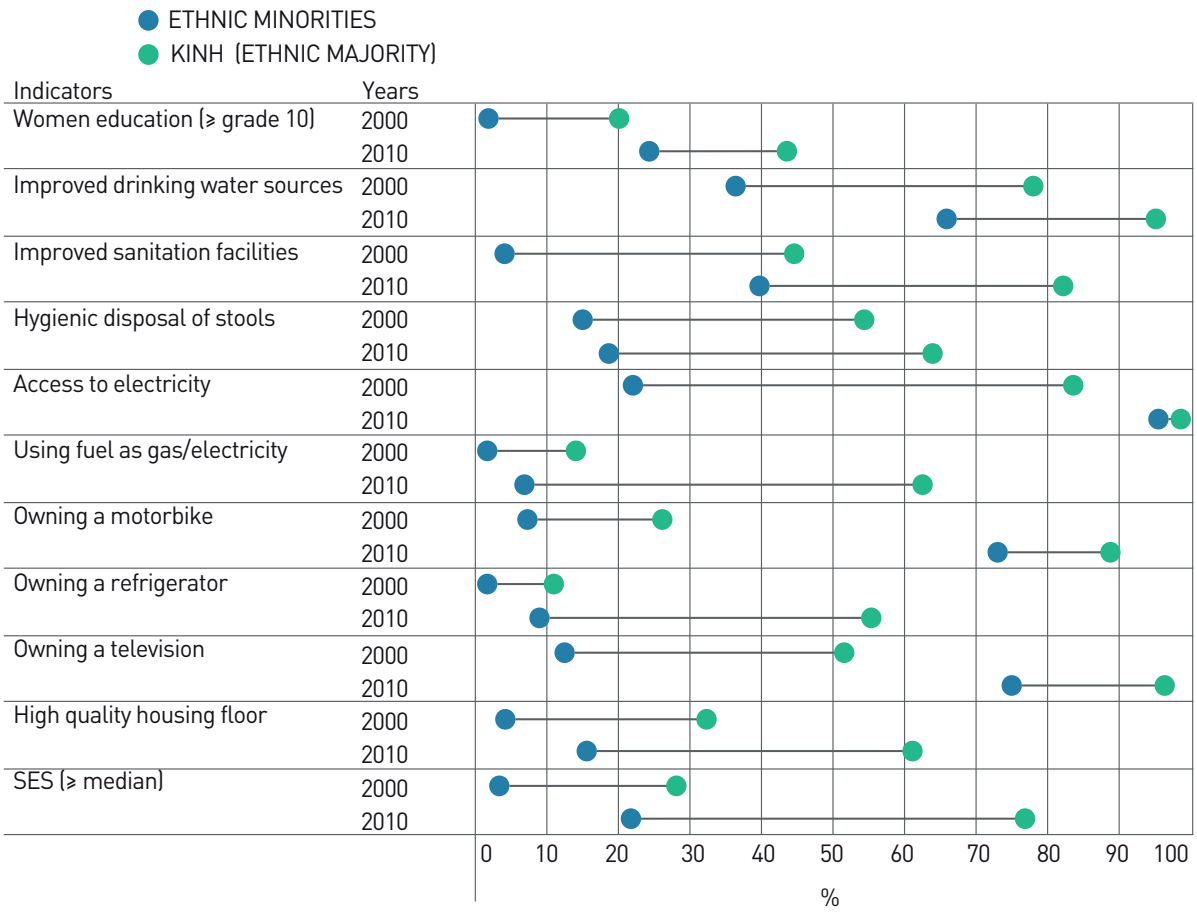
Urban–rural inequalities in diet and nutrition outcomes are frequently reported. In examining rural–urban disparities in child height-for-age in Bangladesh and Nepal, (Srinivasan, Zanello and Shankar, 2013) it was found that these disparities, especially for children with the worst nutritional outcomes, are primarily driven by parental education, wealth and the availability of water and sanitation. In Morocco and Peru, and diet quality is worse (lower consumption of fruits, vegetables, nuts and grains, meat and fish) in rural vs urban areas (McCloskey et al., 2017; Nabdi, Boujraf and Benzagmout, 2022). A study conducted in South Africa highlighted the importance of not overlooking peri-urban communities, who often live in informal settlements and are subject to changing food environments. Using oral histories, peri-urban residents shared the precarity of their diets – how they were both inadequate (due to economic constraints) and of inferior quality (poor-quality fruits and vegetables), compared to when they lived in rural areas (Hunter-Adams, Battersby and Oni, 2019). Furthermore, as described further in CHAPTER 3, food availability and access are often constrained by geography, with unequal physical access to affordable and nutritious food being a feature of food environments, particularly in many HICs.

Earlier in the chapter, we noted that place and ethnicity intersect to reinforce food security inequalities experienced by social groups. Nutrition inequalities between social groups are closely tied to economic and political inequalities these groups face (Poverty Inequality Commission, 2017). Even in countries where substantial progress has been made in reducing malnutrition, progress in the aggregate can mask uneven benefits across social groups, for instance, with less progress being made among ethnic subpopulations. In Viet Nam, for example, there is evidence of important reductions in stunting over the past 15 years, but also of masked inequalities in stunting reduction for ethnic minority groups compared to the ethnic majority population (Harris, 2020) (see FIGURE 8).

Guidance emanating from this chapter to address data gaps includes more representative food security data of the Middle Africa, Oceania and Eastern European regions and populations in fragile and conflict settings; dietary data at the individual level for adults and adolescents that allows for sex-disaggregation; nutritional-status data for men, adolescents and school-aged children; and nutritional status and anaemia data from HICs more broadly. Pertinent social groups, such as Indigenous Peoples and context-specific ethnicities, must be adequately sampled, and data disaggregation is needed to systematically track inequalities pertaining to them. Further, more qualitative data, highlighting lived experiences and intersectionality as it relates to FSN, and other forms of knowledge (traditional ecological knowledge and Indigenous and local knowledge) is recommended.

Finally, given that FSN inequalities exist along the lines of the multiple identities a person embodies (gender, social group, age, etc.), we see some examples of the intersectional nature of identity compounds the inequalities experienced (Barak and Melgar-Quiñonez, 2022; Riley and Dodson, 2016). These interconnections and their resultant impact are not always evident, however, through the kinds of data generated and the modes of data disaggregation employed. Data which captures these interconnections and impacts would further enable policymakers to monitor FSN inequalities and tailor policy interventions.

FIGURE 8:
INEQUITY BETWEEN ETHNIC MAJORITY AND MINORITY COMMUNITIES FOR UNDERLYING DETERMINANTS OF CHILD UNDERNUTRITION, 2000–2010



Source: Harris, J., Huynh, P., Nguyen, H.T., Hoang, N., Mai, L.T., Tuyen, L.D. & Nguyen, P.H. 2021. Nobody left behind? Equity and the drivers of stunting reduction in Vietnamese ethnic minority populations. *Food Security*, 13(4): 803–818.

Chapter 3

PROXIMATE DRIVERS OF FSN INEQUALITIES IN FOOD SYSTEMS AND IN OTHER RELEVANT SYSTEMS

KEY INSIGHTS

- Large, persistent and often increasing inequalities that constrain FSN exist in food production resources, including in the distribution of these resources, access to knowledge and finance, ability to engage with and gain from modern value chains and markets, storage, processing and distribution, and international food trade.
- Size and economic status (for instance, small vs large farms) and gender are major inequality dimensions across the food chain, but other sources of inequality, such as indigeneity and geographical location, are also frequent constraints on FSN.
- Food environments provide highly unequal opportunities for FSN, with low-income populations and minority groups particularly impacted by the inequalities.
- Inequalities in relevant areas beyond the food system, such as education and health systems, contribute to inequalities in FSN outcomes. Multisectoral governance of FSN provides opportunities to reduce FSN inequality.

Building the depiction in FIGURE 1 on food systems, this chapter organizes the discussion of inequalities in food systems and their FSN implications in three broad areas: (i) **inequalities in food production resources**; (ii) **inequalities in food supply chains** (incorporating information, finance, labour, value chain participation, storage, distribution, processing, markets and trade); (iii) **inequalities in food environments and consumer behaviour**. A last section is devoted to inequalities in other systems that are relevant for FSN.

3.1 FOOD-PRODUCTION RESOURCES

Food security in rural agricultural settings is driven by the interplay between a number of factors, including food production resources, access to markets, agroecological potential and non-farm opportunities (Giller *et al.*, 2021). Access to and use and control of food-production resources, such as arable land, livestock assets and fishery and forest resources, are centrally important for FSN, particularly in rural areas, in several ways:

1. Resource rights become particularly critical in settings where non-farm job creation and diversification possibilities are limited and food production remains the mainstay of rural livelihoods and income and, thereby, of FSN. Even where non-farm opportunities are available, access to food-production resources may be important for FSN as a major secondary source of livelihoods, or as the primary source of livelihood for some members of the household (for instance, when men engage in off-farm work while women engage in food production).
2. Food-production resources provide direct access to own-sourced food and nutrition for many poor people, particularly where local markets are deficient. For example, Hoddinott, Headey and Dereje, (2015) find that cow ownership raises children's milk consumption and reduces stunting in Ethiopia. Local sources of aquatic foods are often among the top sources of priority micronutrients in LMICs (Beal and Ortenzi, 2022).
3. Food-production resources provide a range of additional services and products beyond income and food that make further contributions to livelihoods and FSN. For example, livestock provide draught, manure,

fibre, transportation and financial and social capital; and forest resources provide fuelwood for cooking and ecosystem services such as climate and water regulation (Gitz *et al.*, 2021).

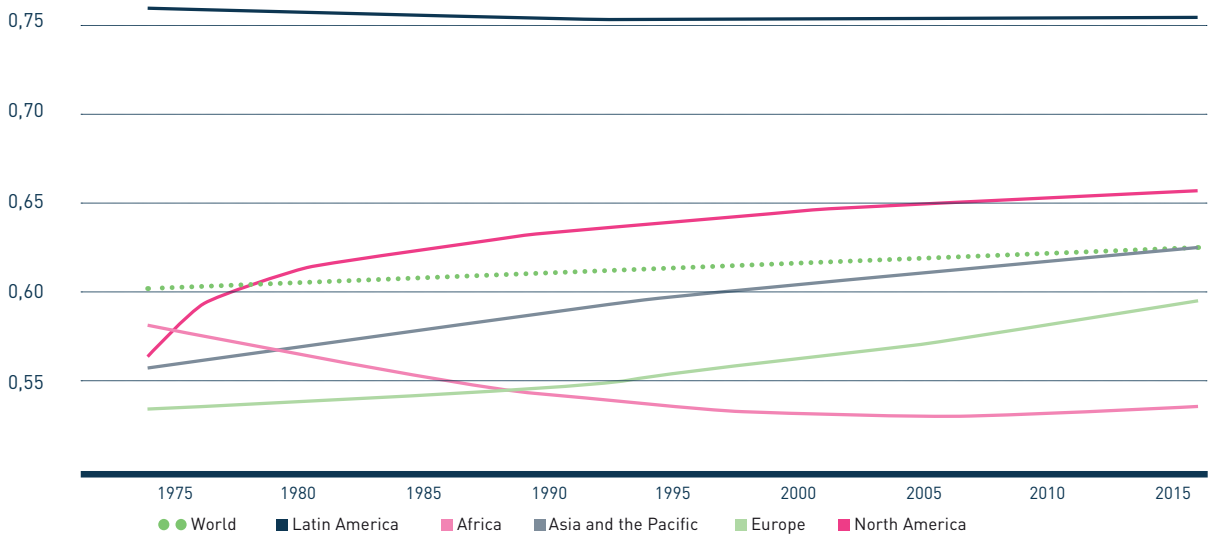
4. Food-production resources provide collateral and a basis for access to credit and financing for production as well as consumption.

5. Some food-production resources have a particularly valuable role to play in promoting agency and equity along gender or other dimensions. For example, livestock are important for gender equality because access to livestock poses fewer entry barriers for women than land, and animals are typically governed by simpler property rights (Njuki and Miller, 2019). In many contexts, women have greater access to and control over small species, such as poultry and small ruminants (Njuki and Mburu, 2013). Forest resources hold particular importance for the identities and livelihoods of many Indigenous Peoples.

6. Some food-production resources gain particular prominence for FSN in times of special need and crisis. For example, Zanello, Shankar and Poole, (2019) find that in Afghanistan, diversity in livestock holdings increases in importance for dietary diversity during the harsh winter season, when cropping possibilities diminish. The disposal or lending of food-production assets, particularly land and large livestock, often helps sustain food consumption in times of crisis, such as illness or droughts. Forest resources provide a safety net to poor people in times of global shocks (such as epidemics or economic crises) and thus are a buffer against deepening inequalities (Miller *et al.*, 2021).

Large inequalities in access to food-production resources exist and persist. A prominent example is seen in the high and increasing inequality in land ownership globally. Gini coefficient (0=no inequality; 1=maximum inequality) estimates illustrating land inequality compiled by the International Land Coalition (ILC) are shown in FIGURE 9. Globally and in

FIGURE 9:
LAND INEQUALITY TRENDS (MEASURED BY GINI COEFFICIENTS) SINCE 1975



Note: Gini coefficients showing distribution of size of landholding in private ownership.

Source: ILC. 2020. *Uneven ground: land inequality at the heart of unequal societies.* International Land Coalition.

most regions of the world other than Africa, land inequality as measured by the Gini coefficient has been on an increasing trend since 1975.

Inequalities in access to food production resources should be understood not only in terms of ownership or tenure security, but also in terms of disparities in access, in land quality and in the ability to control the use of the resource. (Oberlack *et al.*, 2020; Wegerif and Guereña, 2020).

Gender-based inequalities in the control of food production resources have been documented widely. For example, the share of agricultural landholdings managed by women reaches a peak of 29 to 31 percent in Lesotho, Panama and Peru, but is significantly lower in many other countries (FAO, 2022a). In some settings, women do not traditionally have the right to own land, and use rights are dependent on male benefactors (Kameri-Mbote, 2005). Even when women have formal title to or control over land, the *de facto* control can be weak or the land they have control over may be of poor quality (Guereña and Wegerif, 2019). Gender inequalities may be wider for higher-value food production resources. In many settings, crops traditionally under the control of men correspond to higher-value crops, attracting greater extension and financial support (Hillenbrand and Miruka, 2019). In many ocean fisheries, higher-value species are controlled by men, while women are restricted to fishing for nearshore, low-value species (Bradford and Katikiro, 2019; Fröcklin *et al.*, 2014).

Significant disparities are also found across groups, varying by ethnicity, caste or indigeneity. In India, the National Family Health Survey records that about 62 percent of disadvantaged, scheduled-caste households are landless, compared to 40 percent of non-disadvantaged castes (Rawal and Bansal, 2021). Disadvantaged castes have also historically faced challenges in exercising agency over the use of the food production resources that they nominally have access to. For Indigenous Peoples, the right to land and other natural resources is critical, not only for sustaining livelihoods but also for the cultural and spiritual values that they embody. Frequently, these rights are held as collective, community-based rights to manage and use the resource, based on customary norms (ILC, 2020). These systems of management can be beneficial to the management of fragile ecosystems (IFAD, 2018). However, with large-scale land acquisitions, encroachments and conflict over resources, these customary rights have increasingly come under threat. Not only does this have negative implications for Indigenous Peoples' food access and agency, it also limits their important role in conservation, potentially constraining the FSN of other rural communities and the wider population.

An important contextual factor in the deep inequalities in the right to food-production resources is the increasing interest in the acquisition of valuable food-production resources by large commercial interests. A factor in high land-related inequality is the increasing large-scale acquisition of land by corporate entities and international investors, particularly in Africa and Asia (further discussed as a structural driver in CHAPTER 4). Large-scale land acquisitions frequently target the commons (Dell'Angelo *et al.*, 2021), particularly impacting the FSN of groups most reliant on the commons, including pastoralists and Indigenous Peoples. Large and corporate farms may help deliver food or nutrients affordably and may generate tax revenue and foreign exchange and enhance food availability. However, although small farms are increasingly also engaged in cash and export crop production, they are more likely than large farms to produce and support the availability of diverse, locally relevant foods (FAO and IFAD, 2019; HLPE, 2020), and are more likely to harbour biodiversity (Ricciardi *et al.*, 2021).

Unequal power relations governing access to forested land and conversion of forested land by development projects constrain the FSN potential of forest resources (IUFRO, 2020). This unequal power may originate from afar. For instance, foreign direct investments by the global super-wealthy have been linked to the expansion of areas under flex-crops such as oil palm and soy in Latin America and Southeast Asia, resulting in deforestation (Ceddia, 2020). Such unequal power relations also impact access to ocean-based food production resources. The increasing governance of the blue economy for economic growth brings to

the fore many power asymmetries and resulting challenges, particularly for small-scale fishers, including negative environmental impacts, ocean-grabbing and increasing threats to the welfare of women and Indigenous communities engaged in the sector, with implications for their FSN (Gustavsson *et al.*, 2021; Nangle, Masifundise, and FIAN International, 2023).

3.2 FOOD SUPPLY CHAINS

3.2.1 ACCESS TO FINANCIAL SERVICES

Small-scale food producers and small businesses along food supply chains have long faced significant obstacles in accessing or taking up credit, insurance and other financial products. This is particularly the case with formal financial services such as banks and microfinance institutions. The volatile incomes, lack of collateral (often the result of lacking land registers and unrecorded land-use rights) and credit history, fragmentation and informality of these actors results in their exclusion from the lending portfolios of many financial institutions (FAO and IFAD, 2019; IFAD, 2015). Instead, in many LMICs, informal finance operators, ranging from moneylenders, merchants and traders to savings and credit groups provide a high proportion of rural finance.

Formal finance nevertheless has an important role to play, particularly in longer-term financing for investment in agriculture or value-chain participation. In recognition of this, regional and multilateral development banks (MDB) have scaled up their efforts to meet the financing needs of small-scale farmers and other micro, small and medium-sized enterprises (MSME) in rural areas. However, the needs of the sector are vast, and there is an unmet financing demand from smallholders of almost USD 170 billion (IFAD, 2015; IFAD and EU, 2022). IFAD (2015) notes several inequalities in financing of MSMEs in the food sector, including where they are located in the value chain (input provision and farming being particularly disadvantaged), location, gender and commercial orientation.

Women are frequently disadvantaged compared to men in their ability to access credit and other financial services. Highlighting the intersectionality of small size of enterprise and gender, the International Finance Corporation (IFC, 2017) has estimated that across 128 mostly LMICs, women-owned businesses account for 28 percent of MSMEs, but they account for 32 percent of their finance gap (the gap between the demand for credit and the supply), even though women's enterprises are smaller than those of men. Social norms, insufficient property rights, control over assets and institutional bias in lending are some of the major reasons for women's unequal access to credit (Fletschner and Kenney, 2014). Although microfinance initiatives have typically focused on women, they are often not tailored to agricultural investments, for example failing to match repayment schedules to agricultural calendars (Quisumbing and Doss, 2021). Ethnicity, caste and indigeneity are also relevant in this regard. For example, in India there is caste-based disparity in loan applications, and the historically disadvantaged scheduled castes are less likely to have loans approved (Kumar, 2016).

The inability to access credit to finance inputs or undertake investments can limit productivity and influence food availability. Income losses from lost productivity limit food access for the particularly disadvantaged groups, even where informal finance may help bridge short-term consumption gaps. The unequal access to credit faced by women may also constrain the important role that women play in nutrition-friendly household decision-making, particularly relating to food consumption (Fletschner and Kenney, 2014). Additionally, lack of finance for undertaking longer-term investments, in soil health for instance, may constrain sustainability.

3.2.2 ACCESS TO INFORMATION AND TECHNOLOGY

The ways in which small-scale producers obtain information and update their skills has changed considerably in recent decades. Traditional public agricultural extension services have shrunk, and a much more pluralistic system, involving public, private as well as NGO providers of information

has emerged (Norton and Alwang, 2020; Davis, Babu and Ragasa, 2020). Traditional farm visits by extension agents are less important now than they used to be, with digital provision of information becoming much more commonplace. These changes have likely helped reduce some old inequalities in information access (Deichmann, Goyal and Mishra, 2016). For instance, remote or conflict-affected areas have more access to information through the use of information and communication technologies, and a diversity of providers may help reach a more diverse audience.

However, these changes in information provision may also embed new inequalities. Private extension services may exclude smaller, poorer farmers who are unable to pay for the service (Davis, Babu and Ragasa, 2020). Also, although mobile phones are now widespread in LMIC rural settings, digital exclusion remains a factor, and more sophisticated digital information services will struggle to reach less-resourced and less-educated groups. Many digital services reach a large audience at low cost but remain inadequately tailored to local contexts (for example, lacking information in local languages or dialects). Many traditional inequalities persist as well. Women are less likely to receive information and extension services, and available services often lack gender-sensitivity, including consideration of the conditions under which women farmers farm and best practices in working with women farmers (Doss and Quisumbing, 2021; Quisumbing and Doss, 2021; Ragasa, 2014). As in the case of finance, lost productivity and income arising from these inequalities may hold FSN implications.

The development as well as the adoption and implications of new agricultural and post-harvest technologies are subject to numerous inequalities. A high proportion of private-sector agrifood research and development (R&D) expenditure originates in HICs, and overall private R&D expenditure has largely focused on a relatively narrow set of commodities. At the same time, country-level public agricultural investments in LMICs, other than China and India, have been low and relatively stagnant (Stads and Rahija, 2019). Extensive literature also shows that less education, small size of operation, insecure tenure and poor access to credit and extension are negatively associated with the adoption of many technologies (Ruzzante, Labarta and Bilton, 2021). The spread of some technologies can also create wider inequalities, as is the case with historical concerns about the displacement of labour and the consolidation of small farms as a result of mechanization (Baudron *et al.*, 2015). The emergence of "smart food production", digital technologies using big data, increased automation and artificial intelligence offers productivity-enhancement possibilities. However, concerns have been raised over corporate capture and multiple inequalities arising from these technologies, including inequalities in control over technology development and use, in the distribution of benefits from the technologies, and in sovereignty over data (FIAN and Brot für die Welt, 2018; Hackfort, 2021).

3.2.3 LABOUR AND TIME USE

Food systems around the world harbour many inequalities related to labour. Agricultural labourers are frequently among the very poorest and most food insecure in LMICs (Bhuyan, Sahoo and Suar, 2020) and, even in HICs, food systems workers engaged in areas ranging from farm harvests to logistics to food retail services often face precarious and minimally remunerative livelihoods (Klassen and Murphy, 2020). Food systems labour is frequently marked by high asymmetry of power between employers and labourers (Friesner, 2016). Child labour is a major issue. Approximately 60 percent of labourers in the world aged 5 to 17 work in agriculture, and almost 60 percent of children in hazardous work are also working in agriculture (ILO, 2022a). Food systems in many countries are dependent on migrant labour, yet migrant labourers have minimal employment rights and are often subject to human rights violations (Klassen and Murphy, 2020). The often ill-paid, precarious and sometimes hazardous nature of food systems labour poses a constraint on the FSN of a sizeable workforce.

Agricultural work also often imposes unequal time burdens on women compared to men. Findings of multiple studies and reviews confirm the gendered nature and impact of working in agriculture and food systems on FSN outcomes. Specifically, the evidence shows that:

- Women play a key role in agriculture, and this is reflected in their time commitments to these activities, whether as farmers or farm workers.
- Women are important actors in the uptake and response to agricultural interventions.
- Agricultural interventions tend to increase women's, men's and children's time burdens.

However, the studies included in this review do not provide clear-cut evidence on the nutritional implications of agricultural practices and interventions, even when these result in increased time spent on agricultural activities. Nutritional impacts are varied because households and members of households respond to increased time burden and workload in different ways. The reasons for this depend on a number of important differentiating factors that include income and the possibility to purchase food, household socioeconomic status (Rao *et al.*, 2019), household type and composition (in particular the presence of members who can take up domestic work), and the types of indicators used to assess food consumption, security or nutrition (Johnson *et al.*, 2015).

3.2.4 PRODUCER ENGAGEMENT WITH VALUE CHAINS

Value chains refer to the stakeholders and the interlinked value-addition processes involved as a food product moves from primary production to final consumption and disposal (FAO, 2014). The value chain concept is conceptually similar to the supply chain concept, but with a greater emphasis on how value is created and distributed among different stakeholders in the chain.

Engaging with modern value chains

Over the past several decades, economic growth, urbanization and dietary transition has spurred many food value chains to restructure. Simpler, local chains of transactions have often been replaced by longer value chains involving large traders, assemblers and modern retailers. Restructuring value chains can offer significant opportunities for agricultural producers and labourers to benefit from the higher value generated. However, the challenges to participation in modern value chains are considerable.

Large traders, processors and retailers prefer not to incur the transaction costs of buying small quantities from many smallholders. Thus, they often stipulate minimum volume requirements and/or quality standards that small producers may struggle to meet, especially if upgrading and investment in inputs requires financing and better information. In recognition of the challenges posed by certification standards for small-scale producers, the UN Declaration on the Rights of Peasants (UNDROP) has called for fairer systems of quality standards and evaluation involving the participation of small-scale producers (UN, 2019a). The overall evidence on the impact of smallholder participation in contract farming (where food production is carried out on the basis of an agreement between buyer and producer) is mixed. A systematic review of contract farming impacts on smallholder incomes notes that smallholders can benefit from participation, but that "...the poorest farmers are rarely included ... in 61 percent of the cases, the contract farmers had significantly larger landholdings or more assets than the average farmers in the region." (Ton *et al.*, 2018),(P.46). BOX 4 discusses the bias towards better-resourced farmers (Michelson, 2013).

BOX 4:
SUPERMARKETS CONTRACTING WITH FARMERS IN NICARAGUA: DO ALL FARMERS BENEFIT?

In Nicaragua, supermarket food retailing is dominated by retail giant Walmart. To supply its large network of outlets, Walmart has established purchasing relationships with hundreds of individual farmers. This relationship has been found to have a positive effect on the household welfare of participating farmers over time, by increasing their household productive-asset holdings, which in turn positively impacts poverty outcomes among participating households.

Despite the positive outcomes, the relationship embeds fundamental inequalities in terms of participation. Predictors of household inclusion include residence in regions of higher agricultural potential and geographical advantages such as access to year-round water and closeness to the closest supermarket or retail outlet. Walmart supermarket produce buyers indicated that easy access by roads and phone, and access to year-round water, were the primary attributes for entering into a supply relationship. Such attributes could exclude poor farmers living in geographically constrained areas with poor infrastructure.

Source: Michelson, H.C. 2013. Small Farmers, NGOs, and a Walmart World: Welfare Effects of Supermarkets Operating in Nicaragua. *American Journal of Agricultural Economics*, 95(3): 628–649.

For producers who are able to participate, contract farming offers the potential to improve income through multiple pathways: better prices, ability to sell large quantities to the same buyer, and yield enhancements arising from inputs and information, which are often part of the contract. However, the literature shows mixed results in terms of income – varying by region, commodity and contractual arrangement. The systematic review by Ton *et al.*, (2018) collates the evidence to estimate an income effect of contract farming of between 23 percent and 55 percent (although they indicate that this could be an overestimate since research does not pick up schemes that collapse early).

However, there is no guarantee that food security will improve with incomes generated through commercialization for a number of reasons: increased incomes may be spent on non-food priorities such as health or education, income growth may be captured by men who may prioritize food security less than women (Mitra and Rao, 2019), and it is difficult to save incomes from harvest time until the next preharvest hungry season (Bellemare, Bloem and Lim, 2022). Thus, the impact on food security is likely to vary by setting.

Nevertheless, some evidence does suggest that participation in contract farming improves food security. In their study of contracting for food crop production in Madagascar, (Bellemare and Novak, 2017) show that the duration of the hungry season is shortened due to contracting (thus also suggesting an influence on the stability dimension of food security), and that this likely happens because households can save increased income from harvest time until the hungry season. Furthermore, Chege, Andersson and Qaim (2015), studying supermarket contracting of vegetable smallholders in Kenya, find that participation in contracting improved micronutrient consumption.

In summary, (a) the weight of evidence indicates that the smallest farmers are often (but not always) unable to participate in contracts with actors downstream from them in modern value chains, and (b) farmers who do participate are often (but not always) able to gain income, and potentially, improve food security.

Unequal power and exploitation in value chains

For those who do manage to participate in modern value chains, there is potential for inequality related to asymmetrical power between contractors and farmers and farm labourers. On the one hand, contractors in modern value chains operating in a competitive environment may find it advantageous to offer good terms to contractees. Or it may be that large traders, processors, retailers and other contractors dominate or collude to dictate the terms of relationships with typically small, geographically scattered farmers (Montalbano, Pietrelli and Salvatici, 2018; Swinnen and Vandeplas, 2014). An important concern is that, in some cases, the funds and in-kind assistance offered by contractors, both large and small, may implicitly come at a high cost, as farmers are obliged to sell contracted produce at low prices (Bellemare, Bloem and Lim, 2022). Large food service establishments and modern retailers may consolidate power on the selling side by driving out local competition, and may do so on the buying side by using market power to lower the prices offered to farmers (Bellemare, Bloem and Lim, 2022). The evidence base addressing unequal power and FSN implications is limited, however, and more research is needed to enable a systematic understanding.

