Food and Agriculture Organization of the United Nations

THE STATUS OF WOMEN IN AGRIFOOD SYSTEMS

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NIGER - A man and a woman work together to remove nuts from a drying machine.

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MONGOLIA – A woman serving food to her family.

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FOREWORD

If we tackle the gender inequalities endemic in agrifood systems and empower women, the world will take a leap forward in addressing the goals of ending poverty and creating a world free from hunger. This report shows how the creation of work in agrifood systems for women, especially rural women, enhances their well-being and provides opportunities for economic growth, incomes, productivity and resilience. For the first time in more than a decade, FAO is providing a comprehensive picture of the status of women working not only in agriculture, but across agrifood systems. The report contains extensive new data and analyses about the challenges women face, particularly in rural areas, and provides actionable and policy-oriented evidence about what has succeeded in improving equality.

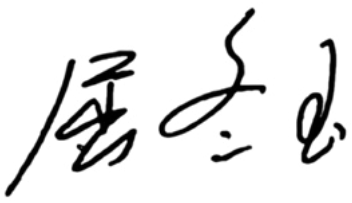
Women's empowerment and gender equality are not only a key part of achieving the Sustainable Development Goals (SDGs) by 2030, but are also intrinsically important for women's and men's well-being. SDG 5 calls on us to achieve gender equality and empowerment for all women and girls by 2030 – a deadline that is fast approaching. This report shows that, despite the increasing attention placed on gender since the Fourth World Conference on Women, held in Beijing in 1995, there are still large gaps in achieving gender equality in agrifood systems.

While women have gained more access to some resources – such as digital technology and financial services – over the past decade, the gaps are either unchanged or growing in far too many areas, particularly for rural women. For example, since the outbreak of the COVID-19 pandemic, the gap between women's and men's food insecurity has grown to 4.3 percentage points, with significantly higher food insecurity among rural women. Rural women are less likely than rural men to own a mobile phone. Improvements in reporting on women's landownership and tenure demonstrate just how far we are from gender equality, with a significantly larger share of men in agricultural households compared with women owning land in 40 out of the 46 countries reporting on SDG Indicator 5.a.1. Closing these gaps and others, such as the gaps in agricultural productivity and agricultural wages, where women earn 82 cents for every dollar earned by men, would greatly improve food security, nutrition and increase economic growth.

The changes required to meet SDG 5 are far-reaching. Nevertheless, they are possible given positive progress made in the capacity of governments, international institutions, civil society and other stakeholders to plan and invest more intentionally in both gender equality and women's empowerment. This report shows that comprehensive investment in women's empowerment can be transformative, even with the same level of public resources. Ensuring that policies and projects have a more explicit focus on empowerment, including better access for women to resources and assets and enhancing their decision-making power, will help increase incomes and resilience for women, their households and communities – particularly in rural areas.

Gender equality and women's empowerment is embedded in the FAO Strategic Framework 2022–2031, and is mainstreamed in our efforts to achieve the four betters: better production, better nutrition, a better environment and a better life for all, leaving no one behind. With the publication of this report, FAO makes a commitment to do even more to deepen our focus on gender equality and women's empowerment, with particular attention to rural and small scale women producers. This includes advocating for policy frameworks that seek to address social norms and structural constraints, and utilizing gender-transformative approaches to a greater extent in our projects and programming for inclusive rural development.

Efficient, inclusive, resilient and sustainable agrifood systems depend on the empowerment of all women and gender equality. Women have always worked in agrifood systems. It is time that we made agrifood systems work for women. We encourage all stakeholders to make a commitment to join us in increasing equality.



QU Dongyu
FAO Director-General

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All individuals are affiliated with the ESP Division unless otherwise specified.

Chapter 1
Benjamin Davis led the research and writing team for Chapter 1. Additional authors include: Lauren Phillips and Erdgin Mane. Annarita Macchioni Giaquinto provided statistics and analyses, and Natalia Piedrahita created graphics. Audrey Pereira and Ilaria Sisto wrote the spotlight on gender-based violence; Audrey Pereira wrote the spotlight on intersectionality. Carlo Cafiero (ESS); Romina Cavatassi, Ilaria Sisto, Vanya Slavchevska, Libor Stloukal and Sara Viviani (ESS) provided additional input.

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Christina Rapone and Giorgia Prati revised the box on the feminization of agriculture. Elena Aguayo (PSUI) co-wrote the spotlight on Indigenous Peoples. Audrey Pereira wrote the boxes on time-use versus time-use agency, and gender-based violence and work in agrifood systems. Alexis Pellier and Mariola Acosta helped with boxes and the spotlight. Livia Celardo and Marcello Vicovaro (both ESN) provided data on food retailers from selected territorial markets. Patrizia Fracassi, Shinuna Gartner, Ti Kian Seow (all ESN) and Serena Stepanovic, Random Dubois (both World Vision US); Jedidah Ganira (World Vision Kenya) provided the findings of the study presented in Box 2.4.

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Elsa Valli, Mari Kangasniemi and Audrey Pereira wrote the spotlight on social protection. Natalia Piedrahita, Martina Improta (ESA); Carly Petracco (ESA) and Nimra Azhar prepared the figures.

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ABBREVIATIONS

AFS: agrifood systems

BMI: body mass index

CEDAW: Convention on the Elimination of All Forms of Discrimination against Women

DDS: dietary diversity score

DHS: Demographic and Health Surveys

FIES: Food Insecurity Experience Scale

GALS: Gender Action Learning System

GaPO: Gender in Agricultural Policies Analysis Tool

GBV: gender-based violence

GDP: gross domestic product

GSMA: Global System for Mobile Communications Association

GWP: Gallup© World Poll

ICLS: International Conference of Labour Statisticians

ICT: information and communications technology

IFAD: International Fund for Agricultural Development

IFPRI: International Food Policy Research Institute

ILO: International Labour Organization

ILOSTAT: International Labour Organization Statistics

ILRI: International Livestock Research Institute

IPC/CH: Integrated Food Security Phase Classification–Cadre Harmonisé

IPV: Intimate Partner Violence

ISIC: United Nations International Standard Industrial Classification of All Economic Activities

ITU: International Telecommunication Union

JP RWEE: Joint Programme: Accelerating Progress Towards Rural Women's Economic Empowerment

LN: Natural logarithm

LSMS+: Living Standards Measurement Study-Plus

LSMS-ISA: Living Standards Measurement Study-Integrated Surveys on Agriculture

NDC: nationally determined contribution

PPP: Purchasing Power Parity

PRO-WEAI: Project Level Women's Empowerment in Agriculture Index

OECD: Organisation for Economic Co-operation and Development

RuLIS: Rural Livelihoods Information System

SDGs: Sustainable Development Goals

SOFA: State of Food and Agriculture Report, FAO

UNDESA: United Nations Department of Economic and Social Affairs

UNDP: United Nations Development Programme

UNFCCC: United Nations Framework Convention on Climate Change

UNFPA: United Nations Population Fund

UNICEF: United Nations Children's Fund

USAID: United States Agency for International Development

WEAI: Women's Empowerment in Agriculture Index

WFP: World Food Programme

WHO: World Health Organization

LET'S GROW EQUALITY

OVERVIEW

THE STATUS OF WOMEN IN AGRIFOOD SYSTEMS

Agrifood systems are a major employer of women globally and constitute a more important source of livelihood for women than for men in many countries. Empowering women and closing gender gaps in agrifood systems thus enhances the well-being of women and their households, reducing hunger, boosting incomes and strengthening resilience. This report provides a comprehensive overview of the status of women in agrifood systems. It analyses the multiple sources of inequality that constrain their participation, well-being and empowerment; describes policies and approaches that have supported gender equality and women's empowerment; and details how women's equal participation in agrifood systems can transform individual and global outcomes.

Despite the importance of agrifood systems for women's livelihoods and the welfare of their families, women's roles tend to be marginalized and their working conditions are likely to be worse than men's – irregular, informal, part-time, low-skilled, labour-intensive and thus vulnerable. Women also have higher burdens of unpaid care, limiting their opportunities for education and employment. This is true both for women working in primary agricultural production, with wages and productivity systematically lower than those of men, and for women working in off-farm segments of agrifood systems, where their work is mostly in lower-value nodes. Women may not be systematically excluded from high-value, export-oriented value chains or from entrepreneurship in agrifood systems, but their participation is usually constrained by discriminatory social

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↑ SYRIAN ARAB REPUBLIC – A woman, after collecting figs, her only source of livelihood, dries them in the sun.

norms and barriers to knowledge, assets, resources and social networks.

Women's access to land, inputs, services, finance and digital technology – which is key to working in agrifood systems – continues to lag behind men's. In many countries there still is much to do to ensure that women own land in equal proportion to men and that legal frameworks protect their rights. It is alarming how little the gaps in women's access to extension and irrigation and ownership of livestock have closed over the past decade, although it is encouraging that gaps in their access to financial services, mobile internet and mobile phones are narrowing.

Discriminatory social norms and rules affecting women and girls are at the heart of gender inequality and are slow to change. Attitudes towards women's work outside the home, the acceptability of gender-based violence and other norms affecting women's livelihoods in agrifood systems remain dangerously restrictive in much of the world. Formal policies and strategies may increasingly identify the constraints and inequalities that women face, but few national policies specify objectives to address them. This is despite the evidence that a broader approach to women's empowerment – reducing the barriers to their participation and changing the norms and rules that constrain it – has great benefits for women's well-being and for wider society as a whole. Such an approach also has substantial co-benefits for women's livelihoods, earnings, health and nutrition of their children.

Coping mechanisms and resilience to shocks and stressors are shaped by gender inequalities, and shocks and crises have a greater negative impact on women's livelihoods in agrifood systems than they do on men's. During the COVID-19 pandemic, women's food insecurity rose faster than men's, and job losses in both primary agricultural production and off-farm segments of the agrifood systems were much more pronounced for women than for men. Women were called on to draw down their more limited assets and savings more quickly than were men. During climate shocks, women's more limited resources and assets constrain their adaptive capacity and resilience.

These challenges to women's full and equal employment in agrifood systems hold back their productivity and sustain wage gaps. Closing the gender gap in farm productivity and the wage gap in agrifood systems would increase global gross domestic product by 1 percent (or nearly USD 1 trillion). This would reduce global food insecurity by about 2 percentage points, reducing the number of food-insecure people by 45 million.

Women's empowerment is also key to economic and social outcomes. Benefits from projects that empower women are higher than those that just mainstream gender. More than half of bilateral finance for agriculture and rural development already mainstreams gender, but only 6 percent treats gender as fundamental. If half of small-scale producers benefited from development interventions that focused on empowering women, it would significantly raise the incomes of an additional 58 million people and increase the resilience of an additional 235 million people.

Women's work in agrifood systems

Agrifood systems are a major employer of women. Globally, 36 percent of working women and 38 percent of working men work in agrifood systems as of 2019. For both women and men, this represents a decline of about 10 percentage points since 2005, driven almost exclusively by a reduction in employment in primary agricultural production.

Agrifood systems are a more important source of livelihood for women than for men in many countries. In sub-Saharan Africa, 66 percent of women's employment is in agrifood systems, compared with 60 percent of men's. In southern Asia, women overwhelmingly work in agrifood systems (71 percent of women, versus 47 percent of men), although fewer women than men are in the labour force. Agrifood systems are a key source of employment for young women, especially those aged 15–24.

AGRIFOOD SYSTEMS ARE A MORE IMPORTANT SOURCE OF LIVELIHOOD FOR WOMEN THAN FOR MEN IN MANY COUNTRIES.

In general, women account for a greater share of agricultural employment at lower levels of economic development, as inadequate education, limited access to basic infrastructure and markets, high unpaid-work burden and poor rural employment opportunities outside agriculture severely limit women's opportunities for off-farm work. Women make up well over 50 percent of the agricultural labour force in many sub-Saharan African countries. About half of the labour force in agriculture is female in several countries in Southeast Asia, including Cambodia, the Lao People's Democratic Republic and Viet Nam.

↑ PERU – A rural woman in the field tending her crops.

Women who work in agricultural production tend to do so under highly unfavourable conditions. They tend to be concentrated in the poorest countries, where alternative livelihoods are not available, and they maintain the intensity of their work in conditions of climate-induced weather shocks and in situations of conflict. Women are less likely to participate as entrepreneurs and independent farmers and are engaged in the production of less lucrative crops. Often, women are unpaid family workers or casual workers in agriculture. Social norms may also constrain women from producing crops and participating in activities dominated by men. The gender gap in land productivity between female- and male-managed farms of the same size is 24 percent. On average, women earn 18.4 percent less than men in wage employment in agriculture; this means that women receive 82 cents for every dollar earned by men.

Moving from primary agricultural production to off-farm work in agrifood systems has historically led to improved livelihoods for both women and men. **However, the roles of women in off-farm work in agrifood systems are more likely to be in less profitable value chains and activities or on worse terms than those of men due to restrictive traditional social norms or poor access to assets and resources.**

Women's greater burden of unpaid domestic and care work, such as cleaning, cooking and caring for household members, **contributes to inequalities in labour-market participation and outcomes**. This is particularly evident in low- and middle-income countries. In rural areas, women's unpaid-work burden is greater than that of men in large part because of the time they spend collecting water. The COVID-19 pandemic underscored the disproportionate burden women shoulder in unpaid care of children and other family members and the implications of this burden for women's time and employment.

Women's access to assets, services and resources

Women's access to assets and resources key to agrifood systems – such as land, inputs, services, finance and digital technology – continues to lag behind men's. Gaps directly related to agricultural production remain substantial, but gender gaps in education, finance and information and communications technology, which are particularly important for developing off-farm businesses and employment opportunities in agrifood systems, are closing more quickly. Nevertheless, sustained, quality access to assets and resources remains a challenge.

Women in agricultural households remain significantly disadvantaged in landownership compared with men; half the countries reporting on Sustainable Development Goal Indicator 5.a.2 have weak legal protections for women's land rights. The percentage of men who have ownership or secure tenure rights over agricultural land is twice that of women in more than 40 percent of the countries that have reported on women's landownership (Sustainable Development Goal Indicator 5.a.1), and a larger percentage of men than women have such rights in 40 of 46 countries reporting. Even so, the share of women among landowners increased in 10 of

18 countries over the last decade, with marked improvements in several countries in sub-Saharan Africa and southern Asia.

Progress has been slow in closing gaps in women's access to irrigation and in ownership of livestock. On average, men own more livestock than do women and are more likely than women to own large livestock such as cattle. These gaps have changed little in the last decade, although gaps in ownership of smaller species such as sheep and poultry tend to be narrower.

Women in agriculture still have significantly less access than men to inputs, including improved seeds, fertilizers and mechanized equipment. On a positive note, the gender gap in access to mobile internet in low- and middle-income countries fell from 25 percent to 16 percent between 2017 and 2021, and the gender gap in access to bank accounts narrowed from 9 to 6 percentage points. Women are as likely as men to adopt new technologies when the necessary enabling factors are put in place and they have equal access to complementary resources.

Agency, norms and policies

Discriminatory social norms in agrifood systems create power imbalances between men and women and limit the choices available to women, who usually are more involved in unpaid care and domestic work. Such norms commonly restrict women's mobility and limit their options for non-domestic work and market activities and their access to and control over assets and income. Gender-based discrimination in social institutions varies by region and country but remains unacceptably high globally. This constrains women's full and productive employment in agrifood systems (as sellers, employers or employees) and affects their ability to access and benefit from services, technologies and rural organizations.

Advancing gender equality and women's empowerment is critical to women's well-being and to society at large and thus has intrinsic value. Significant advances in measuring women's empowerment in agrifood systems over the past decade show that women's empowerment has a positive impact on agricultural production, food security, diets and child nutrition.

Addressing gender equality and women's empowerment means addressing constraining social norms and rigid gender roles affecting how women participate in agrifood systems. Increasing attention has been placed on addressing constraints created by discriminatory social norms and gender-blind policies and laws in agrifood systems. Projects have increasingly aimed at increasing women's empowerment and at measuring the impact of interventions on both agency and empowerment. To do this effectively, men, boys and community leaders must all be engaged in gender-transformative processes.

↓ SRI LANKA – A woman farmer watering crops.

GENDER-BASED DISCRIMINATION IN SOCIAL INSTITUTIONS VARIES BY REGION AND COUNTRY BUT REMAINS UNACCEPTABLY HIGH GLOBALLY.

The extent to which national policy frameworks address gender issues improved over the past decade. National policies and budgets in East Africa and Latin America, for example, have increasingly highlighted structural gaps in access to land, inputs, services, finance and digital technology and included efforts to produce gender-responsive outcomes. However, the extent to which agricultural policies specifically address gender equality and women's empowerment varies. Even though more than 75 percent of agricultural policies that FAO analysed recognized women's roles and/or challenges in agriculture, only 19 percent had gender equality in agriculture or women's rights as explicit policy objectives. And only 13 percent encouraged rural women's participation in the policy cycle.

Resilience and adaptation to shocks

Coping mechanisms and resilience to shocks and stressors are shaped by gender inequalities. Shocks and crises have a large impact on women's livelihoods in agrifood systems, and these shocks and crises are multiple and often overlapping. In many countries, these shocks and crises occur in contexts of very high gender inequalities.

The impacts of the COVID-19 pandemic and the related economic crisis have been intensified and shaped by gender inequalities in agrifood-system livelihoods. Globally, 22 percent of women lost their jobs in off-farm agrifood systems work in the first year of the pandemic, compared with only 2 percent of men. The gap in food insecurity between men and women widened from 1.7 percentage points in 2019 to 4.3 percentage points in 2021. Women's care burden also increased: in Honduras and Uganda, for example, lockdown measures increased girls' domestic and care burden and reduced their school attendance more than they did those of boys. The incidence and perceptions of gender-based violence soared, especially domestic violence and abuse against women and girls, largely as a result of intrahousehold tensions caused by lockdowns, school closures and food and financial insecurities.

Women often have more sensitivity to climate shocks and natural disasters than do men and have different resilience capacity. While women are not inherently more at risk from climate change and shocks, resource and other constraints can make them more sensitive to their effects and less able to adapt to them, increasing their vulnerability. For example, women's work burdens, including hours worked in agriculture, tend to decline less than men's during climate shocks such as heat stress. Discriminatory gender norms limiting women's mobility and their ability to access extension services and climate information present further obstacles to climate adaptation. Women are also often underrepresented in climate policy decision-making at all levels.

Conflict and insecurity remain key drivers of food crises and food insecurity. Women are often more vulnerable than men to acute food insecurity because they face additional risks, barriers and disadvantages. Violent conflicts also have gender-differentiated impacts on mobility, gender-based violence, health and education outcomes, and political and civic engagement. Conflict increases employment in agriculture more for women than for men. However, while it reduces the working hours of both men and women, women's working hours are reduced less than those of men.

GENDER-TRANSFORMATIVE APPROACHES SHOW PROMISE IN CHANGING NORMS, ARE COST-EFFECTIVE AND HAVE HIGH RETURNS.

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What has worked and how to move forward

Reducing gender inequalities in livelihoods, access to resources and resilience in agrifood systems is a critical pathway towards gender equality and women's empowerment and towards more just and sustainable agrifood systems. These improvements are possible when an enabling environment exists and interventions are well designed to tackle the multidimensional and interrelated challenges facing women and men.

Gender-transformative approaches show promise in changing discriminatory norms across a broad array of areas. Available data indicate that such approaches are cost-effective and have high returns. However, more work is needed on developing pathways to implement gender-transformative approaches at scale.

It is also critical to improve productivity and close gaps related to access to assets and resources. Interventions alleviating women's workloads and improving their productivity have been particularly successful when they address care and unpaid domestic work burdens, strengthen women's capacities through education and training, improve access to technology and resources, and strengthen land-tenure security. Access to child care has a large positive effect on mothers' employment in and returns to agrifood-system activities.

Closing the gender gaps in landownership and secure tenure is particularly important as secure land rights have multiple positive impacts. Gaps can be narrowed through a combination of implementing reforms on land registration, increasing land-rights awareness and access to community-based legal aid, and fostering women's participation in local land institutions. Additionally, services (such as

← KYRGYZSTAN – Rural women harvesting their crops.

← KENYA – Two young women inspect the health status of local chickens.

extension) and resources (such as technology) must be designed with women's needs in mind. Digital tools and information and communications technology can facilitate closing multiple gaps.

Group-based approaches are important for increasing women's empowerment and resilience to shocks and stressors such as the COVID-19 pandemic and climate change. They encourage the uptake of technology and increase adaptive capacity. They can also increase women's participation in climate policy processes.

Social protection programmes have increased women's employment and enhanced women's resilience. They have facilitated climate adaptation, improved well-being in contexts where risks from climate change are high and helped in the recovery from the COVID-19 pandemic and the impacts of extreme weather events resulting from climate change.

As a way forward, three elements are critical. **First, the collection and use of high-quality data, disaggregated by sex, age and other forms of social and economic differentiation, and the implementation of rigorous qualitative and quantitative gender research are paramount for monitoring, evaluating and accelerating progress on gender equality in agrifood systems.** Despite improvements in the past ten years, significant gaps remain in the availability, scope and granularity of data, and in the evidence on what works and under what conditions for building more inclusive agrifood systems.

Second, localized interventions which address multiple inequalities that have been proven to close gender gaps and empower women in agrifood systems should be carefully scaled up, taking into consideration the local context. While engaging with communities and households on gender-biased local norms through gender-transformative approaches remains critical, to reach scale governments, international organizations, civil society organizations and the private sector must influence positive changes in gender norms and improve women's access to resources through national policies, campaigns and large-scale integrated programmes. Only by reaching scale can we achieve large benefits for women's well-being and significant gains in economic growth and food security.

Finally, interventions must be designed to close gender inequalities and empower women. Interventions are more likely to bridge gender gaps in agrifood systems and bring about positive and lasting improvements in women's welfare when they integrate explicit actions towards gender equality and women's empowerment. When possible, they should use transformative approaches at community and national level to address discriminatory gender norms and attitudes. Doing so can drive major improvements in incomes and resilience.

THE INCREASE IN SEX-DISAGGREGATED DATA AND MEASUREMENT OF EMPOWERMENT ARE KEY TO EFFECTIVE PROGRAMMING AND POLICY.

NUMERICAL HIGHLIGHTS

Agrifood systems are a major employer of both women and men. Globally, **36 percent** of working women are employed in agrifood systems, along with **38 percent** of working men.

For both women and men, this represents a decline of about **10 percentage points** since 2005, driven almost exclusively by a reduction in employment in primary agricultural production.

Agrifood systems are a more important source of livelihood for women than for men in many countries. In sub-Saharan Africa, **66 percent** of women's employment is in agrifood systems, compared with **60 percent** of men's employment. In southern Asia, **71 percent** of women in the labour force work in agrifood systems versus **47 percent** of men.

Globally, **21 percent** of all workers in the fishery and aquaculture primary sector are women and almost **50 percent** of all workers in the entire aquatic value chain (including pre- and post-harvest) are women. Female workers are significantly more likely than male workers to work part-time or in other vulnerable positions.

The gender gap in land productivity between female- and male-managed farms of the same size is **24 percent**.

Women engaged in wage employment in agriculture earn **82 cents** for every dollar that men earn.

Men have greater ownership or secure tenure rights over agricultural land than do women in **40 of 46 countries** reporting on Sustainable Development Goal Indicator 5.a.1.

The gender gap in women's access to mobile internet in low- and middle-income countries narrowed from 25 percent to 16 percent between 2017 and 2021, and the gender gap in access to bank accounts narrowed from 9 percentage points to 6 percentage points.

While 75 percent of policy documents relating to agriculture and rural development from 68 countries recognize women's roles and/or women's challenges in agriculture and rural development, only 19 percent included policy goals related to gender.

The gap in food insecurity between men and women widened from 1.7 percentage points in 2019 to 4.3 percentage points in 2021.

Globally, 22 percent of women lost their jobs in the off-farm segment of agrifood systems in the first year of the COVID-19 pandemic, compared with only 2 percent of men.