Gender inequalities in accessing value chains

Women face greater challenges in participating in modern value chains as resources are often a prerequisite for inclusion in such value chains (Doss and Quisumbing, 2020) and women have less access to resources than men. In some contexts, social norms (addressed in more detail in CHAPTER 4) may play a role. For instance, where men have the traditional role of income earners and women of caregivers, opportunities for high-return cash cropping may accrue to men, with women focusing on food crops (Doss, 2002; Qian, 2008). Commercialization may also raise the prospect of income capture by men. Njuki and Miller (2019) note the case of East African women dairy farmers who used to sell dairy products in informal markets for cash, which would be spent on household consumption. However, the women lost control of the income earned when milk was sold to chilling plants, as weekly cheques were sent to the household head, typically the male (Njuki and Miller, 2019).

Although women often face difficulties in accessing contract farming opportunities, some studies, such as the one by Maertens and Swinnen (2012), find that they play an important role as wage labourers in global value chains, with good income-earning opportunities, compared to other wage employment. In such cases, food security may be enhanced not only due to higher household income, but also due to women's improved bargaining power in the household. For example, in Ethiopia's rural Oromia, Getahun and Villanger 2018) report that the employment of women in the cut rose industry has had a positive impact on their bargaining power within the household, and on household income, poverty and food security.

3.2.5 STORAGE, DISTRIBUTION AND PROCESSING

Storage and distribution

Efficient post-harvest storage and distribution is critical to providing consumers with access to safe and nutritious foods and to enabling adequate livelihoods for producers and traders. At present, inadequate storage and distribution contribute to an estimated 14 percent of food production being lost along the supply chain, and a further 17 percent being wasted in consumption (UNEP and FAO, 2022).

Inadequate cold chains pose a particular challenge for nutrition security and food safety as many of the most nutrient-dense foods, such as vegetables, fruits, aquatic foods, milk, meat and eggs, are also highly perishable and prone to safety compromises (HLPE, 2017b). Major inequalities in cold chain availability create inequalities in nutrient-dense food availability and affordability. HICs are estimated to have 10 times the cold-storage capacity per 1 000 people compared to LICs (UNEP and FAO, 2022). In many LMICs, sophisticated private cold chain facilities enable the distribution of high-quality, safe, nutrient-dense foods to

higher-income urban consumers via supermarkets and modern retail, while cold chains may be absent or rudimentary in marketing channels serving rural and low-income consumers.

Such divides across urban and rural, and economically better- and worse-off areas, are also apparent more generally in rural transport and market infrastructure in LMICs, contributing to inequalities in access to nutrient-dense foods. Poor road links and high transport costs in remote areas can mean that markets in such areas are poorly integrated with other markets, with traders less likely to move perishable food into such markets even if local prices are high (Cooper *et al.*, 2021; Filmer *et al.*, 2023).

Food processing

Food processing is important for FSN in several ways. Innovations in processing, including milling, drying, packaging, canning, freezing and fortification, can boost nutrition by retaining or enhancing the nutrient content of foods, enhancing food safety and lowering the cost of making nutrients available over time and across space (HLPE, 2017b). Food processing is important for employment, and small-scale processing and value addition can enhance livelihoods and, thereby, FSN.

On the other hand, ultra-processed foods (UPFs) – frequently high in fats, salt, sugar and unhealthy ingredients – are now available plentifully in all parts of the world and are being increasingly linked to negative health effects (OECD, 2021). About half the dietary energy consumed in HICs now comes from UPFs, with populations living in disadvantaged areas often particularly exposed (Monteiro *et al.*, 2019; Scrinis and Monteiro, 2022). Worryingly, many LMICs are showing much higher growth rates of consumption of UPFs than previously experienced in HICs (Monteiro *et al.*, 2019). There are inequalities in the incentives, budgets and power structures that drive the trajectories and growth rates of health-promoting vs health-limiting food processing (Wood *et al.*, 2023).

In contrast to foods involving less processing, UPFs are almost exclusively the domain of large corporations. Markets for UPFs are characterised by high levels of concentration, with corporate strategy geared towards maximizing returns for shareholders, at considerable cost to dietary and environmental health (Wood *et al.*, 2023). Large marketing and R&D resources are devoted to developing and promoting UPFs in the global marketplace (discussed as a driver of FSN inequalities in CHAPTER 4) (OECD, 2021), while there is comparative underinvestment in food processing methods that boost nutrition.

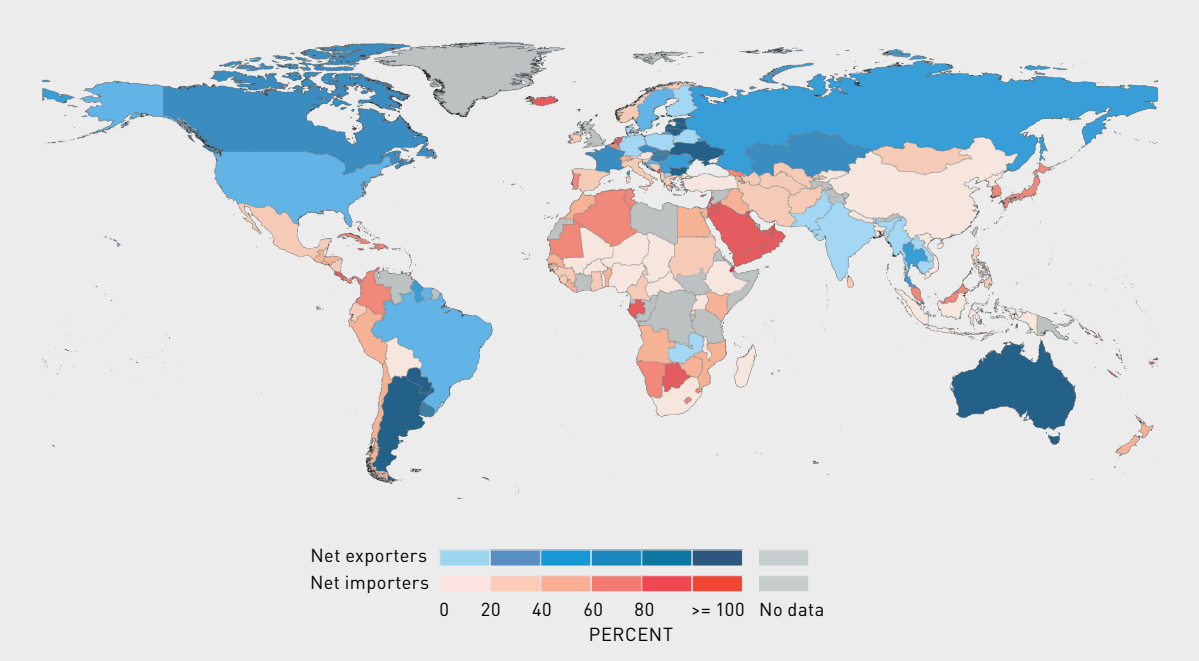
3.2.6 INTERNATIONAL FOOD TRADE

Cross-border trade and its role in FSN

Although only about 23 percent of food is traded internationally (D'Odorico *et al.*, 2014), international food trade has grown considerably in importance, doubling in real value between 1995 and 2018 (FAO, 2020). There is great variation across countries in terms of the foods for which they depend on imports, and the extent of import dependence. FIGURE 10 illustrates disparities in import dependency for cereals and highlights the importance of international trade for the FSN of food-deficit countries. Several countries in the Middle East and North Africa, as well as in Southern Africa, are seen to be highly reliant on grain imports. The importance for FSN was underscored during the phase in the Ukraine war when trade was severely curtailed.

Among the most consequential developments in the last few decades in the global food system has been the liberalization of trade and foreign investment

FIGURE 10:
IMPORT DEPENDENCY (IMPORTS AS A SHARE OF DOMESTIC FOOD SUPPLY) FOR CEREALS, AVERAGE OF 2015–2017



Notes: Red shaded areas show the share of imports in domestic food supply for net food importers, computed from FAOSTAT Food Balance Sheets. Net exporting countries shown in blue.

Source: FAO. 2020. The State of Agricultural Commodity Markets 2020. Agricultural markets and sustainable development: Global value chains, smallholder farmers and digital innovations. Rome, FAO. https://doi.org/10.4060/cb0665en

that was kick-started in the 1980s. Facilitated by the General Agreement on Tariffs and Trade and then by the World Trade Organization (WTO) after the adoption of the 1994 Agreement on Agriculture, liberal trade policies have included lowering import tariffs and easing a range of non-tariff measures (such as import quotas, import licensing and export subsidies) (Staiger, 2012).

Economics suggests that liberalization could impact FSN through multiple pathways, including: (i) specialization and trade enable efficiencies to be reaped compared to a situation of self-sufficiency, resulting in income growth that improves access to food; (ii) trade boosts the availability of a diverse range of foods via imports; (iii) trade acts to lower prices and (iv) trade helps diversify supply lines for key foods, increasing the stability of food availability and lowering the volatility of prices (although dependence on global markets may also a provide a transmission mechanism for volatility) (FAO, 2015a).

The evidence does broadly indicate that agricultural trade liberalization has boosted national incomes in both HICs and LICs (Anderson, Cockburn and Martin, 2011; Traill *et al.*, 2014). The evidence also suggests that trade over the last few decades has helped equalize the cross-country national availability of key foods (both healthy and unhealthy) and nutrients (Bell, Lividini and Masters, 2021). Comparing trade in the current global food system with no-trade scenarios, Wood *et al.*, 2018 similarly find that no-trade scenarios would imply less equality in cross-country nutrient distributions, with low-income countries being particularly disadvantaged, and conclude that "Protectionist trade policies could ... have serious negative consequences for food security" (Wood *et al.*, 2018, p. 34). That noted, we turn to the inequalities embedded in the global trade regime that have implications for FSN.

Inequality in trade and FSN implications: inequality in groups able to benefit from trade

Although more liberal trade can boost FSN in the aggregate (at national level), it also inevitably creates winners and losers within countries. For example, groups that can take advantage of new export opportunities stand to gain and have improved incomes, whereas groups that engaged in import-competing sectors stand to lose relatively as they face competition from imports. These winners and losers may well end up being defined based on size and wealth or social bases for disadvantage, such as ethnicity and indigeneity. For example, large farmers and urban consumers may be much better positioned to benefit from opportunities created by global value chains.

On the other hand, small farmers or labourers engaged in producing products that suddenly face a tide of competition from imports may not have the resources to withstand the surge. These livelihood impairments have the potential to lower access and compromise food security for the food producers left behind (Matthews, 2014). Food consumers and producers who are net buyers, on the other hand, can benefit from lower prices when imports flow freely into the country. In a study linking liberal trade policies with household-level food security outcomes (as measured by the self-reporting-based FIES), Barlow *et al.* (2020) find that liberal trade policies are not associated with an improvement in the food security of the poorest across the world Barlow *et al.* (2020).

Inequality in trade and FSN implications: unequal support levels for domestic producers

A longstanding disparity that has cast a shadow over international agricultural trade is the level to which HICs have supported their domestic producers, to the detriment of competing producers in LICs. Many HICs have historically subsidized their producers in ways (for example, via payments tied to levels of production or use of inputs) that result in increased domestic production. This has the effect of lowering prices in the global market, which could potentially benefit global food security. However, these lower prices may well negatively impact the livelihoods and food security of small-scale farmers in LICs that compete in the production of those subsidized commodities. LICs may lack the resources to support their own producers to a similar extent, even if they wish to provide such support. The rules-based trade system developed under the WTO made substantial progress in bringing down the levels of support in HICs and encouraging any support to be less trade-distorting (Matthews, 2014). However, progress has levelled off in recent times, and furthermore, agricultural support has been increasing in emerging countries such as China and India (Smith and Glauber, 2019).

Other important FSN-relevant inequalities that have become increasingly prominent in the global food-trade system, including the influence of large multinational food companies and commodity trading firms, are discussed in CHAPTER 4 as systemic drivers of FSN inequality.

Trade policy and the right to food

In a critique of the global trading system, the UN Special Rapporteur on the Right to Food (Fakhri, 2020) has noted that the trade system has cemented longstanding inequalities, benefiting state and corporate actors that already have good access to resources, credit and infrastructure over the historically disadvantaged. The critique describes the concentration of corporate power throughout the food system, facilitated by the global trading and financial systems, and urges a move towards a system based on the human-rights principles of dignity, self-sufficiency and solidarity.

3.3 FOOD ENVIRONMENTS AND CONSUMER BEHAVIOUR

The food environment is where the consumer and the food system interact. The HLPE-FSN identifies key entry points for food environment improvement: availability, physical access (proximity), economic access (affordability), promotion, advertising and information, food quality and safety (HLPE, 2017,

p.107). These food environment components interact with people's personal food environment (accessibility, affordability, convenience and desirability) (Turner *et al.*, 2018), which in turn inform consumer behaviour. It is therefore important to focus on both inequalities that are embedded within the food environment (external) and the way in which these inequalities interact with other inequalities (personal food environment) to produce unequal FSN outcomes. Addressing these inequalities will increase consumer agency and provide pathways for improved FSN outcomes for all.

3.3.1 FOOD AFFORDABILITY

Food affordability is one of the foundational challenges in achieving FSN and a key source of inequality in FSN outcomes. Long-term trends around the world indicate that the price of fruits and vegetables has risen substantially over time, but that relative prices of processed foods have fallen (Wiggins and Keats, 2015). A systematic review of 27 case studies from 10 countries found that purchasing a diet based on healthier, rather than less-healthy options of comparable foods, would cost USD 1.48 more per day (Rao *et al.*, 2013). These differences in the cost of healthy diets compound the impacts of income inequality on FSN outcomes.

In real terms, healthier diets are generally more affordable in HICs than in LICs, with food making up a greater proportion of household expenditure in LICs (BOX 5). In 2020, 42.0 percent of the world's population could not afford a healthy diet, with considerable regional differentiation – 88.3 percent of residents of LICs were unable to afford a healthy diet, compared to just 1.4 percent of residents of HIC (FAO *et al.*, 2022). This has recently been confirmed by modelling costs of the EAT-Lancet reference diet in countries in different income categories (Hirvonen *et al.*, 2020).

Inequalities in food pricing exist within countries as well, producing further unequal access to healthy diets (Herforth *et al.*, 2020). Globally, food prices are generally higher in rural areas than urban areas, although there are often significant intra-urban food-price differences. This is the outcome of food chain logistics that increase both the cost of food and the variability of the cost of food as it moves from central markets (often located in urban centres) to more remote markets and households (Zimmer, 2022). This is particularly marked in remote, geographically isolated locations, often populated by marginalized Indigenous Peoples and rural communities, such as in Northern Canada (Veeraraghavan *et al.*, 2016). However, in net food exporting areas, rural residents may have greater access to cheaper, locally produced goods than urban residents. Although rural food prices are often higher than urban prices, it is important to note that these relatively higher food prices may not translate into significant differences in affordability, as the cost of living is higher in urban areas due to higher rent and transport costs. Subnational food-price monitoring is an important tool by which to identify price bottlenecks that limit accessibility in certain areas and, as such, threaten year-round food security.

The cost of accessing a healthy diet is informed by wider inequalities in food environments (Section 3.5.2) and beyond. Households experiencing income poverty and income precarity generally have limited access to private transportation and storage capacity. As such, they often buy in smaller unit sizes, which tend to be more expensive by volume. Furthermore, households with insecure access and utilization of stable energy supply for cooking, and poor sanitation and water access, may depend more on processed foods that have lower food-safety risks or on purchasing cooked food (Battersby, 2019). The unaffordability of a healthy diet is exacerbated by infrastructural costs in these households. These conditions of multidimensional poverty have provided opportunities for small scale, informal actors to play an important role in the food environments of the poor, but they have also provided a new entry point for major global processing companies to gain traction in these markets by marketing highly processed foods in small, individually packaged units, which have negative implications for nutritional health and food system/environmental sustainability.

3.3.2 PHYSICAL ACCESS TO FOOD

BOX 5:
FOOD AFFORDABILITY – A CASE STUDY FROM SOUTH AFRICA

Healthy diets are beyond the budgets of many households. The Bureau for Food and Agricultural Policy calculates the cost of a "thrifty healthy food basket" quarterly. This is based on the costs of a "nutritionally balanced combination of 26 food items from all the food groups" (BFAP, 2022, p. 1) and assumes a four-person household consisting of two adults, an older child and a younger child, with both adults earning a full-time minimum wage and the children receiving government Child Support Grants and benefitting from school feeding programmes. The most recent (June 2022) calculation of the cost of the food basket was ZAR 3 621 (approximately USD 223), which is 31.1 percent of total household income. Each month, the Pietermaritzburg Economic Justice and Dignity Project calculates the cost of a typical household food basket, based on food-price data collected at point of sale from a range of retailers. Their basket is based on the food items and the volumes of those foods that women living in a family of seven members (the average size of low-income households) indicate that they typically try to secure each month. This yields very different figures. The latest figures (August 2022) show that the cost of this diet for a seven-person household would be ZAR 4 775.59 (approximately USD 263), but the cost of the cheapest food basket meeting minimum nutrition requirements for a household would be ZAR 5 617.31 (approximately USD 331). Currently, 55.5 percent of South Africans live below the upper-bound poverty line of ZAR 1 335 (approximately USD 78.72) per month, and 25.2 percent live below the food poverty line of ZAR 624 per month (approximately USD 36.79).

Source: PMBEJD. 2022. *Household Affordability Index: Johannesburg, Durban, Cape Town, Springbok, Pietermaritzburg. South Africa*, Pietermaritzburg Economic Justice & Dignity Group [PMBEJD].

Unequal physical access to affordable and nutritious food is an important determinant of inequalities in FSN outcomes, with considerable research and policy focus on the issue of "food deserts" since the mid-1990s. Food deserts are commonly defined as neighbourhoods and communities that have limited access to affordable and nutritious foods (ver Ploeg *et al.*, 2009). This food retail environment inequality intersects with income poverty, race, limited mobilities and other markers of structural inequality (Shannon, 2014; Spires *et al.*, 2020; Walker, Keane and Burke, 2010).

Efforts to identify and address food deserts have tended to focus on the presence or absence of large grocery retailers, that is, supermarkets. However, supermarkets are not the only source of affordable, nutritious foods, and it has been argued that the conflation of physical access with the presence or absence of supermarkets potentially undermines long-term FSN for vulnerable populations – increasing access to "junk food" and crowding out other channels of food retailing that provide local fresh produce (Battersby, 2019; Stern, Ng and Popkin, 2015; Wertheim-Heck, Raneri and Oosterveer, 2019). This is particularly important in countries with more diverse food-retail environments that have not yet been replaced by supermarkets as the dominant source of food, where farmers', peasants' and fishers' markets remain key sources of healthy and diverse foods.

In much of Africa, Asia and South America informal traders and traditional markets remain the dominant source of physical access to food for the majority of the population, particularly lower-income residents. These markets provide important economic, physical and social access to food, offering smaller-unit sizes, informal credit arrangements and long operating hours; and selling culturally appropriate foods (Wegerif, 2020). Physical access to healthy foods from informal vendors and markets has been demonstrated to increase the purchase of these foods. For instance, those living closer to informal vegetable vendors in the United Republic of Tanzania were found to

be more likely to buy vegetables (Ambikapathi *et al.*, 2021). Small-scale and informal retailers play an underacknowledged role in providing access to affordable, nutritious food, particularly for low-income residents. More recently, the idea of food swamps, defined as areas with a high-density of establishments selling high-calorie fast food and junk food, relative to healthier food options, has been gaining traction (Cooksey-Stowers, Schwartz and Brownell, 2017). Research in North America has found that both food swamps and food deserts have been associated with racial, ethnic and socioeconomic disparities in obesity rates (Cooksey-Stowers *et al.*, 2020). However, both the food desert and food swamp concepts have been critiqued by researchers arguing that there is a need for greater nuance in analysis of lived experience as physical access to affordable healthy food does not necessarily impact nutrition inequality (Allcott *et al.*, 2019).

There has been a massive increase in online grocery and food-delivery purchasing, particularly in the wake of the COVID-19 pandemic. This may improve physical access to food for some previously marginalized groups, such as the elderly, people living with disabilities and people without access to private transport. However, there are concerns that less-affluent customers may be excluded by not being able afford the minimum-spend requirements for grocery purchases, nor be able pay delivery costs, nor take advantage of the cost savings associated with bulk purchasing (Cummins *et al.*, 2021). Furthermore, residents of poorer or more remote areas may not be served by retailers offering online purchasing and delivery. In South Africa, the major retailers do not deliver to urban townships due to safety concerns (Odendaal, 2023).

Physical access to food in the food environment must be viewed through an intersectional lens as the impact of changed physical access to different types of food retailing is not uniform across populations. Using the same panel data from urban households in Kenya, (Debela *et al.*, 2020; Demmler, Ecker and Qaim, 2018) found that the impact of the arrival of supermarkets has different FSN impacts for different household members, with positive nutrition outcomes in children, but increased overweight in adults.

3.3.3 FOOD PROMOTION AND COMMERCIAL DETERMINANTS OF HEALTH

FSN outcomes are shaped by a number of commercial determinants of health within the food environment, including the formulation, packaging, design, marketing and promotion of products.

In terms of marketing and promotion, it has been noted that food advertising tends to focus on less-nutritious foods more than on nutritious foods. For example, research conducted on television advertisements in 11 countries found that less-healthy foods were more commonly featured than healthy foods, and that this proportion increased during children's programming hours (Kelly *et al.*, 2010). Similarly, research on food advertising in magazines in South Africa found that almost 60 percent of food advertisements were for unhealthy foods (Abrahams *et al.*, 2017). Furthermore, food advertisements promoting unhealthy foods are not equally placed and target particular demographic groups. Children from minority and socioeconomically disadvantaged backgrounds, for example, are disproportionately exposed to unhealthy food advertising (Backholer *et al.*, 2021). Additionally, unhealthy food brands reinforce their position through sponsorship of sporting events, schools, scholarships and other corporate social responsiveness activities (Beder, Varney and Gosden, 2009; Bragg *et al.*, 2018; Harris *et al.*, 2019a). These marketing strategies have the strongest impact on lower-income, ethnic minority populations in the Global North and are becoming increasingly prevalent in the Global South (Harris, 2020; Scrinis, 2016). One area that has been of particular concern has been the marketing of formula milk to mothers, violating the International Code of Marketing of Breastmilk Substitutes (The Lancet, 2023; UNICEF and WHO, 2022). Food discounts and promotions play an important role in the food security strategies of low-income households. These households are therefore particularly vulnerable to the impacts of the advertising, promotion and marketing of less-healthy foods.

3.3.4 FOOD SAFETY

Unsafe foods have considerable impacts on FSN outcomes. Positive nutrition outcomes are undermined by food-borne diseases, which disrupt food utilization. The 2015 WHO Global Estimates of the Global Burden of Foodborne Disease identified 31 different food-borne hazards, which in 2010 caused 600 000 food-borne illnesses and a further 420 000 deaths (Havelaar *et al.*, 2015).

The distribution of the burden of food-borne disease is highly unequal around the world, with LMICs, particularly those in Africa, bearing most of the burden (Pires *et al.*, 2021). Within countries, the experience of food-borne disease centres on particular population groups: those who are young, old, malnourished, pregnant or immunosuppressed (Grace, 2015). Indeed, the WHO found that children under the age of five accounted for 40 percent of the disease burden of food-borne disease (Havelaar *et al.*, 2015).

Food-borne diseases perpetuate the cycle of poverty by causing short- and long-term illnesses that undermine health and livelihoods. Malnourished children are at greater risk of serious food-borne diseases, which in turn exacerbate malnutrition, limiting their development (WHO, 2015). Poor food safety disproportionately impacts poor and vulnerable populations, due to both higher exposure to the hazard of unsafe food and water (See Section 3.6 below) and to underlying health vulnerabilities that increase the risk to health and exacerbate poor FSN outcomes. Additionally, climate change is exacerbating food safety problems, further compounding the disproportionate impact on poor and vulnerable populations (Duchenne-Moutien and Neetoo, 2021).

There are also concerns about longer-term food safety issues resulting from soil and water contamination, as well as the impact of pesticides, hormones and food preservatives accumulating in the body over long periods of time. The risk associated with these hazards is unequally distributed, both geographically and economically (Alita, 2022; Elvar and Tuncak, 2017). Food fraud is another emerging food safety challenge. In China, this has been associated with rapid urbanization, industrialization and rapid transformation of the food system (Zhang and Xue, 2016). These trends are reflected in many low-income countries and have been further attributed to weak governance, poor surveillance systems, economic constraints and demand exceeding supply (Gwenzi *et al.*, 2023). Rapid demographic and food system transitions, coupled with weak regulatory capacity, means that food fraud safety risks are greatest in low-income countries.

An additional dimension of food safety relates to mycotoxin contamination of the food supply, which is almost ubiquitous across tropical regions with high temperatures and moisture levels. Mycotoxins are naturally occurring toxins appearing in many foods as a result of the growth of fungal spores. Poor quality seeds, inefficient on-farm practices, lack of crop drying, and ineffective local storage solutions, which are greater challenges for poorer, more remote and other marginalized households, all contribute to mycotoxin growth. In countries like Nepal and Uganda, pregnant women who consume foods contaminated by various mycotoxins have poorer birth outcomes, which leads to suboptimal growth and development of infants and young children (Andrews-Trevino *et al.*, 2019; Lamichhane *et al.*, 2022; Lauer *et al.*, 2019).

3.4 OTHER SYSTEMS RELEVANT TO FSN

The experience of FSN is fundamentally shaped by factors outside the food system. While these have not historically been focal areas of food security policy, there is increasing interest in more transversal (or intersectoral) governance approaches to FSN policy and programming (Battersby, 2022; Cohen and Ilieva, 2021; IPES-Food, 2017). Cognizance of these wider drivers of FSN provides opportunities to improve the efficacy of existing policies and programmes, but also provides novel entry points to improve FSN while working towards broader development goals.

3.4.1 HEALTH CARE SYSTEMS AND SERVICES

Access to health care is fundamental, particularly for nutrition outcomes. It was identified as a key

part of the UNICEF conceptual framework on child malnutrition in 1990 (UNICEF, 1990), and lack of consistent access to quality health services is consistently associated with malnutrition (UNICEF, 1990). The role of health care services as part of a set of related services required for good nutrition was reinforced in the 2021 UNICEF Conceptual Framework on Maternal and Child Nutrition (UNICEF, 2021). It has long been acknowledged that there are issues with equity in access to health care, including in HICs (Mooney, 1983), and that access is constrained by financial, organizational and social and cultural barriers (Gulliford *et al.*, 2002). Furthermore, access to health services is unequal between countries: While the global Healthcare Access and Quality Index improved for most countries between 1990 and 2015, the divide between the best- and worst-performing countries widened over that time to a 66-point gap on a scale of 1 to 100 (from 28.6 to 94.6) (GBD 2015 Healthcare Access and Quality Collaborators, 2017). Inequalities are also seen within regions. Within sub-Saharan Africa, for instance, countries fall both above and below expected levels of access to health care services (GBD 2015 Healthcare Access and Quality Collaborators, 2017).

Inequalities by wealth in access to health care services are seen in OECD member countries, for instance (OECD, 2019); and in the United States of America, studies show poorer households and individuals (particularly those from Hispanic and African American communities) are less able to afford insurance payments and, therefore, to access health care (Dickman, Himmelstein and Woolhandler, 2017). Similarly, across 18 countries in sub-Saharan Africa, health care use varies widely according to wealth (more so in the poorer countries), alongside education, employment and urbanicity (Bonfrer *et al.*, 2014), while greater gender discrimination at household and community level limits the use of maternal health care services (Adjiwanou and LeGrand, 2014).

3.4.2 HOUSING, WATER, SANITATION, ENERGY AND INFRASTRUCTURE

Access to and use of basic infrastructure have also been identified as determinants of FSN outcomes. The importance of adequate access to water and sanitation (WASH) for FSN has been part of the UNICEF Conceptual Framework on Malnutrition since 1990 and has been the subject of substantial research and policy attention (for instance, (Pickering *et al.*, 2019; WHO, UNICEF and USAID, 2015). Poor access to WASH is concentrated in lower-income communities within lower-income countries, exacerbating already unequal FSN outcomes. Within these populations, the negative impacts of poor water and sanitation on FSN outcomes are experienced most by infants and young children, individuals with pre-existing medical conditions and the elderly.

While the focus on the impact of inadequate infrastructure on FSN outcomes has been predominantly on WASH, there are other important infrastructural factors that create FSN inequalities. Poor housing (Jonah and May, 2020), access to affordable and reliable energy supply (Bednar and Reames, 2020; Masters *et al.*, 2021), and time poverty linked to urban transportation and food preparation times have all been shown to shape food practices and FSN outcomes (Masters *et al.* 2023), with low-income households particularly impacted by poor access to basic infrastructure to support FSN (Kulinkina *et al.*, 2016).

Within the last three years, the rising cost of energy has exacerbated unequal FSN in many parts of the world. Poor households in Europe and the United Kingdom face "heat or eat" dilemmas, leading to reduced diet quality (Bardazzi, Bortolotti and Pazienza, 2021; Burlinson, Davillas and Law, 2022). In Kenya and Sri Lanka, energy costs have forced shifts in cooking technologies and increased food insecurity (Perera, 2022; Shupler *et al.*, 2021). The World Food Programme has identified access to safe, sustainable and accessible cooking fuels and technologies as an essential aspect of food security and proposed pathways to improve energy access for all (Bisaga *et al.*, 2022).

The infrastructural deficiencies experienced by low-income households are also experienced by food retailers operating within these geographical locations. Poor access to water, sanitation, reliable energy supplies and transport infrastructure shape

the food practices of these businesses, which are often the primary source of food for low-income residents. These infrastructural deficits impact stocking practices (meaning traders need to make small, frequent purchases to prevent spoilage, leading to greater per-unit costs, increased food safety risks and a limited range of foods sold, as vendors may sell more processed goods to avoid spoilage) (Ahmed *et al.*, 2019; Fuseini, Battersby and Jain, 2018). As such, there is a double FSN penalty experienced by individuals and households living with infrastructural deficiencies. Recently, there has been increased interest in equitable access to infrastructure (Gilbert, Eakin and McPhearson, 2022) and in the role of infrastructure in health and well-being (Ramaswami, 2020). Inequitable infrastructures and spatial planning undermine FSN and impact characteristics of the food environment in ways that undermine access to healthy diets for the most vulnerable.

3.4.3 EDUCATION

Equity in education has two dimensions: one of fairness (gender, income and other factors should not be a barrier to achieving educational potential) and another of inclusion (a minimum basic standard of education should be available for all) (OECD, 2008). Educational level, particularly education for women, is known to be linked to nutrition outcomes, presumably through pathways of general ability to understand nutrition and health information and access to skilled work and livelihoods (Harding *et al.*, 2018). Malnutrition rates in children differ according to the education levels of their mothers in many contexts: For instance, minimum dietary diversity is achieved by 24.4 percent of children whose mothers have less than primary education; while dietary diversity is achieved by 35.2 percent of children whose mothers have secondary or higher education (Development Initiatives, 2020).

Access to education is highly unequal. The World Inequality Database on Education shows that between 2014 and 2019, all HICs had achieved primary school completion rates over 96 percent (mostly 100 percent), while only one LIC (Tajikistan) achieved this, and a majority hovered around 50 percent completion. Afghanistan had the largest gender disparity in primary education, with 67 percent of boys and 40 percent of girls completing primary-level education. There are also large divides in terms of rural–urban education in many countries. For instance, 84 percent of urban adolescents completed secondary schooling in the Plurinational State of Bolivia, compared to only 50 percent of rural adolescents. Ethnicity also shapes school access. In Brazil, for example, 25 percent of Indigenous children have never been to school, compared to 16 percent of white children.

Inequalities in these other systems compound to exacerbate the impact of inequalities in the food system on FSN outcomes. As such, reducing inequalities in FSN outcomes requires actions within and beyond the food system.

Chapter 4

THE SYSTEMIC DRIVERS AND ROOT CAUSES OF FSN INEQUALITIES

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KEY INSIGHTS

- It is essential to view the vast inequalities in FSN outcomes not just as outcomes of inequalities in food and related systems, but also as the result of deeper, systemic drivers.
- Many drivers that act on food systems have underlying drivers within food systems themselves. For example, climate change and environmental decline harm food system workers and are a threat to FSN, particularly where people and places are most vulnerable to change. However, food systems themselves are major drivers of climate change and environmental decline. Breaking this harmful feedback has considerable potential for reducing inequalities in FSN outcomes.
- Economic and market drivers have fundamentally changed food systems, shaping patterns of global trade and consolidating decision-making power and ownership. These changes have altered dietary patterns in complex ways and curtailed the agency of most food system workers. While some nutritional benefits accrue, there are concerns about the impacts of a transition towards a Western obesogenic diet that exacerbate FSN outcomes, starting out affecting the wealthiest in society but then gradually becoming a problem for the most marginalized or socio-economically disadvantaged sections of society.
- Policies related to different dimensions and actors in the food systems have remained siloed, and seldom focus on the needs of the most marginalized. In many cases, this has exacerbated pressures and created vulnerabilities.
- Violence and conflict are the main drivers of acute and chronic hunger, undermining people's agency and exacerbating poor FSN outcomes for the most vulnerable. However, geopolitical interests often determine whether the impacts of conflict on FSN outcomes are exacerbated or ameliorated, and where. Reaffirming the right to food in all geopolitical conflicts can help reduce inequalities in FSN outcomes.
- Sociocultural drivers intersect with all categories of drivers and have generated historical inequities that will persist, unless explicitly challenged. Policies and practices need to become equity sensitive. Existing or emerging barriers can create and reinforce inequities.

The vast inequalities in FSN outcomes are the result of major inequalities in food systems and other systems more broadly. These system inequalities, or proximate drivers, in turn are the result of deeper structural, or distal, drivers (FIGURE 1 and FIGURE 2) that emerge through time to undermine FSN. CHAPTER 4 picks up on the proximate drivers identified in CHAPTER 3 to take a broader social and historical perspective and examine the underlying distal drivers and how and why they emerge to affect FSN. Consistent with earlier HLPE assessments of food systems, these broader drivers are considered outside the food systems and include: **1) biophysical and environmental drivers**; **2) technology, innovation and infrastructure**; **3) economic and market drivers**; **4) political and institutional drivers**; **5) sociocultural drivers**; and **6) demographic drivers** (FIGURE 1) (HLPE, 2020). Importantly, these distal drivers of FSN inequalities must be understood and addressed as overlapping and intersecting. For example, sociocultural drivers shape and are shaped by political and institutional settings (Harris and Nisbett, 2021). Furthermore, complex and intersecting interactions exist among drivers, for example interactions between sociocultural drivers and technological innovations or climate change can cause uneven impacts and vulnerabilities that exacerbate marginalization and inequality (O'Brien and Leichenko, 2000; Spielman *et al.*, 2021; Swer, 2019).

4.1 BIOPHYSICAL AND ENVIRONMENTAL DRIVERS

Food systems, particularly industrialized food systems, are major drivers of biodiversity decline, environmental pollution, climate change and infectious diseases (IPCC, 2022; Rivera-Ferre *et al.*, 2021). These environmental and biophysical consequences of our current food systems, together with broader societal influences (such as global emissions), are not distributed equally, and intersect with people and places already vulnerable to FSN outcomes to further exacerbate existing inequalities.

4.1.1 BIODIVERSITY LOSS, WATER AND SOIL DEPLETION, AND POLLUTION

Industrial food systems carry an enormous environmental cost, violate the right to a clean environment (A/76/179), and disrupt people's relationships with nature (Fakhri, 2023; Kimmerer, 2013). Agriculture is a major driver of deforestation and the third most significant sector in terms of global greenhouse gas emissions (Crippa *et al.*, 2021; IPCC, 2022; Pendrill *et al.*, 2022). Deforestation and land-use change drive water depletion, through decreased availability of atmospheric water, undermining food security. Feedbacks between deforestation and water scarcity further exacerbate food security. For example, deforestation in the Amazon has caused 4 percent drying, and for every millimetre of rainfall deficit, deforestation increases by 0.13 percent (Staal *et al.*, 2020). Water depletion is a critical threat to food security, as all agriculture is dependent on the availability of both naturally occurring green water (rain water in soil) and blue water (water in our surface and groundwater reservoirs) made available through social institutions, including irrigation systems) (Falkenmark, 2013), and agriculture consumes 70 percent of freshwater (Pimentel and Pimentel, 2008). However, green water availability varies geographically, with the most populous places being the most water scarce (Kumu & Varis, 2011), and the ability of places to make blue water available is influenced by their economic and governance capacity. Currently, 3 billion people face food insecurity due to the lack of green water and the lack of capital and technology to make blue water available (Falkenmark, 2013; FAO, 2022b; Rockström *et al.*, 2023; Vallino, Ridolfi and Laio, 2020). Wastewater can alleviate some of the challenges of water scarcity, and an estimated 10 percent of agricultural land is irrigated using wastewater (Jaramillo and Restrepo, 2017; Winpenny *et al.*, 2010). However, this varies considerably by country; in part, by whether wastewater is treated or not. Unregulated and untreated wastewater, which pose safety concerns due to the impact of toxins on human health, is mostly used in more populous and emerging economies (such as China, India and Pakistan) (Jaramillo and Restrepo, 2017), where the largest number of food-insecure people live (Wesselbaum *et al.*, 2023), further exacerbating the gap between places that are food secure and those that are food insecure.

Water is generally governed within national boundaries, yet water use in one region affects availability elsewhere, and every country in the world is dependent on other countries for at least 50 percent of their water availability (Rockström *et al.*, 2023). Major food producing regions in Asia, Africa and South America are dependent on neighbouring countries for their supply of fresh water (Rockström *et al.*, 2023). For example, Brazil exports 25 percent of its water to downstream countries. As such, deforestation in the Brazilian Amazon affects water availability and exacerbates food insecurity in downstream countries (Wunderling *et al.*, 2022).

Inequities in access to water also emerge within countries. For example, throughout the world, Indigenous peoples have had their water access restricted by dominant institutions and systems of water governance, interrupting their spiritual and cultural relationships with the land and their ability to access and secure food (Jackson, 2018). In Australia's most productive agricultural region, the Murry Darling Basin (MDB), historical exclusion of Aboriginal Peoples from decision-making processes and from holding land and water have

meant that, as water access and rights are rerouted for intensive agriculture, Aboriginal communities have lost their means of food production (including riparian fishing and harvesting) and their connection to the land. Currently, Aboriginal People in MDB make up 9.3 percent of the population, but own just 0.5 percent of its agricultural businesses and, instead, make up a larger proportion of the agricultural workforce (Hartwig *et al.*, 2022). These patterns are further compounded by the fact Aboriginal Peoples in Australia are already more vulnerable to poor FSN outcomes, with far higher rates of food insecurity and lower rates of life expectancy (Davy, 2016).

In addition to biodiversity and water loss, soil quality is a growing concern (FAO, 2015b). Soil quality can vary naturally and can be degraded or enhanced by sociocultural norms surrounding production methods, systems of governance, and intensity of use. To illustrate, degraded soils are common in the fields of poor farmers in many locations and are a particularly prevalent problem in sub-Saharan Africa, where people are already more vulnerable to food insecurity (Tittonell and Giller, 2013; Zhang *et al.*, 2021). Agroecosystems can enhance soil quality and productivity by using livestock manure to move organic matter, nutrients, and water (Bai and Cotrufo, 2022; Beal *et al.*, 2023). Conversely, historical and contemporary processes of fencing and enclosure, such as those associated with private conservancies in East Africa, that exclude people and livestock, can enhance soil quality within the conservancies (Bai and Cotrufo, 2022). However, the effect outside of the conservancies where most people live on common lands, is to limit mobility and concentrate grazing, undermining customary rules and systems of governance and reducing soil quality and food security (Moritz *et al.*, 2013).

4.1.2 CLIMATE CHANGE

Global food systems have been identified as major drivers of climate change, highlighting the urgency of action in this sphere (IPCC, 2019). At the same time, climate change is undermining the productivity of waters, soils, food system workers and the food systems themselves (Fiorella *et al.*, 2021). Moreover, the pace of climate change is increasing rapidly ((Lam *et al.*, 2020), and this trend is projected to continue through the 21st century (Cheung, Reygondeau and Frölicher, 2016; Lotze *et al.*, 2019). Climate scientists have raised concerns about key tipping points in climate change being breached (Armstrong McKay *et al.*, 2022; Lenton *et al.*, 2019; Wunderling *et al.*, 2021). The impacts of climate change are not distributed evenly (Bindoff *et al.*, 2019; Free *et al.*, 2019). Instead, the countries that have contributed the most to climate change are both the least impacted and the most capable of adaptation (Bruckner *et al.*, 2022). As a global challenge, principles of justice and equity must feature in efforts to understand and address the causes and consequences of climate change (see BOX 6). Indeed, the most recent IPCC report highlights the need for the principle of equity to be built into climate change responses (Allen *et al.*, 2022), and calls for "climate reparations" were brought to global attention at the COP 26 in Glasgow (Nevitt, 2021) (further discussed in CHAPTER 6).

Because these impacts are not equally distributed, climate change also exacerbates existing inequalities in FSN outcomes (IPCC, 2001), requiring direct local action. The World Bank estimates that climate change will drive 68 million to 135 million people into poverty by 2030, with the newly poor concentrated in sub-Saharan Africa and South Asia (World Bank, 2020). Most of the focus on the impacts of climate change on food security has been directed towards production issues (such as species distributions, yield gaps and water scarcity). However, the impacts of climate change are felt across all components of food systems (HLPE, 2022). Climate change is driving negative FSN outcomes at multiple scales, through direct impacts on food production systems, as well as impacts on the economic, environmental and social systems on which people depend to meet their food security needs. These multiple interconnections indicate a strong multidirectional relationship between climate change, FSN and inequality, operating at different spatial and temporal scales and interacting to have intersectional effects on inequality in FSN outcomes.

These inequalities in FSN outcomes do not operate only at regional scales. Threats and pressures

to the environment often amplify existing social inequalities and power imbalances within countries, particularly in communities and households already coping with scarcity (Chancel, Bothe and Voituriez, 2023; Schneider *et al.*, 2007). Islam and Winkel (2017) argue that the relationship between climate change and poverty is characterised by a vicious cycle, in which "*initial* inequality causes the disadvantaged groups to suffer *disproportionately* from the adverse effects of climate change, resulting in greater *subsequent* inequality." They identify three main channels "through which the inequality-aggravating effect of climate change materializes, namely (a) increase in the *exposure* of the disadvantaged groups to the adverse effects of climate change; (b) increase in their *susceptibility* to damage caused by climate change; and (c) decrease in their *ability to cope and recover* from the damage suffered" (Islam and Winkel, 2017, p. 1). Such frameworks are now widely used to understand the variable vulnerabilities of people and places to the impacts of climate change (Cinner *et al.*, 2013; IPCC, 2022).

Components of the food systems (such as small scale fisheries and informal markets) that offer livelihoods to poor populations and are most used for food security by poor populations are more vulnerable to climate change. Consequently, particular vulnerabilities to climate change (that is, those that often fall along lines of gender, wealth, etc.), which increase unequal FSN outcomes, are not just driven by people's engagement with the food system, but with a set of cascading impacts, where climate change intersects with biophysical, economic and social systems to drive FSN inequalities (FAO, 2015c). The World Bank has identified groups that are more vulnerable to the impact of climate change. These include: female-headed households, children, persons with disabilities, Indigenous Peoples and ethnic minorities, landless tenants, migrant workers, displaced persons, sexual and gender minorities, older people and other socially marginalized groups. The World Bank argues that "the root causes of their vulnerability lie in a combination of their geographical locations; their financial, socioeconomic, cultural and gender status; and their access to services, decision-making, and justice" (World Bank, 2023b). These groups also are already most likely to experience discrimination that undermines their food security, suggesting that climate change will intersect with damaging social and cultural norms to further exacerbate inequality in FSN.

BOX 6:

CLIMATE JUSTICE AS A TOOL TO ANALYSE FSN INEQUALITIES – THE CASE OF THE LOWER MEKONG

Climate justice focuses on how and why climate change impacts people differently, unevenly and disproportionately, and in doing so extends climate change to a moral and justice issue (see (Gardiner, 2011; Sultana, 2022; Whyte, 2016) Climate justice thus highlights the need to reduce marginalization, exploitation and oppression (which exacerbate and are in turn exacerbated by climate change), and enhance equity and justice (Sultana, 2022). The situation of people of the Lower Mekong region, who face challenges stemming from the impacts of climate change, deforestation and hydropower dams, provides an example of the need for climate justice.

The Lower Mekong region is biologically diverse, economically important and home to about 65 million people. It spans six countries in Southeast Asia. The region has undergone extensive environmental changes since the 1990s due to agricultural expansion and intensification, deforestation, the construction of numerous dams, increased urbanization, growing human populations and the expansion of industrial forest plantations, in addition to frequent natural disasters from flooding and drought (Manohar et al., 2023; Spruce et al., 2020).

The Mekong River is heavily used for human transportation, fishing, drinking water and irrigation, and the livelihoods of those who depend on the Mekong River are transitioning. Declines in fish populations and natural resources are making life more difficult for them. Extensive hydropower development in the Mekong basin has destroyed fisheries, reduced the productivity of local farmers and altered flow regimes that people rely on for livelihoods. With environmental and climate changes and hydropower development, the food environment of the Mekong is becoming less predictable in its ability to satisfy the food security needs of those who rely on it. Consistently, it is the more marginalized groups that feel the impacts of both climate change and dam development in the region – namely, the Indigenous and rural fishing communities. The lives of these river communities are impacted by governmental decisions on the management of the river, migration and various environmental factors, including coastal collapse (Barrington, Dobbs and Loden, 212). Transboundary governance is inadequate and urgent calls have been made for transparent and timely data sharing on dam development, water levels and rainfall (MRC, 2021).

Source: Authors' own elaboration.

4.1.3 ENVIRONMENT–HUMAN HEALTH LINKAGES

The industrialized food system, and its contribution to habitat fragmentation and land-use change, is a major driver of emergent infectious diseases, including COVID-19 (IPBES, 2020; Rivera-Ferre *et al.*, 2021). In turn, the COVID-19 pandemic significantly affected food and nutrition outcomes in ways that are still being charted, but ultimately underscored how inequalities and fragilities in our food systems drove further increases in world hunger and food insecurity (FAO *et al.*, 2022).

While COVID-19 was the first recent pandemic, other recent disease outbreaks provide further lessons on the interaction between disease, livelihoods, poverty and FSN. For example, delivery of health services was significantly affected by the outbreak of Ebola in many West African countries, particularly facility- or community-based services associated with nutrition outcomes such as malaria prevention and immunization (Mæstad and Shumbullo, 2020). Similar effects were felt during the COVID-19 pandemic where, whether because of illness of health staff, government restrictions or lockdowns, health services needed to prioritize the care of people with COVID-19. Routine and important preventive services, including antenatal

care, childhood vaccinations and infant and young child feeding advice, were paused in many countries, alongside some important safety nets such as cash or food transfers, with significant effects on health, nutrition and food security (UNICEF, 2020). In India, for example, cash transfers in Bihar state were effective in mitigating the impact of the COVID-19 lockdown on household food security and diet quality, but were not able to prevent them altogether (Makkar *et al.*, 2022).

Inequalities in public health and the disease profile of populations more broadly are both impacted by and in turn impact FSN, exacerbating inequalities in FSN outcomes. Not only is HIV/AIDS, for example, a driver of poverty, vulnerability and malnutrition, but the risks of catching HIV/AIDS are higher for vulnerable populations, including, for example, children who are subject to abuse, sex workers, food system workers, and highly transient populations (MacPherson *et al.*, 2020; Seeley, Tumwekwase and Grosskurth, 2009). Furthermore, people living with HIV who are on antiretroviral treatment can experience increased hunger, which can have significant effects on clinical treatment adherence (de Pee and Semba, 2010), and underweight HIV-positive children have a threefold higher incidence of death (Oumer, Kubsa and Mekonnen, 2019). In terms of intersectionality, it has been shown in Uganda that HIV-positive women are also more likely to have high levels of aflatoxin (a natural food-borne mycotoxin) in their blood that non-HIV-positive women (Lauer *et al.*, 2020). Malaria is another infectious disease which has significant and well-known feedbacks between nutritional status and disease, requiring cotreatment and prevention that consider both malaria and nutrition in endemic areas (Das *et al.*, 2018; Oldenburg *et al.*, 2018). Infectious diseases account for half of under-five deaths, lead to low appetite and to children becoming underweight and weakened, depressing immunity and leaving those with the disease vulnerable to further infections and malnutrition (Katona and Katona-Apte, 2008; Perin *et al.*, 2022).

4.2 TECHNOLOGY, INNOVATION AND INFRASTRUCTURE

Developments in science and technology have boosted both agricultural yields (Binswanger, 1986; Freebairn, 1995; Griffin, 1979) and incomes in many low- and middle-income countries, particularly those which benefitted from the development of green revolution technologies such as new high-yielding varieties of key staple crops, new inputs such as pesticide and fertilizers, investment and innovation in irrigation technologies and mechanization (Pingali, 2012). In Asia, for instance, as a result of the green revolution, overall output grew at an annual rate of 2.9 percent during the 1980s and 1990s, compared with an annual rate of 2.1 percent before the new varieties were introduced in 1965 (Altieri, 2009; McMichael, 2010). The success of the green revolution in producing basic grains to meet population demands led to some improvements in yields of other crops such as cassava (Patel, 2013; Thompson, 2012). Increases in productivity, however, did not have uniform impact on all levels of society across countries adopting green revolution technologies. Many studies have found that inequalities were exacerbated by the green revolution, as the package of inputs tended to favour wealthier and larger farmers, with many small farmers falling further into debt and forced to sell land (Freebairn 1995; Griffin 1979; Binswanger 1986). Building on technological approach of the green revolution, which was predominantly led by state, cooperative (for instance, the World Bank), and philanthropic (such as the Rockefeller Foundation) institutions, numerous highly technological and scientific research projects, driven increasingly by the private sector, have sought to improve post-harvest technology (CGIAR, 2010; Heinemann, Agapito-Tenfen and Carman, 2013), biotechnological techniques (IRR, 2013), and genetically modified organisms (Howard, 2009; Robin, 2014; Schwartz, 2013).

Despite offering some farmers economic gains, the emergence of agrobiotechnology, allowing the manipulation of genes in living organisms and seeds, has been highly controversial, with

particular concerns raised over ecological risks and increasing social inequality (see BOX 8) (De Schutter and Vanloqueren, 2011; Friedmann, 2005; Islam, 2022). For example, in a comprehensive study of the global seed industry, Howard (2009) pointed out that the intensification of investments in technological innovations, such as genetically modified organisms, among Indigenous food crops (such as maize) with the aim of increasing agricultural production have shaped the seed industry wherein scientific and high-tech farming have come to dominate the global seed industry (Howard, 2009; La Vía campesina, 2011; McMichael, 2010). Furthermore, the extension of patent rights, designed to incentivize corporate investment in agrotechnology, has enabled large corporations to increase their market position and exert control over smaller farmers and firms (Islam 2022). Notably, the seed industry is now controlled by just four companies (Béné, 2022; IPES-Food, 2017; Mooney, 2018), which have control of seed patents of high-yielding varieties of some major Indigenous crops such as potatoes and maize (Howard, 2009; Kloppenburg, 2010; Wittman, Desmarais and Wiebe, 2010). The seed and food monopolies by multinational corporations make it increasingly difficult for peasant and Indigenous peoples to grow healthy and culturally preferred foods (Wittman, Desmarais and Wiebe, 2010).

Digital technologies have been used in agricultural automation since the 1970s. There are now a growing range of applications of these technologies, including supporting the development of precision agriculture, improved access to information on markets and weather forecasting, and supporting communication. Recent innovations that have spread particularly rapidly in LMICs, reaching some of the most rural areas, include supporting increased access to information and finance through mobile phones (Baumüller, 2017). Despite closing some gaps, economic, cultural and educational barriers persist that either limit the scope of these technologies, or have made them more accessible to high- and middle-income users or countries, to more economically active groups, to men, or to those who speak the dominant language. For example, small-scale producers, women, youth and other groups that are typically marginalized or in vulnerable situations have tended to lack access to these technologies (FAO, 2022b). The emergent generation of digital technology has the potential to generate economic and environmental gains, benefitting food-system workers. However, costs of access are high, and the burden is only likely to be borne by large companies or already specialized and financially successful sectors. Inequalities that have been historically exacerbated by unequal access to technology are therefore likely to be further exacerbated unless innovators and states build equitable access into their designs.

Access to developments in infrastructure, science and technology often fall along social or economic lines, wherein those already vulnerable to food insecurity are the least able to access these improvements. For instance, cultural norms can act to constrain access for certain groups, such as women, who often have less access than men to clean technology and other innovative methods, including digitalization. Economic barriers similarly limit access. For example, remote and poorer regions and sectors are often the last to access water, hygiene and sanitation infrastructural developments that reduce the risk of infectious diseases such as diarrhoeal disease (see CHAPTER 3). Similarly, small-scale and informal actors lack access to infrastructural improvements that protect food from spoilage, such as cold storage, making them more vulnerable to extreme events. In addition, small-scale and informal actors often lack access to climate information, clean technology and insurance, limiting their capacity to respond to extreme weather.

4.3 ECONOMIC AND MARKET DRIVERS

Economic and market drivers have fundamentally transformed global food systems. Most notable has been the shaping and scale of international trade, and the influence of a small number of private actors increasingly in control of market making.

4.3.1 INTERNATIONAL TRADE

International and regional trade has clearly benefitted several low-, middle- , and high-

income nations, stimulating economic growth and improving food security and nutrition outcomes (see Section 3.2.4) (Allouche, 2011; Gephart *et al.*, 2023; Gephart and Pace, 2015; Tortajada and González-Gómez, 2022). However, within countries, trade has tended to increase income inequality, as the labour market becomes polarized by market integration that benefits firms that produce high-quality products (Furusawa, Konishi and Tran, 2019; Lin and Fu, 2016). Increasing levels of income inequality, in turn, undermine diets and human health (Offer, Pechey and Ulijaszek, 2010), as western obesogenic diets high in calorie-rich foods, spread particularly into LMICs (Baker *et al.*, 2020; Hawkes, 2010; Popkin, 1994). Trade has thus made larger quantities of both healthy and unhealthy foods available, but it has tended to be the richest, most food secure who are able to access the more diverse, healthy foods, while the poorest access cheaper UPF products (GloPan, 2016; Nash *et al.*, 2022). Thus, for poor populations, the net result is still low-quality diets (GloPan, 2016).

Many decisions surrounding global trade and associated rules and policies are shaped by the institutional architecture developed to guide and regulate trade. However, these processes have historically been influenced by those most involved and able to shape these decisions. For example, historical accounts have documented the power of a small group of countries, in particular Canada, the European Union, Japan and the United States of America, in shaping the outcome of the Uruguay round of global trade negotiations (Shaffer, 2021), which in part sought to reduce the influence of trade distorting subsidies, and ultimately led to the formation of the World Trade Organization (WTO). Despite, the intent of the Uruguay Round, countries in the North, with the financial capacity, continued to subsidize food production for export, whereas low- and middle-income nations with fewer resources were not able to do the same, but had to open their markets to imports. The impact of cheap grain imports meant that although food prices came down, so did the price of labour, undermining the livelihoods of many small scale producers (Clapp, 2006; Gonzalez, 2002; Hawkes and Plahe, 2013; Stevens *et al.*, 2000).

The WTO undoubtably plays an important role in supporting global food systems, but the WTO has come under increasing scrutiny, in particular as global food systems face cumulating and escalating geopolitical, environmental and economic shocks (Cottrell *et al.*, 2019). The WTO has been criticized for not acting on the shortcomings of its rules and policies, inadvertently disincentivizing beneficial actions or not adapting to change quickly enough (Barlow *et al.*, 2018; Friel *et al.*, 2013; Hawkes *et al.*, 2009; Thow and Hawkes, 2009; Tienhaara, 2011), at times, being out of step with public health goals of addressing health and nutrition inequalities (see, for example, (Friel *et al.*, 2013; Hawkes *et al.*, 2009; Thow and Hawkes, 2009). Many argue that if institutions such as the WTO are to support the right to food, reduce inequality and support efforts to address environmental and climate change, they need reform (Fakhri, 2021). The WTO recognizes these challenges and the need for reform, and has made a number of recent changes (Okonjo-Iweala, 2023). For example, in 2022 as food systems bore the brunt of the converging crises of COVID-19, the war in Ukraine, and decades of environmental decline, members of the WTO signed the first agreement that puts sustainability at its core and seeks to protect elements of equity. This multilateral agreement to ban all harmful fishery subsidies, was signed on the back of 20 years of negotiations and the recognition that many inequalities in global trade result from uneven patterns of fishery and agricultural subsidies (CHAPTER 3), which overwhelmingly favour high-income nations and stimulate overproduction and overfishing, (Arthur *et al.*, 2019; McCauley *et al.*, 2018; Melendez-Ortiz, Bellmann and Hepburn, 2009; Sumaila *et al.*, 2010). This agreement went further in recognizing the need to protect fishers in low-income nations as they transition away from a dependence on subsidies. Around the same time, WTO members agreed to exempt humanitarian food from export restrictions, highlighting a growing recognition of the challenges that inequality poses to global food systems (Okonjo-Iweala, 2023; Sumaila *et al.*, 2010).

4.3.2 MARKET MAKING, SPECULATION AND CONCENTRATION

Increasingly, a new dynamic is emerging whereby powerful retailers change the very institutional framework of markets (Ouma, 2010, 2015). Private systems of standards have emerged in the past two decades (such as Tesco's Natures Choice, GLOBALGAP, Marine Stewardship Council), based on social, environmental and ethical issues, in addition to food safety or quality, that allow for consumer market segmentation and added value. These systems of market-based governance reflect a growing concentration of influence whereby, in return for larger and stable transactions, consumer nations control producer nations, driving costs for producers up without an associated rise in prices:

> *"The market concentration has led to increased buyer power in Europe. Some of the supermarkets come in and dictate their demands without concessions or negotiations. We are already at the bottom of the business… We are currently sticking to 15 different production standards, including Tesco's Nature's Choice, EUREPGAP, Field to Fork, and Fairtrade; this is madness (Large horticultural exporter in Kenya, quoted in (Ouma, 2010)"*

Speculative investment in food commodities has also been a recurring concern within food systems, which has important equity implications for FSN. Financial speculators often increase their investments in agricultural commodities futures markets when there is uncertainty – for example, due to market disruptions caused by war, weather events, or other forces affecting food supply – which often amplifies food price trends (Tadesse *et al.*, 2014; Kornher *et al.*, 2022). This dynamic can undermine food access for the poorest and most marginalized people who typically spend a large proportion of their income on food, thus widening inequalities (Clapp and Isakson, 2018). While the question of whether financial speculation is the main cause of food price trends is widely debated, there is growing recognition that it can play a role in fuelling bubbles that exacerbate food price trends (e.g. (Clapp, 2014; Clapp and Isakson, 2018; Ghosh, Heintz and Pollin, 2012; HLPE, 2011; Tadesse *et al.*, 2014; UNCTAD, 2011)).