Closing the gender gap in farm productivity and the wage gap in agrifood-system employment would increase global gross domestic product by 1 percent (or nearly USD 1 trillion). This would reduce global food insecurity by about 2 percentage points, reducing the number of food-insecure people by 45 million.

If half of small-scale producers benefited from development interventions which focused on empowering women, it would significantly raise the incomes of an additional 58 million people and increase the resilience of an additional 235 million people.

POLICY HIGHLIGHTS

- Increasing women's empowerment is essential for women's well-being and has a positive impact on agricultural production, food security, diets and child nutrition.
- Gender-transformative approaches to change restrictive social norms are cost-effective and have high returns, but more work is needed on developing pathways to implement gender-transformative approaches at scale.
- Enhancing women's rights to own or have secure tenure over agricultural land has positive impacts on empowerment, investment, natural-resource management, access to services and institutions, resilience and food security, reducing gender-based violence and increasing women's bargaining power.

- Access to formal child care has a large positive effect on mothers' employment in and returns to agrifood-system activities.
- Improving women's access to agricultural extension is important to maximize food security and nutritional outcomes and to facilitate women's participation across agrifood systems.

↑ ITALY – Two small-scale food producers from the Syrian Arab Republic visit the vegetable gardens of the University of Gastronomic Sciences.

INCREASING WOMEN'S EMPOWERMENT IS ESSENTIAL FOR WOMEN'S WELL-BEING AND HAS A POSITIVE IMPACT ON AGRICULTURAL PRODUCTION, FOOD SECURITY, DIETS AND CHILD NUTRITION.

ACCESS TO FORMAL CHILD CARE HAS A LARGE POSITIVE EFFECT ON MOTHERS' EMPLOYMENT IN AND RETURNS TO AGRIFOOD-SYSTEM ACTIVITIES.

- Group-based approaches are important for increasing women's empowerment and resilience to shocks and stresses such as the COVID-19 pandemic and climate change. They have also proven effective for increasing women's participation in climate policy processes, for increasing uptake of technology and increasing adaptive capacity.

- Social protection programmes have increased women's employment and enhanced women's resilience. They have also facilitated climate adaptation, improved well-being in contexts where climate risk is high and helped in recovering from the effects of the COVID-19 pandemic and climate shocks.

- The increase in efforts to collect sex-disaggregated data and measure empowerment in its multiple dimensions is central to improving the design and effectiveness of programming and policy in terms of gender equality and empowerment.

- However, major gaps remain in the availability of sex-disaggregated data on access to productive assets and services, climate-change adaptation and resilience, and nutrition. Data and research are also limited on women and men who face additional inequalities due to age, socioeconomic status, ethnicity, Indigenous identity and remoteness.

← PAKISTAN – A woman carries her daughter as she arrives to work at a vegetable field.

CHAPTER 1

LET'S GROW EQUALITY IN AGRIFOOD SYSTEMS

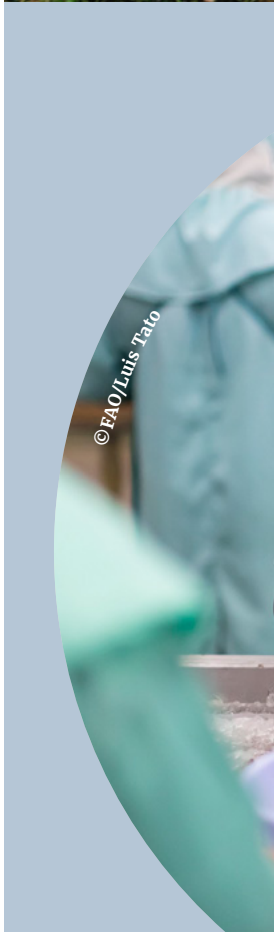
CHAPTER 1

INTRODUCTION

The State of Food and Agriculture (SOFA) *2010–11: Women in Agriculture – Closing the gender gap for development*[1] made the business case for closing existing gender gaps in accessing agricultural assets, inputs and services. It documented the tremendous costs of gender inequality not only for women but also for agriculture and, through agriculture, for the broader economy and society as a whole.

Much has happened since 2011. **The critical importance of achieving gender equality and empowering women as a goal of the 2030 Agenda for Sustainable Development is increasingly recognized and accepted at all levels of governance.** Increased attention has been given to gender equality in agricultural policymaking, development and humanitarian interventions, and institutional strengthening and to enhancing women's participation in positions of leadership. Significant improvements have been made in the availability of sex-disaggregated data and gender statistics. An increasing amount of research has explored the nature and drivers of women's empowerment and gender equality.

However, while some gender gaps have been reduced, little or no progress has been achieved in others. Women represent half of the global population but continue to be systematically disadvantaged across different dimensions of welfare and economic livelihoods. In 2021, for example, globally 31.9 percent of women were moderately or severely food insecure compared with 27.6 percent of men, a gap of 4.3 percentage points (see Box 1.1).[2] Women and girls face barriers and constraints that men and boys do not as a consequence of rigid gender norms and roles, unequal power dynamics and discriminatory social structures. The dramatic impact of the COVID-19 pandemic exposed the fragility of earlier gains in women's empowerment and highlighted the implications of the persistence of structural inequalities and multiple and intersecting forms of discrimination affecting women and girls. **These impediments to women's progress are compounded by the additional challenges posed by climate, economic and price shocks, conflicts and the increasing risks of gender-based violence.**



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↑ TAJIKISTAN – A woman harvesting a local variety of apples.

← INDIA – Workers in a shrimp pre-processing unit of a seafood plant.

SINCE 2011, WHILE SOME GENDER GAPS HAVE BEEN REDUCED, LITTLE OR NO PROGRESS HAS BEEN ACHIEVED IN OTHERS.

A global consensus on the interdependence of development objectives emerged in the 2000 Millennium Development Goals and the 2015 Sustainable Development Goals. This underlined the centrality of addressing gender equality within a broader approach to sustainable economic and social development. In this report we thus move beyond the focus of SOFA 2011 – women in agriculture – towards one on broader gendered agrifood systems within dynamic processes of agricultural, rural and structural transformation. Moreover, since 2011 the societal objective has moved beyond reaching equality in economic activities to gender equality and women's empowerment, both as goals in and of themselves and as means to improve an array of welfare outcomes. As a consequence, the policy space has moved from closing gender gaps towards the adoption of gender-transformative approaches, which explicitly address both the formal and informal structural constraints to equality and more balanced power relations.

↑ UGANDA – A woman stores grain in a silo to avoid post-harvest losses.

The status of women in agrifood systems goes far beyond an update to the SOFA 2011 report on women in agriculture, in that it provides a comprehensive view of the status of women in agrifood systems globally. It presents new data and findings about how women participate in, and benefit from, agrifood systems and investigates how shocks in agrifood systems have a differential impact on men, boys, women and girls and the coping strategies with which they have responded. The report reflects not only on how gender equality and women's empowerment are central to the transition towards sustainable and resilient agrifood systems but also on how the transformation of agrifood systems can contribute to gender equality and women's empowerment. It provides a comprehensive analysis of the available evidence on gender equality and women's empowerment in agrifood systems that has been produced over the last decade. The report also provides policymakers and development actors with an extensive review of what has worked and makes specific recommendations on the way forward.

The report highlights the centrality of intersectionality – how multiple and often overlapping and intersecting factors such as age, gender, ethnicity, health, disability and socioeconomic, marital and migration status combine to create different modes of discrimination, social exclusion, and privilege – in addressing gender equality and women's empowerment (see Box 1.2). It also places greater emphasis on the intertwined nature of the social and economic dimensions of women's and men's lives. The phenomenon of gender-based violence is included where relevant throughout the report (see Spotlight 1.3).

FROM AGRICULTURE TO AGRIFOOD SYSTEMS

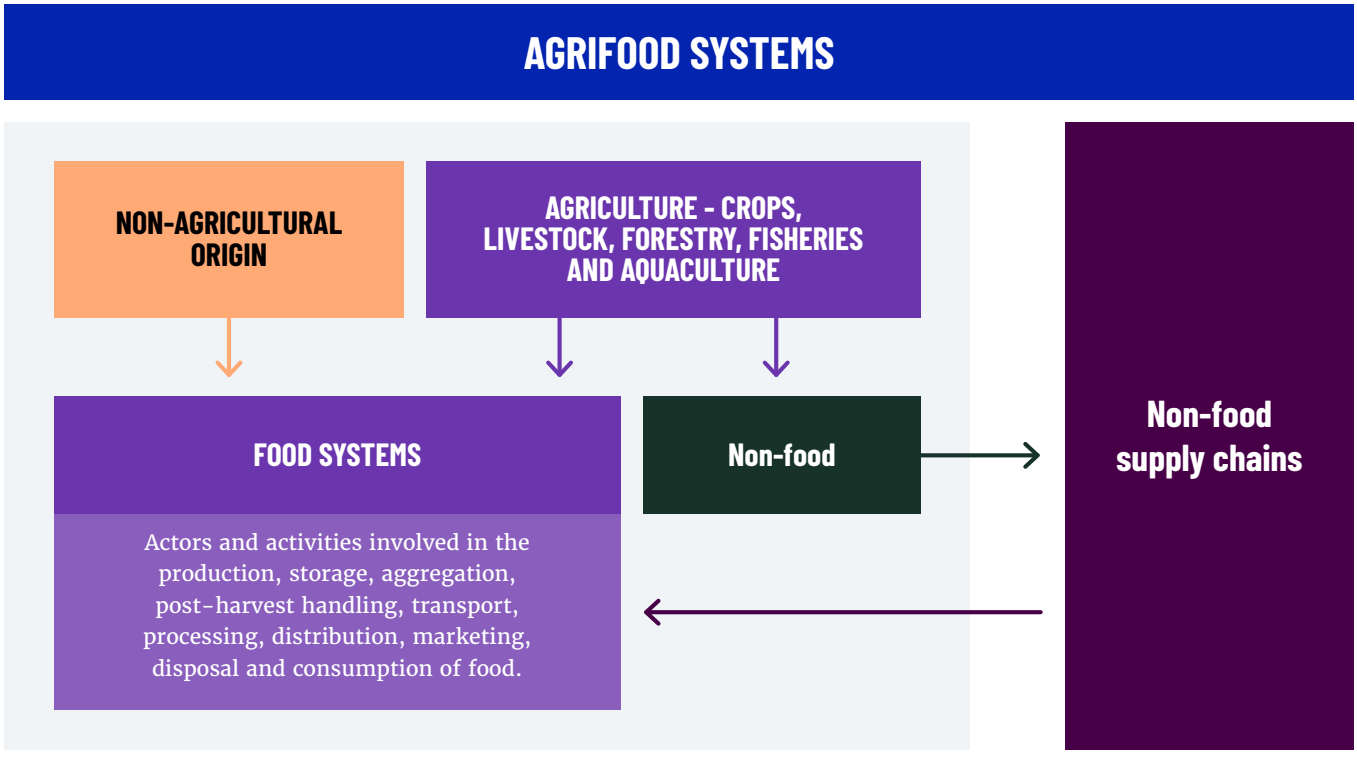
Moving from a focus on the status of women in agriculture to women in agrifood systems broadens substantially the coverage and the findings of this report. Agrifood systems comprise the entire range of actors and their interlinked activities that add value in food and non-food agricultural production and related off-farm activities such as food storage, aggregation, post-harvest handling, transportation, processing, distribution, marketing, disposal and consumption (Figure 1.1). Food systems – a subset of agrifood systems – comprise all food products derived from crop and livestock production, forestry, fisheries and aquaculture and from other sources such as synthetic biology. Globally, these food systems produce some 11 billion tonnes of food each year and almost four billion people worldwide live in households linked to food systems livelihoods.[3]

Agrifood systems also interact with non-food supply chains. This includes purchase of inputs such as fertilizer, pesticides and farm and fishing equipment and provision of inputs for the production of non-food commodities (e.g. cotton for textiles). Agrifood systems and their diverse production systems are in turn shaped and influenced by broader economic, social and natural environments.

The key actors in agrifood systems include primary producers; service providers such as those supplying inputs and post-harvest, storage, transport and food processing services; and food distributors, wholesalers and retailers. Households and men and women within households participate as self-employed production units and small businesses, wage workers and as final consumers.

↓ **SOURCE: FAO, IFAD, UNICEF, WFP & WHO.** 2021. *The State of Food Security and Nutrition in the World 2021. Transforming food systems for food security, improved nutrition and affordable healthy diets for all.* Rome, FAO. https://doi.org/10.4060/cb4474en

Figure 1.1 Conceptual framework for agrifood systems



Agrifood systems are dynamic and changing

Agrifood systems are dynamic and continually changing, both driving and being influenced by processes of agricultural, rural and structural transformation.[4] Agrifood systems historically have been successful in providing enough food for a growing world population and have contributed to poverty reduction and increased welfare, but this has been at the cost of increasingly negative nutritional and health outcomes, environmental unsustainability and inequality. A concerted and directed effort is required to move agrifood systems towards nutritional, environmental and equality objectives.[5]

Most employment for both women and men is found in agrifood systems in low- and middle-income countries and specifically in agricultural (including crop, livestock, fisheries and forestry) production, which continues continues to be the main motor of economic development and poverty reduction. But as economies develop, the proportion of men and women working in agrifood systems falls (Figure 1.2, Panel A). This trend is driven primarily by a reduction of employment in agricultural production. Within agrifood-systems employment, the composition shifts from agricultural production (Figure 1.2, Panel B) to off-farm activities, including transport, processing, distribution, storage and marketing (Figure 1.2, Panel C). The gender differences in these patterns are described in detail in Chapter 2.

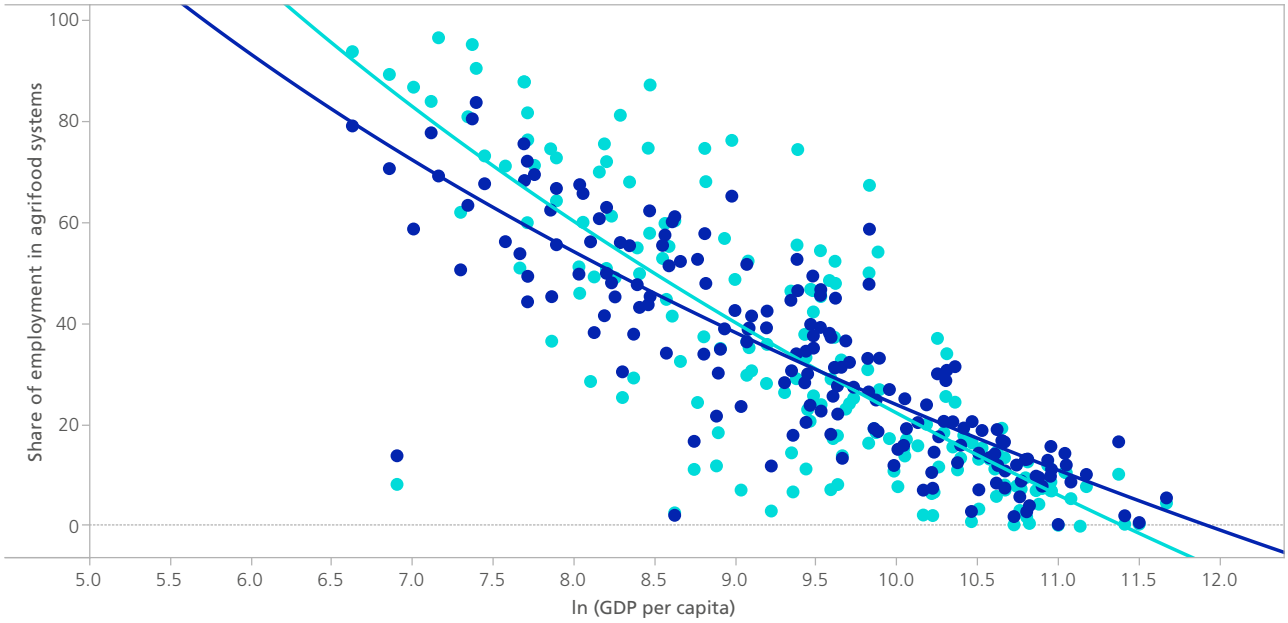
Agricultural, rural and structural transformation, and the shift of employment out of agriculture and agrifood systems they imply, are accompanied by increases in labour productivity and an improving average standard of living. The shift of employment in agrifood systems from agriculture to non-agricultural, off-farm activities is part of this process. As this occurs, better-paid jobs for both men and women are increasingly found in off-farm activities in agrifood systems and outside agrifood systems. However, as is described in Chapter 2 of this report, women do not benefit as much as men from the opportunities provided by this process. This is true in agricultural production, the off-farm segment of agrifood systems and outside agrifood systems.

WOMEN DO NOT BENEFIT AS MUCH AS MEN FROM THE OPPORTUNITIES PROVIDED BY AGRICULTURAL AND RURAL TRANSFORMATION.

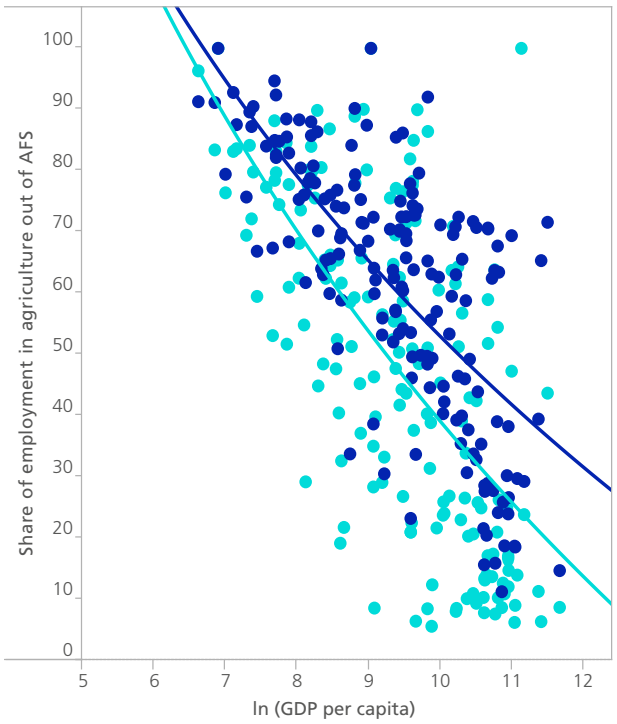
Figure 1.2 Proportion of men and women employed in agrifood systems, with countries ordered by log of GDP

Women
Men

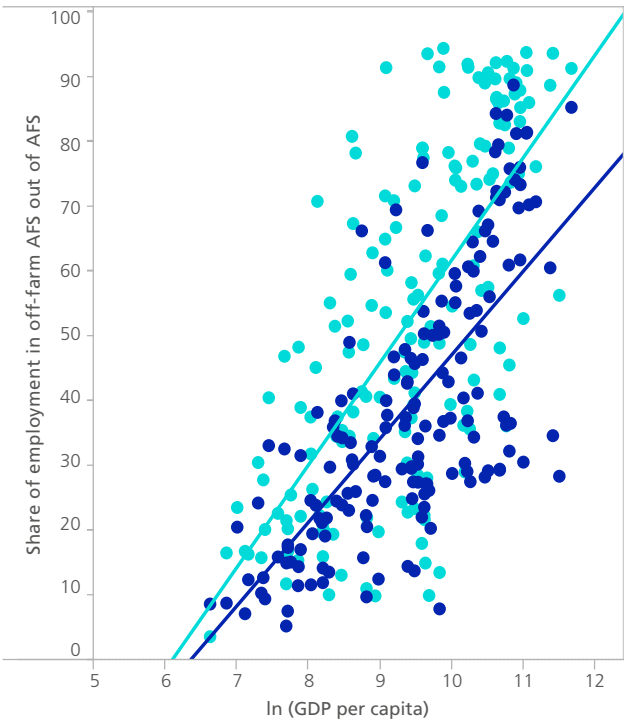
Panel A: Share of employment in AFS vs ln (GDP per capita in PPP) in 2019 for women and men



Panel B: Share of employment in agriculture out of employment in AFS vs ln (GDP per capita in PPP) in 2019



Panel C: Share of employment in off-farm AFS out of employment in AFS vs ln (GDP per capita in PPP) in 2019



↑ **SOURCE: Costa, V., Piedrahita, N., Mane, E., Davis, B., Slavchevska, V. & Gurbuzer, Y.L.** (forthcoming). *Women's employment in agrifood systems.* Background paper for *The status of women in agrifood systems*, 2023. Rome, FAO.

From agrifood systems to gender-responsive agrifood systems

Taking the framework for gendered agrifood systems from Njuki *et al.* (2022)[6] as a starting point (Figure 1.3), we look at women's participation in all parts of agrifood systems, on and off farm (production, processing, distribution, marketing, entrepreneurship and consumption). This framework facilitates a focus on specific outcomes generated by agrifood systems such as nutrition, empowerment, sustainability and a wider range of livelihoods; considers a broad set of resources, policies and norms; and addresses new challenges and shocks such as climate change and COVID-19, and the growing overlap of these challenges with conflict. Value chains within agrifood systems (including agricultural production, processing, distribution and storage, and marketing), the food environment and consumer behaviour are all subject to biophysical, environmental, technological, infrastructural, political, economic, sociocultural and demographic drivers (blue boxes in Figure 1.3). Each of these drivers is conditioned by structural inequalities linked to gender and/or intersecting social and economic differentiation, which are referred to throughout this report.

The drivers are also influenced by shocks and vulnerabilities (as described in Chapter 5) that often have different impacts on women and men, girls and boys, in part due to gendered and social group–specific differences in access to resources, services and local institutions that can mitigate the negative impacts of shocks.[7] These shocks and vulnerabilities may arise from a range of idiosyncratic risks (limited to a specific individual and/or household) and covariate risks (shared by a broader community or region). Chapter 5 focuses primarily on three covariate risks: the COVID-19 pandemic, climate change and conflict.

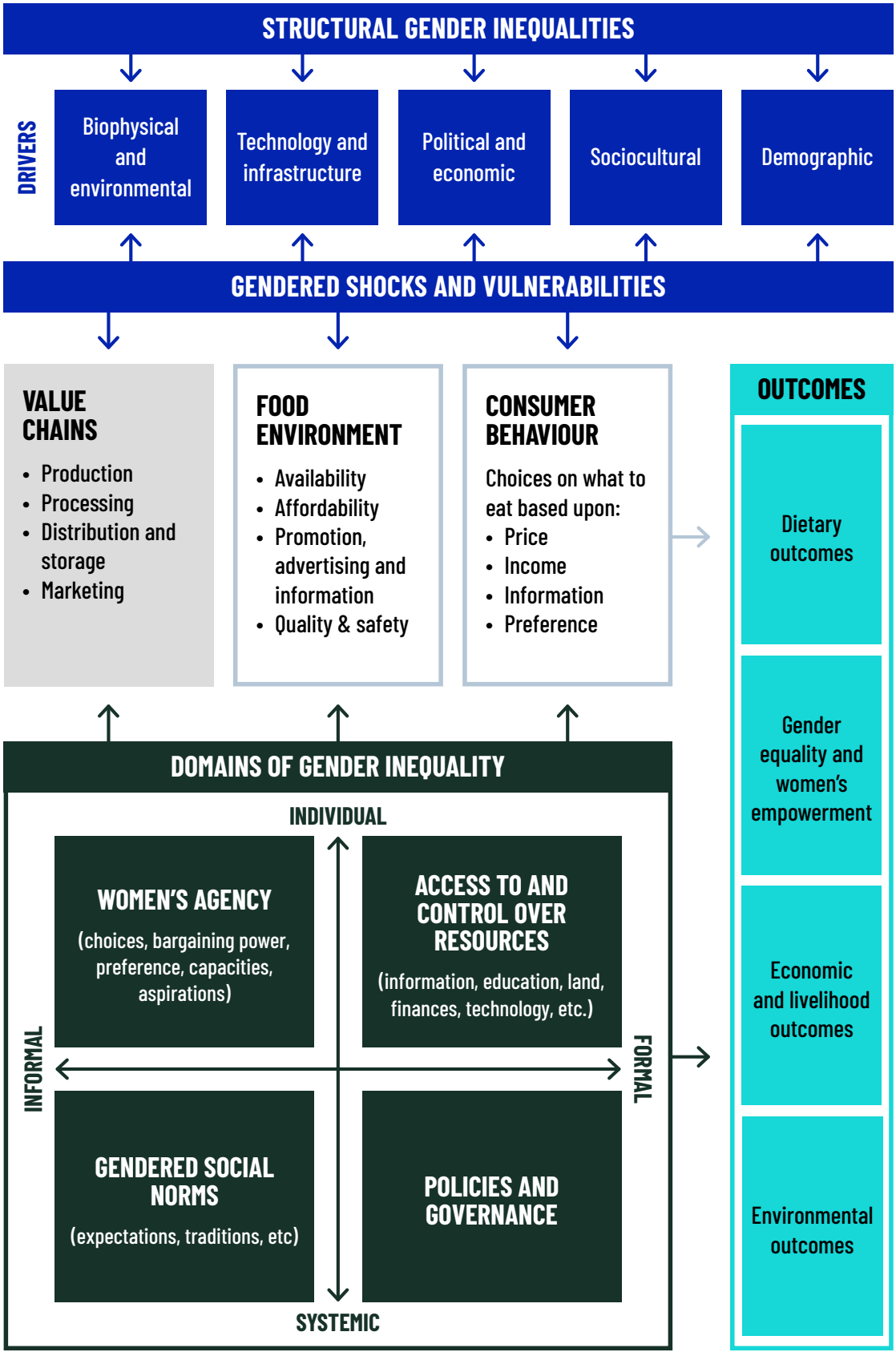
← BANGLADESH – Two women work to dry fish.