As the dynamics between land and ocean use, agriculture and development escalate, and good-quality land becomes scarce, more productive or better-endowed land and sea become more desirable, leading to land and ocean grabs. For example, many coastal places are framed as being prime for development by foreign actors seeking to capitalize on a blue economy that is expected to grow by USD 3 trillion per annum by 2030 (Bennett *et al.*, 2021; Jouffray *et al.*, 2020). Land or ocean grabbing is a phenomenon emerging from both in-country and foreign investment, as domestic pressure for food, biofuel and conservation increase. These processes violate the rights of local, traditional and other more marginalized rights-holders (Cotula and Berger, 2017) and deepen problems concerning land ownership and lack of access to FSN. Land grabbing often involves evicting local people and communities from their land to advance land investment purposes or rights claims to certain attributes, such as mineral, transportation, or even carbon rights (Karsenty, Vogel and Castell, 2014). This results in the concentration of ownership and control of vast areas in the hands of an elite few (Borras and Franco, 2013). Land grabbing is particularly prevalent in Africa, where foreign investments breach customary and communal tenure

arrangements and reassign access and ownership to private companies, foreign governments and investors (Batterbury and Ndi, 2018; Daniel and Mittal, 2009).

Economic liberalization and technological specialization in global food systems have created food systems capable of producing and distributing vast quantities of food. This has resulted in considerable changes to, and concentration in, the control of the food systems (Howard, 2016) with an ever smaller number of actors controlling the major food system sectors (Baines and Hager, 2022; Béné, 2022; Clapp, 2021; Howard, 2009; IPES, 2017; Kloppenburg, 2010; Österblom *et al.*, 2015). Such power, and the pressure on nations and firms to maximize shareholder returns, weaken food sovereignty and agency and may increase inequity in livelihoods and FSN outcomes (see BOX 7). Moreover, this concentration in food systems results in longer value chains that leave food system workers, who are most vulnerable to food insecurity, less able to adapt to the changes. When the COVID-19 pandemic hit and global markets closed, more centralized actors were able to switch trading partners and maintain their flow of goods and income, whereas others lost crucial food supplies (Love *et al.*, 2021). For example, when China closed its markets, farmed Tilapia exports, which had come to comprise a significant proportion of fish sold in some developing countries, stopped. Once China was able to resume trade, their priority was understandably to recoup their losses, this was achieved through a switch in sales to North America, resulting in a 50 percent drop in exports to some developing countries, leaving consumers vulnerable to food insecurity (Love *et al.*, 2021).

BOX 7:
BIG FOOD" POWER AND IMPLICATIONS FOR FSN

"Big food" companies are the largest stakeholders in food manufacturing today and are characterized by concentrated power and large market-share holdings in both national and global markets. For example, the Coca-Cola Company and PepsiCo have held more that 50 percent of the soft drinks market share over the last three decades (Howard, 2016; Wood *et al.*, 2021). This unchecked concentration has permitted the companies to earn exorbitant profits and exert undue policy influence through shaping markets, technology, innovation, policy, and governance frameworks, to such an extent that regulations do not adequately protect against environmental, human-health and social harms as these would affect their profit margins (Clapp, 2021).

Such power relations appear in different forms, levels and spaces within food systems, and power is exerted and maintained through different efforts such as lobbying, network-building and agenda-setting, which directly and indirectly influence the policy landscape (Gumbert and Fuchs, 2018; Yates *et al.*, 2021). Large food companies possess political power drawn from the material resources they invest in lobbying governments through campaign financing or political sponsoring. For example, the Coca-Cola Company and PepsiCo allocate billions of dollars annually to advertise their products and sponsor political activities (OECD, 2019). They have also gained influence because of a level of expertise and legitimacy increasingly attributed to their representatives. Big food companies use nutritional positioning and claims about nutritional dimensions of their products to bolster their power and influence (Clapp and Scrinis, 2017). Their power and economic advantage enables them to influence the social and political structures in which their activities are embedded (Clapp, 2017).

The power of big food companies over national food policies, local markets and individual food choices has recently attracted considerable attention in global policy debates. While these companies bring about improved economic performance through increased technology and know-how (see Section 4.2), and reduce risks of undernutrition, they continue to drive or maintain the inequalities underlying increasing levels of hunger and malnutrition (Hossain,

2017; Stuckler and Nestle, 2012; Wood *et al.*, 2021). The food systems in which these corporations operate are not driven to deliver optimal human diets but to maximize profits. This is an underlying common factor in the increase in malnutrition. Domestic producers who supply healthy, less-processed and locally-sourced foods to the most vulnerable communities are not able to compete in such markets, leaving local and global food systems largely dominated by big food companies, threatening food security and sovereignty in traditional food systems.

Evidence shows that what people eat is increasingly driven by these major food corporations across the globe. The consumption of ultra-processed foods is growing, with sales highest in Australia, North America, Europe and Latin America, but also growing rapidly in Asia, the Middle East and Africa (Baker *et al.*, 2020; Stuckler and Nestle, 2012). The concentration of market power by these companies is now linked to rising levels of overweight and obesity in countries transitioning from low to middle income, where the companies are expanding their markets. In HICs, the disadvantaged populations, often having low literacy levels and living in low-income housing, are more likely to be affected by this trend due to the greater affordability of these foods relative to healthier foods (Wood *et al.*, 2021; Yates *et al.*, 2021). Increasing rates of diet-related disorders are among the key health issues associated with the excessive consumption of ultra-processed foods that are high in high fat, oil, sugar and salt (Black, 2016; Monteiro *et al.*, 2013). Unhealthy food marketed by these corporations is increasingly becoming the first choice as consumption of healthy food declines, leading to malnutrition and its related consequences: increased prevalence of disease, poverty, lower economic productivity, lower income and higher health costs. Increased monitoring could help hold these large companies to account and slow the impact of their practices on food and nutrition insecurity.

Source: Authors' own elaboration.

4.4 POLITICAL AND INSTITUTIONAL DRIVERS

The ideas and interests of groups vying for political influence are often at odds with the wider geopolitical ideas and systems shaping food policy and, in turn, FSN outcomes. The influences of these groups can be implicit or explicitly written into a wide range of rules and policies related to land ownership, access to finance, education, public health, housing and welfare, as well as impacting voting and issues of representation, and driving action or inaction during periods of armed conflict.

4.4.1 VIOLENCE AND ARMED CONFLICT

Violence and armed conflict are principal drivers of acute hunger in many parts of the world and are expected to increase (WFP and FAO, 2022), with food insecurity now recognized as both a cause and an effect of armed conflict (Fakhri, 2023; UN, 2021). The effects of armed conflict on FSN are both direct and indirect, immediate and protracted, and, as with most crises, have the greatest impact on the most vulnerable, thus exacerbating existing inequalities. There are currently numerous conflict zones around the world, including Afghanistan, Ethiopia, the Sahel, Sudan, the Syrian Arab Republic, Ukraine and Yemen, and hunger and inequality are systematic consequences of this violence (IPES-Food, 2023a). These events lead to the displacement of tens of thousands of people, halt food production, and disrupt supply chains.

Food can be weaponized in armed conflict, or food relief can be prioritized. How this plays out is shaped by geopolitical interests and exacerbates inequalities in food security (Fakhri, 2023; UN, 2021). For example, the national and international responses to the war in Ukraine were to support the flow of food, as was evidenced in the Black Sea Grain Initiative that enabled the resumption of grain exports via the Black Sea (Okonjo-Iweala, 2023). At other times, conflicts can lead to coercive measures being taken, in the form of blockades or

economic sanctions, connected with geopolitical interests, and intended to weaken an opposing regime by undermining food security and ultimately people's human rights (Bâli, 2022; Fakhri, 2023). For example, the UN Special Rapporteur on the Right to Food highlights how the responses of coalition forces to the war in Yemen have resulted in one of the world's worst humanitarian disasters. The blockade against Yemen by coalition forces has been in place since 2015, blocking the supply of food, fuel and water to civilians, whereas coalition airstrikes destroyed or damaged farmland, water facilities, port infrastructure and medical facilities. In a country that imports 90 percent of everything it consumes and employs 60 million in the agriculture sector, these actions have resulted in country-wide famine and the starvation of tens of thousands of people. Malnutrition in Yemen is now among the highest in the world, with 1.3 million breastfeeding mothers and 2.2 million children under 5 years of age requiring treatment for acute malnutrition (Fakhri, 2023).

Ever since the start of the war in Ukraine in February 2022, the food crisis has gained more prominence on both national and international agendas. The invasion of Ukraine caused considerable disruption to supply chains and grain exports, resulting in food-price spikes, export restrictions, and heightened food security concerns around the world (FAO, 2022c; IPES-Food, 2023a). Maize hit the highest price ever recorded, wheat reached a 14-year high (IPES-Food, 2022), while the food price index recorded the third consecutive year of record-high prices (UN, 2022). Price spikes, in particular, exacerbated food insecurity among low-income households and LMICs, whose populations are already the least able to afford a healthy diet (Kansiime *et al.*, 2021). Many of the countries that have been hardest hit by these changes are already experiencing multiple food crises, which are now compounded by rising prices and food shortages. For instance, on average, 40 percent of wheat imports to Africa come from the Russian Federation and Ukraine, although this figure is much higher is some countries of East Africa and the Horn of Africa (90 percent in Somalia and 100 percent in Eritrea), a region that is also entering their fifth consecutive year of below-average rainfall and drought conditions.

4.4.2 POLICIES AND GOVERNANCE

Despite successive waves of reform, land policy and food production remain intricately connected to the history and ideas of a place. Historical periods of colonialism, land enclosure, and communist rule may have an ongoing influence on the policies that determine what is grown and by whom and who owns and controls the land and the means of production (Ginzburg, 2022; Khoury *et al.*, 2016). The lack of meaningful land reform in many nations has resulted in a tendency for state-led fisheries and agricultural policies to overlook and often undermine customary systems of tenure and access that support FSN (Chuenpagdee and Jentoft, 2015; Lau *et al.*, 2020). Instead, state-led fishery and agricultural policies have focused on maximizing production to meet food and economic demands of populations and bring food prices down (Leach *et al.*, 2020; Hossain and Scott-Villiers, 2017). These policies, together with trade policies (See 4.3.1), have increased quantities of food available and reduced prices, although they have also reduced the wages of food system workers (Carolan, 2013).

However, a long-standing focus in many countries on producing calories as inexpensively as possible to reduce cost to the consumer has come at the expense of broader nutritional outcomes, particularly among groups who are already vulnerable to food insecurity and NCDs (Carolan, 2013; te Lintelo and Lakshman, 2015), and exacerbated environmental decline (4.1.1). Furthermore, this siloed approach to food policy has meant agricultural and fishery policies are not food- and nutrition-sensitive, and food and nutrition policies are not sensitive to the needs of production systems, highlighting gaps in programming and planning among key food system sectors (Koehn *et al.*, 2022).

The ongoing failure to fully recognize the right to land and other natural resources on the part of Indigenous and local communities threatens groups that are already vulnerable to food insecurity, because they depend on their land to gather food resources as well as continually grow, harvest, and produce their traditional foods. In response, several movements and commitments are emerging to support more equitable, inclusive

and integrated food systems. For example, the right to land and other natural resources is recognized by states 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 FAO Voluntary Guidelines on Small Scale Fisheries (FAO, 2015d) and 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). Because these latter instruments are voluntary guidelines, they require uptake and implementation at national levels. However, voluntary guidelines have been shown to lay the foundation for national regulations (IPBES, 2022). Many of these instruments, as well as debates on food systems, over the last two to three decades have been shaped by the food sovereignty movement; partly emerging as a political response to some of the ways in which Indigenous Peoples, peasants and smallholder famers have lost out as a result of integration into national and international agrifood systems (BOX 8).

In addition to food production policy, the political system also has significant effects on food and nutrition inequality, given that broader government

BOX 8:
THE EMERGENCE OF FOOD SOVEREIGNTY AS A MOVEMENT

Criticism to the green revolution of the 1960s laid the foundation for the food sovereignty movement (Desmarais, 2012). La Vía Campesina, an international organization of farmers, peasants, small-scale producers and farm workers, initiated the food sovereignty movement in 1996 to take a stance against the neoliberal model of agriculture and trade. La Vía Campesina advocates for the right of nations and peoples to control their own food systems, food cultures and environment, and demands a fundamental shift towards alternative agricultures such as organic farming and agroecology (Gliessman and ferguson,2020; Village and Seligue,2007).

The food sovereignty movement gained momentum with the world food crisis of 2007–2008, characterized by a sudden and dramatic increase in food prices, which led to food scarcity, inflation and decline of purchasing power (Wittman, Desmarais and Wiebe, 2010). In 2007, the Nyéléni 2007 Forum for Food Sovereignty, organized by La Vía Campesina in Sélingué, Mali and attended by 500 delegates from over 80 countries, culminating in the adoption of the Declaration of Nyéléni, established a common understanding of food sovereignty and issued a call to action based on these principles. The Declaration of Nyéléni highlights the "rights of all peoples to healthy and culturally appropriate food and to define their own food and agricultural systems" (Village and Selingue, 2007, p.1). Peasants' rights to participate in and define their own food production systems is an essential part of food sovereignty and is acknowledged in the United Nations Declaration on the Rights of Peasants and Other People Working in Rural Areas (UNDROP, 2018). While food sovereignty remains in many places a grassroots and activist-led movement, it has been institutionalized in a number of countries. For example, food sovereignty is part of the constitution of the Plurinational State of Bolivia, Ecuador and Mali; and France and Senegal have ministers of agriculture and food sovereignty.

Source: Authors' own elaboration.

policy can significantly shape or neglect the upstream drivers of food inequality (Friel and Ford, 2015; Marmot *et al.*, 2008; Nisbett *et al.*, 2022; WHO, 2008). This includes city planning, where informal components of food systems have been consistently marginalized or repressed in the pursuit of a modern ideal and orderly urbanism (Boonjubun, 2017; Hayden, 2021; Kamete, 2013). At the same time, national and local governments have allowed, and at times actively pursued, the development of supermarkets and shopping malls as symbols of modernization, providers of formal employment and generators of municipal revenue. These decisions transform food environments in the absence of food planning, often to the detriment of marginalized groups, who tend to buy from the informal (and often cheaper) sector (Battersby, 2017; Wertheim-Heck, Vellema and Spaargaren, 2015). The food system and FSN consequences of these governance decisions are rarely considered as food is generally considered to be a local government mandate.

Similarly, labour market regulation and incentives, housing and basic infrastructure provisioning, welfare, early-years provision (support for preschool children) and social protection, which might include food provision, may also increase food and nutrition inequality. For example, labour market regulation may have a direct effect on the agrifood sector, governing the rights of, for example, migrant, child and agency workers who often work in lower-paid and informal or semiformal sectors, such as fruit picking and other seasonal harvest tasks (Southern Poverty Law Centre, 2010) and exploitative systems of bonded and slave labour may exist alongside or even as part of formal labour markets at sea (Kittinger *et al.*, 2017) and on land (BOX 9).

BOX 9:
FREE YET STILL BONDED AND INVISIBLE: THE CASE OF NEPAL

The practice of bonded labour, while officially abolished in Nepal in 2002, has left repercussions for those whose families were forced into the system. Estimates as of 2017–8 report that over 31 000 persons are forced into labour in Nepal, 17 percent of whom are children (ILO,2019). These estimates are likely to be low, given the grave difficulty of identifying those in bonded labour due to the hidden nature of these working arrangements. Many of the victims are in the agricultural bonded labour system, which primarily exploits ethnic and caste minority groups, such as the Tharu and the Dalit (Girir, 2009). Those in agricultural bonded labour are often extremely economically deprived and indebted to their landlords to meet daily needs, which reinforces the cycle of dependence. In 2016, 29 percent of households in a study area understood to have a concentration of ongoing bonded labour were still affected by bonded labour and most were landless (Oosterhoff, Sharma and Burns, 2017). Bonded labourers had far lower rates of livestock ownership, only a fraction owned land, and over half did not have access to food for 4 to 9 months of the year. Dalits living in the Tarai (plains region) were particularly vulnerable to food insecurity (Kumar *et al.*, 2013). Other studies have shown that the prevalence of stunting, wasting and underweight among under-five children of former Kamaiya families (a traditional system of bonded labour, now abolished) was higher than the national average (Khatri *et al.*, 2015) pointing to persistent intergenerational detrimental impacts of these systems, which persist despite having been officially abolished.

Source: Authors' own elaboration.

4.5 SOCIOCULTURAL DRIVERS

Sociocultural drivers act directly and indirectly to influence FSN outcomes. These drivers affect social groups in different ways, particularly when the dominant or institutionalized cultures mean people of certain identities are not recognized as equals and are prevented from participating fully (FIGURE 1). Sociocultural drivers are shaped by both contemporary (such as markers of modernity) and historical (such as tradition, legacies of patriarchal and colonial systems) contexts, and associated inequities will persist until challenged. Here we explore the ways in which sociocultural drivers, as well as the failure to fully recognize the values, cultures, and identities of different social groups, affect FSN outcomes.

4.5.1 CULTURAL NORMS

Food is intimately connected to people's identities, and cultural norms shape how food is produced, procured, prepared and eaten (Cole *et al.*, 2020; Huambachano, 2018, Mintz and Bois, 2002; Phillips, 2006; Purdam, Garratt and Esmail, 2016; Counihan, Esterik and Julier, 2018; Watson and Caldwell, 2005). Cultural norms can directly influence food choice and consumption and, therefore, nutritional outcomes. This is the case, for example, where food culture prioritizes fresh foods such as fruit, vegetables and nuts, healthy oils and optimal amounts of animal-source proteins (Martínez-González *et al.*, 2015), or traditional alternatives such as tofu (Qin, Wang and Luo, 2022). Taboos on eating certain foods exist in virtually all societies, have a long history, and are often associated with particular social groups, life stages (for instance, pregnant mothers), or special events. While some are beneficial, others can lead to ill health, particularly when combined with gendered assumptions or applied among vulnerable groups such that they create, or exacerbate, unequal distributions of nutrient-dense food (Chakona and Shackleton, 2019). In many cultures, for instance, it can be taboo for young children, women in general, or pregnant or lactating women to eat certain nutrient-rich, animal-source foods, including fresh meat, fish, milk and eggs, as well as certain fruits (Meyer-Rochow, 2009). Yet, it is during these life stages that nutrient-rich foods are most critical for long-term growth and development. Gendered norms do not only impact women. For example, eating meat and the frequent consumption of large quantities of "manly food", are often considered hallmarks of masculinity, but are associated with increased risks of obesity and diabetes, and their production entails greater environmental pressures (Al-Shaar *et al.*, 2020; Godfray *et al.*, 2018; Guasch-Ferré *et al.*, 2019; Helgeson, 1994; Sobal, 2005).

Cultural norms can also affect FSN outcomes indirectly, through effects on the broader social, economic and food systems. National and customary laws, social norms and traditional roles around gender, class, disability, ethnicity and race extend into every aspect of food systems, dictating who can access and control resources more broadly, and who faces social, economic or political barriers, resulting in the marginalization of certain identities (Krishna, Aravalath and Vikraman, 2019) (see CHAPTER 3). These forms of injustice and discrimination fall along lines of social identity, but are also associated with the economic size of an actor or operation. In this way, cultural norms can intersect with one another and with economic class structures, further disempowering minoritized social groups and distributing resources away from them, and further entrenching unequal patterns of distribution, recognition and representation (Lips, 2020). For example, gendered norms exist that dictate the roles women can hold in production systems and the crops they can grow (Arndt and Tarp, 2000; Carr, 2008). Beyond production, processing and trade, gendered assumptions are common in domestic and care work, with women being primarily responsible for childcare and food purchasing and preparation. These roles and assumptions feed into and are compounded by gendered differences in the availability of and access to land, credit and knowledge, affecting the ability of women and small-scale actors to access markets and to work in prominent roles of ownership and management in wider value chain activities.

Cultural norms can also influence political representation – influencing who has voice and agency in decision-making processes, which

in turn affects people's ability to participate economically as equals and exacerbates existing inequalities in the distribution of assets and in FSN outcomes. For example, in many sectors, the roles traditionally held by women are under-recognised, and policies are therefore gender blind, with women not afforded political representation and women-dominated sectors (such as the informal post-harvest sector) being the least likely to receive government support (Hicks *et al.*, 2022; Lawless *et al.*, 2019; Njuki, Parkins and Kaler, 2016). An example of this is the different treatment of fishers during the COVID-19 pandemic. In several countries, fishers (who tend to be men) were permitted to continue working, while informal fish vendors (who tend to be women) were not afforded the same dispensation (Love *et al.*, 2021). Yet when women, whether at household or national level, have greater voice and agency, food production, nutrition, and reduction of post-harvest waste and loss – which are directly related to FSN outcomes – generally improve (Cole *et al.*, 2020). Removing barriers to voice and agency, across all groups, is critical for equitable food system transformation (Njuki, Parkins and Kaler, 2016). However, efforts to redress these power imbalances require careful thought to avoid a wider cultural backlash (WFP, 2021).

In some instances, institutionalized cultural norms that fail to recognize, and thus marginalize, particular social groups, are the result of historical processes, yet still have current manifestations. For example, some Indigenous Peoples consider all living and non-living beings to be equal (FAO, 2021) and consider nature — mountains, native crops, landscapes and wildlife – to form an integral part of their ancestral heritage and identity, fostering connection to their ancestors and moral responsibilities towards future generations (Norgaard, Reed and Horn, 2011; Whyte, 2016). Some governments, including those of Canada and the United States of America are actively working with Indigenous nations to foster strong, healthy, and sustainable environments, which are fundamental to their livelihoods and well-being (see, for instance, (Donatuto *et al.*, 2020; Donatuto, Campbell and Gregory, 2016), in an effort to redress historical recognitional injustices and support processes of recognition and representation (von der Porten *et al.*, 2016).

Culture is dynamic, and as social, economic and political systems change, they may intersect with existing social and cultural norms in ways that can enhance or undermine FSN outcomes. Policies can exacerbate existing inequalities in three key ways: placing the burden of change on the already marginalized, supporting change for the most capable, or inadvertently laying blame and creating stigma (Hicks *et al.*, 2022; Rollins, 2023). For example, when healthy-eating policies promote fresh food that is prepared daily combine with cultural norms that hold that women are responsible for food preparation, the burden of change – to ensure this freshness – is placed on women, often in addition to existing care and work burdens. Even where policies are effective, they can still exacerbate inequalities by having a greater impact on improving outcomes for more advantaged groups who have greater agency to benefit from corresponding interventions (Adams *et al.*, 2016). Finally, when harmful social norms remain unidentified and unchallenged, they can become rationalized. For example, poorer rural populations are often stigmatized as "backwards" and denied, or not deemed worthy of, opportunities (Nichols, 2020). Similarly, the language and messaging around issues and policies related to public health, food and social assistance – including food assistance, food insecurity and welfare support – can often result in a discourse of blame, creating stigma and shame, and making it harder for those most in need of food assistance to access the resources they need (van der Horst, Pascucci and Bol, 2014; Purdam, Garratt and Esmail, 2016). Poorly nuanced public health interventions that stigmatize, rather than support, people living with obesity can feed into low self-esteem and poor mental health, as well as wider discrimination in the workplace (van der Horst, Pascucci and Bol, 2014; Purdam, Garratt and Esmail, 2016; World Obesity Federation, 2021). It is therefore vital that policies are FSN- and equity-sensitive (see CHAPTER 6), ensuring that policies that act on the food systems do not promote harmful practices, while on the opposite challenging inequitable social norms. Redistributive policies should clearly

specify, identify and tackle the underlying drivers of inequalities in FSN outcomes.

4.5.2 GENDER-BASED VIOLENCE

Rooted in discriminatory gender-based cultural norms, gender-based violence (GBV) is a form of control, subjugation and exploitation that reinforces gender inequality and protects existing privileges. It is one of the most extreme and widespread manifestations of human rights violations. GBV includes many forms of physical, sexual, economic and psychological violence targeted at individuals based on socially ascribed gender differences (Okpara and Anugwa, 2022). GBV occurs in all societies around the world (Castañeda Carney *et al.*, 2020), with an estimated one in three women globally expected to experience GBV in their lifetime (WHO, 2021). GBV undermines individual, household and community food security, and is, in turn, more common when families are food insecure (Gibbs *et al.*, 2017; Hatcher *et al.*, 2019; Okpara and Anugwa, 2022). Perpetrators of GBV seek to control women by deliberately disrupting their community ties, which in some settings can include those that allow food value chains to function. Thus, GBV destroys social ties, while food security requires people to work together (Okpara and Anugwa, 2022). The risk of GBV in the workplace is greater in informal, low paid, food marketing and distribution jobs, or when women take up jobs traditionally ascribed to men. When sectors intensify and commercialize, women are often squeezed out or exposed to GBV attacks. This is the case, for example, in both the dairy industry in Kenya (Castañeda Carney *et al.*, 2020) and the fishing industry in the United Republic of Tanzania (Fröcklin *et al.*, 2013) where women, who became successful in jobs traditionally assigned to men, were made to leave by the men in each industry.

Gender-differentiated roles and entitlements can place women in vulnerable positions when they carry out the daily activities necessary for food security, such as collecting water or firewood (Sommer *et al.*, 2015). For example, women in vulnerable positions can experience sexual exploitation when authorities demand sexual favours for land rights (UNDP, 2012) or for access to fish (Béné and Merten, 2008; Castañeda Carney *et al.*, 2020; Fröcklin *et al.*, 2013). Women can experience coercive forms of gender-based violence in trying to enter agricultural markets when their partners seek to control finances (Castañeda Carney *et al.*, 2020).

In many contexts, women are subjected to violence and discrimination based on a number of factors. For instance, Indigenous women often face intersecting and reinforcing forms of gender-based and other violence (Wijdekop, 2017). Gendered norms also intersect with ethnicity or citizenship status, as in the case of women migrant farm workers in the United States of America, who may face several forms of exploitation, including lower pay and being subject to sexual harassment and violence (National Farm Worker Ministry, 2018; Southern Poverty Law Centre, 2010). Furthermore, many of the factors associated with migrant women's farm labour, including insufficient safety measures and excessive pesticide use, can pose additional risks to women's health and carry reproductive risks (Habib and Fathallah, 2012).

4.6 DEMOGRAPHIC DRIVERS

Population and economic growth will together drive demand for food and other resources (Beddington *et al.*, 2012). But fears of a population explosion leading to famine and food insecurity have often underlaid broader narratives on FSN in ways that have led to poorer populations bearing the brunt of repressive policies. This was first discussed by the eighteenth/nineteenth century demographer and economist, Thomas Malthus. Social and historical research has documented how population-control measures have been applied to marginalized communities or have been used as means to control and repress women in particular (Carter, 2018; Hartmann, 2016; Packard, 2016). Yet, contemporary demographic research has long highlighted how total fertility rates decline in line with pro-poor income growth and women's literacy and education (PRB, 2011). Education alone has benefits for women's empowerment and equality and for nutritional and wider health outcomes for both mothers and children (Black, 2016; PRB, 2011). Delayed pregnancies and birth spacing also support improved nutrition and health

outcomes for mothers and children, with potential intergenerational benefits (Kozuki *et al.*, 2015).

Demographic changes unfold unevenly. For example, the proportion of the world's population living in urban areas increased from 30 percent in 1950 to 55 percent in 2018 and is projected to reach 68 percent by 2050 (UN, 2019). These levels of urbanization are not uniform, with 82 percent of the population of North America living in urban areas, compared to just 43 percent of the African population. However, starting from a lower base, Africa is the most rapidly urbanizing continent, with a projected threefold increase in urban population between 2018 and 2050 (UN, 2019b). While often imagined as being driven by rural to urban migration, urbanization in LMICs is increasingly driven by natural growth (Menashe-Oren and Bocquier, 2021). This ongoing process of urbanization is transforming food systems and FSN outcomes. The impacts of this process on inequalities in FSN outcomes are complex and multidirectional. Based on a review of existing literature, de Bruin, Dengerink and van Vliet (2021) have developed a conceptual framework of the multidirectional relationships between urbanization (framed as population growth, rural–urban migration, urban expansion, and social and economic developments), and rural livelihoods and food systems transformation (de Bruin, Dengerink and van Vliet, 2021). They argue that urbanization drives four key elements of food system transformation, namely: increase in total demand; changes in purchasing power and food preferences; formalization of and more complex value chains; and land-use change. These food system transformations then play a role in shaping inequality and FSN outcomes in both rural and urban areas. As such, it is essential to develop context-specific understandings of the impact of urbanization on urban and rural development and food systems.

Although, globally, poverty rates remain higher in rural areas than urban areas (UN DESA, 2021), urbanization and natural population growth in cities have resulted in an estimated 1 billion of the world's population living in urban slums. These urban populations are often more vulnerable to food insecurity than rural populations and have higher rates of obesity and child stunting (see Section 2.2.4). While the number of stunted children worldwide fell between 1985 and 2011, with significant declines in rural areas, there has been little change in child stunting in urban areas (Ruel *et al.*, 2017). Furthermore, while obesity is increasing worldwide, it is more common in urban than rural areas (Ruel *et al.*, 2017). Thus, both rural and urban areas require targeted policies, interventions and investment, and there is a need for ongoing work to understand the nature of urban–rural linkages (both local and more distant). Indigenous Peoples have long been aware of the knock-on effect of urbanisation on FSN risks. As Norma Kassi, speaking of her Gwich'in community, says, "We cannot, however, simply change our diet. If we were to change suddenly and start eating store-bought foods more, then disease would increase and our rate of death would be higher, because it would be too rapid a change, too much of a shock to our systems" (Whyte, 2018, p. 138). Indigenous Peoples currently living in settler-colonial societies such as the Onondaga Nation in North America have higher rates of type 2 diabetes and cardiovascular diseases than their white counterparts. According to a recent report, 65.9 percent of Onondaga County adults are either overweight or obese, putting them at increased risk for several chronic conditions (Onondaga County Health Department, 2021).

Chapter 5

ACTIONS TO REDUCE INEQUALITIES IN FOOD AND OTHER SYSTEMS TO IMPROVE FSN

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KEY INSIGHTS

- Equity-informed policy and programming must be informed by these first principles: being adaptive to context; focusing on agency and working to undo inequitable norms; and addressing power imbalances.
- A variety of actions to reduce inequalities for FSN are possible across the food systems and related systems.
- Within **food production**, major action areas to reduce inequalities for FSN include: (i) enabling more equal access to land, forests, livestock and fisheries, (ii) applying agroecological principles across production and broader food systems, (iii) establishing inclusive producer organizations, and (iv) investing in equity-sensitive public agricultural and food-systems research and other rural public investments.
- Action areas related to **food supply chains** include: (i) adopting inclusive value chain approaches; (ii) developing labour-protection policies, strategies and programmes for food-system workers; (iii) considering territorial approaches in food system and regional development planning; (iv) investing in equity-sensitive storage, food processing and distribution infrastructure; and (v) investing in improved information systems, leveraging digital technologies.
- Action areas related to **food environment and consumption** include: (i) food-environment planning and governance; (ii) incorporating behavioural insights into policymaking and programming; and (iii) strengthening social protection.
- Action areas within **enabling environment, broader context and governance include**: (i) food- and nutrition-sensitive policy and planning; (ii) addressing corporate power asymmetries in governance; (iii) universal health care that integrates nutrition care; (iv) a holistic approach to climate and sustainability; and (v) inclusive growth for FSN, and policy that goes beyond growth.

This chapter presents actions that can be taken within food systems and other FSN-relevant sectors to reduce inequalities in FSN (see Section 5.2 through Section 5.5). These are not exhaustive action areas. Rather, they are priority areas that hold significant potential for reducing the key inequalities described previously. They include both incremental as well as transformative action areas that span the food system and the broader context. To aid presentation, we cluster these action areas into four broad categories: **food production**; **food supply chains**; **food environment and consumption**; and **enabling environment, broader context and governance**. Although for presentational ease the action areas are placed in specific categories, it is acknowledged that several areas span multiple categories and indeed some span the entire food system.

These actions are informed by a set of broad, equity-informed, first principles described in Section 5.1 (adapt to context, focus on agency and address power imbalances) that should be considered when addressing FSN inequalities to ensure long-lasting reduction of inequalities. These principles can be considered alongside FIGURE 12 in CHAPTER 6 (Recommendations), which expands on a roadmap for equity-sensitive policymaking.

5.1 FIRST PRINCIPLES TO FOLLOW WHEN DESIGNING EQUITY-SPECIFIC ACTIONS

5.1.1 ADAPT TO CONTEXT

The HLPE-FSN has emphasized the need to acknowledge the diversity of situations across and within countries and to propose actions that are context-specific, because food systems are situated in different environmental, political, sociocultural and economic contexts and face diverse challenges.

As noted throughout this report, understanding context is imperative to understanding the magnitude of FSN inequalities and how they affect different groups differently; to recognizing the key drivers of inequality and inequity; and ultimately, to creating tailored policy to promote better and more equitable outcomes. Because of context, no single policy or set of actions can be adopted wholesale without considering the local situation of inequality. In the same report, the HLPE-FSN acknowledges that actions must combine the technical and political with the local; involve relevant actors at different scales equitably; and combine local and incremental change with broader structural change as appropriate to the situation.

5.1.2 FOCUS ON AGENCY AND WORK TO UNDO INEQUITABLE NORMS

Agency is a vital concept for addressing inequalities and inequities. Fundamental to addressing the distribution issues in the "engine of equity" is the recognition of the views, needs and preferences of different groups; and the genuine representation or participation of different groups in deciding on actions most appropriate to the particular context. These are crucial aspects of agency. A slogan long in use in the disability movement, for example, is "nothing about us without us". As the slogan implies, communicating to or about marginalized groups (for instance telling them about a new programme or policy), is not the same as the policy directly benefiting them. Benefitting from changes is also not the same as being empowered to participate fully in decision-making, which, again, is not the same as transforming the social relations which limit people's agency in the first place (Quisumbing, 2019). Addressing power imbalances as fundamental as gender or ethnic discrimination, for example, represents the most transformative equity goal. A focus on the empowerment aspect of agency without also considering the redistribution of resources and power (Kabeer, 1999), will not transform the fundamental power structures that hold people back from realizing their agency for FSN. In the conceptual framework of this report, this entails actions that simultaneously address the need for redistribution, recognition and representation.

5.1.3 ADDRESS POWER IMBALANCES

Power imbalances exist along multiple axes, from corporate concentration to unequal political participation, to social norms limiting certain populations. There is a long history of participatory methods that have been applied to ensure equitable participation and to address power imbalances in decision-making and programming (George *et al.*, 2015). Participatory learning and appraisal approaches, for example, where rural and marginalized women focus on defining problems and solutions relating to malnutrition, have been associated with better outcomes in terms of child wasting (Gope *et al.*, 2019) and dietary diversity (Prost *et al.*, 2022) when combined with other interventions, such as provision of childcare creches, home-based nutrition support and video-based training. Social accountability measures, such as social audits of food and nutrition or health services, have also shown potential in improving local forms of civic participation and decision-making by marginalized groups in Odisha, India (Gordon *et al.*, 2019). In a research context, participatory and action research methods can form a basis for an equitable approach to evidence-based policy formulation and community-sensitive action. Addressing power as part of inclusive governance is also an important aspect of an equity-centred approach (see Section 5.5) and can happen in multiple contexts. Care needs to be taken, however, to ensure that increased citizen engagement does not allow the state to abdicate responsibility in food system transformation.

5.2 ACTIONS TO REDUCE INEQUALITIES IN FOOD PRODUCTION

5.2.1 MORE EQUAL ACCESS TO FOOD-PRODUCTION RESOURCES

Actions to enable more equal access to production resources such as land, livestock, forests and fisheries, must be appropriate to the local context, have widespread support and be part of a fully participatory process. They must go beyond ownership to full consideration of access and

control, having contextual consideration for groups that face particular disadvantage, including women, Indigenous Peoples and the poor (ILC, 2020). Actions to reduce inequalities in access to food-production resources are most effective when they are embedded in a larger set of complementary inequality-reducing actions, such as promoting inclusive value chains and territorial markets (discussed in subsequent sections).

Protecting *collective tenure rights* to land, forests and aquatic resources that are vital to the FSN of many vulnerable communities around the world requires priority action (while also recognizing that some collective tenure systems themselves may embed inequalities) (Goldstein and Udry, 2008). Ongoing efforts to recognize and protect customary land rights of Indigenous Peoples through mapping and documentation exemplify such action (Guereña and Wegerif, 2019). Meaningful mechanisms must be developed for the widespread application of free, prior and informed consent, as recognized under the UNDRIP (UN, 2007), so that the implementation of land, forest and aquatic resource projects is fully subject to community consent (FAO, 2016).

Measures to significantly improve transferability, accountability and local or community consent with respect to *corporate and international acquisitions* of land, forest and water resources are urgently needed. Although voluntary guidelines such as the Principles for Responsible Investment in Agriculture and Food Systems and the CFS guidelines on responsible governance of land tenure exist, there are major gaps in their translation into practice (ILC, 2020). One approach to improving transparency and accountability is for countries to require submission of project and company-level data on large-scale land and other natural resource investments, made available on public datasets such as Landmatrix.org (Flachsbarth *et al.*, 2020).

Promoting *more equal access to land* is as challenging as it is important. Contextually appropriate regulations must be devised to strike a balance between the benefits and pitfalls inherent in the operation of land markets. Secure tenure and well-functioning land markets, facilitated by setting up land registries and creating legal clarity in property rights, can encourage transfers towards the most productive use of land, encourage investment in the land and help provide collateral for finance (Deininger, 2003), while unregulated land markets often become instruments of exclusion and concentration. Land transfers and reallocations may have to contend with the fact that just assigning legal rights may not lead to secure tenure and corresponding incentives to invest in that land. The maintenance of those rights may depend on political power (Goldstein and Udry, 2008). Institutional innovations such as setting up "land banks" (Aryeetey and Udry, 2010)) to improve tenure security while facilitating land sale and purchase, and regulations such as limiting foreign ownership and legally protecting renters must be considered. It is also important to take a holistic approach to action to improve equality in land access, asking what other actions are needed to ensure that redistribution leads to better livelihoods and better FSN. For example, land reform actions must also ensure that recipients possess appropriate skills in food production.

Action to bolster *women's land rights*, including legal recognition and inheritance rights is critically important to improving gender equality both within and outside the household, and thereby to improving FSN. This does not have to imply titling. Programmes undertaking formal recognition and documentation of rights that are inclusive of women, such as Ethiopia's rural land certification programme (see BOX 10) and Rwanda's land regularization programme (Ali, Deininger and Goldstein, 2014), can have powerful impacts. At the same time, it must be kept in mind that legal recognition or titling alone may not imply adequate *control* over assets for women in many settings (Harris-Fry *et al.*, 2020), and that further work on adapting social norms and attitudes will be needed.

BOX 10:

SUCCESSFUL LAND REGISTRATION AND CERTIFICATION IN ETHIOPIA

Recognizing the importance of secure rights to land for livelihoods, equity, productivity and thereby for food security, many countries have put in place legal frameworks to formalize land rights. However, relatively few have been successful in practice, with commonly encountered flaws including top-down approaches, limited effort to improve awareness of rights, and high costs of implementation. An exception was the land registration and certification programme of Ethiopia, conducted between 1998 and 2005, which registered and then certified land rights, achieving high coverage at low cost within a few years. Key success factors included a pragmatic focus on use rights rather than full titles; a bottom-up, participatory approach to community-level adjudication, and the use of low-cost community-based methods to identify field boundaries. A noteworthy feature was a focus on gender equity, with certificates issued jointly to spouses. A stream of research has found that the programme improved security of tenure, encouraged investment in land and improved productivity, and that household consumption expenditure increased with the duration of holding certificates.

Sources: Bezu, S. & Holden, S. 2014. *Demand for second-stage land certification in Ethiopia: Evidence from household panel data. Land Use Policy*, 41: 193–205 and Deininger, K., Ali, D.A., Holden, S. & Zevenbergen, J. 2008. Rural Land Certification in Ethiopia: Process, Initial Impact, and Implications for Other African Countries. World Development, 36(10): 1786–1812.

Livestock present a less-challenging entry point for asset equalization, especially in terms of access and control opportunities for women. Livestock transfers to small-scale farmers are a commonly applied action to achieve greater parity in livestock assets and potential for improved consumption of animal-source foods (Rawlins *et al.*, 2014), as well as participation in value chains and market sale. From the perspectives gender equality and FSN, small-livestock programmes have shown particular promise. Similarly, small-scale fishery programmes (March and Failler, 2022) and tree-based solutions (Ickowitz *et al.*, 2022) offer sustainable pathways to supporting poor and marginalized groups and improving their FSN.

5.2.2 AGROECOLOGICAL PRINCIPLES ACROSS PRODUCTION AND BROADER FOOD SYSTEMS

Agroecology is defined as "the application of ecological concepts and principles to the design and management of sustainable agroecosystems" (Altieri, 1995, p. 8). It reflects a science, practice and social movement that fundamentally rethinks food systems as they currently exist. One of its foundational principles is social equity linked to co-creation of knowledge, social values and diets, land and resource governance, participation, fairness and connectivity. The HLPE-FSN in its 2019 report lays out the evidence that demonstrates the value of drawing on agroecology as a central part of the structural reform of food systems necessary for the achievement of global goals on sustainability and equity. The Sixth Assessment Report of the Intergovernmental Panel on Climate Change also notes the importance of the "use of agroecological principles and practices and other approaches that work with natural processes" as an effective strategy for adapting to and reducing climate risks, noting "high confidence" in the evidence base (IPCC, 2023, p. 8).

Agroecology has become one of the key approaches to strengthening the livelihoods of smallholders, eradicating hunger, and enhancing agroecosystem resilience (Gliessman and Ferguson, 2020). Agroecology is often – though not exclusively – linked to the set of wider political changes advocated by proponents of food sovereignty (Wezel *et al.*, 2020). It is argued that, together, agroecology and the wider changes offer an important set of actions that can be applied to tackling structural socioeconomic FSN inequalities in terms of land

ownership, self-sufficiency and political control. These two concepts also allow Indigenous Peoples to exercise their rights as stewards of the land and take part in rebuilding the relationship between humans and non-humans in a naturally restorative framework.

The evidence base for agroecology's impacts on FSN is developing fast as approaches have been tested and adapted in different contexts. A review of 56 studies highlighted positive outcomes in nearly four-fifths of the studies (Bezner Kerr *et al.*, 2021) and noted the importance of the social-equity dimensions within agroecological systems in helping broaden the impact of these outcomes. In terms of comparing agroecology and intensive farming systems, trade-offs exist in terms of environmental externalities, climate impacts and land-use intensity (HLPE, 2019). There is much yet to be learned from further work in this area, particularly in terms of documenting impacts on FSN inequality beyond improvements in diet and food security (Bezner Kerr *et al.*, 2022).

In terms of practical changes in FSN systems, the HLPE-FSN sets out 13 agroecology principles (HLPE, 2019) (which further develop the ten principles put forward by FAO as part of a consultative process) (FAO, 2018a), six of which were flagged by the HLPE-FSN as equity specific and the rest, in keeping with this current report, we denote as equity sensitive, given the environmental and social vulnerabilities of marginalized communities. The equity specific agroecology principles were: enhancing the co-creation of knowledge; recognising that social values are inherent in and shape diets; considering fair livelihoods and fair treatment of intellectual property rights as critical for all food system actors; improving connectivity and proximity between producers and consumers; strengthening land and natural resource governance for marginalised groups and building participation throughout more decentralised and adaptive systems of governance (HLPE, 2019).

5.2.3 INCLUSIVE PRODUCER ORGANIZATIONS

Collective action via formal grouping of producers can contribute to surmounting many of the inequalities and exclusions faced by small-scale producers. Various types of producer organizations (PO) have emerged, including cooperatives, marketing groups, self-help groups, finance associations, producer companies and various combinations of these.

Depending on their orientation, POs can offer various mechanisms for improving the participation, inclusion and power of small-scale producers. Cooperation in production can pool technical knowledge and help with natural resource management, including, for instance, water management across contiguous farms. External suppliers of services, such as extension services, also realize cost advantages in delivering at group level rather than to individual producers. For example, Zambia's Farm Input Subsidy Programme uses POs to deliver fertilizer subsidies to farmers (Minah and Carletti, 2019). Collective marketing can lower transaction costs, especially for small-scale producers (for instance, via shared transport of produce to the market); increase bargaining power; and increase returns and lower risk by providing market information and identifying stable markets. It can also help overcome the scale problem in supplying to modern value chains. BOX 11 describes the case of a highly successful PO that has enabled small-scale actors to increase bargaining power in a complex international value chain.

In practice, the results of many POs have been mixed. An increase in income from participation is the most consistent association identified, with only limited associations with food security examined

BOX 11:

SUCCESSFUL ORGANIZATION OF SMALL-SCALE PRODUCERS: THE COLOMBIAN NATIONAL COFFEE FEDERATION

The Colombian National Coffee Federation (FEDCAFE) is one of the most longstanding and successful producer organizations in the world. The federation was formed in 1927 against a backdrop where powerful foreign export companies were paying Colombian producers a small fraction of the international price of coffee. Now the federation has more than half a million members, most of whom are small-scale family growers. Through this collective strength, the federation negotiates favourable contracts with the large roasting firms that dominate coffee trade. In collaboration with the Government of Colombia, the federation operates a coffee fund that stabilizes returns to members by adding to the fund when prices are high and using the fund to store coffee when prices are low. A key feature of FEDCAFE is that it invests significantly in coffee research in Colombia, as well as in infrastructure and public services in coffee-producing regions, funded via an export levy. FEDCAFE has thus managed to bring together both elite and small-scale Colombian producers in a common cause that has furthered their joint interests.

Sources: Bentley, J.W. & Baker, P.S. 2000. *The Colombian coffee growers' federation: organised, successful smallholder farmers for 70 years.* The Colombian coffee growers' federation: organised, successful smallholder farmers for 70 years and Bosc, P.-M. 2018. *Empowering through collective action.* IFAD Research Series 29. International Fund for Agricultural Development (IFAD).

or found so far (Bizikova *et al.*, 2020). Participation in POs can reduce inequalities by opening up opportunities for participants. However, the ability to participate in POs may itself be subject to inequalities (Bijman and Wijers, 2019; Chirwa *et al.*, 2005; Shiferaw *et al.*, 2015). A review by Bizikova *et al.* (2020) finds access to land and other assets, poverty, education and distance to market (remoteness) to be important determinants of PO participation. Gender is also a barrier, and PO participation can increase male control of resources within the household (Bizikova *et al.*, 2020).

It is important that PO design pay explicit attention to inclusivity, thereby increasing representational equity. Considerations in this regard include:

1. A balance must be struck between meeting business objectives and maximizing inclusiveness (Shiferaw *et al.*, 2015).
2. Additional interventions may be needed to encourage the participation of marginalized groups. These may include financial support for fees, or interventions addressing the high opportunity costs of participation for women – given their workloads and household responsibilities (Minah and Carletti, 2019).
3. The composition and operating principles of the group provide different benefits. Larger and more heterogeneous POs may reap greater economies of scale and inclusivity but may be less cohesive.

5.2.4 EQUITY-SENSITIVE PUBLIC AGRICULTURAL AND FOOD-SYSTEMS RESEARCH AND OTHER RURAL PUBLIC INVESTMENTS

While subsides and other forms of support are often used by governments to bolster rural incomes, raising rural farm and non-farm incomes must be part of the long-term, sustainable solution (Byerlee, de Janvry and Sadoulet, 2009). This is especially necessary as gaps widen between urban and rural incomes and FSN outcomes, and inequalities arise within rural areas, with remote and rainfed areas facing strong disadvantage.

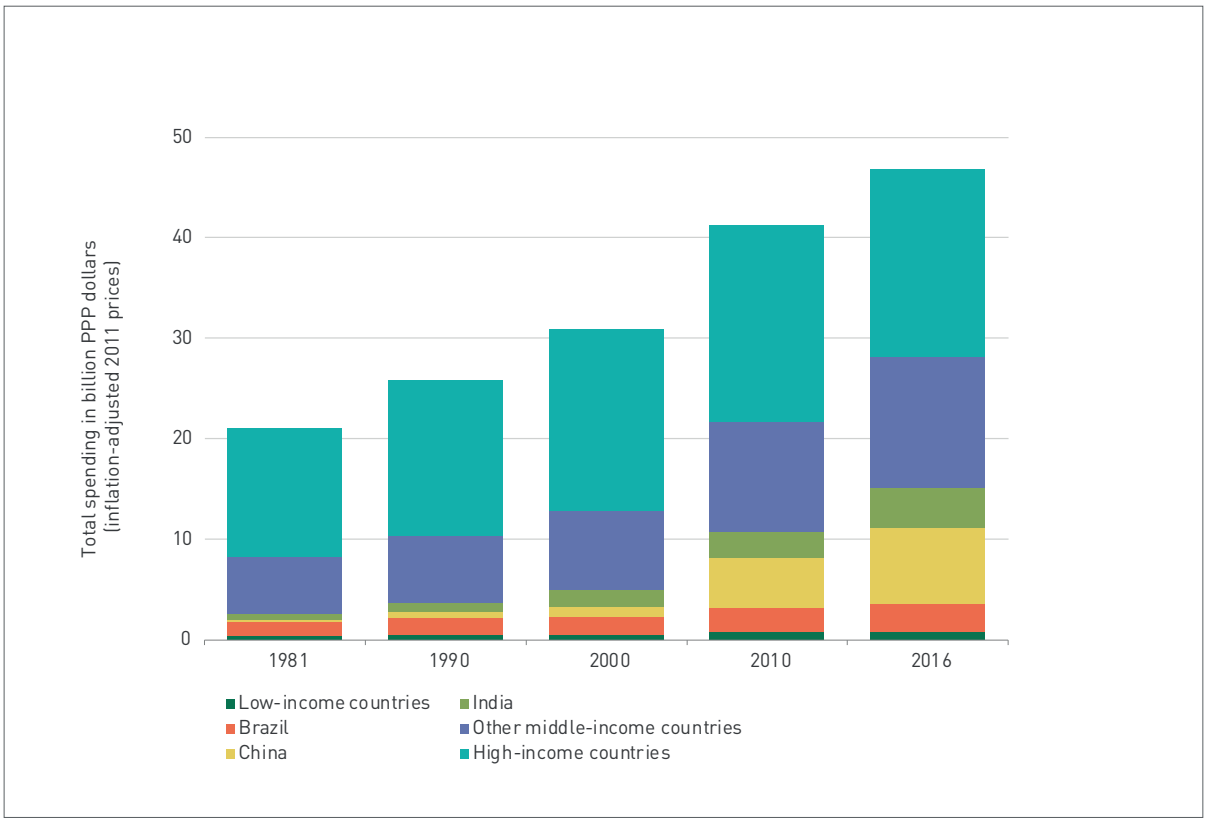
Agricultural growth is effective in reducing poverty (Christiaensen, Demery and Kuhl, 2011), as well as being an important factor in reducing income inequality (Imai, Cheng and Gaiha, 2015). Rural public investments, including in agricultural research and rural infrastructure, are important

mechanisms for generating growth and improving rural incomes. It is important that countries not only invest in agriculture and rural areas, but that they do so by striking a balance between high- and low-potential areas. Investment in high-potential areas is important to ensure food availability and keep food prices low, while investment in low-potential areas (in agricultural or non-agricultural activities, as locally appropriate) is particularly important from an equality perspective (Fan and Hazell, 2001).

Agricultural research has been shown to be an important tool for fostering agricultural growth and reducing poverty (Pray, Masters and Ayoub, 2017; Thirtle, Lin and Piesse, 2003). While private R&D systems inevitably focus on technologies that skew towards wealthier producers and regions where significant returns are generated, the global public agricultural research system and national agricultural research systems are important for generating the equitable rural growth that is critical to reducing inequalities to improve FSN. Boosting public agricultural research is therefore an important tool for improving FSN-sensitive equality. Research on agricultural production has historically been at the heart of public agricultural R&D. However, it is important that increased focus also be trained on research in downstream aspects, including value chains, distribution, processing, storage and markets, reflecting ongoing food system transformations as well as innovation needs arising from climate change.

There are strong regional inequalities in agricultural research investment that must be addressed. For instance, there are large disparities across countries in agricultural R&D spending. FIGURE 11 shows that while spending on agricultural R&D in Brazil, China, India and other middle-

FIGURE 11:
PUBLIC AGRICULTURAL RESEARCH SPENDING IN DIFFERENT COUNTRIES BY INCOME GROUP



Source: Stads, G.-J., Wiebe, K.D., Nin-Pratt, A., Sulser, T.B., Benfica, R., Reda, F. & Khetarpal, R. 2022. R*esearch for the future: Investments for efficiency, sustainability, and equity*. International Food Policy Research Institute (IFPRI).

income countries has grown appreciably in recent decades, spending in low-income countries is very low and has largely stagnated (Stads *et al.*, 2022).

In particular, R&D spending in Africa is considerably lower than in most other parts of the world, and within Africa, spending in Central, North and West Africa is much lower than in East and Southern Africa (Suri and Udry, 2022). Recent estimates (Sulser *et al.*, 2021) show that boosting agricultural R&D can play an important role in offsetting the impacts of climate change on hunger. While boosting productivity in historically important commodities will always be a major component of public agricultural research, it is important that strong consideration be given to the equity-sensitivity of the research portfolio, including investments in crops and livestock for marginal environments and low-potential rainfed areas, and climate-resilient technologies for smallholders. This would involve tailoring research for local contexts, for example, through participatory R&D methods (Etten *et al.*, 2016).

It is also important that agricultural research systems become more gender responsive. Meinzen-Dick *et al.*, (2010) outline some important aspects of this: i) incorporating gender equity into strategic prioritizing, which may lead to new areas of emphasis, such as on crops or livestock particularly important for household FSN; ii) mainstreaming gender into all aspects of the research continuum, from priority setting to technology development to dissemination and evaluation; and iii) incorporating gender-equity considerations into the surrounding enabling system, including policies and institutions.

5.3 ACTIONS TO REDUCE INEQUALITIES IN FOOD SUPPLY CHAINS

5.3.1 INCLUSIVE VALUE CHAIN APPROACHES

Inclusive value chain approaches aim to improve the market participation, equitable distribution of outcomes (such as income and food availability) and agency of all value chain actors, regardless of gender, socioeconomic status and value chain role (UNIDO, 2011). Multistakeholder platforms (as well as innovation platforms and participatory market-chain approaches) have gained prominence, bringing together diverse and marginalized stakeholders to contribute to value chain decision-making (Barzola Iza, Dentoni and Omta, 2020; Devaux *et al.*, 2018). Evidence from horticultural and livestock value chains in sub-Saharan Africa and Latin America suggests that smallholder productivity, market linkages and income opportunities can be strengthened via the creation of strategic alliances in both directions (with upstream input suppliers and service providers and with downstream buyers), the provision of financial support to assist with the purchase of productive assets (such as grants and low-interest loans), and the involvement of local actors who share new information and ideas (such as researchers and practitioners) (Devaux *et al.*, 2009; Donovan and Poole, 2014; van Ewijk and Ros-Tonen, 2021). This process of co-learning has led to various value chain innovations with positive livelihood and food security implications (Cavatassi *et al.*, 2011; Horton *et al.*, 2022).

However, there has also been critique of the role of these platforms at global and local scales as sites of elite capture where existing power asymmetries are re-entrenched rather than being challenged (Clapp, 2017; McKeon, 2017; Nisbett *et al.*, 2021). Platform facilitators should be local, well-connected and sensitive to power dynamics; and donors must appreciate that co-learning and the development of trust can take years (Horton *et al.*, 2022). Furthermore, multistakeholder platforms can be supported by asset-based approaches that encourage the accumulation of social and financial capitals – enabling smallholders to reach the investment thresholds needed to purchase productive assets and absorb the risks associated with new markets (Ros-Tonen *et al.*, 2019; Stoian *et al.*, 2012). In a global context, though, small farmers face the risk of changing standards and requirements of export markets (Ashraf, Giné and Karlan, 2009).

5.3.2 LABOUR PROTECTION AND RIGHTS THROUGHOUT THE FOOD SYSTEM

The capacity of people to produce and purchase food is rooted in employment where people rely on the income from their labour (FAO, 2012), yet the vast majority of the world's poor suffer from underemployment, unemployment, inequalities, lack of access to productive resources, vulnerable employment and underpaid jobs, seriously hindering their capacity to meet their own needs in dignity and to enjoy their human rights, including the right to adequate food (Haini *et al.*, 2022).

In response, the need for labour protection policies, strategies and programmes (such as those on occupational safety and health, regulations on working hours and pay, maternity protection) that protect both the labour and human rights of food system workers has gained traction over the last decade (Rantanen, Muchiri and Lehtinen, 2020).

The 2010 Updated First Comprehensive Framework for Action by the High-Level task Force on the Global Food Security Crisis and the 97th Session of the International Labour Conference emphasize the necessity for labour and social protections that recognize the right to food and the right to decent work if food and nutrition insecurity are to be alleviated (HLTF, 2010; ILO, 2008). The link between FSN and decent work has been reaffirmed by the Special Rapporteur on the Right to Food in recent years (Fakhri, 2023).

Evidence from India's Mahatma Gandhi National Rural Employment Guarantee Act (India Ministry of Rural development, 2005), Brazil's Fome Zero strategy (FAO, 2011) and FAO's Junior Farmer Field and Life Schools (FAO, 2023) are case studies that show how synergies between interventions aiming at the right to adequate food and those aiming at the right to decent work act as powerful drivers for long-term food security, reduced inequalities and sustainable growth, especially for vulnerable populations (FAO, 2012; Termine and Huambachano, 2022).