AGRIFOOD SYSTEMS ARE CHARACTERIZED BY STRUCTURAL INEQUALITIES LINKED TO GENDER.

Agrifood systems are themselves characterized by structural inequalities linked to gender and/or intersecting social and economic differentiation at the individual or structural level, which are rooted in formal or informal institutions and practices (dark green box in Figure 1.3). Chapter 3 covers structural inequalities in the access to and control over assets, resources, services and information, while Chapter 4 examines women's agency, gender and social norms and policies and governance.

The interaction of the various elements of agrifood systems with the drivers and formal and informal structural and individual inequalities influences outcomes of gender equality and women's empowerment and dietary, economic, livelihood and environment outcomes. Chapter 2 examines the implications for economic and livelihood outcomes, while Chapter 4 examines dietary outcomes and gender equality and women's empowerment.

Figure 1.3 Framework for gendered agrifood systems



← **SOURCE: Njuki, J., Eissler, S., Malapit, H., Meinzen-Dick, R., Bryan, E. & Quisumbing, A.** 2022. A review of evidence on gender equality, women's empowerment, and food systems. *Global Food Security*, 33, 100622. https://doi.org/10.1016/j.gfs.2022.100622

TAKING A GENDER-TRANSFORMATIVE APPROACH

↑ NIGER – A group of women at work, basket weaving and cracking local nuts.

In addition to taking a gendered agrifood-system approach, the report reflects current thinking around gender equality and women's empowerment in agriculture and agrifood systems. This has evolved from focusing on gender gaps to promoting gender-transformative change. Gender-transformative change hinges on challenging formal and informal structural constraints to equality and power relations that maintain and exacerbate inequalities and hinder women's empowerment.[6, 8]

Addressing these structural constraints requires fostering individual and systemic change across the formal and informal spheres of life at multiple interrelated scales (society, state, markets, community, groups, household and individual) and across the domains of agency, relations and structures.[6, 7, 9, 10] Gender-transformative approaches entail moving beyond stand-alone interventions targeting single areas of constraint – such as women's limited access to resources and services – towards designing and implementing solutions that could change the system in a lasting manner by removing the underlying structural constraints and building positive and equal non-discriminatory gender norms and roles, with more equitable gender relations within households, communities and organizations.[6, 11, 12] Chapter 6 reviews recent experiences with gender-transformative approaches.

Women's empowerment has become increasingly recognized as an objective in and of itself, as well as a means for achieving improved welfare outcomes for women, their families and communities. Kabeer (1999) defines empowerment as "the process by which those who have been denied the ability to make strategic life choices acquire such an ability."[13] This process incorporates three interrelated and interacting domains: resources, agency and achievements. Resources include access to actual and future claims to material, human and social resources, which are influenced by local rules, norms and different institutions within each context. Agency is the ability to set one's own goals and act to achieve them. It includes processes of decision-making, negotiation, deception and manipulation. Achievements are well-being outcomes that, within the context of agrifood systems, include returns to labour, agricultural productivity and food security. Gender gaps in access to the resources defined above, in agricultural productivity and in benefits derived from engaging with agrifood systems are visible manifestations or symptoms of structural constraints to equality. This report considers all three domains of resources, agency and achievements in Chapters 2, 3 and 4 to track progress towards women's empowerment in order to achieve gender equality in agrifood systems.

IMPROVEMENTS IN THE AVAILABILITY OF SEX-DISAGGREGATED DATA

The broader focus of this report is facilitated by a significant increase in the availability of sex-disaggregated data. We have at our disposal many more different kinds of data than were available in 2011. A multitude of qualitative studies have emerged in recent years. More abundant sex-disaggregated global data are available across a variety of domains, including food insecurity, labour and access to finance and digital services. The establishment of the 17 Sustainable Development Goals and corresponding indicators has fostered increased availability of country-level data on key dimensions of women's empowerment, such as access to land. National household and labour-force surveys have also enhanced the availability of sex-disaggregated data and gender statistics. This has been accompanied by a large increase in project and stand-alone household surveys with a primary focus on gender equality and women's empowerment, with corresponding sex-disaggregated detail.

Using this enhanced sex-disaggregated data, the report has tried to move beyond comparison between female- and male-headed households, given the ample literature that underscores the limitations of such analysis. However, this has not been entirely possible because of the joint household nature of economic activities in many low- and middle-income countries and the still-limited availability of sex-disaggregated data across time and space. Nationally representative sex-disaggregated data related to self-employment activities (in agriculture and off-farm), time use and access to assets are mostly available only in a relatively small number of countries in the Living Standards Measurement Study – Integrated Surveys on Agriculture (LSMS-ISA) and Living Standards Measurement Study – Plus (LSMS+) initiatives. For this reason, much of the cross-country comparative analysis of access to and use of productive resources, technology and extension is still limited to female versus male household head (and derivations thereof).

RIGOROUS EVIDENCE ON SUCCESSFUL STRATEGIES TO CLOSE GENDER GAPS IN AGRIFOOD SYSTEMS REMAINS LIMITED.

Despite a large increase in projects and interventions fostering gender equality and women's empowerment in rural areas, along with related studies and analysis, available evidence documenting successful strategies to close gender gaps remains limited. Relatively few impact evaluations have been carried out and these often fail to capture change in the underlying discriminatory social norms and entrenched unequal power dynamics sustaining gender inequality. The strategies documented are of relatively small scale and offer incremental steps towards the achievement of gender equality and women's empowerment.

STRUCTURE OF THE REPORT

Chapter 2 provides an overview of women's work and productivity in agrifood systems. It provides a wealth of new data related to the participation of women and men in various parts of agrifood systems; where and how women participate in agrifood value chains; the quality of work in which women are engaged, including the gender wage gap in agrifood-systems employment; and the differences in land and labour productivity between men and women.

Chapter 3 investigates how women's access to and control over assets, resources, services and local institutions has evolved in the last decade. It presents new data regarding women's access to land and water resources, including security of access to these resources; reconsiders women's access to the traditional complimentary resources and services necessary for agricultural production; and presents recent data on digital agriculture and rural women's access to information and communications technologies.

Chapter 4 examines the role of agency in empowering women, drawing on new research that defines, measures and attributes women's choices, bargaining power, preferences, capabilities and aspirations in agrifood systems. It reviews a growing body of evidence on the positive association of empowerment with improvements in diets, child nutrition, productivity and household-level food security. The chapter also investigates the informal social norms and roles that influence gender relationships, as well as the more formal laws, policies and institutions that shape women's participation in agrifood systems.

Chapter 5 assesses how shocks and crises impact the opportunities and challenges for women and men in agrifood systems. It reviews the impact of the COVID-19 pandemic, climate change and conflicts, emphasizing the overlapping nature of crises and the pathways through which these crises have specific impacts on women and girls.

Chapter 6 draws out the main lessons learned from each of the previous chapters. In doing so, it highlights what has worked in improving women's role in agrifood systems in practice and recommends actions for the future. The chapter presents key elements that are common across most successful interventions and provides insights on what works.

↓ OMAN – A woman in a factory works packaging food.

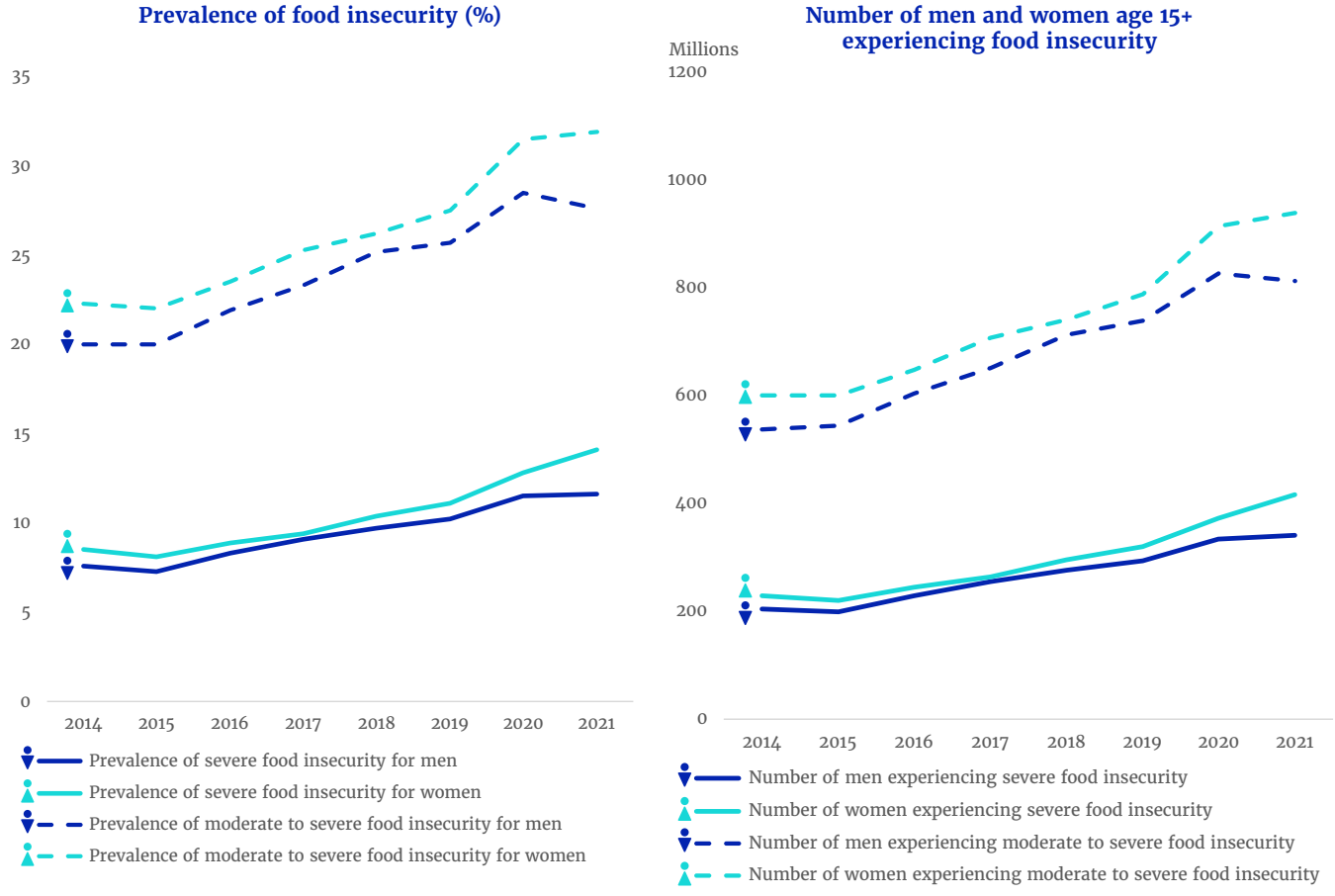
BOX 1.1 GENDER GAPS IN FOOD INSECURITY: EXPLORING DIFFERENCES ACROSS COUNTRIES AND DEMOGRAPHIC CATEGORIES

Women are more food insecure than men in every region and the gap has widened since the outbreak of the COVID-19 pandemic.[i] Globally, the gap between men and women in the prevalence of moderate or severe food insecurity (Sustainable Development Goal Indicator 2.1.2) increased from 1.7 percentage points in 2019 to 4.3 percentage points in 2021, driven largely by the widening differences in Latin America and the Caribbean and Asia. More than 939 million women aged 15 or older experienced moderate to severe food insecurity in 2021, compared with 813 million men in the same age class (Figure A).

The gender gap varies considerably across countries. Most of the 24 countries where food insecurity is significantly higher among women than among men are concentrated in Africa, Asia and Latin America and the Caribbean (Figure B). Food insecurity is significantly higher among men in only four countries.

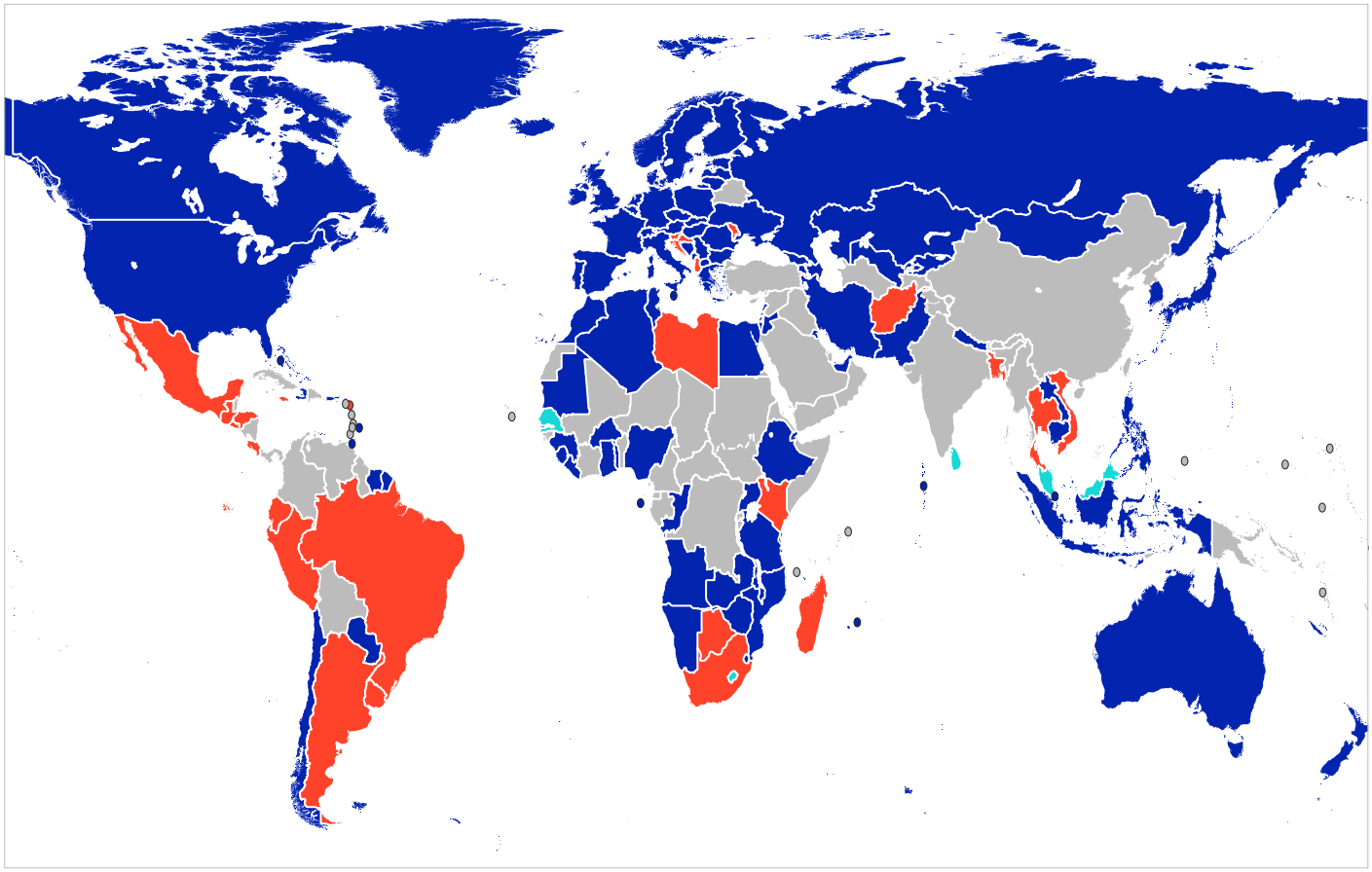
↓ **SOURCE:** FAOSTAT, Suite of Food Security Indicators, 15 January 2023. https://www.fao.org/faostat/en/#data/FS

Figure A The gender gap in moderate or severe food insecurity has widened since 2019



BOX 1.1 GENDER GAPS IN FOOD INSECURITY (2019-2021): EXPLORING DIFFERENCES ACROSS COUNTRIES AND DEMOGRAPHIC CATEGORIES

Figure B Many more countries show significantly higher food insecurity among women than among men



Significantly higher food insecurity among women
Difference in men and women's food insecurity is not significant
Significantly higher food insecurity among men
No data

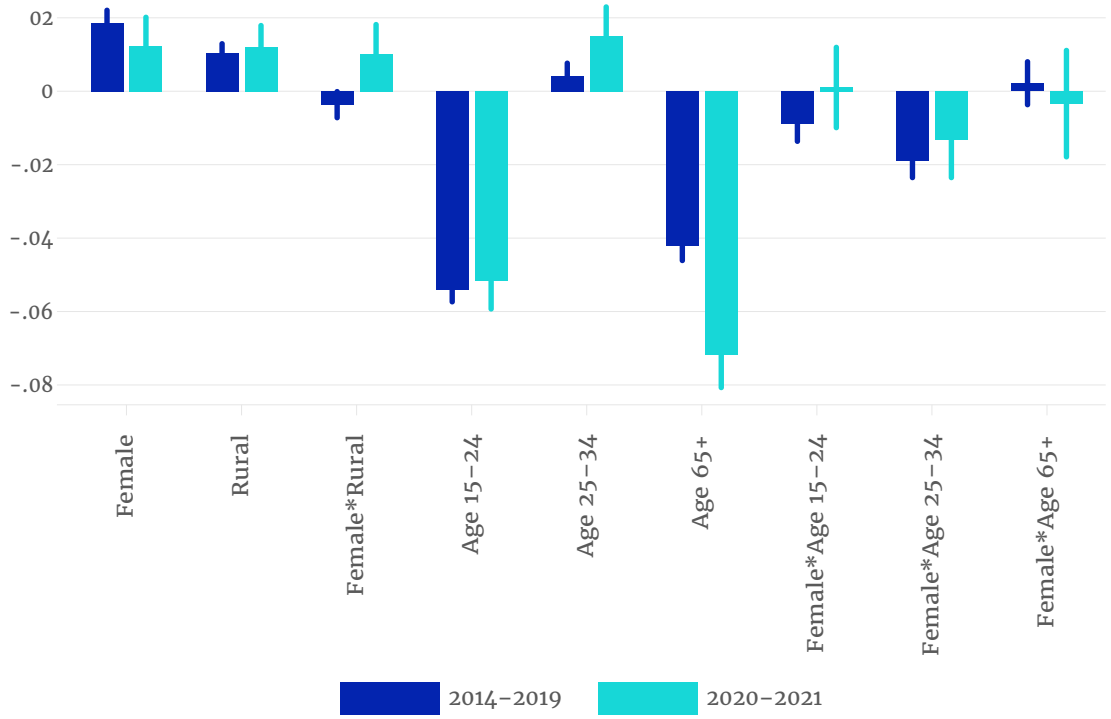
↑ **SOURCE:** FAOSTAT, Suite of Food Security Indicators, 15 January 2023. https://www.fao.org/faostat/en/#data/FS

↑ **NOTES:** Final boundary between the Sudan and South Sudan has not yet been determined. Dotted line represents approximately the Line of Control in Jammu and Kashmir agreed upon by India and Pakistan. The final status of Jammu and Kashmir has not yet been agreed upon by the parties.

An econometric analysis of Food Insecurity Experience Scale (FIES)[ii] data collected through the Gallup© World Poll (GWP)[iii] from more than 700 000 individuals in 121 countries before and after the outbreak of the COVID-19 pandemic shows that women in rural areas and men and women in the 25-34 age group have been disproportionally affected since the outbreak of the COVID-19 pandemic (Figure C).[iv] At the global level, people between the age of 15 and 24 and those over 65 are generally more food secure, and females in the age group 25–34 are more food secure than those aged 35–64. The differences by sex, residence and age are significant even after controlling for income, education, employment, marital status and household composition, indicating that other unobserved factors, including gender norms and discrimination, continue to hinder women's food security in rural areas.

BOX 1.1 GENDER GAPS IN FOOD INSECURITY: EXPLORING DIFFERENCES ACROSS COUNTRIES AND DEMOGRAPHIC CATEGORIES

Figure C Food insecurity has disproportionally increased among rural women since the outbreak of the COVID-19 pandemic



← **NOTES:** Lines represent 95% confidence intervals.

← **SOURCE: Mane, E., Macchioni, G.A., Cafiero, C. & Viviani, S.** (forthcoming). *Why are women more food insecure than men? Exploring socio-economic drivers and the role of COVID-19 in widening the global gender gap.* Background paper for *The status of women in agrifood systems*, 2023. Rome, FAO.

Women often have lower levels of education and less full-time employment and participation in the labour force than do men and come from households with less income. At least 57 percent of the current gap in food insecurity between women and men would disappear if these three gender gaps were eliminated.[iv]

NOTE: Mane *et al.* (forthcoming)[iv] use a Tobit model to analyse the socioeconomic determinants of food insecurity (Figure C), defined as the probability of moderate or severe food insecurity, by regressing it on the following variables: Female = 1 if sex is female; Rural = 1 if individual lives in a rural area; four age groups (15-24, 25-34, 35-64 and 65 plus); and other control variables (marital status, employment status; education level, number of household members aged 15 or more, the number of household member younger than 15 and income per capita in international USD purchasing power parity).

NOTES:

i. **FAO, IFAD, United Nations Children's Fund (UNICEF), WFP & World Health Organization (WHO).** 2022. *The State of Food Security and Nutrition in the World 2022. Repurposing food and agricultural policies to make healthy diets more affordable*. Rome, FAO. https://doi.org/10.4060/cc0639en

ii. **Cafiero, C., Viviani, S. & Nord, M.** 2018. Food security measurement in a global context: The Food Insecurity Experience Scale. *Measurement*, 116: 146–152. https://doi.org/10.1016/j.measurement.2017.10.065

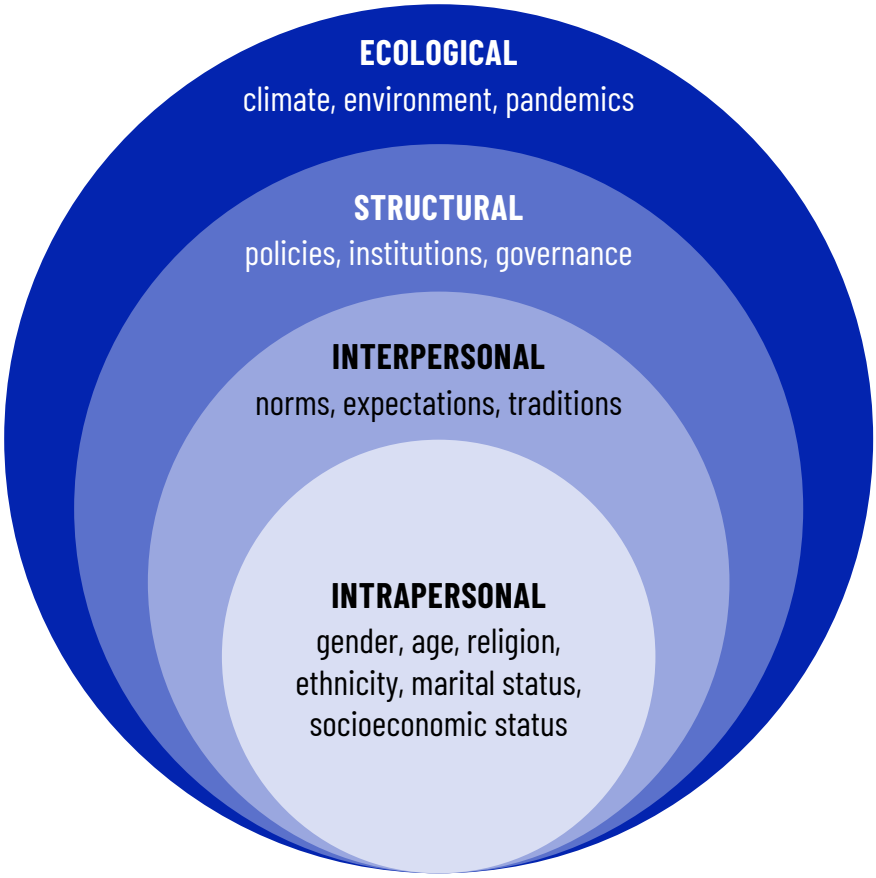
iii. **Gallup.** 2022. Country data set details. In: *Gallup*. Cited 15 December 2022. https://www.gallup.com/services/177797/country-data-set-details.aspx

iv. **Mane, E., Macchioni, G.A., Cafiero, C. & Viviani, S.** (forthcoming). *Why are women more food insecure than men? Exploring socio-economic drivers and the role of COVID-19 in widening the global gender gap*. Background paper for *The status of women in agrifood systems*, 2023. Rome, FAO.

BOX 1.2 INTERSECTIONALITY: BEYOND GENDER CONSIDERATIONS IN AGRIFOOD SYSTEMS

The behaviour, choices and opportunities of women and men are shaped by multiple overlapping and compounding factors that lead to social and economic differentiation (Figure A). At the individual (or intrapersonal) level, these factors include gender, age, ethnicity, religion, disability and marital, economic, migration and health status. Social and economic differentiation are also influenced by context-specific social norms, roles and traditions (interpersonal); public and private institutions, policies and governance (structural); and the broader climate and environment (ecological). Adopting an intersectional perspective to gender equality and women's empowerment involves explicit recognition of all these factors in problem analysis and the design of programmes and policies.[i]

Figure A Multilevel conceptualization of intersectionality



← **SOURCES:** Authors' adaptation from:

Fletcher, A.J. 2018. More than women and men: A framework for gender and intersectionality research on environmental crisis and conflict. In C. Fröhlich, G. Gioli, R. Cremades, & H. Myrttinen, eds. *Water Security Across the Gender Divide* (pp. 35–58). Springer International Publishing. New York, New york, USA. https://doi.org/10.1007/978-3-319-64046-4_3

Rai, S.S., Peters, R.M.H., Syurina, E.V., Irwanto, I., Naniche, D., & Zweekhorst, M.B.M. 2020. Intersectionality and health-related stigma: Insights from experiences of people living with stigmatized health conditions in Indonesia. *International Journal for Equity in Health*, 19(1), 206. https://doi.org/10.1186/s12939-020-01318-w

NOTE:
i.UN Partnership on the Rights of Persons with Disabilities and UN Women. 2021. *Intersectionality resource guide and toolkit: An intersectional approach to leave no one behind*. New York, USA, United Nations Partnership on the Rights of Persons with Disabilities and UN Women.

This report stresses the importance of an intersectional perspective in research, policies and programmes to support development of inclusive agrifood systems. Examples in this report include migrant women wage workers in global commodity chains (Chapter 2); time use agency and household structure in Nepal (Chapter 2); mobile internet use along the rural-urban divide (Chapter 3); women's monogamy/polygamy marital status and experience of intimate-partner violence in cash-transfer programmes in Ghana and Mali (Chapter 3); and the gender specificities of child labour and climate change in Côte d'Ivoire, Ethiopia, Nepal and Peru (Chapter 5).

SPOTLIGHT 1.3 GENDER-BASED VIOLENCE

GLOBALLY, ONE-THIRD OF WOMEN HAVE BEEN SUBJECTED TO PHYSICAL AND/OR SEXUAL VIOLENCE IN THEIR LIFETIME.

Gender-based violence (GBV) refers to harmful acts targeted towards men and women or groups of individuals based on gender.[i] Such acts cause economic, psychological, physical and/or sexual harm and are deeply entrenched in gender inequality, power imbalances and harmful social norms. GBV transcends economic, geographic and social boundaries and has long-lasting consequences for the individuals directly affected and for their families and communities. It may be perpetrated by intimate partners, relatives, friends, acquaintances or strangers; online or offline; and in private or public spaces.

GBV highlights the increased vulnerability of women and girls to violence as a result of their subordinate status in society, unequal power relations and gender roles.[ii] GBV is also increasingly being used to refer to men and boys and to people who do not follow traditional gender roles including LGBTIQ+ – an inclusive term representing individuals who identify as lesbian, gay, bisexual, trans and gender diverse, intersex, queer and questioning.[ii]

Estimates of gender-based violence

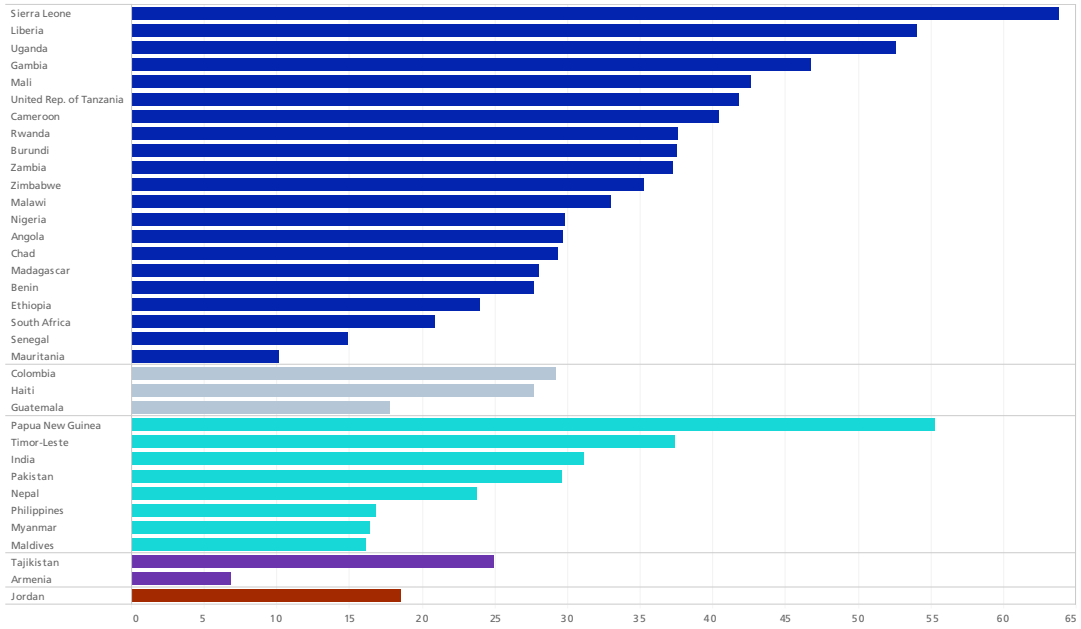
Globally, one-third of women have been subjected to physical and/or sexual violence in their lifetime.[iii] Most of this is intimate-partner violence (IPV) perpetrated by men against women: 27 percent of women between the ages of 15-49 who have been in a relationship have suffered some form of IPV. Thirty-eight percent of all murders of women are committed by intimate partners.[iv] Such numbers are considered underestimations given that GBV, including IPV, is typically underreported.[v] Violence against men, boys and LGBTIQ+ people is often overlooked and severely underreported because of the stigma attached to such violence and because the victims lack resources and support.[vi]

Reported levels of physical and sexual violence vary widely by context, but such violence occurs in every setting. Figure A shows the percentage of rural women reporting physical and sexual violence in selected countries around the world since 2015. Women reporting any physical violence ranges from 7 percent in Armenia to 64 percent in Sierra Leone, while any sexual violence ranges from 1 percent in Armenia to 28 percent in Papua New Guinea.

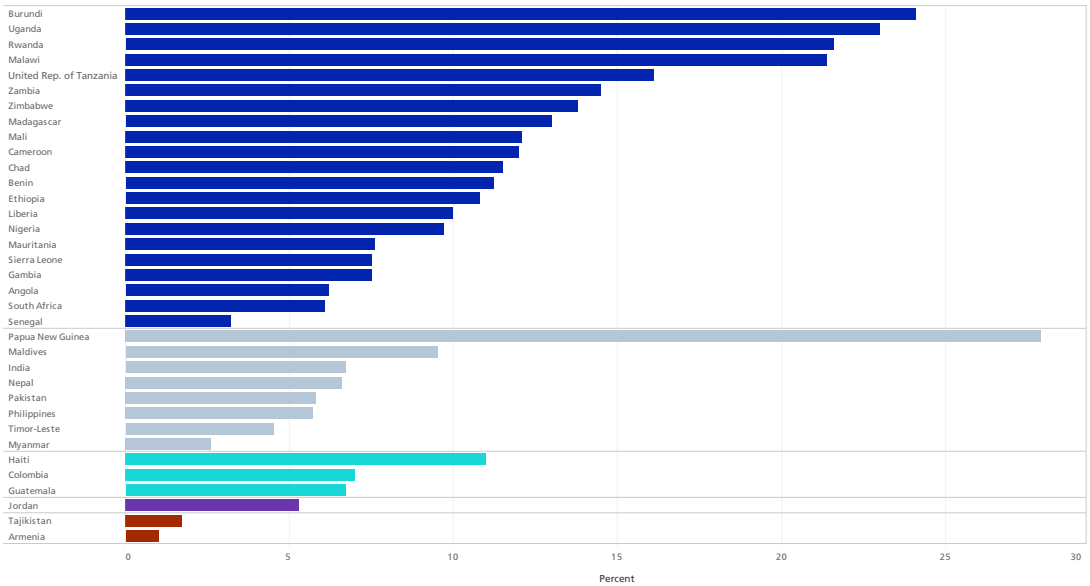
SPOTLIGHT 1.3 GENDER-BASED VIOLENCE

FIGURE A Physical and sexual violence among rural women remains high

Physical violence



Sexual violence



← **NOTE:** Among women of reproductive age (15–49 years in most surveys). Estimates retrieved from country reports, except Senegal, which were calculated.

SOURCE: ICF. 2014–2021. Demographic and Health Surveys (various). Funded by the United States Agency for International Development. Rockville, MD, USA, ICF.

Relevance of gender-based violence for agrifood systems

Globally, violence against women is estimated to cost USD 1.5 trillion annually, equivalent to 2 percent of global GDP.[vii, viii] Global crises and the recent COVID-19 pandemic have further increased violence against women and girls, with significant implications on their livelihoods and food security.

GBV inhibits rural development and the achievement of food security and nutrition through several channels. It leads to large costs at individual, family, community and societal levels and to governments and the private sector. While GBV is historically rooted in unequal power relationships between men

and women, it is both a cause and consequence of poverty and food insecurity.[ix] As a result, it may lead to increased household tensions and reinforce inequality and discrimination, driving further GBV. Loss of income, productivity and resilience and increased medical costs from GBV may exacerbate poverty.[x] For rural women and girls, increased poverty-related stress and food scarcity and restricted freedom of movement may lead to increased dependence on male partners and negative coping mechanisms such as transactional sex and other forms of sexual exploitation.[xi]

To combat GBV in agrifood systems and beyond, governments and humanitarian and development actors have explicitly focused on increasing gender equality and freedom. For example, the United States Agency for International Development (USAID), the African Union and UNICEF have incorporated the objective of ending violence against women and girls in their gender equality and women's empowerment strategies. They also emphasize the need to do no harm, adopt multisectoral strategies and engage men and boys as allies for transformational change.

Effective laws, policies and institutions, and women's representation in leadership and decision-making are also crucial in the fight against GBV.[xii, xiii] Because men and boys serve as gatekeepers in roles of household and community leadership and may perpetuate GBV and unequal gender norms, engaging them as allies in addressing GBV is integral to the process towards the elimination of violence against women and girls.

Addressing gender-based violence in this report

Throughout this report, we highlight how GBV manifests within agrifood systems; take stock of the limited evidence on GBV across value chains, food environments and consumer behaviour; provide examples of what works to address and prevent GBV; and identify gaps in existing knowledge to orient future research. The report highlights how recent events such as the COVID-19 pandemic, conflict and recurring extreme weather and climate events have the potential to trigger and exacerbate GBV among already vulnerable populations.

NOTES:

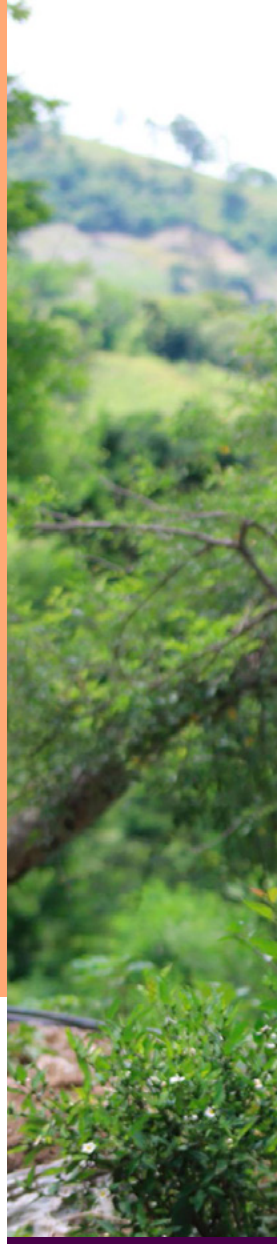
i. **UN Women.** n.d. *Frequently asked questions: Types of violence against women and girls.* UN Women. https://www.unwomen.org/en/what-we-do/ending-violence-against-women/faqs/types-of-violence
ii. **Jansen, H.** 2016. *Measuring prevalence of violence against women: Key terminology.* kNOwVAWdata. Bangkok, Thailand, United NationscPopulation Fund (UNFPA).
iii. **WHO.** 2021. *Violence against women prevalence estimates, 2018: Global, regional and national prevalence estimates for intimate partner violence against women and global and regional prevalence estimates for non-partner sexual violence against women.* Geneva, WHO. Licence: CC BY-NC-SA 3.0 IGO.
iv. **Sardinha, L., Maheu-Giroux, M., Stöckl, H., Meyer, S.R. & García-Moreno, C.** 2022. Global, regional, and national prevalence estimates of physical or sexual, or both, intimate partner violence against women in 2018. *The Lancet,* 399(10327), 803–813. https://doi.org/10.1016/S0140-6736(21)02664-7
v. **Palermo, T., Bleck, J. & Peterman, A.** 2014. Tip of the iceberg: Reporting and gender-based violence in developing countries. *American Journal of Epidemiology,* 179(5), 602–612. https://doi.org/10.1093/aje/kwt295
vi. **International Committee of the Red Cross & Norwegian Red Cross.** 2022. *"That never happens here": Sexual and gender-based violence against men, boys, LGBTIQ+ people.* https://www.icrc.org/en/document/sexual-gender-violence-against-men-boys-lgbtiq
vii. **UN Women.** 2020. *COVID-19 and Ending Violence Against Women and Girls.* Issue Brief. UN Women.
viii. **UN Women.** 2016. *The economic costs of violence against women.* Remarks by UN Assistant Secretary-General and Deputy Executive Director of UN Women, Lakshmi Puri at the high-level discussion on the "Economic Cost of Violence against Women".
ix. **FAO.** 2018. *How can we protect men, women and children from gender-based violence? Addressing GBV in the food security and agriculture sector.* Rome, FAO. http://www.fao.org/3/i7928en/I7928EN.pdf
x. **USAID.** 2014. *Toolkit for integrating GBV prevention and response into economic growth projects.* Washington, DC, United States Agency for International Development (USAID).
xi. **Young, E., Arney, J. & Cheney, K.** 2020. *Gender-Based Violence resource list and good practices for in agriculture and other sectors.* AWE Call Order 7200AA19F50025. Rockville, MD, EnCompass LLC
xii. **African Union.** 2022. *AU strategy for gender equality and women's empowerment.* Addis Ababa, Ethiopia, African Union Headquarters.
xiii. **USAID.** 2022. *Gender equality and women's empowerment 2022 policy.* Washington, DC, USAID.

CHAPTER 2

LET'S GROW EQUALITY IN WORK AND PRODUCTIVITY

CHAPTER 2

GENDER AND WORK IN AGRIFOOD SYSTEMS



KEY FINDINGS

- **Agrifood systems are a major employer of women.**
  - Globally, 36 percent of working women and 38 percent of working men work in agrifood systems as of 2019. For both women and men, this represents a decline of about 10 percentage points globally since 2005, driven by a reduction in employment in agriculture.
  - In sub-Saharan Africa, 66 percent of women's employment is in agrifood systems, compared with 60 percent of men's employment. In southern Asia, 71 percent of women in the labour force work in the agrifood system versus 47 percent of men.

- Despite the importance of agrifood systems for women's livelihoods and the welfare of their families, **women's roles tend to be marginalized and their working conditions are likely to be worse than men's** – irregular, informal, part-time, low-skilled, labour-intensive and thus vulnerable:
  - The roles of women in off-farm work in agrifood systems are more likely to be in less-profitable value chains and activities or on worse terms than those of men due to restrictive traditional social norms or poor access to assets and resources.
  - The gender gap in land productivity between female- and male-managed farms of the same size is 24 percent.
  - On average, women earn 82 cents for every dollar earned by men in wage employment in agriculture.

- **Women's greater burden of unpaid domestic and care work,** such as cleaning, cooking and caring for household members**, contributes to inequalities in labour-market participation and outcomes.**

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↑ GUATEMALA – A fisher throwing a net in a fish pond.

↓ SYRIAN ARAB REPUBLIC – A farmer harvests wheat in a field.

GLOBALLY, 36% OF WORKING WOMEN WORK IN AGRIFOOD SYSTEMS.

INTRODUCTION

Women play important roles in agrifood systems, ranging from farmers and unpaid contributing family workers to retailers, wage labourers and entrepreneurs. This participation in agrifood systems changes over time with economic development, but their conditions of work and the associated outcomes continue to be directly influenced by gender imbalances in bargaining power in the household, the community and broader society, as highlighted in Chapter 1.

In this chapter, we look at how men and women engage in agrifood systems, in both paid and unpaid roles, the characteristics of their engagement and how these have changed since 2011 when *The State of Food and Agriculture 2010–11*[1] was published. (See Box 2.1 for our definition of employment and Annex 1 for the classification of agrifood-system activities and details about data sources.) The chapter examines the factors that contribute to differences in work patterns and economic outcomes between women and men. The chapter highlights, where possible, how age, ethnicity, socioeconomic and migration status and other social factors intersect with gender, deepening disadvantages and inequalities in outcomes, and how the unpaid work burden on women further undermines their economic empowerment.

BOX 2.1 WORK VERSUS EMPLOYMENT IN AGRIFOOD SYSTEMS: A METHODOLOGICAL NOTE

How employment is defined – such as whether subsistence agriculture is counted as employment, or whether we consider the multiplicity of men and women's productive activities – has significant implications for the measures of women's and men's employment and the composition of employment in agrifood systems.

In agrifood systems, women and men may be self-employed (with employees or without employees, in which case they are referred to as "own-account" workers), contributing family workers on family farms and family agrifood enterprises, and/or wage and salaried workers in family or commercial agrifood enterprises. Women and men may also work in enterprises at different scales and for diverse markets, both local and international, or they may produce mainly for their own consumption. All these activities constitute *work* in agrifood systems, but not all are considered *employment*, which includes only activities performed for pay or profit. The distinction between work and employment was adopted in 2013 at the nineteenth International Conference of Labour Statisticians (ICLS).[i] As a result, production that is mainly intended for own consumption – such as subsistence agriculture – is now classified as work but is not considered employment.

The changes to the definition of employment can create a major break in employment statistics over time. Figure A illustrates this

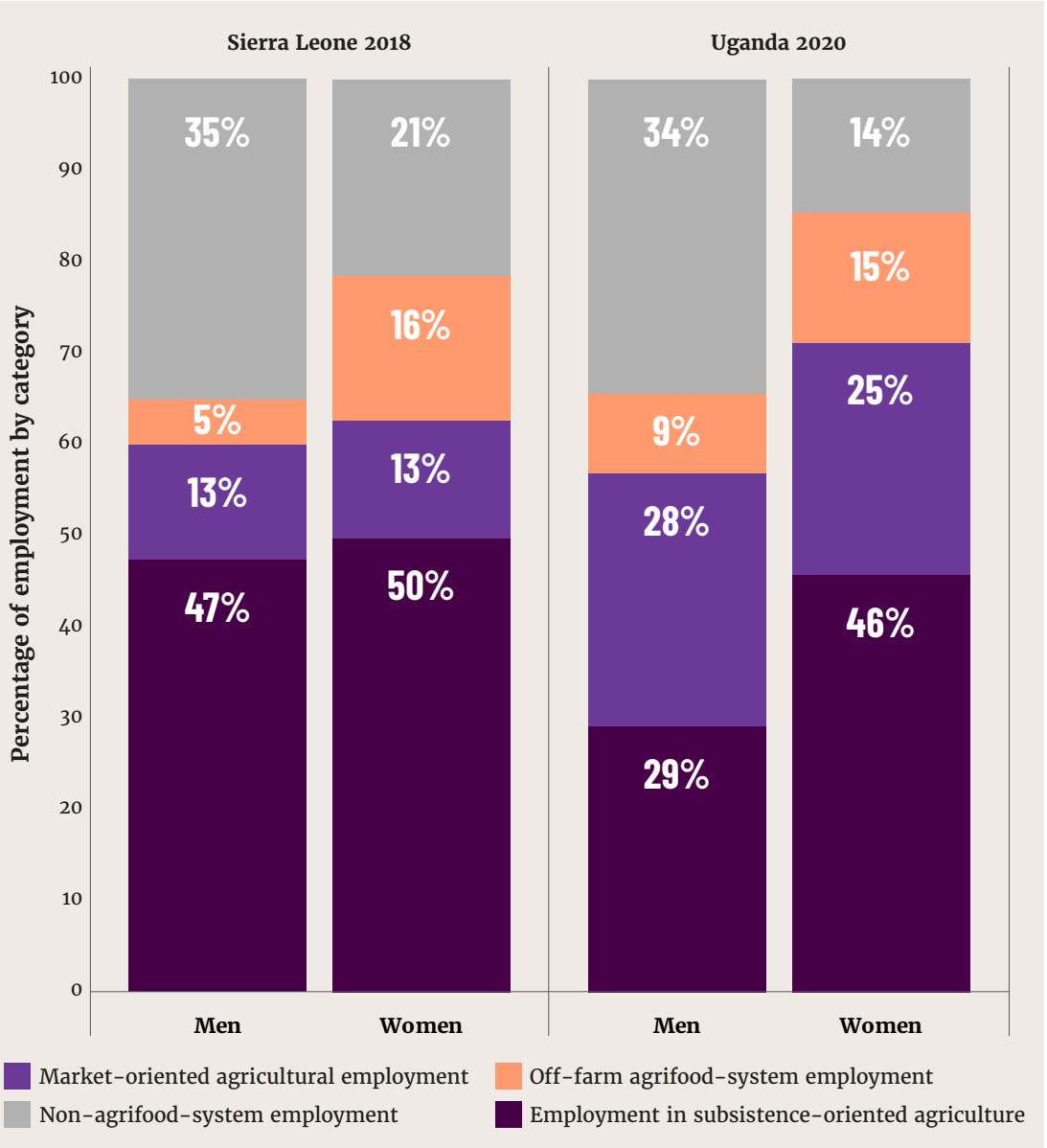
NOTE:
i. International Labour Organization. 2013. *Report I. General report: 19th International Conference of Labour Statisticians, Geneva, 2–11 October 2013.* Geneva, Switzerland. https://tinyurl.com/adu9sxjp

BOX 2.1 WORK VERSUS EMPLOYMENT IN AGRIFOOD SYSTEMS: A METHODOLOGICAL NOTE

with examples from Sierra Leone and Uganda. In both countries, significant shares of working men and women work in subsistence farming – as high as 50 percent of working women in the case of Sierra Leone. Both total employment and agrifood-system employment thus decrease significantly when subsistence farming is excluded from the employment estimates.