5.3.3 TERRITORIAL APPROACHES IN FOOD SYSTEMS AND REGIONAL DEVELOPMENT PLANNING AND POLICY

Some of the major inequalities discussed in this report have a strong spatial dimension, such as rural–urban differences and linkages and the challenges posed by remoteness. Yet, much of agrifood, rural development and FSN policy is designed on a sectoral basis (for instance, agricultural policy to drive availability, and social protection policy to promote access), or on the basis of administrative boundaries (Cistulli, Heikkilä and Vos, 2016). Territorial approaches instead recognize and leverage spatial interdependencies and place the diversity of resources and people across territories at the heart of planning (IFAD, 2015). BOX 12 describes an example.

BOX 12:
TERRITORIAL APPROACHES: THE CITY REGION FOOD SYSTEM IN QUITO, ECUADOR

A prominent example of a territorial approach is the City Region Food System approach. This approach considers a city or multiple cities (which may be smaller cities or towns), their peri-urban areas and the rural catchments or "foodsheds" they are linked to, as the unit for analysis and planning. Various flows across the region are taken into account, such as the flow of food and labour from rural and peri-urban areas to the city, the flow of waste from the city, and the flow of finance from cities to the rest of the region. Mapping these flows, as well as the infrastructure (markets, roads, storage, etc.), population and socioeconomic characteristics (such as Indigenous lands) and geographical and agricultural characteristics (such as land use and agricultural potential) enables a holistic approach to regional planning. For example, under the auspices of FAO's Food for the Cities Programme, the city of Quito, Ecuador has adopted a territorial approach and codeveloped with stakeholders a vision for a more sustainable and resilient food system and food strategy for the Quito city region. Other city region initiatives in the programme include Toronto in Canada, Medellin in Colombia, Utrecht in the Kingdom of the Netherlands, Colombo in Sri Lanka, and Kitwe and Lusaka in Zambia (FAO, 2018).

Sources: Blay-Palmer, A., Santini, G., Dubbeling, M., Renting, H., Taguchi, M. & Giordano, T. 2018. Validating the City Region Food System Approach: Enacting Inclusive, Transformational City Region Food Systems. *Sustainability*, 10(5): 1680 and FAO. 2018. *City Region Food System Toolkit: Assessing and planning sustainable city region food systems.* Food and Agriculture Organization of the United Nations.

Such territorial approaches enable the recognition and incorporation into planning of several different kinds of inequalities with implications for FSN. For example, small-scale farmers in a city region may struggle (compared to larger producers) to supply sophisticated value chains serving elite consumption globally or in big cities. At the same time, small and intermediate towns and cities in the region may experience growth and have unmet demand for nutritious food, whereas many modern value chain initiatives are primed to supply big city and global markets. A territorial approach in this example may find opportunities to develop these smaller markets with a particular focus on supply from small-scale farmers in the region. This may involve strategic investment in market and transport infrastructure, cold storage and processing facilities (IFAD, 2015).

However, this recommended action should not be read as a call to abandon all distant markets for local ones. Territorial approaches are not a panacea for all food system challenges. As far back as 2006, (Born and Purcell, 2006) warned of the "local trap" – the assumption that localizing food systems will necessarily deliver more sustainable and just food systems. Rather, a judicious, strategic mix that leverages the advantages of both distant and local markets to maximize opportunity, reduce inequalities and build resilience is called for (Wood *et al.*, 2023).

5.3.4 EQUITY-SENSITIVE STORAGE, FOOD PROCESSING AND DISTRIBUTION

Strategic investments by governments in storage, rural transport and market infrastructure have a role to play in reducing economic distances and costs faced by small-scale farmers and traders and other value chain participants, cutting perishable food losses, and ultimately improving the availability and affordability of foods across space.

Studies from Ethiopia (Rammelt and Leung, 2017), India (Cooper *et al.*, 2021) and Kenya (Chege, Andersson and Qaim, 2015), suggest that improved rural transport, through reliable access to roads, is positively associated with smallholder market inclusion. Experimental evidence from Kenya (Huss *et al.*, 2021) and the United Republic of Tanzania (Brander, Bernauer and Huss, 2021)

found that households with access to improved storage facilities (such as hermetic storage bags) maintained food security during seasonal shortages and COVID-19 market disruptions. Small scale, renewable-energy-based cold storage and other food preservation technologies can play an important role in improving livelihoods and access to perishable nutrient-dense foods for lower-income segments of the population (See BOX 13).

Strategic consideration should be given to territorial markets (described in the previous section) in infrastructure investment. For example, by investing in roads connecting rural areas to intermediate cities and towns (rather than only considering national highways leading to capital cities) and creating or upgrading market infrastructure, such as cold stores in such town and cities, better conditions are created for

BOX 13:
SMALL-SCALE, SOLAR-POWERED TECHNOLOGIES TO CUT FOOD LOSS AND IMPROVE OUTCOMES FOR PRODUCERS, TRADERS AND CONSUMERS

Curtailing food loss and improving food safety, especially for nutrient-dense perishable foods such as fruits and vegetables and animal-source foods, can make a significant contribution to FSN. This is likely to become even more important as perishability and food-safety compromises increase with rising temperatures. However, most technologies in the past, for instance, for cold storage, were developed to meet the needs of high-value products and large players in the food system, and were energy intensive. Now, small-scale, solar-powered technologies are showing potential as equitable and sustainable solutions to curtail food loss and improve FSN.

Solar freezers for fish trading in the Solomon Islands: Fishing is key to livelihoods in the Solomon Islands. Geographical isolation of islands and markets poses a major challenge for small-scale fishers to earn income from their fish catch. Thinking beyond traditional interventions in this sphere that focus on centralization, are large scale, and are male-centric, an intervention was put in place by WorldFish and West Are'are Rokotanikeni Association, a local women's organization. The intervention entailed installing solar-powered freezers in villages. Run by women's freezer committees, the intervention circumvented the need for a reliable electricity supply and enabled local fishers and traders to rent freezer space to store fish for sale.

Solar dryers to preserve fruits and vegetables in Afghanistan: Drying techniques have long played a role in improving access to fruits and vegetables in Afghanistan, particularly beyond harvest periods and across seasons. However, traditional open-air drying techniques are frequently labour intensive and prone to contamination. In 2020, UNDP worked with the Government of Afghanistan to set up simple, small-scale solar dryers that could ease drying and reduce contamination. The project provided training to women as traditional processors of harvested produce, with the small scale and low technological/informational barrier providing further equity-sensitivity.

Sources: Cooper, G. and Shankar, B. 2022. Do climate-resilient market systems hold the key to transforming access to nutrient-dense foods?; Feed the Future. 2019. The Cool Women of Malaita: Solar-Powered Freezers Make Money for Rural Women in Solomon Islands | Agrilinks. Cited 25 May 2023: UNDP. 2020. Solar Dryers: Less Work More Income. In: *United Nations Development Programme (UNDP)*. Cited 25 May 2023; Shankar, B., Poole, N. & Bird, F.A. 2019. Agricultural inputs and nutrition in South Asia. *Food Policy*, 82: 28–38.

attracting flows of nutritious foods. Finally, rural infrastructure investments, including for small-scale affordable solutions, can boost incomes for the broader rural population and help reduce rural–urban income inequalities, with positive implications for FSN.

It is important to develop food-processing sectors in a balanced, FSN-promoting way. This requires considering imbalances in power and resources between small- and large-scale firms, as well as incentivizing FSN-friendly processing. Strategic investments, such as low-cost loans and infrastructure assistance via agrifood processing parks, are needed to encourage processing to preserve and fortify foods and nutrients by MSMEs. At the same time, it is important to develop and enforce stricter standards with respect to the nutrient content of foods, particularly in relation to fats, salt and sugar.

5.3.5 IMPROVED INFORMATION SYSTEMS, LEVERAGING DIGITAL TECHNOLOGIES

The rapid diffusion of relatively affordable mobile and internet technology is acknowledged to have potential in levelling the playing field for food system actors (Aker, 2011; Deichmann, Goyal and Mishra, 2016). Farmers who have access to mobile phone-based digital extension services are more likely to adopt new and recommended production practices (Cole and Fernando, 2021; Fu and Akter, 2016). Critically, digital extension services help to bridge issues associated with remoteness and the cost of scaling, enabling information to be disseminated across space at the touch of a button (Bellemare, Bloem and Lim, 2022). Evidence suggests that, downstream of the farmgate, the communication of near real-time market prices to farmers can help them by weakening the price-setting power of intermediaries (Oura and Kouassi, 2015). Widespread and low-cost availability of price information across markets helps reduce regional inequalities in food availability and affordability. For example, when food prices surge in a region, rapid transmission of this information to traders incentivizes them to move foods into the region, stabilizing availability and prices for consumers.

However, digital information systems also present challenges, ranging from individual factors (such as digital literacy issues and distrust in technology) to systemic issues (including electricity accessibility and mobile coverage) (Coggins *et al.*, 2022). To address these inequalities, research suggests that digital extension may be more effective when combined with in-person approaches, including local experts who are able to provide personalized technology sensitization (Fu and Akter, 2016), the involvement of potential end-users in the co-development of digital platforms, and gender-sensitive programmes that account for differences in technology access at the household level (Dhehibi *et al.*, 2022). Tailoring content for and considering the specific needs of disadvantaged communities and investing in digital infrastructure

BOX 14:
VIDEO-BASED EQUITY-SENSITIVE AGRICULTURAL EXTENSION SERVICES IN ETHIOPIA, INDIA AND KENYA

Digital Green, a global NGO, has pioneered video-based extension services in Ethiopia, India and Kenya, and beyond. An important feature of their approach is videos produced by and for farmers, tailored to their local needs, using local farmer role models to maximize the relevance and appeal to communities. Focusing on small-scale farmers and farmer organizations has enabled a strong equity focus, particularly on women and the most vulnerable populations. Since their founding in 2006, Digital Green has reached over 4.1 million farmers (70 percent of them women), working with national-level partners such as the National Rural Livelihoods Mission and the Ministry of Agriculture in India, the Ethiopian Agricultural Transformation Institute, and the Kenyan Agricultural and Livestock Research Organization. Independent studies have shown that their video-based approach is significantly more cost effective than traditional extension services and increases farmer incomes. Building upon the video-based extension approach to deliver nutrition-related content using participatory methods has also shown potential to improve maternal and child diet quality.

Sources: Abate, G.T., Bernard, T., Makhija, S. & Spielman, D.J. 2023. Accelerating technical change through ICT: Evidence from a video-mediated extension experiment in Ethiopia. *World Development*, 161: 106089; Kadiyala, S., Harris-Fry, H., Pradhan, R., Mohanty, S., Padhan, S., Rath, S., James, P. *et al.* 2021. Effect of nutrition-sensitive agriculture interventions with participatory videos and women's group meetings on maternal and child nutritional outcomes in rural Odisha, India (UPAVAN trial): a four-arm, observer-blind, cluster-randomised controlled trial. *The Lancet Planetary Health*, 5(5): e263–e276.; Vasilaky, K., Toyama, K., Baul, T. & Karlan, D. 2015. *Learning Digitally: Evaluating the Impact of Farmer Training via Mediated Videos*. 2015.

in remote areas and neglected geographies is also important (See BOX 14).

It is also important that global and national policies be developed to improve democracy in the digital technology arena more broadly, paving the way to providing greater data sovereignty, particularly for small, marginal or disadvantaged actors in food systems (Hackfort, 2021).

5.4 ACTIONS TO REDUCE INEQUALITIES IN FOOD ENVIRONMENTS AND CONSUMPTION

5.4.1 FOOD-RETAIL ENVIRONMENT PLANNING AND GOVERNANCE

Food-retail environment planning and governance provide an opportunity to address several inequalities in FSN. In many urban areas, there have been a variety of interventions designed to enable the food environment to provide affordable, nutritious, safe and culturally appropriate foods to all residents and to regulate access to less-healthy foods. Some interventions have not addressed power asymmetries in the food system (for instance, the incentivization of large grocery stores in low-income areas), while others have been more explicit in their efforts to increase both access and agency (for instance, by providing safe market space for street vendors).

This section highlights four areas of intervention in food-retail-environment governance and planning. The first area is interventions informed by lived experience to enable food-retail environments to meet FSN needs. While there has been substantial focus on improving supermarket access as a means of addressing food insecurity; more recently, efforts have been made to take a more holistic approach to food-retail planning and governance through processes such as broader-based food-asset mapping in Toronto (Baker, 2018) and extensive lived experience mapping of food environments, conducted by Gehl Architects in various cities (see, for instance, Gehl Architects (2021)). This is leading to more integrated policies and planning around the creation of food environments that provide more equal access to

healthy diets for all. Birmingham City Council, (2019), for example, passed a Healthy Food Ordinance designed to address multiple zoning issues related to the accessibility of healthy food and produce throughout the city – both improving access to healthy foods and applying a preventive planning approach to restrict retailers selling less healthy foods. Alternative food networks (such as community-supported agriculture, farmers' markets and community gardens) have the potential to create more equitable access to healthy foods if and only if an explicit equity lens is applied to the design of the programming (Allen, 2010; Horst, McClintock and Hoey, 2017).

The second area is proactive planning of food environments in areas of rapid growth. Given rapid urbanization in many parts of the world, planning food environments as urban areas expand is an essential act to ensure equitable access to food, particularly as new urbanites are often poor and peripherally located. In Nanjing, China, as the city grows and as new residential areas are developed, city planners are obligated to incorporate new markets, activated as a specific threshold of residential units is surpassed. This is part of a much wider suite of food-environment planning (Zhong et al., 2021). Similarly, in Dar es Salaam the 2016–2036 Master Plan states that each neighbourhood unit of approximately 24 000 people and 48 hectares should have markets and commercial facilities as part of the basic services provided. The plan also provides for: home-based enterprises; vendors along/at busy transportation routes/nodes; and commercial space for a range of emerging sectors, including food processing (Wegerif and Kissoly, 2022).

The third area is the development of planning and policy tools to include informal traders within the food environment. The creation of an enabling environment for these vendors creates a more inclusive food environment, boosts access to healthy diets for the poor and potentially improves food safety. An example of inclusive planning for informal traders is India's Protection of Livelihood and Regulation of Street Vending Act, 2014 (Roever and Skinner, 2016). The act establishes town vending committees, of which 40 percent of the members must be street traders. The act also recognizes "natural markets" as "places where sellers and buyers have traditionally congregated" (Roever and Skinner, 2016, p.370) and prohibits town vending committees from declaring these no-vending zones, which means that vendors cannot be relocated to inaccessible areas with low footfall. This model is responsive to the needs of residents in terms of access and, given the co-governance approach, provides for attention to food safety, thus enabling access to safe, affordable and nutritious food for low-income residents.

The final area is targeted food-retail-environment intervention to address the FSN of particularly vulnerable groups. For example, in 2009, the Republic of Korea passed the Special Act on Safety Control of Children's Dietary Life, which establishes green zones in which the sale of fast foods and soda is banned within 200 meters of selected schools (WHO, 2009). A series of similar ordinances were passed in cities in the Philippines in the early 2010s. Public healthy-food procurement programmes are another type of pro-equity food environment interventions (FAO et al., 2022).

5.4.2 INCORPORATING BEHAVIOURAL INSIGHTS INTO POLICYMAKING TO REDUCE INEQUALITIES FOR FSN

Reducing inequalities fundamentally requires a people-centric approach that understands how and why some people are disadvantaged compared to others. Frequently, the circumstances that separate groups (such as economic status) are also associated with differential patterns of human behaviour (for instance, rich and poor persons have different patterns of behaviour). Understanding and taking into account these differences in behaviour can be valuable in interventions to reduce FSN gaps. In recent years, much research has been conducted, particularly relating to behavioural economics, to understand how behavioural insights can be leveraged in interventions and policymaking, including in food systems (Just and Gabrielyan, 2016; Reisch, 2021).

Some examples of ways in which behavioural insights may be relevant to reducing inequalities for FSN:

i. Research suggests that, in some settings, poor people exhibit more "present bias" than the better-off, where longer-term benefits are given considerably less priority than immediate benefits. Interventions promoting healthy diets may need to consider how to overcome this behavioural challenge.

ii. Males and females in the household may have different priorities for healthy eating, and the priorities that prevail in the household may depend on who has more power. Healthy-eating interventions that incorporate such understanding (for example, targeting specific household members for messaging about healthy diets, or promoting more collaborative dietary decision-making in the household), may be more likely to succeed.

Some countries have set up advisory units to help mainstream behavioural insights into policymaking. For example, the United Kingdom's Behavioural Insights Team has contributed to the evidence base on behavioural aspects in a wide range of policy areas since it was first established in 2010. In 2014, it transformed into a not-for-profit company whose outputs have included ideas on how to use behavioural science to promote sustainable diets (The Behavioural Insights Team, 2020).

5.4.3 SOCIAL PROTECTION

Social protection systems can have positive impacts in addressing inequalities in access to food, income and other resources (Travasso et al., 2023). The evidence base in this area, sometimes referred to as "nutrition-sensitive social protection", is improving (Gentilini, 2022), and social protection systems are now widely accepted to be a key part of a broader preventive or redistributive approach to multidimensional poverty. At the 110th Session of the International Labour Conference (ILO, 2022b), Member States called for universal, adequate, comprehensive and sustainable social protection systems, with the ILO recommending nationally defined sets of basic social security guarantees that secure protection from poverty and ill-health across the lifecycle via a range of policy and programmes, which include the protection of labour rights.

Social protection relevant to FSN incorporates various forms of social assistance (such as cash or food transfers, and school meals), social insurance (such as health or unemployment insurance) and economic development or income-generating activities (such as youth-employment schemes or training), reflecting different objectives that might be protective, preventive or promotive (Gentilini, 2022; Ortiz, Kalaivani and Cummins, 2015) (see TABLE 2). Developments over the past 20 years have also shifted the discussion towards more transformative forms of social protection that specifically address equity issues (Devereux and Sabates-Wheeler, 2004) and a focus on "graduation" models, which usually focus a sequenced package of support on the extreme poor (Devereux and Sabates-Wheeler, 2015; Gentilini, 2022).

TABLE 2:
DIFFERENT FORMS OF SOCIAL PROTECTION AND THEIR RELEVANCE TO REDUCING FSN INEQUALITIES

OBJECTIVES	TYPES OF INTERVENTION	RELEVANCE TO FSN INEQUALITIES
Protective (Provide relief from social deprivation)	Social assistance (e.g. cash, school feeding and food transfers)	Cash and food transfers can directly avert food insecurity. They may be combined with education and support for feeding practices, dietary diversity and broader nutritional outcomes, including child growth.
Preventive (Avert deprivation)	Social insurance (e.g. health and employment insurance)	Helps families deal with shocks that may otherwise force them into destitution or the loss of income sources. Crop insurance can help smooth seasonal or pest/disease shocks for producers.
Promotive (Enhance incomes and capabilities)	Income generation (e.g. microcredit, productive assets employment training and support)	Productive assets can often be related to food production (e.g. livestock or poultry). Microcredit can help the poorest overcome financial exclusion to production inputs (e.g. fertilizer, seeds, irrigation, mechanization). Training can include non-farm rural income generation to help smallholders diversify income.
Transformative (Address social equity and inclusion)	Anti-discrimination, sensitization campaigns, legislative and regulatory changes to protect the vulnerable	When combined with different protective, preventive and promotive measures, transformative measures can help tackle both immediate (lack of income/food) and root causes.

Source: Authors' own elaboration based on analysis in Devereux, S. & Sabates-Wheeler, R. 2004. Transformative social protection; HLPE. 2012. *Food security and climate change.* A Report by the High-Level Panel of Experts on Food Security and Nutrition of the Committee on World Food Security. Rome Italy, FAO; with additional FSN analysis by authors.

Evidence on the links between social protection and FSN outcomes has been growing over the past decade. Many studies have focused on the ways in which social protection can be made more nutrition-sensitive, although the evidence is still mixed and cautions against a one-size-fits-all approach (Barnett et al., 2022; Drimie and Yosef, 2016; Groot et al., 2016; Manley et al., 2020; Olney et al., 2022). One systematic review of 74 studies found that cash transfers improved linear growth of children and reduced stunting through various pathways, including increasing access to diverse nutrient-dense foods (Manley et al., 2020). Other studies have compared different modalities (cash, food, vouchers) and found that context matters in terms of which may be more beneficial (Hoddinott et al., 2013). Some researchers have raised important equity considerations around nutrition-sensitive social protection in calling for interventions to not overly burden the poor with demands on their time, where they are already juggling multiple burdens. This can be the case, for example, with many interventions targeted primarily at mothers, particularly those already in marginalized situations (Barnett et al., 2022; Caillavet et al., 2022; Gillespie, 2016). In these situations, harsh conditionalities (where families lose benefits if, for example, children do not

attend school) have been criticized as worsening, rather than improving, the situation of vulnerable communities (Cookson, 2018; Gillespie, 2016).

Social protection has featured strongly among policy responses to periods of global food crisis (GloPan, 2020; HLPE, 2020) such as in 2007–8 and in response to the COVID-19 pandemic. Where good systemic capacity exists (WFP), social protection can offer a quick remedy to escalating food prices or to broader income and livelihood losses from shocks that might be environmental, political or economic. But careful attention must be given to exclusion errors (eligible beneficiaries being left out), particularly when crises widen to affect broad sectors of the economy that would not normally be affected, as crises in many countries have shown (CUL, 2023). Here, the fiscal space for social protection may need to be enlarged (see BOX 15), which can happen with careful analysis of existing expenditure, without cutting other forms of social spending (Ortiz, Kalaivani and Cummins, 2015).

BOX 15:
SPOTLIGHT ON SOCIAL PROTECTION PROGRAMMES

Long established in OECD countries, social safety net programmes play a significant role in HICs, with allocations of more than 12 percent of GDP on average (of which more than 5 percent is for social assistance alone) – a share of the economy that has remained roughly constant for the past 40 years. Meanwhile, social assistance has increased in many Latin American countries since the 1990s (notably in conditional cash transfer programmes). Social protection is also increasing in Asia. In Africa, however, despite movement toward cash transfer programmes in sub-Saharan Africa, the magnitude of this spending remains weak. African countries average only 1 percent of GDP in social assistance spending. Further analysis on the proportion of spending in African countries that goes to the poorest and most vulnerable, and among rural and agricultural households in particular, presents a more complicated picture, with social assistance spending generally being progressive (benefitting the poorest half of the population more), although this relationship doesn't hold in agricultural households, where spending tends to benefit the wealthier households more, implying further measures are needed to target the rural agricultural sector.

Source: Fisher-Post, M. & Gethin, A. 2023. *Preliminary Estimates of Global Posttax Income Distributions*. Technical Note. N° 2023/02. World Inequality Lab.

5.5 ENABLING ENVIRONMENTS, BROADER CONTEXT AND GOVERNANCE

5.5.1 FOOD AND NUTRITION SENSITIVE POLICY, PLANNING AND PROGRAMMING

Many FSN outcomes are the result of inequalities in factors beyond the food system and of the interplay of these inequalities with food system inequalities. There has long been recognition of the need for nutrition-sensitive interventions and an integrated approach to health through a "process of bringing together common functions within and between organizations to solve common problems, developing a commitment to shared vision and goals and using common technologies and resources to achieve these goals" (WHO, 1996). It has also been proposed that policy needs to be equity-sensitive, incorporating consideration of redistribution, recognition and representation into policies (across the board, including those affecting FSN) (Nisbett, Harris et al 2022).

There are also increasing calls for "governance for nutrition" (Friel *et al.*, 2017), rather than nutrition governance alone. Governance for nutrition is broader than nutrition governance and is framed as the process by which the impact of

non-nutrition policies on nutrition is leveraged or mitigated. Similarly, governance for nutrition entails increased attention on food-sensitive planning and policy (Haysom, Battersby and Park-Ross, 2020). Nutrition-sensitive interventions include, for example: investment in water, sanitation and hygiene; family planning; women's empowerment; and early childhood development. Food-sensitive planning and policy include, for instance, transport planning, precinct planning, housing building codes, and green infrastructure policies. Making governance more equity-sensitive might include various forms of decentralization and moving power closer to the people (Baker *et al.*, 2018; Milsom *et al.*, 2021; Zaidi *et al.*, 2018b). This may include revived forms of local decision-making and democracy, for instance, at the level of municipal food systems (Rocha and Lessa, 2009). Governance for equitable food systems is not always fully in the hands of the state, as activism, demonstrations and even riots have been important ways in which citizens have called for more equitable food systems (Baker *et al.*, 2018; Hossain and Scott-Villiers, 2017; Walls and Smith, 2015; Zaidi *et al.*, 2018b). Other forms of activism include bringing these issues into formal policy spaces, such as the work of FIAN International and the CFS Civil Society and Indigenous Peoples Mechanism (CSIPM) in coordinating civil society inputs and bringing the voices of the marginalized into decision-making forums. Grassroots work on food equity includes alternative food movements (Sage, Kropp and Antoni-Komar, 2020), access to the law for upholding rights claims (Dancer, 2018), and advocacy through plural routes (Jurkovich, 2020), all of which can be seen as forms of activism. A focus on equitable infrastructure provisioning and planning (Gilbert, Eakin and McPhearson, 2022) can also address unequal FSN outcomes.

In order to maximize FSN benefits, it is important to link nutrition- and food-specific policies, planning and programming (addressing the immediate drivers of FSN) to nutrition- and food-sensitive policies, planning and programming (addressing the underlying drivers of FSN) (Ruel, Alderman, and Maternal and Child Nutrition Study Group, 2013). However, this requires transversal governance processes. So far, such efforts have been most successful at the subnational governance scale, where government departments have traditionally been less siloed than national governments. The Milan Urban Food Policy Pact website provides examples of good practice that address transversal governance (Forster *et al.*, 2015). Some of the challenges experienced by officials seeking to drive food-sensitive actions concern overstepping mandates and lack of resources. The City of Cape Town has worked to address this challenge by developing a transversal food system working group and conducting a mandates-mapping exercise that demonstrated the ways in which food and nutrition overlapped with existing mandates and programming (FAO, 2022d).

Several processes have been outlined as ways of making policy equity-sensitive. The WHO (2014) focuses on inequalities and suggests focusing on addressing the health outcomes of the most disadvantaged; reducing the gap between the most advantaged and the most disadvantaged; seeking to flatten the gradient across the whole population; and ensuring that policy choices do not exacerbate inequalities. Others have focused more on equity, suggesting designing equitable policy through careful power-sensitive participation, explicitly including alternative voices in thinking and action to sensitize policy spaces and systems that affect marginalized groups (Cornwall, 2003).

5.5.2 ADDRESSING CORPORATE POWER ASYMMETRIES IN GOVERNANCE

Special measures may be needed to counter the power asymmetries that exist when corporate actors, particularly those who are in monopolistic positions nationally or oligopolistic positions globally,

are part of decision-making fora (Baker *et al.*, 2018; Brooks, 2016; Mialon, 2020). Concerns have been raised about the nature of multistakeholder processes that may afford too much power to corporate actors in shaping food systems policy and governance (IPES-Food, 2023b; McKeon, 2017). There are challenges to finding effective measures to manage such power disparities (Fanzo *et al.*, 2020). Options that have been put forth range from learning from the experience of the CFS in managing these relations (via its different business and civil society constituencies and interface) (Duncan and Claeys, 2018; Turnhout *et al.*, 2021), to a framework convention on food systems (modelled after other international conventions and tobacco-control measures) that would specifically exclude private sector actors, given the danger of industry interference in policy on obesity (Swinburn *et al.*, 2019). BOX 16 illustrates the challenge with an example from Mexico.

BOX 16:
SUGAR-SWEETENED BEVERAGES TAX IN MEXICO

In 2012, Mexico was one of the countries with the highest mortality and morbidity rates attributed to over consumption of sugar (Gutiérrez *et al.*, 2012; Pan American Health Organization, 2015; Sigh *et al.*, 2015). To reduce the burden of non-communicable diseases (NCD), in 2014 the government introduced a sugar-sweetened beverages (SSB) tax, subjecting all SSBs with added sugars to a MXN 1/L excise tax (about 10 percent of SSB retail price) (Camara de Diputados LXII Legislatura, 2013). The tax was designed and implemented amid the convergence of several factors, including: evidence of poor results from self-regulatory measures by industry; high rates of NCDs in the country; a new government administration seeking additional revenue sources; and civil society's advocacy campaigns (Carriedo Lutzenkirchen, 2018). Revenue received from SSB taxation has been invested in healthy-food interventions, including consumer awareness campaigns designed to support behavioural change and structural interventions to increase the availability of potable water in schools and communities. The allocation of tax revenue towards such interventions has been documented as one of the positive impacts of SSB taxation, which led to its continuation despite the opposition from big soda corporations and other industry actors (Colchero *et al.*, 2016; Thow *et al.*, 2018).

Just a year after the implementation of the SSB tax, clear benefits such as reductions in the purchase of taxed beverages and an increase in water purchases were evident. Colchero *et al.* (2016; 2017) found that sales of taxed beverages were 6 percent lower compared to what was expected in the absence of the tax, and reductions continued to accelerate, reaching a 12 percent decline by the end of 2014. Reductions were more significant among households of low socioeconomic status, averaging 9.1 percent, and reaching 17.4 percent decline in the same year. Average reductions in purchases were 4 percent in rural areas and 6.3 percent in urban areas. Water purchases increased by 16.2 percent and were found to even be higher in lower-income and urban households (Colchero *et al.*, 2016; Colchero, Molina and Guerrero-López ,2017).