Given the importance of production for own consumption and food security in low- and middle-income countries, the role women play in production and the interest in understanding changes in labour-market patterns over time, we focus on a broader definition of work, which is aligned with how employment was defined prior to the nineteenth ICLS.

Figure A Subsistence farming remains relevant in agrifood-system employment for both men and women



← **SOURCE: Costa, V., Piedrahita, N., Mane, E., Davis, B., Slavchevska, V. & Gurbuzer, Y. L.** (forthcoming). *Women's employment in agrifood systems.* Background paper for *The status of women in agrifood systems*, 2023. Rome, FAO.

GENDER PATTERNS OF WORK IN AGRIFOOD SYSTEMS

Globally, the share of both working men and women in agrifood systems declined by almost 10 percentage points between 2005 and 2019. In 2019, 36 percent of working women globally were employed in agrifood systems, down from 44 percent in 2005, while 38 percent of working men were employed in agrifood systems, down from 47 percent (Figure 2.1). This reduction is driven by declining employment in primary agricultural production; the share of those working in off-farm segments of agrifood systems remained the same.

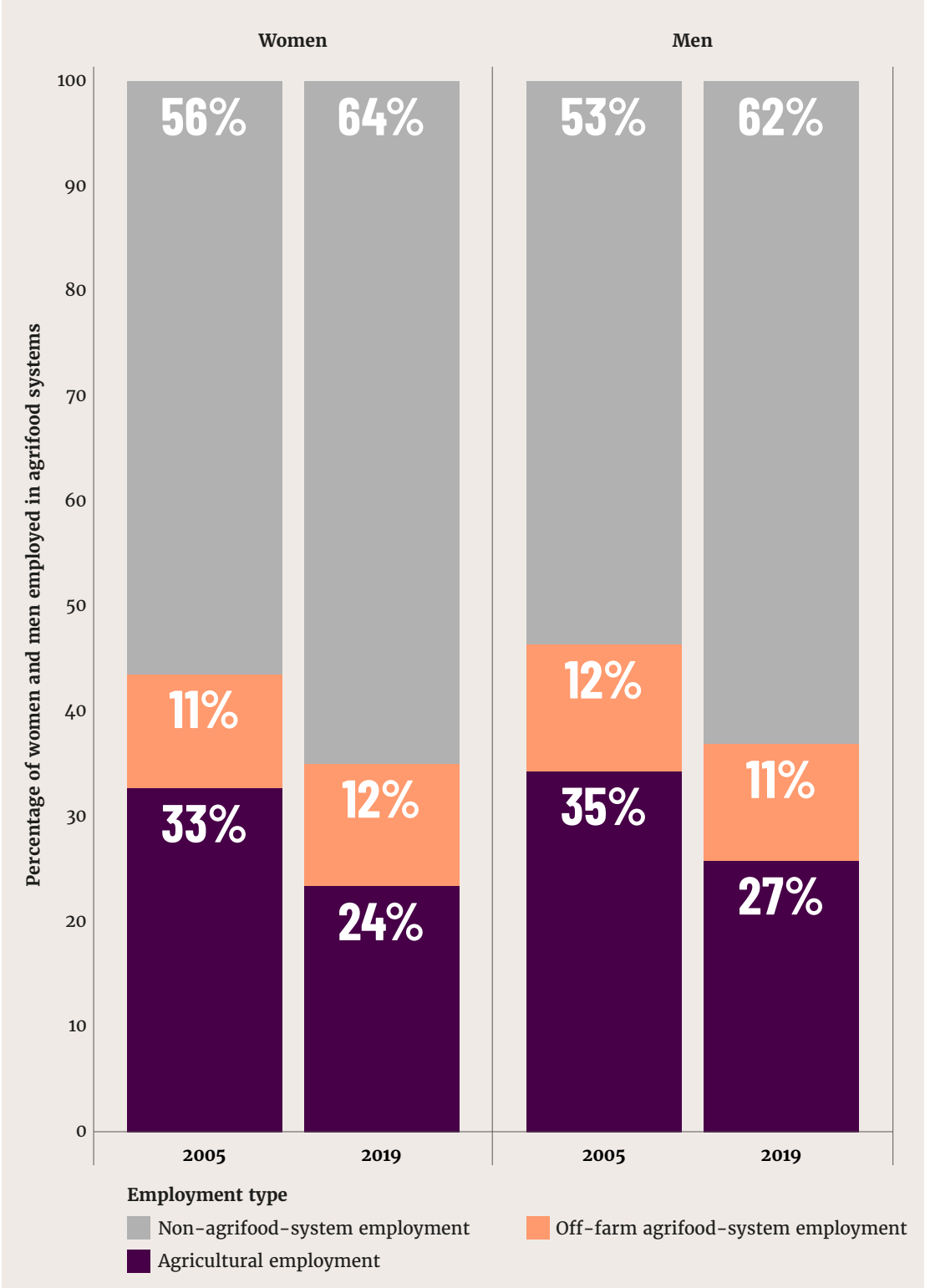
Declines of women's employment in agrifood systems are evident in all regions apart from southern Asia, where it has remained stable (Figure A2 in Annex A). The regional trends in southern Asia are dominated by India, where female participation in the labour force is low – only about one in five women are working or looking for a job – but labour-force participation is relatively high among the poorest women, who depend on agriculture.[2]

Agrifood systems remain the main employer for women and men in sub-Saharan Africa and southern Asia, but they are a far more important source of livelihood for women than for men. In sub-Saharan Africa, 66 percent of women's employment is in agrifood systems, compared with 60 percent of men's employment (Figure A2 in Annex A). In southern Asia, 71 percent of women workers are engaged in agrifood systems, compared with 47 percent of men workers. In southern Asia, opportunities in other sectors appear to be opening faster for men than for women, as evidenced by the significant decline of the share of working men in agrifood systems in the last decade and the absence of change in the share of working women in agrifood systems.

AGRIFOOD SYSTEMS ARE A FAR MORE IMPORTANT SOURCE OF LIVELIHOOD FOR WOMEN THAN FOR MEN IN SUB-SAHARAN AFRICA AND SOUTHERN ASIA.

Figure 2.1 Employment in agrifood systems remains important for women, despite decrease in agricultural employment since 2005

The share of agrifood-system employment in total employment in 2005 and 2019, by sex

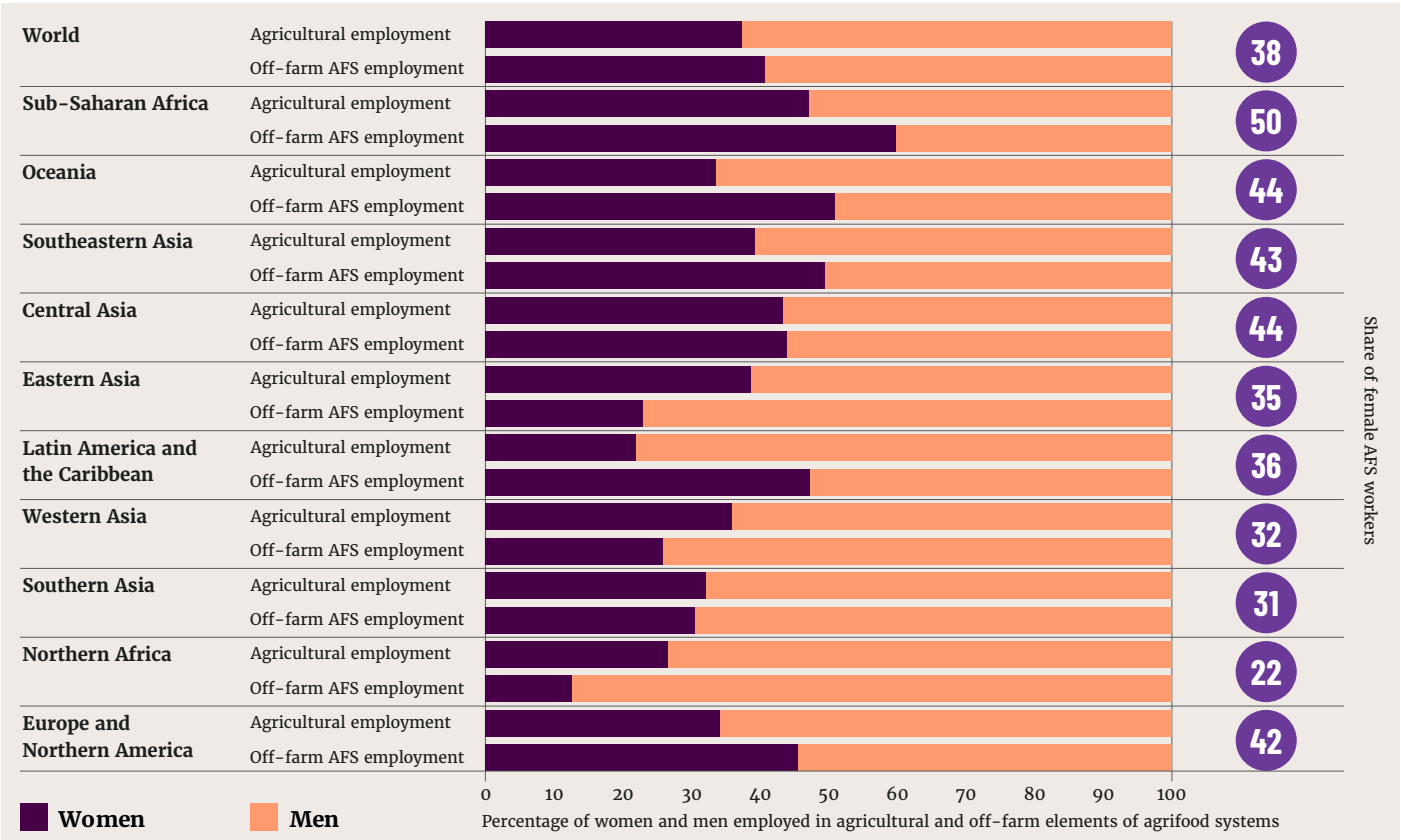


← **SOURCE: Costa, V., Piedrahita, N., Mane, E., Davis, B., Slavchevska, V. & Gurbuzer, Y. L.** (forthcoming). *Women's employment in agrifood systems.* Background paper for *The status of women in agrifood systems*, 2023. Rome, FAO.

While globally a larger number of men than women are employed in agrifood systems, women constitute 50 percent of all agrifood-system workers in sub-Saharan Africa and over 40 percent of all agrifood-system workers in several other regions (Figure 2.2). There is substantial variation in the share of women in agrifood-system employment across countries even within the same region. For example, women constitute 36 percent of all agrifood-system workers in Latin America and the Caribbean but 54 percent of all agrifood-system workers in the Plurinational State of Bolivia. In many countries in the region, the share of women among agrifood-system workers has grown since 2005: by 9 percentage points in El Salvador, 8 percentage points in Colombia and 6.3 percentage points in Ecuador. In southern Asia, the regional estimates are dominated by India, where the female share of agrifood-system workers decreased by one percentage point between 2005 and 2019, but the patterns in several other countries in the region are very different. In Nepal, for example, 64 percent of all workers in agrifood systems were women in 2019, an increase of 8.4 percentage points since 2005. In Bangladesh the female share of workers in agrifood systems increased from 36.2 percent to 45.3 percent between 2005 and 2019, while in Afghanistan it grew from 25.6 percent in 2005 to 33.7 percent in 2019.

Figure 2.2 Almost 40 percent of all workers in agrifood systems are women

The share of women and men in total agrifood-system employment, and by subcomponent of agrifood systems in 2019



↓ **NOTE:** AFS – agrifood systems

↓ **SOURCE: Costa, V., Piedrahita, N., Mane, E., Davis, B., Slavchevska, V. & Gurbuzer, Y. L.** (forthcoming). *Women's employment in agrifood systems.* Background paper for *The status of women in agrifood systems*, 2023. Rome, FAO.

BOX 2.2 GENDER AND AGE PATTERNS OF EMPLOYMENT IN AGRIFOOD SYSTEMS

Agrifood systems are often the largest employer of young people under age 25. This is particularly true in countries in sub-Saharan Africa, where about a half of the population is currently under 25 years old and the World Bank estimates that there will be half a million more 15-year-olds every year between 2015 and 2035.[i] Data from the sample of 11 sub-Saharan African countries in Figure A show that more than 50 percent of workers under 25 years old are employed in agrifood systems in all countries. Agrifood systems also play an important role for youth employment in the three non-sub-Saharan African countries in the sample – Georgia, Guatemala and Peru.

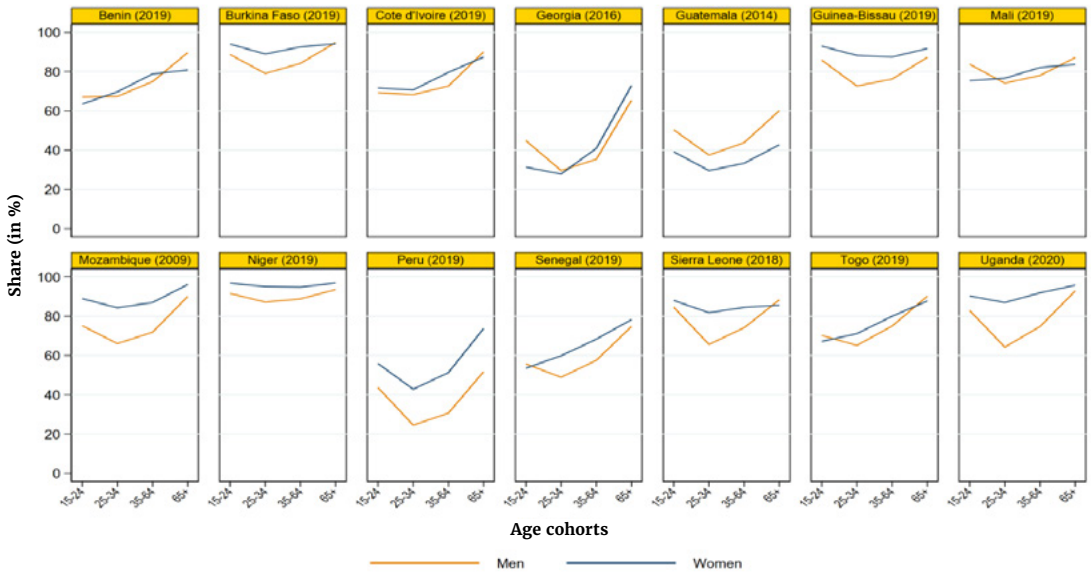
Agrifood systems are more important as a source of employment for women than for men of all ages in most of the countries. A U-shaped relation between agrifood-system employment and age is visible in many countries, and this relationship is especially pronounced for men's employment in the sector in several countries. Young women (15–24 years of age) enter agrifood-system employment at a higher rate than young men in six countries and rates are similar in five countries, while young men enter at a higher rate in three countries. This is followed by a dip in agrifood systems participation between ages 25 and 35, with men in almost all cases exiting agrifood systems at greater rates than women. Gender differences in mobility may help explain the gap in agrifood-system participation: women's greater domestic and child-care responsibilities in this age group may constrain their ability to seek opportunities away from the home and outside agrifood systems.

The share of both men and women working in agrifood systems starts to increase again after age 35 – faster among men – and the gender gap in agrifood-system participation starts to narrow until it closes by age 65 in nearly all sub-Saharan African countries in the sample.

NOTE:
i. **World Bank. 2015.** *Women in agriculture: The Impact of male out-migration on women's agency, household welfare, and agricultural productivity*. Report No: AUS9147. Washington, DC, World Bank. https://openknowledge.worldbank.org/handle/10986/22386

Figure A The dip in agrifood-system employment among 25–35 year olds is more pronounced for men than women

The share of agrifood systems in total employment by sex and age



← **SOURCE:** Estimates based on data from **FAO.** 2023. RuLIS – Rural Livelihoods Information System. In: *Food and Agriculture Organization of the United Nations*. Cited 24 January 2023. https://www.fao.org/in-action/rural-livelihoods-dataset-rulis/en/ Systems report, 2023.

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↑ UGANDA – A maize farmer in her field.

Women in primary agricultural production

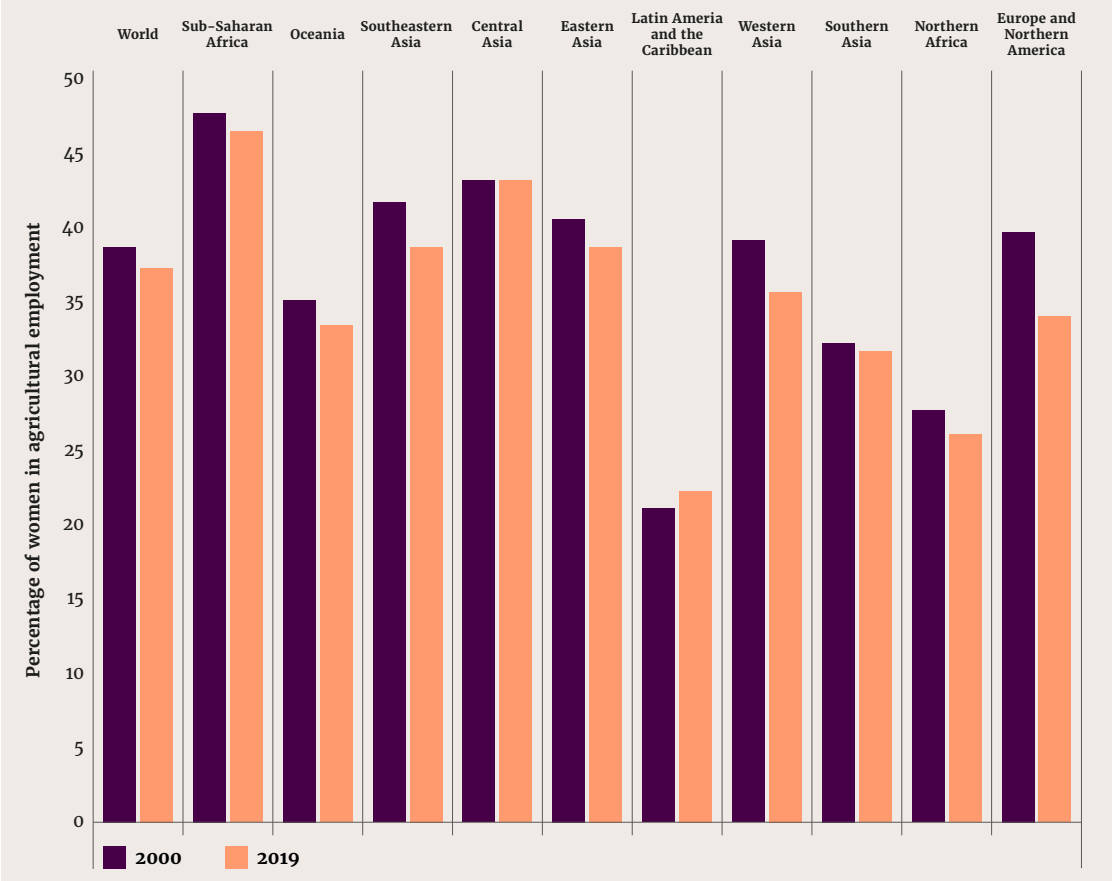
Women comprised 38 percent of all agricultural workers in crop, livestock, fisheries and forestry production around the world in 2019, a decrease of only 1 percentage point from 2000. Women do not constitute the majority of agricultural workers globally, nor is their share in agriculture increasing in most regions (Figure 2.3), pointing to little evidence of "feminization of agriculture" at the global or regional level.

However, the regional figures mask significant differences between countries in the shares of women in agriculture and how these shares have changed over time. In general, women account for a greater share of agricultural employment at lower levels of economic development, where inadequate education, limited access to basic infrastructure and markets, high unpaid work burden and poor rural employment opportunities outside agriculture severely limit rural women's off-farm work opportunities. In many sub-Saharan African countries women constitute well over 50 percent of the agricultural labour force. In several countries in Southeast Asia, including Cambodia, Lao People's Democratic Republic and Viet Nam, the share of women in agriculture is high – about half of the labour force in agriculture is female – and it has remained so over the last 15 years. Agriculture is also the main employer for a larger share of female workers than male workers in Bangladesh, India, Pakistan and other countries in southern Asia, but the smaller number of women in employment or looking for work (in the labour force) in the region reduces the influence of women's strong participation in agriculture in the global and regional estimates.[3]

Women's share in the agricultural workforce is also higher or increasing relative to that of men in rural areas with significant male-dominated outmigration. This seems to be a factor contributing to high rates of participation of women in the agricultural workforce in low- and middle-income countries in southern and Central Asia and Latin America and the Caribbean. Male outmigration and the feminization of agriculture are not always associated with improvements in the well-being and empowerment of the women who remain in rural areas as there are socioeconomic and cultural factors that mediate the outcomes (see Box 2.3).

WOMEN COMPRISED 38 PERCENT OF ALL AGRICULTURAL WORKERS IN CROP, LIVESTOCK, FISHERIES AND FORESTRY PRIMARY PRODUCTION AROUND THE WORLD IN 2019.

Figure 2.3 The share of women in agriculture has been slowly declining in most parts of the world in the last 20 years



← **SOURCE: Costa, V., Piedrahita, N., Mane, E., Davis, B., Slavchevska, V. & Gurbuzer, Y. L.** (forthcoming). *Women's employment in agrifood systems.* Background paper for *The status of women in agrifood systems*, 2023. Rome, FAO.

BOX 2.3 MALE OUTMIGRATION, THE FEMINIZATION OF AGRICULTURE AND IMPLICATIONS FOR WOMEN'S EMPOWERMENT

The "feminization of agriculture" – a term used to describe women's increasing roles in agriculture over time and in relation to men – has received considerable attention in the last two decades.[i, ii, iii, iv] The outmigration of men from rural areas is seen as a key driver of the feminization of agriculture.[v, vi] In many rural societies, gender and cultural norms restrict women's mobility, leading to a predominance of male outmigration, which can trigger profound changes in the intrahousehold division of labour and relations.

Male outmigration and the feminization of agriculture can have either positive or negative implications for the well-being and empowerment of women. Empowerment is a multidimensional process (see Chapter 4) and there may be trade-offs across the various dimensions.[iv] When men migrate, women often take on more work in the household, including tasks in agriculture traditionally done by men.[vii, viii, ix] In the absence of their husbands, women are more likely to be seen as primary farmers rather than contributing

BOX 2.3 MALE OUTMIGRATION, THE FEMINIZATION OF AGRICULTURE AND IMPLICATIONS FOR WOMEN'S EMPOWERMENT

family workers.[ix] However, men's outmigration often leads to increased work burdens for women who remain in rural communities. In Viet Nam, for example, women's workload increased due to male outmigration as they had to take all the management decisions on the farm and also carry out activities traditionally done by their husbands such as irrigation, dredging field canals, applying fertilizer and pesticides and taking the output to the market.[x] But higher workloads are not always disempowering if they are also accompanied by higher economic well-being and fulfilment. Higher workloads may accompany greater autonomy and responsibility, as was found in Mozambique.[xi]

Significant gains in women's decision-making power and autonomy have been observed following the migration of male family members in several countries, including Bangladesh,[xii] Guatemala,[xiii] Morocco[xiv] and Mozambique[xi] and in Southeast Asia.[x] Women may have greater opportunities to attend agricultural trainings, learn about new technologies and make decisions independently.[xv] However, other studies[viii, xvi, xvii, xviii, xix, xx] do not find compelling evidence of such gains or point to detrimental effects of male outmigration on women's health and food security. Women are more likely to take on farm labour than managerial roles, which may have more drawbacks than benefits.[vi]

The relationship between the feminization of agriculture and women's empowerment is mediated by various factors. These include the characteristics of the migration experience such as its duration and direction, whether it is temporary, seasonal or permanent, domestic or international, and whether sufficient remittances are sent back home. When migrants are unable to send remittances, or send them irregularly, family members, and in particular women, can be left vulnerable to poverty and at increased risk of food insecurity.[xiv, xxi] In some contexts, women's increased involvement in agriculture takes place where the economic viability of agriculture is diminishing because of climate change and other stressors (see also Chapter 5).[xix]

The socioeconomic characteristics of the family members who remain also matter. Age and position in the household are important determinants of the level of agency women possess and of their gains from male outmigration.[xv] Younger women are less likely to gain agency when men migrate, particularly when they live in extended families with other adults present.[xxii] In Nepal and Tajikistan, for example, the migration of a family member is associated with positive effects on the agency of both land-owning and landless women, while in Senegal the positive impacts are only among women in households with land.[xxii] Gains in agency can also be short-lived. When men return from migration, women may still be at a disadvantage in the process of renegotiating agricultural labour roles.[xxiii]

Despite greater, more nuanced understanding of the issues around the feminization of agriculture,[iv] more work is needed to understand what policies and programmes can support women's economic opportunities and agency in contexts of male-dominated rural outmigration and contribute towards more equitable gender relations and outcomes and greater prosperity for their households.

BOX 2.3 MALE OUTMIGRATION, THE FEMINIZATION OF AGRICULTURE AND IMPLICATIONS FOR WOMEN'S EMPOWERMENT

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Women in value chains

Women face systematic inequalities in the types of value chains in which they engage, the conditions of their engagement and the returns they receive. While this can vary by context, women are in general less likely than men to participate in higher-profit cash- and export-commodity chains as entrepreneurs and independent farmers because they often lack the necessary access to land, water, agricultural extension and other complementary resources (see Chapter 3). Social norms also underpin the division of labour and distribution of decision-making power in agriculture. In line with their ascribed "breadwinner" role, men tend to dominate the value chains and value-chain segments where profit margins are higher. Women are overrepresented in less-lucrative value chains, such as in the production of food for home consumption and for local and informal markets, which can be seen as an extension of their domestic roles and responsibilities.[4]

While women often provide substantial labour inputs in value chains traditionally considered under men's domains and are not systematically excluded from lucrative value chains,[5, 6] their labour contributions tend to be less visible and unpaid or poorly paid. In male-dominated chains, women might provide "hidden" labour as unpaid family labour, as shown by case studies of value chains for cocoa in Ghana,[7] cocoa and coffee in Papua New Guinea[8] and aquaculture.[9] Preparatory work and services traditionally done by women – such as cleaning the nets and preparing the bait in fisheries, cooking meals for hired labour and mixing pesticides – are underreported, as they are not for pay or profit.

WOMEN FACE SYSTEMATIC INEQUALITIES IN THE TYPES OF VALUE CHAINS IN WHICH THEY ENGAGE, THE CONDITIONS OF THEIR ENGAGEMENT AND THE RETURNS THEY RECEIVE.

Greater profits from the increased commercialization of value chains are often associated with women having less control over the activities and income. Reports of men increasing their participation in value chains that are traditionally in the domain of women when they become profitable come from various value chains and regions including aquaculture and fisheries,[10, 11] livestock,[12] small-scale oil palm,[13] shea[14, 15] and traditional staple crops like banana.[16] To maintain control over crop management and income, women may choose to cultivate crops with a lower market value.[12, 17] In cocoa and coffee value chains in Papua New Guinea, for example, women assisted in cash crops production, particularly during harvesting, but gave priority to producing and marketing food crops, where they had greater control over the production and income.[8]

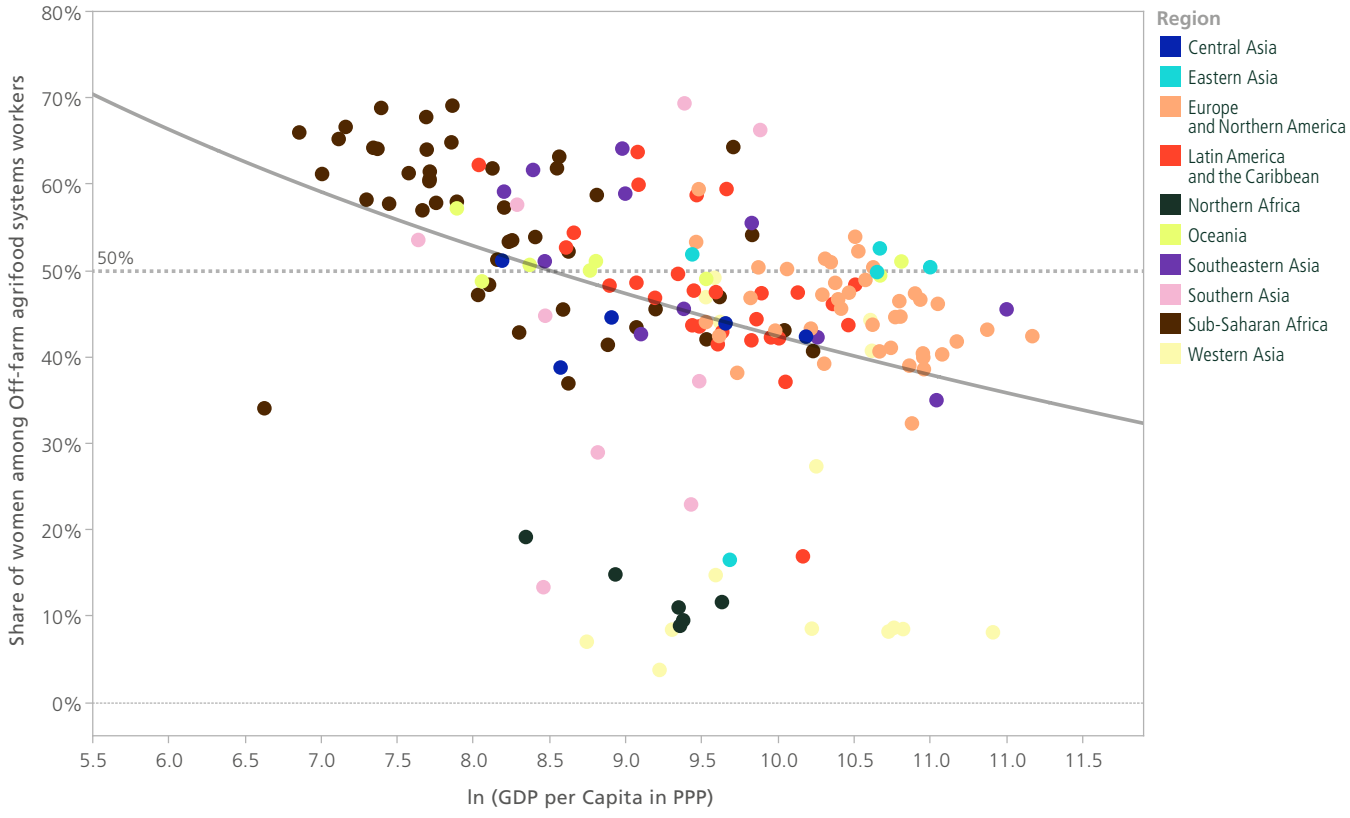
Social norms may also hold back women from entering value chains and agribusinesses dominated by men. For example, a national agribusiness programme in Nigeria that gave women (and men) the chance to choose from among 11 different value chains found that 57 percent of women still selected the poultry value chain, which is traditionally dominated by women and has lower profitability than other value chains.[18] Women in male-dominated activities have been shown to achieve higher profits than women entrepreneurs in female-concentrated sectors[19] but experience reductions in some domains of agency and well-being.[18]

Women in off-farm segments of agrifood systems

The off-farm segments of agrifood systems are an important source of livelihood for women in countries at all levels of economic development. As explained in Chapter 1, the off-farm segments of agrifood systems refer to economic activities beyond primary production in agriculture (crop, livestock, fisheries and forestry). In countries at lower levels of development, women tend to play a far greater role than men in these segments (Figure 2.4). Women comprise 41 percent of all workers in the off-farm segment of agrifood systems globally, but 60 percent of workers in the off-farm segment in sub-Saharan Africa (Figure 2.2). Fewer women are found in the off-farm segment of agrifood systems in countries where their mobility is particularly constrained because of discriminatory social norms that prevent them from spending time away from their home, travelling long distances and interacting with outsiders[20] or in countries in West Asia and North Africa that are highly dependent on agrifood imports.[21]

Figure 2.4 Women make up a large share of off-farm agrifood-system workers at all levels of development

The share of women among off-farm agrifood-system workers in relation to gross domestic product per capita in 2019



↓ **SOURCE: Costa, V., Piedrahita, N., Mane, E., Davis, B., Slavchevska, V. & Gurbuzer, Y. L.** (forthcoming). *Women's employment in agrifood systems.* Background paper for *The status of women in agrifood systems*, 2023. Rome, FAO.

Gendered patterns of participation in and returns from off-farm agrifood-system activities vary and depend on the type of value chain, local institutions and job characteristics.[22, 4] First, wherever processing activities are involved, women tend to be engaged at higher rates than men. Examples come from diverse contexts such as coffee value chains in Uganda,[23] cassava value chains in the United Republic of Tanzania,[24] jute value chains in Bangladesh[25] and coffee, cocoa and dairy value chains in central Nicaragua.[26] In West Africa the processing sector is dominated by women and tends to be unskilled and labour-intensive.[27] Half of all workers in food processing and services and 40 percent of workers in manufacturing of non-food agricultural products (such as tobacco, paper and textiles) are women (Table 2.1).

Second, across various value chains, few women are involved in the more profitable activities of transporting or wholesale trading.[24, 25, 28, 29] Transport and wholesale tend be dominated by men, at least in part because they require greater capital, higher mobility and interactions with outsiders.[23, 26] Women account for only 35 percent of all wholesale workers and 15 percent of transport workers in agrifood systems (Table 2.1). Even fewer women are likely engaged in wholesale and transport in low- and middle-income countries.

Table 2.1 Fewer women globally are engaged in the more profitable transporting and wholesale trading in agrifood systems in 2019

Categories	ISIC Divisions	ISIC Rev.4 2-digit codes	Share of women, detailed	Share of women
Food processing and service	Manufacture of food products	10	44%	51%
	Manufacture of beverages	11	29%	
	Food and beverage service activities	56	55%	
	Undifferentiated goods- and services-producing activities of private households for own use	98	41%	
Manufacture of non-food agricultural products	Manufacture of tobacco products	12	47%	38%
	Manufacture of textiles	13	51%	
	Manufacture of leather and related products	15	42%	
	Manufacture of wood and of products from wood and cork, except furniture	16	19%	
	Manufacture of paper and paper products	17	28%	
Trade	Wholesale trade, except of motor vehicles and motorcycles	46	35%	50%
	Retail trade, except of motor vehicles and motorcycles	47	53%	
Transportation	Land transport and transport via pipelines	49	8%	15%
	Water transport	50	14%	
	Air transport	51	44%	
	Warehousing and support activities for transportation	52	24%	
	Postal and courier activities	53	32%	

NOTE: ISIC – United Nations International Standard Industrial Classification of All Economic Activities. The shares are calculated based on varying samples of countries for which detailed information disaggregated by economic activity is available (around 80 countries).

SOURCE: Costa, V., Piedrahita, N., Mane, E., Davis, B., Slavchevska, V. & Gurbuzer, Y. L. (forthcoming). *Women's employment in agrifood systems.* Background paper for *The status of women in agrifood systems*, 2023. Rome, FAO.

Third, women participate in marketing of agrifood products, particularly in domestic and informal markets, but their involvement in trading can vary widely across and within countries depending on the commodity and proximity to urban and peri-urban centres. In areas closer to larger urban centres, women are highly engaged in retailing which serves as an important source of independent self-employment (e.g. in Guatemala[28] and

Nicaragua[26]). A 2022 FAO study of food retailers conducted in six countries in sub-Saharan Africa and Latin America and the Caribbean reveals that a large share of food retailers in sub-Saharan Africa are women, while women comprise a smaller share of food retailers in Latin America and the Caribbean.[30] In sub-Saharan Africa, the share of women retailers varied from 57 percent in Kenya and the United Republic of Tanzania to 75 percent in Senegal. In comparison, 26 percent of retailers in Ecuador and 31 percent of retailers in Paraguay were women.[30] Globally, women are estimated to account for around 53 percent of all retail trade workers in agrifood systems (Table 2.1).

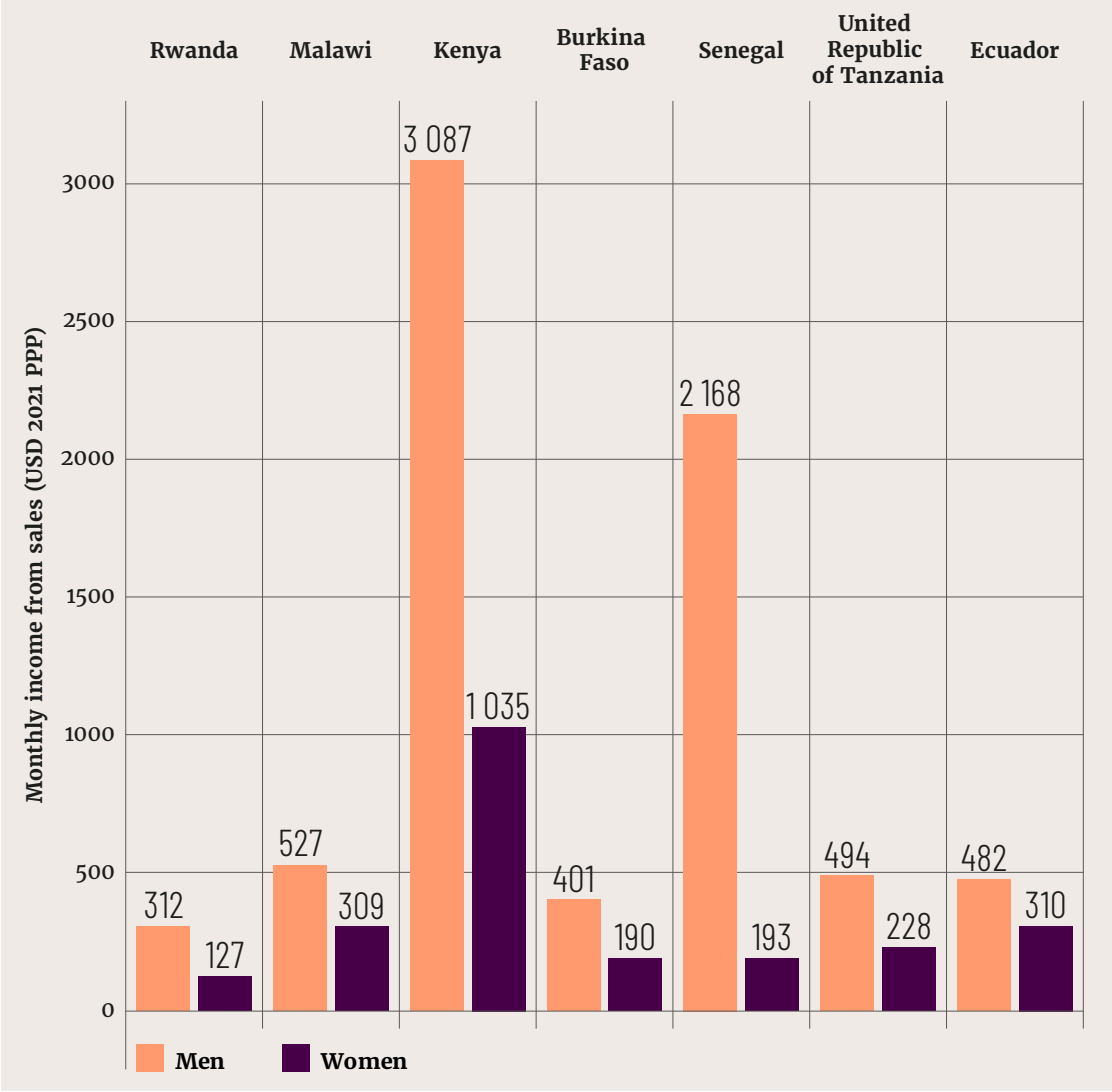
The same study also found that women trade in less-profitable commodities than men. Women are overrepresented among retailers of fruits and vegetables, in particular those rich in vitamin A, pulses, nuts and seeds, and staple crops (including grains, roots, tubers and bananas), which are among the lower-profit products, whereas men are more likely to sell industrially processed foods and beverages (Figure 2.5, Panel A). Men also account for a larger share of retailers in a range of animal products with higher returns. Women account for a larger share of fish retailers in four out of the five sub-Saharan African countries in the sample (see also Box 2.4). Female retailers also tend to sell lower volumes of food products than male retailers. As a result, female retailers report significantly lower monthly profits than do male retailers. In five out of the seven countries, men's profits are more than twice as high as women's profits (Figure 2.5, Panel B).

Figure 2.5 Women retailers are more likely to trade in less lucrative agrifood products and achieve lower profits

Panel A: The share of men and women retailers, across commodities and countries

NOTE: Grains, white roots, tubers, plantains, pulses and certain fruits, vegetables and nuts are often less lucrative than eggs, meat and industrial processed foods and beverages.

Panel B: Men obtain higher monthly income from sales of agrifood products than women
(expressed in USD 2021 purchasing power parity)



← **SOURCE:** Own calculations based on **FAO.** 2022. *Mapping of territorial markets – Methodology and guidelines for participatory data collection*. Second edition. Rome. https://doi.org/10.4060/cb9484en

Country-level reports are available at: https://www.fao.org/nutrition/markets/territorial-markets-initiative/en/

BOX 2.4 GENDER ROLES, RELATIONS AND VULNERABILITIES IN THE OMENA VALUE CHAIN AROUND LAKE VICTORIA

Lake Victoria is home to more than 200 species of fish and a growing number of people who depend on them for nutrition and income. FAO and World Vision have explored the effects of changes in the environment and economic trends on the livelihoods and relations of the men and women engaged in the fish value chains in the region using a gender-equality and social-inclusion approach.[i]

To understand the dynamics affecting stakeholders, 19 focus groups with diverse

BOX 2.4 GENDER ROLES, RELATIONS AND VULNERABILITIES IN THE OMENA VALUE CHAIN AROUND LAKE VICTORIA

actors in the value chain for the silver cyprinid fish (known as *omena* in the local language) were carried out in four beach communities within Homa Bay, Kenya. Among the participants in the focus groups discussions were boat owners (20 percent of whom were women), fishers (no female fisher), traders and processors (20 percent women) and consumers (70 percent of whom were women). The study included 12 key informant interviews with chiefs of beach management units, all of whom were male, and transporters, 80 percent of whom were male.

Traditional norms and taboos assign *omena* fishing to able-bodied men, while processing and trading are female-dominated activities. Participating in *omena* supply chain activities such as capture, trade and processing requires the person to be registered with the government through the local beach management units. Registrants must be Kenyan, pay a registration fee and provide a letter of good conduct from the village chief, disadvantaging women, who are less likely to be able to meet all the requirements.

Most boat owners are men. Access to financial capital is an important factor in becoming a boat owner. Men still own the majority of assets in Kenya and can thus take a formal loan more easily than women. Although informal and communal lending groups have increased access to capital for women, the elderly and people with disabilities, this has not translated into greater ownership of boats or related assets perhaps because social norms and lack of prior experience in fishing may discourage women from investing in boats.

Traders in the area, typically women, purchase fish directly from boats. Access is therefore governed by relationships with the boat owners and male fishers. Due to their weak bargaining position, women and their dependents are exposed to serious risks and related health hazards. Women are vulnerable to sexual abuse and exploitation in exchange of commodities, such as sex for fish, a practice which also increases the spread of HIV/AIDS in fishing communities.[ii, iii, iv]

Lack of drying and storage facilities limit shelf life of fish and lead to losses. These issues are likely to increase in the context of a changing climate,[v] multifaceted crises and ineffective policies, affecting women and other vulnerable groups the most.

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Women in livestock, forestry and fisheries

The livestock sector provides income to some 60 percent of rural households.[31] Fisheries and aquaculture primary sectors employ nearly 60 million people worldwide and millions more across the entire aquatic food value chains.[32] One-third of the global population, and more than 90 percent of people living in extreme poverty, depend on forests for food, medicine, income and more.[33] Despite their importance in rural livelihoods, there is a dearth of robust global- or national-level datasets that document the gendered patterns of participation, power relations and returns in livestock, forestry and fisheries subsectors.[22]

Women's roles and gender relations in livestock, forestry and fisheries often differ by the type of species and final product, market orientation, scale of operation and the sociocultural contexts in which the value chains are embedded. Traditional gender norms tend to be biased against women, [34, 35, 36] relegating them to jobs with lower returns.

Livestock

Case studies point to women comprising a larger share than men of poor livestock keepers but a precise estimate is difficult to come by. [37, 38] The share of women in the livestock sector also varies significantly by livestock species. The most profitable breeds of livestock (cattle, camels and buffalo) are often under the control of men; women are more likely to control less-profitable livestock breeds (poultry and small ruminants).[39, 40] Across the developing world, smallholder poultry value chains tend to be dominated by women.[41]

THE MOST PROFITABLE BREEDS OF LIVESTOCK ARE OFTEN UNDER THE CONTROL OF MEN.

Nonetheless, women tend to be responsible for day-to-day animal care and management and processing of animal products,[42] while their roles in marketing of animal products can vary substantially by product and context. For example, a recent study[30] found a majority of women trading in eggs in only one country (Burkina Faso) and in poultry in two countries (Malawi and Senegal) (Figure 2.5 Panel A), reinforcing the message that men's participation in livestock-related activities increases with greater market orientation. Women account for a larger share of dairy product retailers in three out of seven countries – Burkina Faso, Malawi and Rwanda. Women are commonly more involved in informal than formal markets,[39, 43] and as a result their contributions may be underreported and data may poorly reflect their realities of working in the sector. Furthermore, as women are more likely than men to keep locally adapted livestock breeds, they are seen as preservers of livestock diversity.[42]

Despite the limited cross-national data on women's participation in the livestock sector, livestock interventions remain key in agricultural development and have been linked to significant improvements for women's well-being. Increasing women's access to support and inputs can improve animal health and livestock productivity.[44] Livestock species that are commonly under the control of women, such as poultry, rabbits, pigs and goats, require less initial capital than larger livestock, and investments in activities involving these species can have significant impacts on the incomes of women, especially those in remote areas[45] and in pastoralist[46]

and marginalized communities (see also Box 2.5).[47] When livestock interventions include extension, training and education they have a strong impact on women's incomes and assets and on empowerment (about which more is said in Chapters 3 and 4). However, livestock interventions are also notable for their consistently more negative impacts on labour or workload, indicating that these interventions increased demand on women's time.[48]

Fisheries and aquaculture[49]

Twenty-eight percent of all workers in the aquaculture primary sector are women, as are 18 percent of all workers in the fisheries primary sector, but the share of women increases to about 50 percent of all workers when the entire aquatic value chain (including pre- and post-harvest) is considered.[32] However, their jobs tend to be more precarious than those of men: women hold only 15 percent of the full-time positions in the aquaculture and fisheries primary sectors, and 71 percent of the part-time jobs in processing are held by women.[32]

Populations in low- and middle-income countries are especially dependent on small-scale fisheries, which account for 50 percent of total catches[32] but are frequently overlooked in studies, statistics and policies. A recent study[50] found that women accounted for 39.6 percent of all people working for pay or subsistence throughout the small-scale fisheries value chain and 49.8 percent of workers in post-harvest areas.