Despite its successful outcomes, Mexico's SSB tax has suffered from political challenges, fueled mainly by persistent lobbying from industrial corporations against the tax. In response, NGOs, academics and political lobbyists formed a strong pro-tax coalition to counteract opposition from industrial groups (James, Lajous and Reich, 2020). Evidence shows that continued adherence to good governance principles, support by legal measures and broad multisectoral alliances will ensure continued gains towards reducing the NCD burden in Mexico (Carriedo Lutzenkirchen,2018).

Source: Authors' own elaboration.

Recognizing such power asymmetries also applies to decision-making in relation to land use, particularly in situations such as land acquisition for agricultural investment (or other resource extraction, including mining, which may take land out of agricultural or agroforestry systems). The CFS Principles for Responsible Investment in Agriculture and Food Systems state the need to ensure "Effective and meaningful consultation with Indigenous peoples, through their representative institutions in order to obtain their free, prior and informed consent under the United Nations Declaration of Rights of Indigenous Peoples"(FAO, 2018, p.17) in taking such decisions (FAO, 2018c; Vallet *et al.*, 2019). "Effective and meaningful" implies the right to say no to such investments where this would not be in the long-term interest of affected communities.

5.5.3 UNIVERSAL HEALTH CARE WITH INTEGRATION OF NUTRITION CARE

In designing effective nutrition action it is critical to consider the inequalities that drive the double burden of malnutrition (DBM) - the unaffordability of healthy diets for some sections of the population, the influence of big food companies on market proliferation with non-nutritious foods (Clapp and Scrinis, 2017), and other socioeconomic drivers of FSN inequality. Integrating nutrition into universal health coverage at all levels of care – community, primary and tertiary – provides multiple paths to tackling inequalities in DBM. When considering nutrition actions to be integrated in universal health coverage, there is a case for "double duty" nutrition actions, given both the universality of DBM and its unequal distribution burden. Double-duty actions tackle both major burdens of malnutrition – undernutrition and overweight/obesity, adapting to country context. These actions include focusing on maternal nutrition and the first 1 000 days of life of the child and scaling up the evidence-based WHO antenatal care recommendations to prevent malnutrition early in life (Hawkes *et al.*, 2020). Key equity-informed approaches in double-duty actions include:

- programmes that provide healthy eating advice during pregnancy counselling, including behaviour-change communication;
- targeting populations with higher rates of undernutrition to expand supplemental feeding programmes for mothers using cash or food vouchers;
- investing in scaling-up supportive environments to protect and support early life feeding (breastfeeding and complementary feeding practices);
- growth-monitoring programmes to monitor child overweight status in contexts with growing child overweight;
- policies to promote and counsel on healthy diets, with close monitoring and appropriate targeting of fortified and supplemental foods.

Regardless of the policy actions taken to address DBM inequalities, it is critical that policies undergoing development or revision articulate clearly the nutrition-equity concerns they are trying to address and recognize their deep drivers. This is especially relevant for nutrition actions focused on education and social and behaviour-change communication. Otherwise, these types of policy actions run the risk of being reductive and targeting vulnerable populations by problematizing their behaviours without addressing structural drivers

such as power imbalances, commercial interests and historical exclusion (Zorbas *et al.*, 2021).

Implementing nutrition-integrated universal health care in an impactful way requires significant investment, and LICs in particular are likely to face challenges in raising funding at the requisite level. In recent years, the World Bank's Global Financing Facility (GFF) has emerged as an effective way to finance investment in reproductive, maternal, newborn, child and adolescent health and nutrition. The GFF enables countries to leverage donor funding into larger investments in this category by offering them the scope to use in high-impact areas USD 4 of bank credits for every USD 1 of donor funding (Fernandes and Sridhar, 2017). This has encouraged significant increases in investments in health and nutrition in recipient countries. However, there is scope for the GFF to be more equitable and effective in its operations by improving the representation of recipient countries and civil society in top-level decision-making at the global level and improving inclusivity in national-level decision-making platforms (Seidelmann *et al.*, 2020).

5.5.4 TRANSFORMATIVE ACTION: A HOLISTIC APPROACH TO CLIMATE AND SUSTAINABILITY

Unsustainable food system activities are a considerable driver of climate change, with food systems being responsible for one-third of the world's greenhouse gas emissions (Crippa *et al.*, 2021). Recent modelling found that for every 1 °C temperature anomaly, levels of severe food insecurity increased by 1.64 percent and moderate and severe food insecurity increased by 2.14 percent (Dasgupta and Robinson, 2022). The rate of climate change is accelerating, and it is essential that all food policy be informed by climate sensitivity and sustainability principles, seeking both to adapt to and mitigate climate change impacts on the most marginalized.

Within climate change policy and advocacy, the concept of climate equity is gaining traction. (Manzo, 2021) develops a framework for an equitable climate change regime based on three core principles: protect the most vulnerable people from the adverse effects of global warming, provide distributive justice across current and future generations and ensure an inclusive and transparent negotiation process. Klinsky and Winkler (2018) identify a set of five principles for assessing the equity implications of climate policy which align well with the food-equity principles established in Section 5.1 (Klinsky and Winkler, 2018). The decision to establish a loss and damage financial mechanism at COP 27, in recognition that the financial burden of climate change rests on individuals and countries least responsible for climate change and least able to adapt or mitigate, is an important breakthrough in climate equity (Wyns, 2023). This could play an important role in addressing some of the most iniquitous food system outcomes driven by climate change (Laganda, 2023; Wyns, 2023). The convergence of equity principles across climate change and food policy provides scope for dialogue and policy innovation. An example of commitment to these principles is the Glasgow Food and Climate Declaration launched at COP26 (IPES-Food, 2021), which calls for joined-up action on food and climate. BOX 17 provides an example of a project focused on rural communities in Brazil's Northeast that operationalizes the concept of climate-equity.

BOX 17:
CLIMATE RESILIENCE PROJECT IN RURAL COMMUNITIES OF NORTHEAST BRAZIL

A project, Sowing climate resilience in rural communities of the Northeast, recently launched (March 2020) by the Brazilian National Development Bank, in partnership with IFAD and Green Climate Fund (GCF), aims at increasing resilience of rural productive systems affected by climate change, thus enhancing livelihoods and resilience of rural communities. The project will provides non-reimbursable support of BRL 1 billion for 250 000 farming families in the semiarid Northeast, mostly families included in the National Registry of People in Situations of Vulnerability (CAD ÚNICO).

The project will improve the production techniques of small-scale farmers, thereby increasing their productivity and improving their capacity to face the continuous challenges of climate change in the *caatinga* (a shrubland and thorn forest). Given the dry conditions of the region, the project also contemplates the acquisition of thousands of cisterns and wastewater treatment and reuse units to provide water access. All project activities have been planned with a focus on promoting greater opportunities for women and young people (target beneficiaries: 40 percent women and 50 percent youth), including preparing them for active leadership. The participation of traditional, Indigenous and afro-descendant communities (*Quilombolas*) will also be prioritized.

Ultimately, the project is expected to implement 84 000 hectares of resilient productive systems (agroforestry systems for family agriculture, communal production areas, and vegetable gardens in 1 000 schools). The expected results are improvements in food security, more income for small farmers and lower carbon emissions. Overall, the project is expected to reduce carbon emissions by 11 million tons.

It is hoped that the project will become a model of sustainable agriculture for small farmers in similar conditions around the world who also suffer from the adverse effects of climate change. To this end, exchange activities between farmers from similar biomes in Latin America and Africa are planned.

Source: IFAD. 2020. *Brasil: Projeto Semeando Resiliência nas Comunidades Rurais do Nordeste (PCRP).* Brasil, International Fund for Agricultural Development.

5.5.5 INCLUSIVE AND SUSTAINABLE FSN GROWTH AND POLICY THAT GOES BEYOND GROWTH

Inequality is often cast in terms of income disparities and poverty, because purchasing power is a proximate determinant of quality of life and opportunity. However, this report has demonstrated that there is a range of inequities that shape which populations are likely to be poor in the first place, related to their social position relative to prevailing cultural norms and the ways in which these have historically shaped opportunities for recognition and participation. These inequities need to be addressed in themselves. It is also vitally important that broader economic strategy and policy be reflective of principles of inclusiveness, fairness and sustainability. This will mean moving away from economic growth as a sole paradigm of success, something long emphasized, since the introduction of the Human Development Index and other measures of wider well-being (UNDP, 2023). Some commentators have noted that relying on economic growth alone to eradicate extreme poverty would take too long (over 100 years to eradicate poverty at a USD 1.25-a-day poverty line, and over 200 years at a more realistic USD 5-a-day poverty line) (Woodward, 2015). This requires rethinking the growth paradigm – not eschewing the need for economic growth, but understanding the benefits and disadvantages of mainstream growth alongside a growing range of alternatives, including wider measures of well-being or economies based on different forms of shared commons and what is increasingly being referred to as the "social and solidarity economy" (OECD, 2023; RIPESS, 2023).

CHAPTER 2 noted where growth is important for poverty reduction, but also where high income inequality constrains the ability of growth to reduce poverty, and that inequality can act as a brake on growth itself. These outcomes of high inequality limit FSN. Acknowledging the challenges of a growth-centric paradigm in the face of inequality, inclusive-growth approaches have gained prominence, emphasizing broad-based growth strategies that prioritize fair distribution of opportunities and benefits across society. The notion of inclusiveness has expanded beyond economic dimensions of welfare to encompass well-being, voice and participation (De Mello and Dutz, 2012).

In practice, inclusive-growth approaches require embedding inclusiveness into policy and strategic choices. For example, taking care to not neglect sectors that provide more employment in the rush to capitalize on growth possibilities in high-tech sectors, so that growth does not lead to a dual economy, increased inequality and persistent poverty. In the context of the agrifood sector, several actions we have described in this report are consistent with the inclusive-growth concept, such as investing in pro-poor agricultural R&D, with special consideration for marginal environments, and ensuring that small operators are able to access commercialization opportunities. These approaches also require the recognition that the playing field is historically uneven, with countries in the Global South integrated into the global economic system on unequal terms, often leading to wealth extraction and unsustainable international debt (Hickel, 2018), which can benefit local elites but leave entire populations impoverished and indebted to international financial institutions. For many countries, the only way to recover from debt and its impacts on food systems is for the debt to be restructured or cancelled (IPES-Food, 2023a).

It is also increasingly recognized that that growth and development need to be kept within social and planetary boundaries (Raworth, 2018), as poverty eradication this century would require a global economy 175 times the current size, with similarly unsustainable increases in extraction and production (Woodward, 2015). The Stockholm Resilience Centre report to the Club of Rome (Randers *et al.*, 2018) warned that the conventional growth paradigm was incompatible with achieving the SDGs, and that an inevitable consequence of pursuing conventional growth would be an intensifying trade-off between the socioeconomic and the environmental SDGs. Among the five turnarounds urged in that report are accelerated productivity in food chains and active inequality reduction (richest 10 percent take no more than 40 percent of income) (Randers *et al.*, 2018).

A number of aspects are important in reimagining growth to be inclusive and sustainable. The first is redistributive taxation: It has been calculated that a 5 percent wealth tax on the richest 1 percent would raise USD 1.7 trillion per year that could be spent on poverty reduction, if it were politically feasible to introduce (Christensen *et al.*, 2023). Beyond taxes, fairer trade rules (including reducing rich-country subsidies and discriminatory tariffs and addressing technical barriers to trade that restrict the market access of poorer producers) would allow poorer countries to earn more on their exports.

Some have suggested working explicitly to reverse land and resource enclosures through reframing food as a commons rather than as a commodity (Vivero-Pol *et al.*, 2019). Such approaches are compatible with rights-based approaches to food referenced earlier in this chapter, though the actual implementation of such approaches may proceed differently, depending on national or subnational political approaches. They range from approaches to agroecology and food sovereignty to forms of distribution of resources which help enable the right to food, such as forms of social protection.

Chapter 6

RECOMMENDATIONS

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This chapter provides recommendations to support a fundamental transformation of food systems, making them more equitable and inclusive, leading to reduced inequalities and improved FSN outcomes. Drawing upon the previous chapters, in particular the detailed action areas in CHAPTER 5, the report provides recommendations for different groups involved in FSN-related policymaking, research and action – including governments, international organizations, the private sector, civil society and research institutions. This chapter begins by presenting the principles underlying the recommendations (Section 6.1). The recommendations that follow, set forth in Section 6.2, must be considered in light of these principles to ensure that actions taken truly lead to reduced inequalities and improved FSN outcomes for all. Section 6.3 outlines a roadmap for formulating equity-sensitive policy, to enable actions to be contextualised for the inequities present in each country and community setting.

6.1. PRINCIPLES FOR EQUITY-SENSITIVE POLICY AND ACTION THAT REDUCE FSN INEQUALITIES

The following overarching principles (FIGURE 12) frame practical recommendations laid out in this chapter.

A. FSN policy and food systems policy should have an explicit focus on reducing inequalities, devoting particular attention to the interaction of multiple types of inequality that have a cumulative impact on the same groups of people (that is, intersectional inequalities), taking into account rising power concentration in food systems.

B. In addition to continued incremental action to reduce inequalities and improve FSN outcomes, bold, transformative policy that addresses the systemic drivers of inequalities must be developed and acted upon.

C. FSN policies and programmes should be grounded in a rights-based approach, informed by existing human rights instruments focused on the right to food and other interdependent rights.

D. FSN policies and programmes aimed at fair distribution of resources for all must also ensure representation of marginalized groups and recognition of their rights. In strengthening the agency and engagement of marginalized groups, policies and programmes should have an explicit focus on addressing power asymmetries between stakeholders, through embedding the principle of "nothing about us without us" in programme funding, design, provision, monitoring and evaluation.

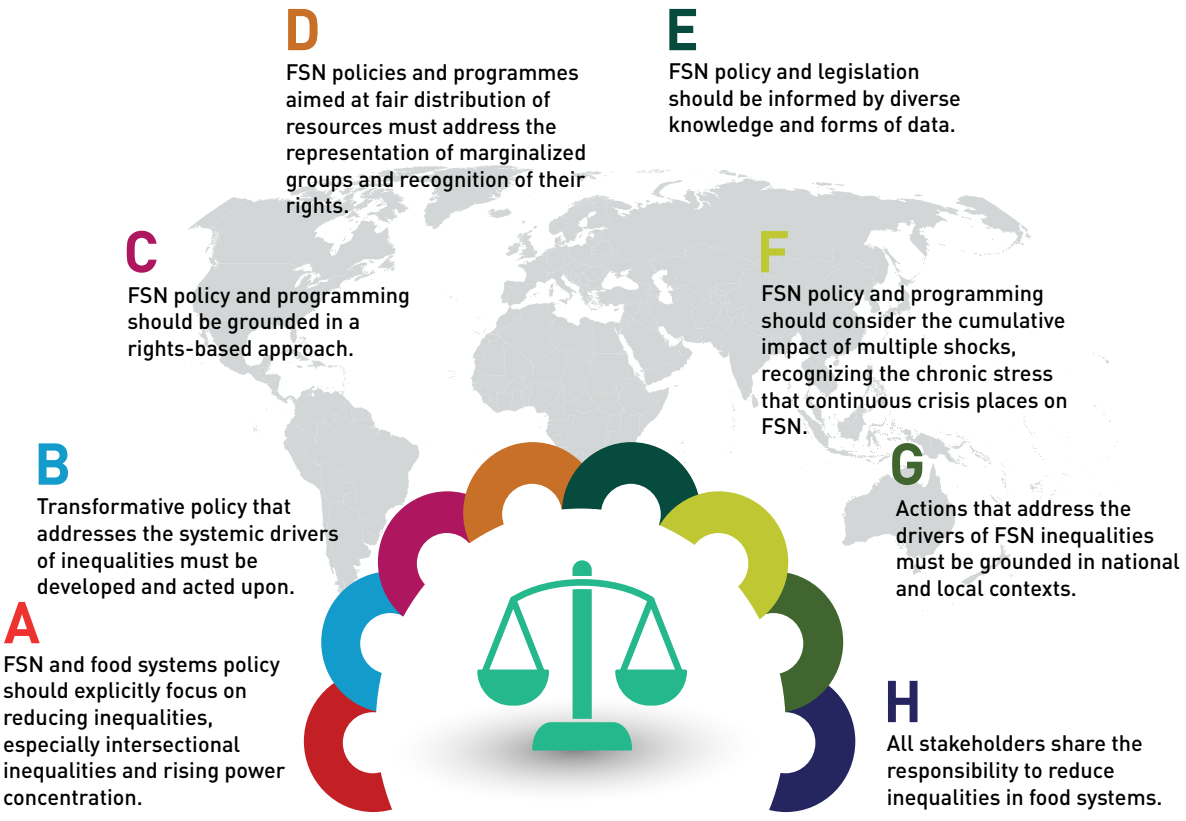
E. FSN policy and legislation should be informed by diverse knowledges, including Indigenous knowledge, and diverse forms of data, in order to broaden the spectrum of evidence informing FSN policy and action.

F. FSN policies and programmes should consider the cumulative impact of multiple shocks (climate change, biodiversity loss, health crises, economic and political crises) on the most marginalized people, recognizing the chronic stress on FSN of a state of continuous crisis.

G. Actions that address the drivers of FSN inequalities must be grounded in national and local context.

H. All stakeholders – government, international organizations, civil society and the private sector – are responsible for reducing inequalities in food systems. Each has a role to play, individually and collaboratively, with due consideration given to conflicts of interest.

FIGURE 12:
PRINCIPLES FOR EQUITY- AND EQUALITY-SENSITIVE POLICY AND ACTION



Source: Authors' own elaboration.

6.2 RECOMMENDATIONS FOR EQUITY-SENSITIVE ACTIONS TO ADDRESS FSN INEQUALITIES

The report's policy recommendations are built on the conceptual framework (FIGURE 2) and the analysis of proximate and systemic drivers of FSN inequalities and the priority action areas discussed in previous chapters. The first cluster of recommendations includes actions to address inequalities within food systems, such as facilitating equitable access to land, livestock, forests and fisheries; investing in equity-sensitive extension and information systems, infrastructure, food processing and storage; and governing food retail while bearing an equity lens. The second cluster focuses on inequalities in other sectors related to FSN, including health and education; ensuring universal access to public services and social protection; and embedding an equity focus into trade, investment and debt governance. The third cluster focuses on actions to address the social and political drivers of inequality, including leveraging SDG 10 ('reduce inequality within and among countries'), mainstreaming participatory approaches, building on human rights approaches, and taking into account the context of climate and other crises. The fourth and final cluster highlights the need to invest in and use inclusive knowledge and data systems.

Among other actions, this includes the recognition and inclusion of diverse ways of knowing, the improvement of global and national data collection efforts with respect to capturing information on major inequalities, and investing in public agricultural and food-systems research, to enable better equity focus and understanding and monitoring of equity and equality in FSN-relevant domains.

The recommendations are mapped in TABLE 3 according to their focus on the redistribution, recognition or representation aspects of equity, as outlined in the conceptual framework and CHAPTER 1. The aim of these recommendations is to create an enabling environment for all to live with dignity and agency; to have access to sufficient, nutritious, safe, healthy and culturally appropriate food; and to participate in sustainable food systems enabled by fair and inclusive societies.

The recommendations are directed to a variety of actors and stakeholders, including states, intergovernmental organizations, the private sector and civil society. Each recommendation indicates the key stakeholders it is addressed to.

A. **Tackle inequalities within food systems**

1. States, intergovernmental organizations, the private sector and civil society should work across sectors to **ensure more equitable access to land, forests, aquatic resources and other food production resources, applying rights-based approaches.**

   i. Bolster the land and resource rights of women, peasants, Indigenous Peoples and other marginalized groups, including legal recognition and inheritance rights; protect communal and collective tenure rights to resources, including enshrining free, prior and informed consent, and promote sustainable community-based management of those resources.

   ii. Design regulations to improve the functioning of markets for land, inputs, services, and water, while protecting the vulnerable and preventing the concentration of resources.

   iii. Strengthen accountability, monitoring and the requirement for local consent with respect to corporate/international land, forest and water acquisitions.

   iv. Design and implement asset-building and livelihood programmes, such as land and livestock transfers, tailored for resource-poor, disadvantaged groups.

   v. Monitor and limit concentration of ownership (over land, transport,

wholesale, retail, etc.) in food systems.

2. States, intergovernmental organizations, private sector and civil society should **facilitate the organization of disadvantaged stakeholders and build inclusive institutions and partnerships to improve representation.**
   i. Build and support farmer, fisher, peasant, food-producer, landless and migrant-worker organizations; self-help groups and cooperatives; as well as labour organizations throughout food systems – particularly including women – to ensure better representation and agency. Explicit consideration should be given to inclusivity in participation and group decision-making and the right to freedom of association and collective bargaining.
   ii. Leverage the benefits of collective action to improve access to inputs, finance, information, value chain opportunities, certification/standards and market opportunities, as well as decent work, safe working conditions and a living income based on careful consideration of, and with a clear plan to address, local contexts and power asymmetries.
3. States, intergovernmental organizations, the private sector and civil society should **make equity-sensitive investments in supply chains and in disadvantaged areas.**
   i. Invest in territorial approaches in food systems and regional development planning, including in agroecology and in local markets, strengthening regional trade and market connections to create a judicious mix of local and distant market opportunities for small-scale producers and to benefit local consumers.
   ii. Ensure that supply chains, especially local ones, are enabled to provide improved access to nutrient-dense foods for all consumers at affordable prices.
   iii. Invest in rural transport, market infrastructure, nutrient-preserving food processing and food storage, with special consideration for disadvantaged groups and places, and supporting territorial markets.
   iv. Invest in filling the gaps in access to finance among micro, small and medium enterprises (MSMEs) along the value chain, with special consideration for groups that are traditionally disadvantaged, including small-scale producers, small-scale input providers and traders, and women, as well as those with limited current commercial orientation.
   v. Invest in information systems across food systems, leveraging digital technologies – such as market-price information services and video-based extension – to help overcome asymmetries in access to information and to spread knowledge and opportunity equitably, with consideration for upholding data privacy and data ownership.
   vi. Invest in expanding rural, non-farm employment opportunities to ensure that income-generating opportunities exist outside agriculture as alternative pathways to FSN.
   vii. Invest in civil society and government staff working more closely with marginalized communities, including enhancing their legal capacity to uphold their right to food, decent work and a clean environment.
4. States, intergovernmental organizations, private sector and civil society should **plan and govern food environments including trade, retail, processing with an equity focus.**
   i. Undertake proactive planning of

food environments in areas of rapid demographic growth to ensure equitable and affordable access to food, promoting access to nutrient-rich foods, facilitating access to local fishers' and farmers' markets, and restricting marketing and advertising of unhealthy foods.

ii. Recognize the role of informal vendors in meeting the FSN needs of populations, in-cluding marginalized groupspopulations, and develop planning and policy tools to create an enabling environment to enhance their capacity to sell nutritious and safe food.

iii. Undertake targeted interventions in food retail environments to mitigate unequal FSN outcomes, especially for populations at risk of food insecurity and all forms of malnutrition, such as children, youth and the urban poor. Depending on the specific context, these interventions may include: restricting the sale of unhealthy food products near educational premises; and promoting public procurement programmes for nutritious foods.

iv. Implement specific measures aimed at limiting processing and marketing of unhealthy food, with the aim to promote healthy eating. These can include: introducing fiscal measures such as taxes on sugar-sweetened beverages and other unhealthy foods, while subsidizing healthy foods; and labelling the nutritional content and/or detrimental effects of ultra-processed foods to support FSN improvements among particularly vulnerable groups.

B. **Tackle inequalities in related systems**

5. States should **ensure universal access to services and resources that have a direct impact on FSN.**

i. Ensure universal access to FSN-relevant services, including primary healthcare, immunization, nutrition education, sanitation and safe drinking water.

ii. Ensure universal access to social protection as direct support for FSN among the most marginalized groups, and to enhance access to productive assets for those with food systems-dependent livelihoods.

iii. Maximize the fiscal space available to improve basic public services, including more comprehensive and progressive national and international taxes on income, profits, land, wealth and commodity speculation, and use the proceeds to support the most marginalized and address the drivers of unequal FSN.

iv. Contribute to ensuring access to decent work for all, including in food systems, as a key condition for a living wage and access to food. This would include implementing labour protection policies, strategies and programmes (such as those on occupational safety and health, regulations on working hours and pay, maternity protection) that protect both the labour and human rights of food system workers.

6. States and international organizations should **embed an equity focus into trade, investment and debt governance** related to FSN.

i. Monitor and regulate, as appropriate, corporate power asymmetries in food systems governance and decision-making, and the FSN implications of the expansion of large agribusiness and food corporations.

ii. Ensure, through equity-impact assessments that include the representation of affected groups, that multilateral and bilateral trade and investment agreements do not negatively impact food environments and diets, including a redressal

process available to marginalized groups' representatives when complaints arise.

iii. Ensure greater transparency in the preparation of international and bilateral trade and investment negotiations, and develop systems to support domestic decision-making, coordinated between sectors involved in food, the environment, public health, industry and trade, to ensure that issues of equity are considered and that marginalized groups have a say.

iv. Take action toward restructuring or cancelling the debt of countries where FSN is constrained by debt.

v. Continue efforts to decrease subsidies on agricultural production in high-income and emerging countries, except those aiming to enhance the nutritional or environmental qualities of food production and to reduce FSN inequalities, so as to level the playing field for LMICs.

C. Tackle social and political drivers of inequality

7. States, intergovernmental organizations, the private sector and civil society should **leverage SDG 10** ('reduced inequalities') to address the systemic drivers of unequal distribution, access and representation, including by mainstreaming participatory approaches in policymaking and practice to amplify marginalized voices.

   i. Ensure policies target the most marginalized people, explicitly state which groups they aim to impact, strive to remove barriers and not impose burdens on the most vulnerable, and speak directly to the 2030 Agenda approach of leaving no one behind.

   ii. Ensure that social policy pays specific attention to women's role, time burdens and other existing burdens in ensuring FSN; envisages men taking on a greater role in FSN and addresses adequate compensation of care workers and community health workers, while avoiding arrangements that exacerbate women's "triple burden" of care.

   iii. Create interministerial platforms on FSN, with the participation of agriculture, livestock, fisheries, forest, health, economy and finance, and trade ministries to enable the convergence of ministerial actions in FSN policy, and charge and equip these platforms to have a strong focus on reducing inequalities.

   iv. Identify and manage conflicts of interest between more powerful and less powerful groups in food systems, including where private sector interests and public policy goals conflict; and protect research against undue influence, bias and corruption.

   v. Strengthen inclusive spaces for dialogue, participation and coordinated action at global, national and local levels that centre on building equity, including within negotiations on climate, trade and investment agreements and related policy fora.

8. Based on a human rights approach, states and intergovernmental organizations should **embed equity principles into policy**.

   i. Identify policies and interventions that can support individuals and groups to break out of intergenerational food insecurity and malnutrition.

   ii. Leverage existing human rights instruments such as UNDROP, UNDRIP, the Right to Food, the Voluntary Guidelines on Food Systems and Nutrition and various CFS guidance documents to strengthen equity-sensitivity of policies.

   iii. Strengthen national institutions to understand and apply human

rights conventions to harmonize policies relating to food systems, agriculture and nutrition from an equity perspective.

iv. Make redressal mechanisms available to marginalized communities when cases of inequities are identified.

9. States, intergovernmental organizations and civil society **should take into account the context of climate, ecological, political and economic crises** in all FSN-related actions.

i. Ensure adequate prioritization of populations most affected by climate change, conflict and other contemporary global crises in targeting policy and allocating resources.

ii. Work across the humanitarian–development–peace nexus to address the multiple drivers and manifestations of FSN inequalities in fragile states.

iii. Explore the option of establishing a fund, for example using the country-level funding for the follow-up to the United Nations Food Systems Summit (UNFSS), to support transformation towards more equitable food systems.

D. Strengthen data and knowledge systems to enable improved understanding and monitoring of equity in FSN-relevant domains

i. Fill data gaps (particularly related to diets, micronutrient status, food composition) by systematically collecting information to identify which groups have the poorest FSN outcomes and food system opportunities in different contexts, paying special attention to historically marginalized groups, women and disadvantaged regions.

ii. Improve major routine public data collection and analysis efforts, sampling adequately along the major axes of inequality within each context, to enable a full understanding of inequality; and apply a more equity-sensitive approach to reporting data in global reports such as SOFI and GNR.

iii. Integrate equity-sensitivity and incorporate diverse knowledges in FSN research.

iv. Boost public agricultural and food systems research with strong consideration for equity-sensitivity of the research portfolio, including research tailored to marginal environments and climate-resilient technologies for small producers. Mainstream gender, equity and intersectionality considerations into all aspects of research. Ensure all research applies the precautionary principle to ensure no groups are exposed to harm as a result of the research, and ensure individuals and communities retain the right to decline participation.

v. Enable a richer understanding of the root causes and systemic drivers of FSN inequalities by encouraging and funding qualitative research to capture the lived experiences of actors in food systems. This includes facilitating the understanding and inclusion of traditional ecological knowledge of Indigenous and local communities in policymaking.