Occupational segregation is found at different nodes of the value chains in fisheries and aquaculture, which can vary by species and sociocultural context (see Box 2.4),[51, 22] but women are in general less likely to participate in the most lucrative activities. For example, men dominate offshore and high-value fisheries, while more women than men are involved in the harvesting and gleaning of shellfish and invertebrates.[52, 53] Women tend to trade in medium- to low-value species and in smaller volumes and are frequently excluded from the most lucrative value chains, as studies from Egypt, the United Republic of Tanzania, Zanzibar and Zambia show.[9, 54] And although women account for a large share of workers in the processing node of aquaculture and fishery value chains, they are particularly overrepresented among seasonal or part-time workers, frequently paid less than men even for the same activity and largely absent from middle- and higher-management positions.[10, 55]

© FAO/GMB Akash

↑ BANGLADESH – Woman working at a fish processing plant.

WOMEN HOLD ONLY 15% OF THE FULL-TIME POSITIONS IN THE AQUACULTURE AND FISHERIES PRIMARY SECTORS. THEY HOLD 71% OF THE PART-TIME JOBS IN PROCESSING.

↑ DEMOCRATIC REPUBLIC OF THE CONGO – A Mbuti woman gathering products in the forest.

Forestry

Women comprised around 23 percent of all people employed in forest-related work in the period 2017–2019, based on a sample of 69 countries.[56] The share of women in the forest workforce is lower than that of men, particularly in forestry and logging and the manufacture of wood and wood products, at least in part because of assumptions about women's suitability to the intensive physical labour required. But the true number of women engaged in forest-product value chains may be significantly underestimated in current statistics because women are more likely than men to have informal jobs in the sector[56] and in general, many activities, particularly in the processing and trade of forest products, are informal and unregulated.[22]

Gender specialization in activities may differ by region and product. In Africa and Asia women are mainly holders of traditional knowledge and gatherers of edible wild plants;[57, 58] activities such as hunting and timber harvesting are dominated by men.[59, 60] In Africa and Asia the collection of fuelwood is mainly done by women, while in Latin America the collection of fuelwood is an activity for men.[59]

Gender patterns of participation in forest-product collection are often related to the physical demands of the task (climbing trees, heavy lifting, etc.) and where it is carried out, with social norms, personal safety concerns[61] and domestic responsibilities limiting women's options.[62] Women's lesser access to transport restricts how far they can travel to collect forest products[63, 64] and their access to more profitable markets.[65]

A global review of the literature on gender in forest, tree and agroforestry value chains found very little information about women's and men's participation in the processing and trading of forest products, particularly in Asia and Latin America.[62] However, available sources of information and case studies strongly suggest that women are overrepresented in both processing and trading in forest products.[62] Women dominate small-scale non-traditional forest-product trading; men are more likely to own and manage the larger businesses.[62] Inadequate access to resources and services tends to restrict women to activities that require little capital and limits their ability to engage in more profitable tree-based enterprises.[66, 67, 68]

WOMEN ARE MORE LIKELY THAN MEN TO HAVE INFORMAL JOBS IN FORESTRY.

BOX 2.5 GENDER AND INTERSECTIONALITY: STORIES FROM LIVESTOCK, FISHERIES AND FORESTRY

An increasing number of studies show how gender and other intersectional identities can mediate roles and power relations in agriculture, including in livestock, fisheries and forestry chains.

In forestry, intersecting identities such as age, marital status and ethnicity can influence rights to forest and tree-based food products. For example, upon divorce or spousal death, women in some Peruvian communities may lose their rights to extract Brazil nuts from community forests.[i] In Burkina Faso, rights to access certain tree-based food products is characterized by a hierarchy based on the woman's lineage, marital status and migrant or resident status.[ii]

In the livestock sector, young rural women are often disadvantaged in dairy commercialization processes because of mobility constraints imposed by their husbands and lower access to their own transportation.[iii] Being of low caste, belonging to a certain ethnic group or living in remote regions are additional factors that can make women less visible and less likely to be reached by livestock development programmes.[iv, v] Low-caste women may also be less likely to benefit from training courses or participate effectively in livestock cooperative governance.[vi] However, as a study from India shows, livestock cooperatives that seek to empower women of all castes and engage with men are able to support women's empowerment in an inclusive manner.[vi]

In fisheries, gender and other intersectional identities mediate inclusion, power relations and adaptive capacities. For example, in Nigeria richer women attract better patronage from fishermen than poorer women and have greater decision-making powers and influence as to where the caught fish is going to be sold.[vii] In Tamil Nadu, India, women involved in fishing-related work with medium to high levels of wealth and with wider social networks had greater adaptive capacity to seasonal stresses than those of lesser wealth or with weaker social networks.[viii]

NOTES:

i. **Monterroso, I., Ojong, E. & Paez-Valencia, A.M.** 2021. *Women's land rights in Ethiopia: Socio-legal review.* Securing Women's Resource Rights Through Gender Transformative Approaches Project Brief. Bogor, Indonesia, CIFOR-ICRAF, and Nairobi, International Fund for Agricultural Development. https://doi.org/10.17528/cifor/008261

ii. **Pehou, C., Djoudi, H., Vinceti, B. & Elias, M.** 2020. Intersecting and dynamic gender rights to néré, a food tree species in Burkina Faso. Journal of Rural Studies, 76: 230–239. https://doi.org/10.1016/j.jrurstud.2020.02.011

iii. **Bullock, R. & Crane, T.** 2021. Young women's and men's opportunity spaces in dairy intensification in Kenya. Rural Sociology, 86(4): 777–808. https://doi.org/10.1111/ruso.12385

iv. **McKune, S., Serra, R. & Touré, A.** 2021. Gender and intersectional analysis of livestock vaccine value chains in Kaffrine, Senegal. PLoS ONE, 16(7): e0252045. https://doi.org/10.1371/journal.pone.0252045

v. **Serra, R., Ludgate, N., Fiorillo Dowhaniuk, K., McKune, S.L. & Russo, S.** 2022. Beyond the gender of the livestock holder: Learnings from intersectional analyses of PPR vaccine value chains in Nepal, Senegal, and Uganda. *Animals*, 12(3): Article 3. https://doi.org/10.3390/ani12030241

vi. **Ravichandran, T., Farnworth, C.R. & Galiè, A. 2021.** Empowering women in dairy cooperatives in Bihar and Telangana, India: A gender and caste analysis. *Agri-Gender – Journal of Gender, Agriculture and Food Security*, 6(1): 27–42. https://doi.org/10.19268/JGAFS.612021.3

vii. **Akintola, S.L. & Fakoya, K.A.** 2017. Small-scale fisheries in the context of traditional post-harvest practice and the quest for food and nutritional security in Nigeria. *Agriculture & Food Security*, 6(1): 34. https://doi.org/10.1186/s40066-017-0110-z

viii. **Axelrod, M., Vona, M., Novak Colwell, J., Fakoya, K., Salim, S.S., Webster, D.G. & Torre-Castro, M. de la.** 2022. Understanding gender intersectionality for more robust ocean science. Earth System Governance, 13: 100148. https://doi.org/10.1016/j.esg.2022.100148

BEYOND PARTICIPATION: WOMEN'S ACCESS TO QUALITY JOBS IN AGRIFOOD SYSTEMS

IN ALL REGIONS EXCEPT EUROPE, WOMEN ARE LESS LIKELY THAN MEN TO BE WORKING FOR WAGES OR SALARIES.

Sustainable Development Goal 8 calls attention to the quality of employment, highlighting the need to foster full and productive employment and decent work for all. However, the conditions of work in agrifood systems are often worse for women than for men. This section examines different dimensions of the quality of work within agrifood systems from a gendered perspective, including type of employment and whether it is vulnerable, access to full-time work, unpaid and care work and gender-based violence (see Box 2.6).

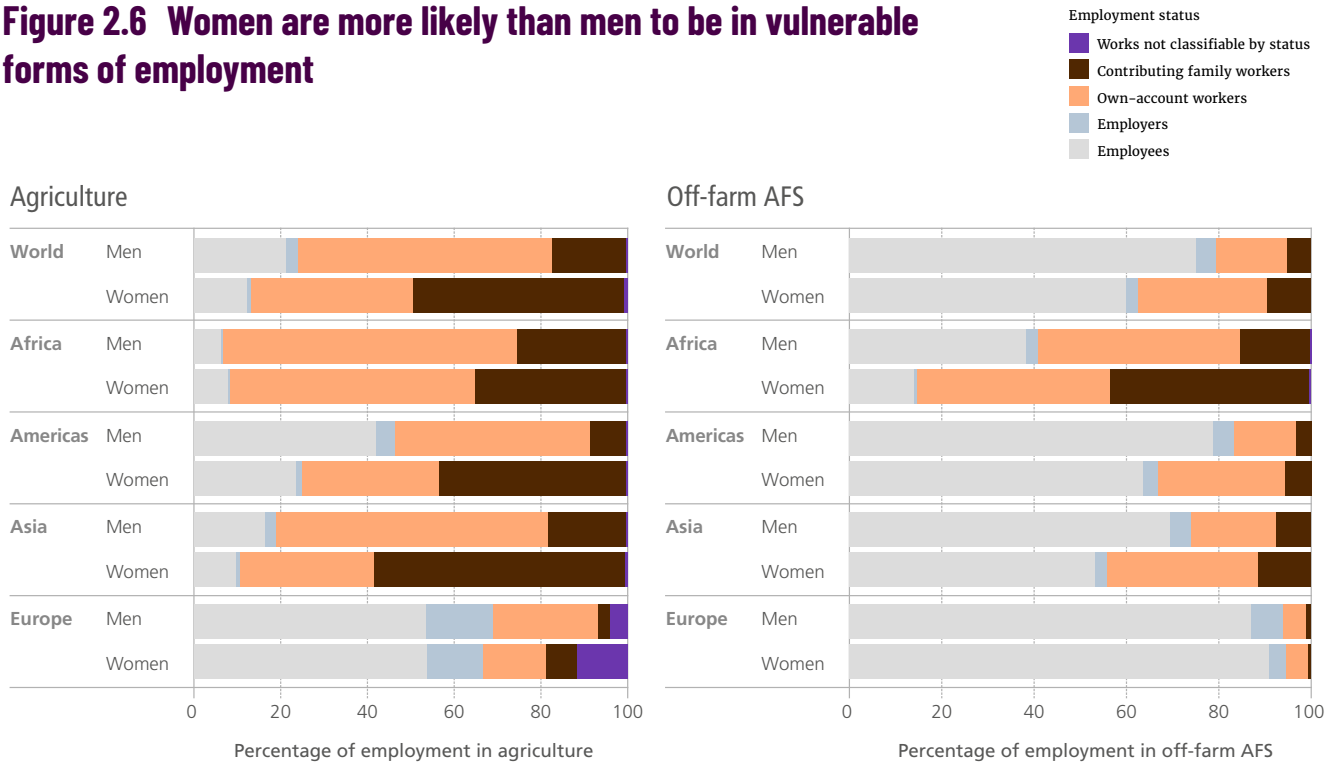
Gender patterns in wage and self-employment in agrifood systems

Most agricultural work globally continues to be carried out by own-account or contributing family workers, both of which are forms of vulnerable self-employment,[69] and women are more likely than men to be in these types of employment (Figure 2.6).[70] Own-account workers are self-employed workers who do not hire others, while contributing family workers are "helpers" on the family farm or in the family business and are often unpaid and have limited inputs into major agribusiness decisions. These forms of work are often informal, with no access to work-based social protection and greater exposure to economic cycles and socioeconomic and environmental risks.[70]

Contributing family workers are particularly disadvantaged as they do not usually receive direct remuneration and can be excluded from agricultural extension and agricultural programmes if they are not seen as farmers (as highlighted in Chapter 3). Globally, nearly half of women in agriculture (49 percent) are reported to be working as contributing family workers, compared with 17 percent of men. In sub-Saharan Africa, where women have high participation rates in agriculture, 35 percent of women engage in agriculture as contributing family workers.

Own-account and contributing family work form a smaller share of both men's and women's employment in off-farm segments of agrifood systems: 9 percent of women workers in the off-farm segment of agrifood systems engage as contributing family workers and 28 percent engage as own-account workers. Thus, the share of women in vulnerable self-employment (own-account and contributing family workers) improves substantially as the role of off-farm segments of agrifood systems increases.

Figure 2.6 Women are more likely than men to be in vulnerable forms of employment



↑ **NOTE:** AFS – agrifood systems

SOURCE: Authors' own estimates based on International Labour Organization Harmonized Microdata, https://ilostat.ilo.org/. The sample includes 107 countries and the regional averages represent a simple means across the countries in the respective region. The classification of regions follows the ILO data reports.

The role of wage employment is significantly greater in the off-farm segments of agrifood systems than in agricultural segments, but in all regions except Europe, women are less likely than men to be working for wages or salaries (Figure 2.6). Wage employment accounts for the majority of off-farm agrifood-system employment for both men and women in all regions, with the exception of Africa, where the majority of off-farm agrifood-system workers are self-employed. Women in Africa are also more likely than men to be self-employed. This reflects the lack of well-paid wage employment opportunities available to women in the region.[71]

Yet, in various countries and regions, the growth of high-value agriculture (e.g. horticulture and cut flowers) has coincided with a rise in women's wage employment (mainly in production and processing). Wage employment in large agribusinesses is an important source of income for many rural women, especially young women and women with small or no landholdings. These trends were already notable at the time of the 2011 edition of The State of Food and Agriculture,[1] but more recent data confirm the importance of women in wage work in agribusiness and highlights the conditions under which they work. For example, 30 000 formal jobs have been created in the three main horticultural regions in Senegal; 66 percent of those jobs are held by women[72] and a large share of all male and female workers are migrants from remote rural areas[73] (Box 2.7).

Within these large agribusinesses in developing countries, women tend to be segregated into low-skilled, low-paid, informal and casual jobs,[6] often under pretexts such as women's greater patience[74] and "nimble fingers".[75] Men hold the majority of managerial and full-time positions.[51] Tasks that cannot be automated

or are part-time are more likely to be seen as women's tasks and are often taken up by women.[76]

With respect to self-employment and entrepreneurship, women own on average between 31 percent and 38 percent of formal small and medium-sized businesses, and the majority of women-owned businesses are in the agrifood sector,[77] where entry capital requirements are lower than in other sectors.[78, 79, 80] In West Africa, women account for 83 percent of workers in food processing and 72 percent of those in food marketing.[81] In Bangladesh, women-owned businesses were primarily in the garment sector, followed by food manufacturing.[77]

In off-farm segments of agrifood systems, a small share of working women are entrepreneurs with other employees, and women are overrepresented among own-account entrepreneurs. Many women entrepreneurs are agrifood-system workers, including street vendors and street-food sellers. In Nigeria, it is estimated that 80–90 percent of the street-food sellers are women.[77] Women often face significant barriers to formalizing and growing their businesses. For example, intrahousehold relations influence the performance and growth of women-owned businesses. A study from Ghana revealed that female entrepreneurs may prioritize savings or investment in assets and children's education at the expense of their businesses and may also limit investment or hide income to secure the continued financial support of the husband to the household.[82] Home responsibilities and care burden also affect how much time women spend on their businesses, and hence affect their growth opportunities.

WITHIN LARGE AGRIBUSINESSES IN DEVELOPING COUNTRIES, WOMEN TEND TO BE SEGREGATED INTO LOW-SKILLED, LOW-PAID, INFORMAL AND CASUAL JOBS.

BOX 2.6 GENDER-BASED VIOLENCE AND WORK IN AGRIFOOD SYSTEMS

Power dynamics and norms within the household, at the workplace and in the community affect the possibility of outside employment for women. Women's low bargaining power, lack of access to resources or safe transportation, fear for their safety and community norms around women's freedom of movement and employment can restrict the type of work they take on or where they go to work.[i, ii]

Violence at work takes several forms, including economic, psychological, physical and sexual abuse and sexual harassment.[iii] While the extent of different forms of workplace violence in agrifood systems is unknown, case studies

BOX 2.6 GENDER-BASED VIOLENCE AND WORK IN AGRIFOOD SYSTEMS

on sexual harassment and violence point to high prevalence of gender-based violence in the workplace.[iii] In Ecuador, for example, more than half of women agricultural workers in the export flower industry who were interviewed reported experiencing sexual violence and harassment by supervisors and other workers.[iii, iv] Women's noncompliance with sexual requests comes with negative consequences, such as being dismissed, not being offered more work, having hours or payment cut and unfair performance appraisals.[iii, iv, v, vi, vii] Women street vendors may suffer from verbal, physical and sexual abuse and violence from clients and male co-workers, may be victims of robbery or driven out of their usual vending places.[viii] Men also face harassment and violence in agriculture.[iii]

Beyond the sector of work, the nature of employment can also affect vulnerability to violence. For example, temporary and informal work reinforces power differentials, which allow perpetrators to carry out violence.[iii] Age, migration status, socioeconomic status, lack of opportunities outside agriculture, weak social support, negative local gender stereotypes and weak labour inspection services or laws can also affect violence in the workplace.

Increasing women's economic power can challenge traditional gender roles and responsibilities and strain gender relations. Increasing women's employment and earnings can reduce intimate partner violence if women are better able to threaten to leave abusive relationships. However, men may also feel threatened by women's economic empowerment and perpetrate more violence to maintain the status quo. In Bengaluru, India, and Cameroon, for instance, women's employment was associated with increased intimate partner violence, consistent with such backlash.[ii, ix, x]

NOTES:

i. **Heckert, J., Myers, E. & Malapit, H.J.** 2020. *Developing survey-based measures of gendered freedom of movement for use in studies of agricultural value chains.* IFPRI Discussion Paper 01966. Washington, DC, IFPRI.

ii. **Jayachandran, S.** 2021. Social norms as a barrier to women's employment in developing countries. *IMF Economic Review,* 69(3): 576–595.

iii. **Henry, C. & Adams, J.** 2018. *Spotlight on sexual violence and harassment in commercial agriculture lower and middle income countries.* Research Department Working Paper No. 31. Geneva, Switzerland, ILO.

iv. **Mena, N. & Proaño, S.** 2005. *Acoso sexual laboral en la floricultura: Estudio de caso Sierra Norte de Ecuador.* International Labor Rights Fund.

v. **Arellano Gálvez, M.** 2014. Violencia laboral contra jornaleras agrícolas en tres comunidades del noroeste de México. *Región y Sociedad,* 26(ESPECIAL4): 155–187.

vi. **Awang Ollong, K.** 2016. *Sustainability issues in the Cameroon banana supply chain.* https://dx.doi.org/10.2139/ssrn.2717648

vii. **Wijayatilake, K. & Faizun, Z.** 2001. *Sexual harassment at work: Plantation sector.* Paper presented at the ILO National Tripartite Seminar on Sexual Harassment in the Workplace, Colombo, 1 June 2001. Geneva, Switzerland, ILO. https://www.ilo.org/public/libdoc/ilo/2001/101B09_358_engl.pdf

viii. **USAID.** 2020. *Select gender-based violence literature reviews: Violence against women in the informal sector.* Washington, DC. https://pdf.usaid.gov/pdf_docs/PA00WQ8X.pdf

ix. **Guarnieri, E. & Rainer, H.** 2018. *Female empowerment and male backlash.* CESifo Working Paper Series No. 7009. Munich, Germany, CESifo. https://dx.doi.org/10.2139/ssrn.3198483

x. **Krishnan, S., Rocca, C.H., Hubbard, A.E., Subbiah, K., Edmeades, J. & Padian, N.S.** 2010. Do changes in spousal employment status lead to domestic violence? Insights from a prospective study in Bangalore, India. *Social Science & Medicine*, 70(1): 136–143. https://doi.org/10.1016/j.socscimed.2009.09.026

BOX 2.7 MANY WAGE WORKERS IN COMPANIES LINKED TO GLOBAL AGRIFOOD VALUE CHAINS ARE WOMEN, YOUNG AND MIGRANT

A large share of agricultural labour in developing countries, especially in high-value, labour-intensive agrifood industries,[i] is often done by migrant workers.[ii] Workers in companies linked to global value chains tend to be women, young people and migrants.[iii, iv]

In the horticulture agro-industry in Kenya, most workers are women who have migrated internally from remote rural areas.[v] Migration can introduce challenges in women's lives related to being away from family and support networks, but it can also be associated with positive effects such as weakening social norms and patriarchal structures that may hold women back.[v] Evidence from qualitative interviews speak of the important role of off-farm employment and income in strengthening women migrants' confidence and livelihoods.[v] However, women continue to be paid less than men and are more likely to be temporary employees and to work without a contract.[vi]

NOTES:

i. **FAO.** 2018. *The State of Food and Agriculture 2018. Migration, agriculture and rural development.* Rome. https://www.fao.org/3/i9549en/I9549EN.pdf

ii. **Organisation for Economic Co-operation and Development (OECD).** 2018. The Middle East and North Africa: Prospects and challenges. In: OECD & Food and Agriculture Organization of the United Nations. *OECD-FAO Agricultural Outlook 2018–2027*, pp. 67–107. Paris, OECD Publishing. https://doi.org/10.1787/agr_outlook-2018-5-en

iii. **Basnett, B.S., Gnych, S. & Anandi, C.A.M.** 2016. *Transforming the Roundtable on Sustainable Palm Oil for greater gender equality and women's empowerment.* CIFOR infobrief No. 144. Bogor, Indonesia, Center for International Forestry Research. https://doi.org/10.17528/cifor/006383

iv. **Fabry, A., Van den Broeck, G. & Maertens, M.** 2022. Decent work in global food value chains: Evidence from Senegal. *World Development*, 152: 105790. https://doi.org/10.1016/j.worlddev.2021.105790

v. **Said-Allsopp, M. & Tallontire, A.** 2015. Pathways to empowerment? Dynamics of women's participation in global value chains. *Journal of Cleaner Production*, 107: 114–121. https://doi.org/10.1016/j.jclepro.2014.03.089

vi. **Maertens, M. & Swinnen, J.F.M.** 2012. Gender and modern supply chains in developing countries. *The Journal of Development Studies*, 48(10): 412–1430. https://doi.org/10.1080/00220388.2012.663902

Full-time employment

Among those who work, women are less likely than men to work full time in both agriculture and total agrifood-system employment across all regions (Figure 2.7). Except in eastern Asia, women work for profit or pay in agriculture and in agrifood systems for an average of fewer than 40 hours per week, suggesting that women's employment is part time and irregular. Both women and men spend on average more time in total agrifood-system employment. This reflects the lower influence of seasonality and thus greater availability of full-time employment opportunities in the off-farm segment of agrifood systems across most regions.

WOMEN ARE LESS LIKELY THAN MEN TO WORK FULL TIME IN BOTH AGRICULTURE AND TOTAL AGRIFOOD-SYSTEM EMPLOYMENT.

Figure 2.7 Men work more hours than women in agriculture and agrifood systems

Hours worked by women and men in agriculture and agrifood systems in the previous 7 days

↑ **NOTE:** AFS – agrifood systems

SOURCE: ILO Harmonized Microdata, https://ilostat.ilo.org/. The sample includes 107 countries and the regional averages represent a simple means across the countries in the respective region.