TABLE 3:
HOW RECOMMENDATIONS ADDRESS THE DIMENSIONS OF RECOGNITION, REPRESENTATION AND REDISTRIBUTION

	RECOGNITION	REPRESENTATION	REDISTRIBUTION
A. TACKLE INEQUALITIES WITHIN FOOD SYSTEMS			
1. States, intergovernmental organizations, the private sector and civil society should work across sectors to **enable more equitable access to resources, applying rights-based approaches.**			
i. Bolster the land and resource rights of women, peasants, Indigenous Peoples and other marginalized groups and protect communal and collective tenure rights to resources.	■	■	■
ii. Design regulations to improve the functioning of markets for land, inputs, services, and water, while protecting the vulnerable and preventing the concentration of resources.	■		■
iii. Strengthen accountability, monitoring and the requirement for local consent with respect to resource acquisitions.	■	■	
iv. Design and implement asset-building and livelihood programmes for disadvantaged groups.	■		■
v. Monitor and limit concentration of ownership in food systems.			■
2. States, intergovernmental organizations, private sector and civil society should **facilitate the organization of disadvantaged stakeholders and build inclusive institutions and partnerships to improve representation.**			
i. Build and support inclusive producer and labour organizations throughout food systems.	■	■	
ii. Leverage the benefits of collective action to improve access to inputs, finance, information and market opportunities, as well as decent work, safe working conditions and a living income, based on careful consideration of, and with a clear plan to address, local contexts and power asymmetries.		■	■
3. States, intergovernmental organizations and civil society should **make equity-sensitive investments in supply chains and in disadvantaged areas.**			
i. Invest in territorial approaches in food systems and regional development planning.	■		■
ii. Ensure that supply chains are enabled to provide improved access to nutrient-dense foods for all consumers at affordable prices.			■
iii. Invest in rural transport, market infrastructure, nutrient-preserving food processing and food storage, with special consideration for disadvantaged groups and places.	■		■
iv. Invest in filling the gaps in demand for financing among MSMEs along the value chain.			■
v. Invest in information systems across food systems, leveraging digital technologies to spread knowledge and opportunity equitably, with consideration for upholding data privacy and data ownership.			■
vi. Invest in expanding rural, non-farm employment opportunities.			■

	RECOGNITION	REPRESENTATION	REDISTRIBUTION
vii. Invest in civil society and government staff working more closely with marginalized communities.	■		
4. States, intergovernmental organizations, private sector and civil society should **plan and govern food trade, retail, processing and food environments with an equity focus.**			
i. Undertake proactive planning of food environments in areas of rapid demographic growths.			■
ii. Recognize the role of informal vendors in meeting the FSN needs of marginalized populations.	■		■
iii. Undertake targeted interventions in food retail environments to mitigate unequal FSN outcomes.			■
iv. Implement specific measures aimed at limiting processing and marketing of unhealthy food, with the aim to promote healthy eating.	■		■
B. TACKLE INEQUALITIES IN RELATED SYSTEMS			
5. States, intergovernmental organizations and civil society should **ensure universal access to services and resources that have a direct impact on FSN.**			
i. Ensure universal access to FSN-relevant services, including primary healthcare, immunization, nutrition education, sanitation and safe drinking water.			■
ii. Ensure universal access to social protection to enhance access to FSN and to enhance access to productive assets.			■
iii. Maximize the fiscal space available to improve basic public services.	■		■
iv. Contribute to ensuring access to decent work for all, including in food systems, as a key condition for a living wage and access to food.			■
6. States and international organizations should **embed an equity focus into trade, investment and debt governance related to FSN.**			
i. Monitor and regulate, as appropriate, corporate power asymmetries in food systems governance and decision-making.			■
ii. Ensure that multilateral and bilateral trade and investment agreements do not negatively impact food environments and diets, including a redressal process available to marginalized group representatives when complaints arise.	■	■	■
iii. Ensure greater transparency in the preparation of international and bilateral trade and investment negotiations and develop systems to support domestic decision-making and inclusive participation.		■	
iv. Take action toward restructuring or cancelling the debt of countries where FSN is constrained by debt.			■

v. Continue efforts to decrease subsidies on agricultural production in high-income and emerging countries, except those aiming to enhance the nutritional or environmental qualities of food production and to reduce inequalities, so as to level the playing field for LMICs.

C. TACKLE SOCIAL AND POLITICAL DRIVERS OF INEQUALITY

7. States, intergovernmental organizations, the private sector and civil society should **leverage SDG 10**, Reduce inequalities.

i. Ensure policies target the most marginalized people and strive to remove barriers and not impose burdens on the most vulnerable.

ii. Ensure that social policy pays specific attention to women's role, time burdens and other existing burdens in ensuring FSN, as well as care workers and community health workers and envisages men taking on a greater role in ensuring FSN.

iii. Create interministerial platforms on FSN to enable the convergence of ministerial actions in FSN policy, and charge and equip the platforms to have a strong focus on reducing inequalities.

iv. Identify and manage conflicts of interest between more powerful and less powerful groups in food systems.

v. Strengthen inclusive spaces for dialogue, participation and coordinated action at global, national and local levels that centre on building equity.

8. Based on a human rights approach, states and intergovernmental organizations should **embed equity principles into policy.**

i. Identify policies and interventions that can support individuals and groups to break out of intergenerational food insecurity and malnutrition.

ii. Leverage existing human rights instruments to strengthen equity-sensitivity of policies.

iii. Strengthen national institutions to understand and apply human rights conventions to harmonize policies relating to food systems, agriculture and nutrition from an equity perspective.

iv. Make redressal mechanisms available to marginalized communities when cases of inequities are identified.

9. States, intergovernmental organizations and civil society should take into account **the context of climate, ecological, political and economic crises in all FSN-related actions.**

i. Ensure adequate prioritization of populations most affected by climate change, conflict and other contemporary global crises in targeting policy and allocating resources.

ii. Work across the humanitarian–development–peace nexus to address the multiple drivers and manifestations of FSN inequalities in fragile states.

iii. Explore the option of establishing a fund to support transformation towards more equitable food systems.

	RECOGNITION	REPRESENTATION	REDISTRIBUTION
D. STRENGTHEN DATA AND KNOWLEDGE SYSTEMS TO ENABLE IMPROVED UNDERSTANDING AND MONITORING OF EQUITY IN FSN-RELEVANT DOMAINS			
i. Fill data gaps (particularly related to diets, micronutrient status, food composition) by systematically collecting information to identify which groups have the poorest FSN outcomes and food system opportunities in different contexts, paying special attention to historically marginalized groups, women and disadvantaged regions.	■		
ii. Improve major routine public data collection and analysis efforts and apply a more equity-sensitive approach to reporting data in global reports.	■		
iii. Integrate equity-sensitivity and incorporate diverse knowledges in FSN research.	■	■	
iv. Boost public agricultural and food systems research with strong consideration for equity-sensitivity of the research portfolio. Mainstream gender, equity and intersectionality considerations into all aspects of research. Ensure participants retain the right to decide on participation in the research.	■	■	
v. Enable a richer understanding of the root causes and systemic drivers of FSN inequalities by encouraging and funding qualitative research to capture the lived experiences of actors in food systems.	■	■	■

Note: the three dimensions of equity interact and are interdependent. Actions therefore relate to multiple equity dimensions; the table highlights the primary areas to aid decision makers in ensuring actions have a broad influence.

Source: Authors' own elaboration.

6.3 A ROADMAP TO EQUITY-SENSITIVE POLICY TO REDUCE INEQUALITIES

While actions cannot be specified for each Member State and need to be deeply aligned to context, all policies across governments must be equity-sensitive, considering redistribution, recognition and representation (across the board, including policies affecting FSN) (Nisbett *et al.*, 2022). This requires a specific commitment to equity, which in turn requires a whole-of-government process.

FIGURE 13 provides a roadmap to equity-sensitive policymaking, based on the framework presented in CHAPTER 1, particularly on the principles of recognition, representation and redistribution that form the "engine of equity". Although it is recommended that this be a government-led effort, not all governments may be willing or able to undertake such a detailed approach. In these contexts, assessments may be conducted outside of government, for example by civil society organizations, as an important advocacy tool for FSN change, or by intergovernmental organizations directly in support of government capacity in this area.

FIGURE 13:
ROADMAP TO EQUITY-SENSITIVE POLICYMAKING

RECOGNITION

Context: data and evidence of who, what, where and why

- What are the key FSN issues and what is their scope and magnitude?
- Who is affected? Which population groups are worst affected? How are intersectional differences identified?
- What are the drivers of FSN, particularly people's daily living conditions and distribution of resources such as land?
- How are these shaped by assumptions and norms (such as patriarchy and intersectional discrimination)?
- What existing laws and legislation govern these areas, including international human rights covenants and related provisions in domestic law?
- What is the balance of power between producers and consumers, rural and urban dwellers?
- How are conflicts of interest managed between FSN goals and private sector interests, particularly with regard to healthy diets?

REPRESENTATION

Ensuring genuine participation of excluded groups, policy well-tailored to circumstances and accountability

- What capacities are available to create change and how do they differ by social group?
- Whose priorities have been considered to date and whose have been ignored? How does understanding differ according to cultural values and different forms of knowledge?
- Which groups might need additional support to participate fully (translation, disability requirements, financial resources, etc.)?
- How will the dynamics of relative power be managed between different stakeholders?
- What other forms of social accountability, participation and action research might support fully supported representation outside of policy fora, including for MEL?
- What learning has taken place through this process and how can representation and participation be continually improved?

REDISTRIBUTION

Achieve fair distribution of benefits, costs, opportunities and resources, via recognition and representation

- Prioritize improvements for the most affected first, then reduce the gap between the most and least disadvantaged, then across the entire population.
- Consider and monitor equity trade-offs and synergies between proposed policy, fiscal and other changes.
- Monitor costs as well as benefits, winners and losers to ensure a just transition to sustainable, equitable FSN and that those at the bottom are never left worse off.
- Be aware that redistributive policies (such as social protection) are not automatically sensitive to recognition and representation. Consider who is involved in system design, analysis and MEL, and who is excluded and why?

Notes: FSN: Food security and nutrition. MEL: Monitoring, evaluation and learning.
Source: Authors' own elaboration.

Inequality in FSN outcomes is evident between individuals, groups and countries across the world: this is clear in the data presented in this report, but also in the experiences and observations of those most affected. Inequality – leaving some people behind – is slowing progress on achieving global goals and national policy promises. Inequality in FSN is an injustice and an infringement of human rights. Such inequality in outcomes is rooted in inequitable systems – whether social, economic or political – that systematically limit the opportunities of marginalized population groups to participate in or benefit from food systems. But this is not a reason for inaction: as this report demonstrates, there is a shared understanding and significant evidence not only on the issues but also on the ways in which both the inequalities in food systems and the fundamental inequities driving these can be addressed. Taking the recommendations above – which address recognition, representation and redistribution to tackle inequality and inequity in food systems– and contextualizing them for the different contexts is the next step towards a transformation in food systems and ensuring food security and good nutrition for all.

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ANNEXES

ANNEX 1 GLOSSARY

TABLE A1. CONCEPTS AND DEFINITIONS

CONCEPT	DEFINITION	EXAMPLE
Inequality	Observed differences in measurable nutritional or food security outcomes or related food-systems factors (e.g. land ownership) between socially relevant groups (e.g. socioeconomic status, race or ethnicity, sex).	Women compared to men, globally and regionally, are more likely to experience food insecurity, especially during times of crisis (Broussard, 2019).
Inequity	The reasons that systematic differences in food system opportunities or the distribution of FSN outcomes exist, driven by systemic structural issues and practices of unfairness, injustice and exclusion that lead to inequality in food systems and, ultimately, in FSN.	Differences noted between men and women in food insecurity can be partially explained by social norms limiting economic opportunities available to women, or bias towards men in policy formulation (Gammage *et al.*, 2017).
Vertical inequality	Vertical inequalities reflect the differences in the distribution of a factor of interest between individuals or households or social groups with a common identity (gender, religion, ethnicity, etc.). For example, distributions of wealth, income or social outcomes including FSN. Vertical inequalities are most frequently assessed using the Gini Index. In some circumstances, individuals can progress "upwards" (hence "vertical") in the distribution of resources that defines a vertical inequality (e.g. an individual has the possibility to become wealthier, or a small farmer can improve their land access). Ethnographic studies and case studies can also depict these inequalities.	Uruguay, a high-income country, has the least hunger as measured by the Global Hunger Index of <5; while Yemen, a low-income country, has a Global Hunger Index of 45.1. (Concern Worldwide and Welthungerhilfe, 2022).
Horizontal inequality	Horizontal inequalities reflect differences between different groups based on social, ethnic, gender or other attributes, and can occur along economic, social, political and cultural dimensions (Stewart, 2015). Some definitions of horizontal inequalities describe them as differences between socially constructed groups, such as those based on gender, disability, caste, religion or sexual orientation (Balakrishnan and Heintz, 2015). An important question in examining horizontal inequalities is identifying groups that are recognized as being discriminated against as well as those that are not as visible and, thus, often not accounted for in the data (e.g. subethnic groups).	In the United States of America, the national prevalence of adult obesity is 41.9 percent, while it is 49 percent among non-Hispanic Black adults, 45.6 percent among Hispanic adults, 41.4 percent among non-Hispanic White adults and 16.1 percent among non-Hispanic Asian adults (Bryan *et al.*, 2021).

CONCEPT	DEFINITION	EXAMPLE
Horizontal inequality (continued)	Globally, we find women, the disabled and minority ethnic and religious groups, among other minority groups, to be in the lowest extreme of a distribution and thus experiencing the greatest deprivation in terms of wealth, food security, etc.	Another aspect is the interaction of horizontal inequalities with conflict and other disasters. For example, horizontal inequalities between ethnic groups interact with climate disasters and economic and political marginalization, as well as political instability. This situation has been seen to fuel conflict in countries (Østby, 2013).
Intergenerational inequality	Intergenerational inequality occurs when inequality is passed on from one generation to the next. Economists often describe this in terms of wealth transmitted from one generation to the next, while sociologists often describe it in terms of lack of mobility between socioeconomic brackets. Often this reflects the extent to which horizontal inequality is perpetuated over time and can reflect the persistence of systemic inequality for certain groups and its cumulative nature. For many Indigenous Peoples, preserving good kinships – with all human beings and with non-humans (sea, mountains, rivers, etc.), as well as interconnectedness to the natural environment, is fundamental to a well-functioning society and this understanding is passed on from one generation to the next. This Indigenous worldview is akin to intergenerational justice (Watene, 2016; Whyte, 2021) but one that is not widely acknowledged in considering different knowledges.	Women who are undernourished during pregnancy are at higher risk of giving birth to children who have either low birth weight or are stunted. Their children are then more likely to have poorer cognitive development and economic potential and to develop NCDs later in life (Prendergast and Humphrey, 2014). Conversely, interventions to address malnutrition in early life have positive effects on schooling, work and earnings (Hoddinott, Rosegrant and Torero, 2012).
Intersectional inequality	Intersectional inequalities occur when interrelated and mutually shaping categories that describe groups who are marginalized (race, gender, ethnic minorities) interact with one another to further shape experiences of power asymmetries and health and nutrition inequalities (Kozlowski *et al.*, 2022).	Different axes of social power, such as gender, economic class, ethnicity and caste often operate simultaneously and mutually reinforce each other. In India, researchers examined how caste, wealth and gender interacted to form stunting outcomes, finding groups worse off in all three dimensions (economic status, caste status and gender) have worse stunting outcomes than the best-off groups (non-poor, non-SC/ST boys) (Mukhopadhyay, 2015).

CONCEPT	DEFINITION	EXAMPLE
Intersectional inequality (continued)	Intersectional inequalities reflect a compounding of multiple inequalities that interact to intensify deprivation. Intersectional inequality further reflects the cumulative nature of inequality as applied to the group, rather than to the individual, and leads to an asymmetry in certain groups' capabilities to achieve optimal nutritional well-being and food security.	Different forms of discrimination against Indigenous Peoples intersect with sexism, contributing to the deepening of the injustice against Indigenous women, rendering them more vulnerable to food insecurity and limited sovereignty over access to land ownership and in growing, producing and preparing culturally relevant foods (Lemke and Delormier, 2018).
INEQUITY IS AVOIDABLE AND EXISTS WHEN INJUSTICE, UNFAIRNESS AND BIAS ARE PERPETUATED.		
Injustice	Injustice reflects a lack of fairness and, in the context of FSN, social injustice is defined as discrimination against individuals and groups because of social norms and cultural values which consider them unequal, unwanted or stigmatized, thus disallowing them from attaining a minimum level of food security or nutrition or the opportunity to assure their food security and nutritional well-being (Nisbett *et al.*, 2022).	Systemic discrimination against Indigenous communities whose lands and rights to land ownership have systematically been taken away from them, despite being stewards of those lands, represents social injustice. These injustices are perpetuated when not addressed by policy or societal action.
Unfairness	Policy and societal inaction can lead to systemic biases in systems, leading to certain groups of people receiving unequal and unfair treatment. This unfair treatment can have a multifold effect when certain groups experience multiple biases because of their intersecting social positioning.	A smallholder woman farmer who belongs to a low-caste group will experience multiple forms of bias and unfairness and therefore face substantial difficulty in accessing resources due to her social position.
Bias	Bias is discrimination for, or against, a person or group, or a set of ideas or beliefs, in a way that is prejudicial or unfair. Bias can be implicit, in that people do not realize they hold these discriminatory ideas/beliefs, or explicit where people openly express their discriminatory viewpoints.	Discrimination against certain racial groups that, over time, has excluded them from the workplace, from accumulating wealth and thus increasing their risk of being food insecure from one generation to the next.
DIFFERENT FORMS OF INJUSTICE AND UNFAIRNESS THAT PERPETUATE INEQUITY ARE:		
Exclusion	A state of disadvantage – lacking access to resources as well as access to and the ability for social and political participation – that is experienced by groups of people who exist (or are forced to exist) at the periphery of mainstream society.	The urban poor who lack access to stable, formal housing and food.

CONCEPT	DEFINITION	EXAMPLE
Marginalization **(Also called social exclusion in some literature)**	The process by which certain members of society are pushed to the periphery owing to their "identities, associations, experiences and environment" (Hall, Stevens and Meleis, 1994), creating barriers to their active participation in the society in which they reside. Implicit to the boundary creation and the pushing of groups towards and beyond these margins is the exertion of power and dominance by certain groups over others, reducing their agency. Much nutrition research concerns itself with aspects of marginalization, such as the disempowerment of women or disparities in income. But other axes of marginalization, such as age, ethnicity, disability, sexual orientation and geographic location, receive much less attention in nutrition or agriculture/nutrition literature, when examining who across these groups have differential FSN outcomes. Furthermore, the interactions between these different aspects of marginalization are also rarely addressed. The structural determinants of marginalization - inequitable access to basic services, resources and political redressal, as well as power relations and social norms – are also underexplored (Harris *et al.*, 2019b). Economic perspectives of marginalization focus largely on economic structures, in particular on the structure of markets and their integration. The economy is structured in such a way that some groups of people or individuals are segmented from it and are not able to participate in market activities (Kanbur, 2008).	Racial minority groups (for example, African Americans) have systematically, through repeated policy and social action, been marginalized and excluded from access to multiple mainstream resources and social participation (e.g. voting rights, access to land, economic opportunities, healthcare access). Another example of marginalization is the exclusion of vulnerable populations from policy formulation regarding issues that most affect them, as seen in climate resilience agriculture innovation policies that do not take into consideration the needs of smallholder farmers, especially those located in low-income countries.
Discrimination	Differential treatment of persons or groups of people linked to the possession of certain characteristics unjustly identified as warranting differential treatment. Examples of these characteristics may be physical (e.g. weight, sex), identity (e.g. ethnicity, gender), and age- or disability-related characteristics.	Discriminatory laws and (lack of) policies prevent women from earning the same income as their male counterparts.

CONCEPT	DEFINITION	EXAMPLE
Discrimination (continued)	This differential treatment impedes the ability of certain people to realize their human or other rights and can be further perpetuated and supported by law and policy leading to further inequality. It can be noted, for instance, that some people with similar economic characteristics experience different economic outcomes because of their race, sex or other non-economic characteristics (University of Minnesota, 2016).	
SYSTEMATIC DISCRIMINATION AND MARGINALIZATION IS ENABLED THROUGH SYSTEMS OF BELIEFS, PRACTICES AND VALUES EMBEDDED IN VARIOUS SPHERES OF SOCIETY, INCLUDING ECONOMIC, SOCIAL AND POLITICAL SPHERES. THESE SYSTEMS INCLUDE:		
Patriarchy	"Patriarchy centres power in the hands of men and is based on assumptions of gendered roles and heterosexual norms in micro- (family, kin) and macro- (community, political) settings, sex, reproduction and caring, sexuality, access to knowledge, education, livelihoods, freedom of movement and expression" (Nisbett *et al.*, 2022). It is a system of social structures and practices in which men dominate, oppress and exploit women (Walby, 1989). Patriarchal structures have driven present day agricultural practice and system implementation through women's labour being expropriated by their husbands. Patriarchal relations within waged labour involve the exclusion of women from paid work or the segregation of women from it. Concepts of public patriarchy (not excluding women from spaces but instead subordinating them) and private patriarchy (relative exclusion of women from arenas of social life apart from the household and the private sphere) (Walby, 1989) also exist.	Male-centric and dominated decision-making roles within households as regards income expenditure on household and non-household items, agricultural inputs, etc.

CONCEPT	DEFINITION	EXAMPLE
Racism	Racism assigns values and social and economic opportunities based on assumptions related to race, ethnicity, caste, variations in skin colour and assumed hereditary characteristics (Nisbett *et al.*, 2022). Structural racism includes policy and practices that unfairly disadvantage and minoritize certain groups, for instance through zoning and mortgage policies in segregated neighbourhoods. Within public health/nutrition research, which informs policy, it has been argued that examining purely differences in outcomes based on racial groupings by treating race as a biological construct and a determinant of malnutrition outcomes while not considering other social variables, offer limited reliability and validity of findings and perpetuates racist constructs (Duggan *et al.*, 2020). Such arguments contribute to the need to recognize the broader structural conditions that drive racism and, as such, drive inequalities in FSN.	Within food systems, this can be seen in concentration of power in the hands of a privileged minority (usually based on race) and passing on the social and environmental "externalities" disproportionately to racially stigmatized groups.
Colonialism	The dominance of a foreign group of people upon the people an area, country or region. Dominance is exerted by way of ideological, economic, territorial, linguistic, cultural and political (unjustified) subjugation of one group unto another while also exploiting the subjugated group's resources, culture, identity and so forth, for the colonizers' benefit (Duke Decolonizing Global Health Student Working Group, 2019; Horvath, 1972; Ma Rhea, 2016). Economists describe colonialism as a historical phenomenon of territorial expansion, intimately connected with the rise and growth of the modern capitalist world system. It involves processes of control of supplies of raw materials, mineral resources and markets in underdeveloped and precapitalist regions that are subjected to the political, social, economic, intellectual ideologies of the colonizers.	Traditional food systems in most countries in the Global South, as well as those of Indigenous communities and societies in the Western hemisphere, were wiped out and replaced by mechanized monoculture, leading to a shift away from traditional diets to diets high in sodium, fat and processed foods. The colonized are stripped of the freedom to make independent economic decisions, and the development of agriculture and the utilization of the country's natural resources, as well as its industrial and tariff policies and trade relations are determined by the ruling country.
Ableism	Discrimination and exclusion of people with disabilities, considering them inferior and not as capable as people without disabilities (Swenor, 2021). This includes discrimination at the individual, interpersonal and structural levels against people with disabilities or those presumed to be disabled.	Inaccessibility of food environments, which includes transportation and access gaps for people with physical disabilities.

CONCEPT	DEFINITION	EXAMPLE
Power asymmetries	Power asymmetries reflect differentials in power between different actors in food and social systems. These power asymmetries are governed by the interests of certain actors who exercise influence at different levels and across different sectors of society – from multinational trade negotiations to national policy processes to local social structures – rendering certain voices louder than others and rendering the interests of certain groups to be more actualized.	Lobbies of the ultra-processed food (UPF) industry have worked collectively to influence policies on non-communicable diseases globally and undermine WHO guidance on UPFs and processed foods.
POSITIVE FORCES TO ADDRESS INEQUALITY AND INEQUITY:		
Agency	Agency has been defined in previous HLPE reports as "what a person is free to do and achieve in pursuit of whatever goals or values he or she regards as important." (Sen, 1985), p. 203). Empowerment is an important aspect of agency, such that people have the ability to participate and engage in society and contribute to shaping and bettering their own lives and well-being (Alsop and Heinsohn, 2005).	
Empowerment	"One way of thinking about power is in terms of the ability to make choices. To be disempowered means to be denied a choice, while empowerment refers to the processes by which those who have been denied the ability to make choices acquire such an ability. In other words, empowerment entails change… There must be alternatives - the ability to have chosen differently… Alternatives must not only exist; they must also be seen to exist." (Kabeer, 2005, p.13-14). The concept of empowerment can be explored through three closely interrelated dimensions: agency, resources, and achievements (Kabeer, 2005).	

Source: Authors' own elaboration.

ANNEX 2 DEFINITION OF FSN-RELATED SDG 2 INDICATORS

TABLE A2. DEFINITION OF SDG 2 INDICATORS UTILIZED IN CHAPTER 2 TO DEPICT FSN

INDICATOR	DEFINITION	LEVEL	LEVEL OF INFERENCE
Prevalence of undernourishment (PoU) (Also referred to as chronic undernourishment and hunger) (Measured using data on dietary energy supply and food balance sheets.)	*% of population with inadequate dietary energy intake. Based on country-level data on food availability, food consumption and energy needs*	National Household	Between regions and countries
Prevalence of moderate or severe food insecurity (Measured by the Food Insecurity Experience Scale [FIES] survey module.)	*% of country's population facing difficulties in accessing enough safe and nutritious food for normal growth and development and an active and healthy life*	Household	Between and within regions and countries
Prevalence of moderate or severe food insecurity (Measured by the Household Food Insecurity Access Scale [HFIAS] questionnaire.)	*% of population that worries about access to enough food for their household. Based on direct interviews of individuals using the HFIAS*	Household	Within countries
People unable to afford a healthy diet* (Expressed as the weighted percentage [%] and the total number [millions] of the population in each region and country income group who could not afford a healthy diet in 2020.) (Herforth et al., 2020; Manore, 2005)	*% of people for whom the cost – based on least expensive local foods – of a healthy diet [a diet that meets local dietary guidelines] exceeds a threshold proportion of their income*	National	Between and within regions and countries
Prevalence of anaemia among women (Measured using venous or capillary blood samples.)	*% of pregnant women whose haemoglobin level is less than 110 grams per litre at sea level or 2% of non-pregnant women whose haemoglobin level is less than 120 grams per litre at sea level*	Individual	Between and within regions and countries

INDICATOR	DEFINITION	LEVEL	LEVEL OF INFERENCE
Adult obesity prevalence (Measured using anthropometric measures.)	*% of adults with body mass index greater than 30 kg/m2*	Individual	Between and within regions and countries
Under-5 child stunting prevalence (Measured using anthropometric measures.)	*% of children under 5 years of age with height for age more than 2 standard deviations below the benchmark*	Individual	Between and within regions and countries
Under-5 child wasting prevalence (Measured using anthropometric measures.)	*% of children under 5 years of age with weight for height more than 2 standard deviations below the benchmark*	Individual	Between and within regions and countries
Under-5 child overweight prevalence (Measured using anthropometric measures.)	*% of children under 5 with weight for height more than 2 standard deviations above the benchmark*	Individual	Between and within regions and countries

Sources: FAO. 2022. *The State of Food and Agriculture 2022. Leveraging automation in agriculture for transforming agrifood systems.* Rome, FAO; Herforth, A., Bai, Y., Venkat, A., Mahrt, K., Ebel, A. and Masters, W.A. 2020. *Cost and affordability of healthy diets across and within countries: Background paper for The State of Food Security and Nutrition in the World 2020. FAO Agricultural Development Economics Technical Study No. 9.* FAO Agricultural Development Economics Technical Studies 9. Rome, Italy, FAO.

Inequalities in food security and nutrition (FSN), between countries and regions and within countries, communities and households, exist throughout the world, exacerbating already alarming conditions of hunger and malnutrition.

This report provides a conceptual framework for assessing inequalities in FSN, the inequalities within and outside food systems that underpin them, and the systemic drivers of such inequalities. The report highlights the ethical, socioeconomic, legal and practical imperatives for addressing these inequalities. It emphasizes that food is a fundamental human right and that inequalities in FSN undermine this right, as well as social and political stability. In addition, by applying an intersectional understanding of inequalities – that is, considering the cumulative effects of multiple interacting inequalities on marginalized peoples – the report contributes to a more inclusive understanding and sustainable action to reduce FSN inequalities.

The report proposes a set of measures to reduce inequalities, both within and beyond food systems. It emphasizes the need for a transformative agenda, aiming for structural change towards equity. By providing actionable recommendations addressing the systemic drivers of FSN and advocating for actions in favour of equity and equality, the report contributes to global efforts towards achieving food security and improving overall well-being, leaving no one behind.

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