Unpaid and care work

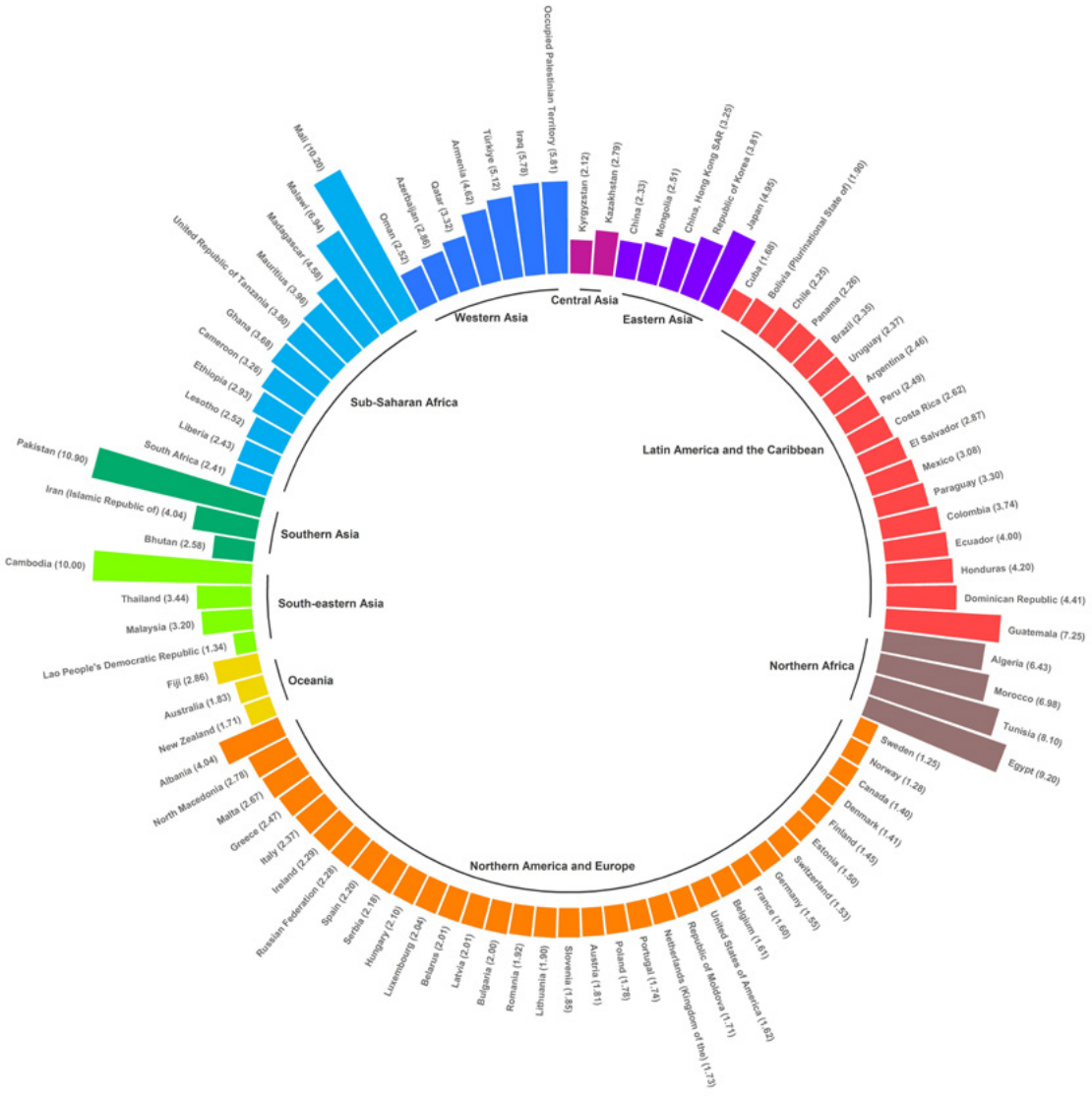
Women's greater burden of unpaid domestic and care work contributes to inequalities in labour-market participation and outcomes.[83] Women's engagement in agrifood systems may be on inferior terms than that of men if women take on part-time, irregular, informal jobs and entrepreneurship in lower-profit segments of agrifood systems to accommodate their high unpaid domestic and care work burden.[84] Time-use agency is central in this regard (Box 2.8). The burden of child care and reproductive work is associated with lower productivity of female farmers compared with that of males.[85, 86] The COVID-19 pandemic brought fresh attention to how sensitive women's participation and time in paid and unpaid work are to the impacts of crises (see Chapter 5).

Global patterns in time use demonstrate the existence of substantial gender disparities in time spent on unpaid domestic and care work, such as cleaning, cooking and caring for household members and water collection,

particularly in low- and middle-income countries. On average, women spend 4.2 hours a day on unpaid domestic and care work, while men spend 1.9 hours.[87] Gender inequalities in unpaid care work are observed all around the world, with significant variations across countries within the same region (Figure 2.8). Gender inequalities in unpaid domestic and care work tend to be larger in rural areas than in urban areas and when time spent on care as a secondary activity is considered: across a sample of five countries and predominantly rural settings, women spent an average of 7.0 hours on care and unpaid domestic work as either a primary or a secondary activity, compared with an average of 1.4 hours for men.[88] When both paid and unpaid work were considered, work burden was higher for women – 9.1 hours for women compared with 7.3 hours for men.[88]

Figure 2.8 Gender inequalities in unpaid care work are observed all around the world with significant variations across countries within regions

Female to male ratio of average time spent on unpaid domestic and care work in a 24-hour period



← **SOURCE:** Authors' elaboration from United Nations Department of Economic and Social Affairs (UNDESA). 2023.

In rural areas, women's unpaid work burden is higher than that of men in large part because of the time spent collecting water. Globally, 80 percent of the people that do not have access to improved drinking water live in rural areas.[1] Due to prevailing gender norms and the gender division of labour, women and girls disproportionally bear the burden of collecting water for household and livestock needs, often travelling long distances to access water sources. [89, 2] In households that do not have a water source on their premises, women and girls are primarily responsible for water collection; 73.5 percent of households have women as primary water collector, 6.9 percent have girls, 16.6 percent have men and 2.9 percent have boys.[89, 3]

The time required collecting water may limit options to earn an income[4, 5] and interferes with women's other unpaid and care work.[6] Girls under 5 years of age are twice as likely as boys to collect water, with negative consequences for schooling. For example, a study from South Africa showed that collecting water negatively impacted school attendance and performance, with more girls than boys reporting being late for school, being tired in class and having little time available to study.[7]

The unpaid care and domestic work carried out by women (and men) remains greatly undervalued despite its importance to the welfare of individuals, households and rural communities.

BOX 2.8 TIME USE VERSUS TIME-USE AGENCY

In many settings, prevailing normative expectations exist concerning how women and men should allocate their time (see also Chapter 4). While men are considered household providers, traditional gender roles relegate women to unpaid domestic and caregiving activities. Time use, or how individuals allocate their time, is considered an important metric of inequity. However, growing evidence suggests that time-use agency – the individual's confidence and ability to make strategic decisions and choose how they allocate their time – is equally salient.[i]

Qualitative insights from Benin, Malawi and Nigeria reveal the varied perceptions of time-use agency among women and men.[i] On any given day, women indicated that they were able to decide how to spend their time provided they completed expected tasks and responsibilities. However, even when women made their own decisions, it was difficult for them to act on those decisions as they required their husbands' consent. Women risked losing their security if they deviated from such norms. Women and men were aware that men controlled decisions on tasks beyond productive and reproductive activities, such as on leisure or social time, and that men had more flexibility in deciding about and altering their own schedules. One woman explained the situation as follows: "A man can also change [his schedule] in a matter of time if the need arises. Women are always under [the] control

BOX 2.8 TIME USE VERSUS TIME-USE AGENCY

of men, so their daily schedules are hard to change. The husband may not allow this change to happen. A man can leave the home if he wishes, but women are tied to other household chores which prevents them from doing so."[i]

In addition to men's agency over time use, both women and men in all three countries stated that men had the final say in any discussions of perceived conflict around time use.

Time-use agency is not limited to decisions by spouses. Narratives in Nepal speak to how many women who are daughters-in-law living in extended households feel *dukkha* or suffering, attributed to the long hours they work.[ii] However, one study found that there were no differences in working hours between mothers-in-law and daughters-in-law living in the same household. Mothers-in-law tended to spend more time on productive non-domestic activities, while daughters-in-law spent more time on domestic or care work. Qualitative insights revealed that the narrative around suffering is not simply about hours worked but about autonomy over time use. In this context, mothers-in-law have authority over daughters-in-law, to whom they can assign work or restrict mobility.

NOTES:

i. **Eissler, S., Heckert, J., Myers, E., Seymour, G., Sinharoy, S. & Yount, K.** 2022. Measuring women's empowerment: Gender and time-use agency in Benin, Malawi and Nigeria. *Development and Change*, 53(5): 1010–1034. Quote from page 1023.

ii. **Doss, C. R., Meinzen-Dick, R., Pereira, A. & Pradhan, R.** 2022. Women's empowerment, extended families and male migration in Nepal: Insights from mixed methods analysis. *Journal of Rural Studies*, 90: 13–25.

INEQUALITIES IN ECONOMIC OUTCOMES

Even as women's engagement in agrifood systems increases, gender inequalities in well-being and economic outcomes may persist, underpinned by continued inequalities in access to assets and resources, social norms, and policies and laws (as highlighted in the framework in Chapter 1 and detailed in Chapters 3 and 4). Gender gaps in land productivity, labour productivity and wage earnings persist, according to three recent studies prepared for this report.[1, 2, 3] Using cross-country household survey data and applying an analytical approach that breaks down the drivers of inequality (see Box 2.9), the studies identify the sources of gender gaps in wages, land and labour productivity including the role of individual characteristics (age and education), household composition (using presence of young children to approximate care demands), farm characteristics (farmland size, input use and types of crops) and discrimination.

BOX 2.9 THE KITAGAWA-OAXACA-BLINDER DECOMPOSITION APPROACH

The Kitagawa-Oaxaca-Blinder decomposition approach is widely used in labour economics to study earning differentials between women and men[i, ii] and more recently gender gaps in agricultural land productivity.[iii]

This approach uses multivariate analysis to break down the average gender gap in earnings (or productivity) into the portion of the gap that is explained by differences in observed characteristics of men and women, and the portion of the gap that is not explained by differences in these characteristics. The literature often refers to the explained portion as the endowment effect and to the unexplained portion as the structural effect.

The explained (or endowment) part captures the gender differences in individual characteristics such as education, experience, occupation, working hours and the scale of the enterprise. For example, women may earn less than men but they may also have fewer years of education and experience than men or may work in smaller firms.

The unexplained (or structural) part is more difficult to interpret. It can reflect unmeasured and unobserved factors such as differences in motivation and effort (or differences in farm soil quality when the focus is on farm productivity), which are rarely or imperfectly captured in survey data. It also reflects structural differences in the returns men and women obtain for the same characteristics – such as when women receive lower pay than men for the same level of education – and thus also captures discrimination.

NOTES:

i. **Blau, F.D. & Kahn, L.M.** 2017. The gender wage gap: Extent, trends, and explanations. *Journal of Economic Literature*, 55(3): 789–865.

ii. **Hertz, T., Winters, P., De La O, A.P., Quinones, E.J, Davis, B. & Zezza, A.** 2008. *Wage inequality in international perspective: Effects of location, sector, and gender.* ESA Working Paper No. 08–08. Rome, Agricultural Development Economics Division, Food and Agriculture Organization of the United Nations.

iii. **Kilic, T., Palacios-López, A. & Goldstein, M.** 2015. Caught in a productivity trap: A distributional perspective on gender differences in Malawian agriculture. *World Development*, 70: 416–463.

Farmland productivity gaps

Gender-related gaps in land productivity remain significant. Anríquez *et al.*[96] analyse the gender gap in agricultural productivity between male- and female-managed farms using national survey data from 11 countries in Africa, Latin America and the Caribbean and Asia. The study made three sets of comparisons: exclusively female versus male and joint farm managers in the six countries where this information is available; female- versus male-headed households in the same six countries for comparison; and female- versus male-headed households in all 11 countries (see Box 2.10 on the limitations to using male- and female-headed households). Several findings stand out.

First, the gender gap in land productivity in both the sample of exclusively female-managed plots (-4.4 percent) and the female-headed household sample (-1.1 percent) suggests that women farmers are more productive than men (Table 2.2). This surprising result stems from the endowment effect which strongly favours women (-17.4 percent and -9.2 percent, respectively). Why is this so? Women on average have smaller landholdings, and smaller landholdings for both men and women have higher productivity. This is consistent with the economics literature, which finds that small holdings may be managed more intensively.[1] For example, farmers may apply more effort on smaller plots and plant them more frequently.

Second, different factors contribute to the gender gap in productivity (Figure 2.9). Positive effects indicate that gender differences in a particular factor are associated with greater gender gaps in productivity, while negative effects indicate that gender differences in a factor contribute to narrowing the gender gap in productivity. Across all countries and for both the gender of the household head (Panel A) or the farm manager (Panel B), the gender difference in farmland size (marked in peach) is associated with a smaller gender gap in productivity: in other words, women manage on average smaller farms than men, achieving higher output per hectare on these smaller farms relative to larger farms. Gender differences in manager traits such as education and age (in purple) and access to inputs and technologies (in red) are linked to a greater gender gap in farm productivity across the sample of countries.

Third, the unexplained or structural effect associated with discrimination is large and always positive, contributing to a larger gender gap against women in all three comparisons (13 percent, 8.2 percent and 11.9 percent, respectively).

When farmers with landholdings of a similar size are compared, the gender gap favours men across all three comparisons by a similar magnitude (24.4 percent, 22.9 percent and 24 percent, respectively). Taken together, the gender gap favouring men over women in land productivity is approximately 24 percent.

NOTES: * The yield is measured as the harvest value of all crops on the farm per hectare, where crop value is calculated at the median market prices in the community.

** Manager sample refers to the sample of six countries with information about the manager of the farm.

*** A negative sign reflects higher female productivity as compared with men; a positive sign reflects higher male productivity as compared with women.

SOURCE: Anríquez, G., Quiñonez, F. & Foster, W. (forthcoming). *Levelling the farm fields, A cross-country study of the determinants of gender-based yield gaps.* Background paper for *The status of women in agrifood systems*, 2023. Rome, FAO.

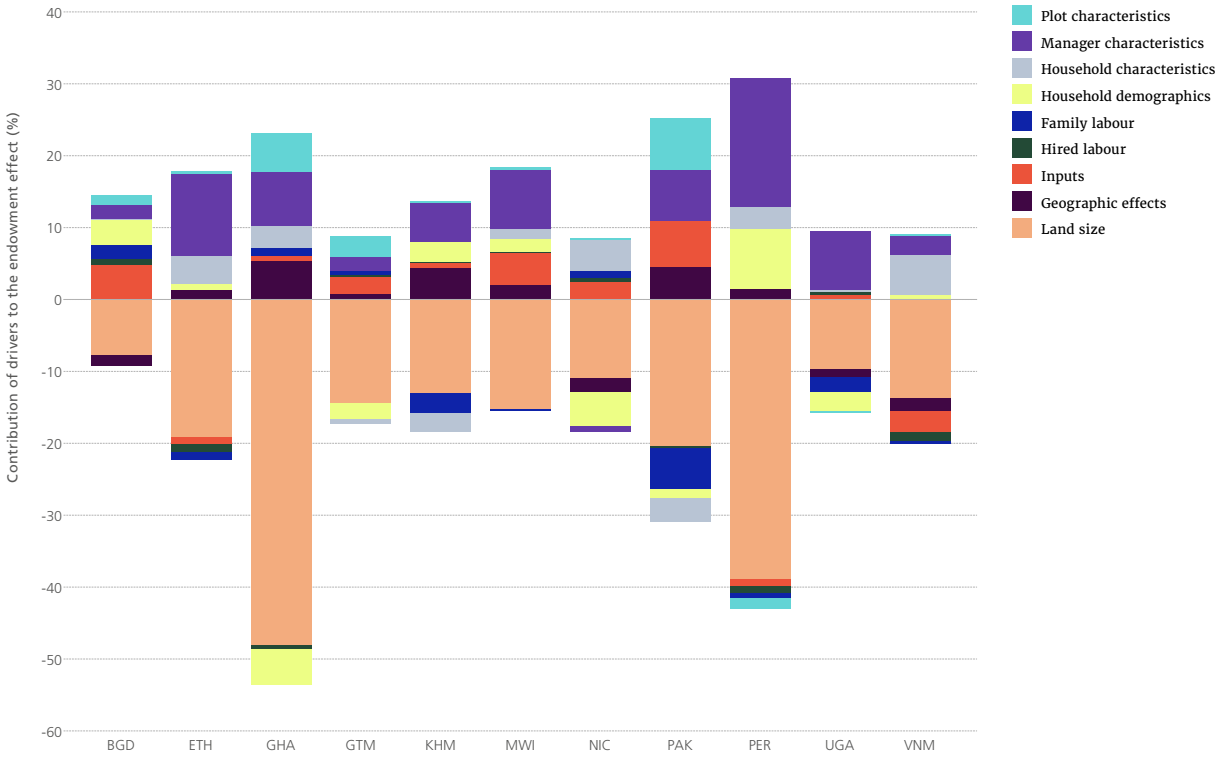
Table 2.2 The gender gap in land productivity between female- and male-managed farms of the same size is 24 percent

Average yield* gaps (male versus female farm managers) using different definitions of the gender of the farm manager

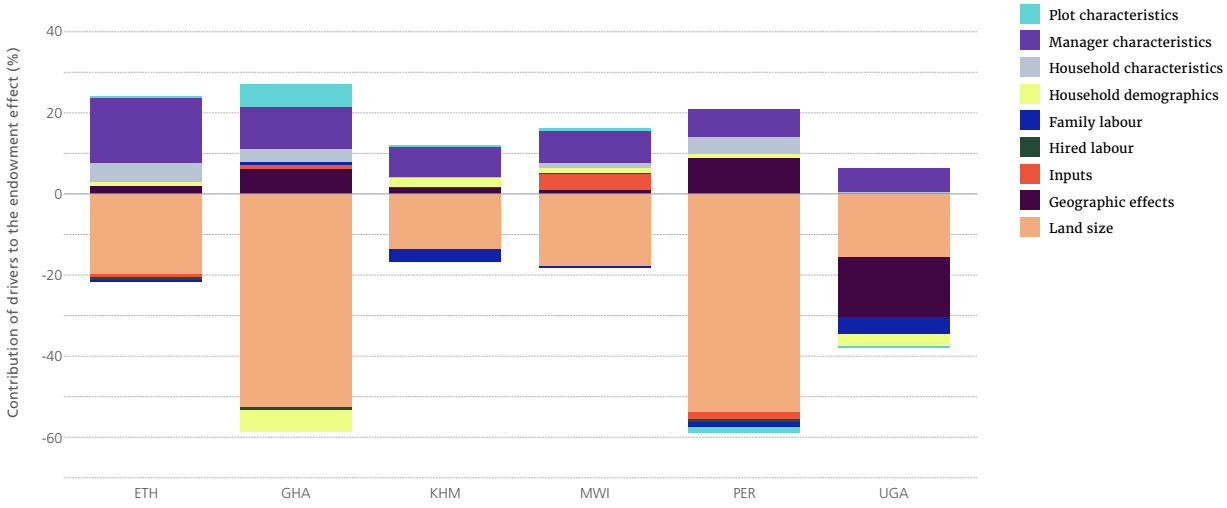
	Gender of manager (manager sample)**	Gender of head (manager sample)	Gender of head (full sample)
Gender gap* **	-4.4%	-1.1%	4.3%
Endowment effect	-17.4%	-9.2%	-7.6%
Structural effect	13%	8.2%	11.9%
Gap for farms of same size	24.4%	22.9%	24.0%
Number of countries	6	6	11

Figure 2.9 Gender differences in farm size are associated with a smaller gender yield gap, while gender differences in education, age and access to inputs and technology are associated with a larger gender gap

Panel A: Endowment effects by gender of the household head



Panel B: Endowment effects by gender of farm manager



NOTES: The components of the bar represent groups of variables used in the yields model. The size of each variable grouping within each country bar represents the contribution of the variable group to the total endowment effect. The variable groups are: **Family labour**: family labour effort separated by male, female and children; **Household demographics**: household demographic characteristics, such as proportion of household members under 5; **Geographic effects**: dummy variables that capture small area fixed effects including unobserved land productivity; **Household characteristics** like household size, if the household receives non-farm income and distance to markets; **Hired labour**: an indicator of hired labour effort; **Inputs**: agricultural inputs and technologies excluding land and labour; **Manager characteristics**: characteristics of the manager or household head including age, education and marital status; **Plot characteristics**: characteristics of the cultivated plots including slope, irrigation and soil quality when available; **Land size**: size of farm generally expressed as log of land and its square. BGD: Bangladesh; ETH: Ethiopia; GHA: Ghana; GTM: Guatemala; KHM: Cambodia: MWI: Malawi; NIC: Nicaragua; PAK: Pakistan; PER: Peru; UGA: Uganda; VNM: Viet Nam.

SOURCE: **Anríquez, G., Quiñonez, F. & Foster, W.** (forthcoming). *Levelling the farm fields, A cross-country study of the determinants of gender-based yield gaps*. Background paper for *The status of women in agrifood systems*, 2023. Rome, FAO.

BOX 2.10 GENDER PRODUCTIVITY GAPS REPORTED IN THE *STATE OF FOOD AND AGRICULTURE 2010-2011*[i] AND THE LIMITATIONS OF COMPARING MALE- AND FEMALE-HEADED FARMS

Due primarily to data constraints, historically most studies on the gender gap in farm productivity have compared female-headed households with male-headed households instead of taking into account the gender of who was managing farm activities.

Approximating farm management with household headship has several shortcomings. Women who head their own households are often widowed, divorced or separated, or may have a husband working abroad and sending remittances back home. Women in female-headed households are not only heterogeneous, but they may face a different set of disadvantages and constraints than those living in male-headed households.[ii, iii] Moreover, an exclusive focus on headship ignores women in male-headed households. In many contexts, women in male-headed households oversee diverse activities within the family farm, alone or jointly either with their spouse or with other family members, but they may not be always seen as farmers.[iv]

Because a focus on the head of the household tells only a partial story regarding agricultural productivity, a greater effort has been made to collect sex-disaggregated agricultural production data and explore productivity gaps between farm plots managed by women and men.[v, vi, vii, viii] Plot-level estimates of the gender gaps in agricultural productivity from sub-Saharan African countries tend to find significant gaps in productivity, and the gaps are larger after accounting for scale or the size of the managed plot.[vii, ix, x]

Gender productivity gaps tend to be greater when measured at the level of the plot than when measured at the level of the farm. For example, Kilic *et al.*[vi] reported gender productivity gaps of 29 percent in favour of male plot managers in Malawi, while the gaps measured between male and female heads of households were only 7 percent. In the case of Ethiopia, Aguilar *et al.*[v] reported gender productivity gaps of 23 percent in favour of male plot managers, while the gaps were negligible in comparisons based on gender of the household head. These findings are consistent with the meta-analyses results of Anríquez *et al.*,[xi] providing further support to the current push to collect information of the gender of all farm managers. Related to this is the need for more research on joint management of family farms, which is the most common management system in many low- and middle-income countries, and how different management arrangements correlate with farm productivity and family well-being.[iv, xii]

WOMEN IN FEMALE-HEADED HOUSEHOLDS MAY FACE A DIFFERENT SET OF DISADVANTAGES AND CONSTRAINTS COMPARED WITH WOMEN IN MALE-HEADED HOUSEHOLDS.

BOX 2.10 GENDER PRODUCTIVITY GAPS REPORTED IN THE *STATE OF FOOD AND AGRICULTURE 2010-2011*[i] AND THE LIMITATIONS OF COMPARING MALE- AND FEMALE-HEADED FARMS

NOTES:

i. **FAO.** 2011. *The State of Food and Agriculture (SOFA) 2010–11: Women in Agriculture – Closing the gender gap for development.* Rome. https://www.fao.org/3/i2050e/i2050e.pdf

ii. **Burke, W.J. & Jayne, T.S.** 2021. Disparate access to quality land and fertilizers explains Malawi's gender yield gap. *Food Policy*, 100: 102002. https://doi.org/10.1016/j.foodpol.2020.102002

ii. **Andersson Djurfeldt, A., Djurfeldt, G., Hillbom, E., Isinika, A.C., Joshua, M.D.K., Kaleng'a, W.C., Kalindi, A., Msuya, E., Mulwafu, W. & Wamulume, M.** 2019. Is there such a thing as sustainable agricultural intensification in smallholder-based farming in sub-Saharan Africa? Understanding yield differences in relation to gender in Malawi, Tanzania and Zambia. *Development Studies Research*, 6(1): 62–75. https://doi.org/10.1080/21665095.2019.1593048

iv. **Pyburn, R., Slavchevska, V., Kruijssen, F., Karam, A. & Steijn, C.** 2022. *Gender dynamics in agri-food value chains: from diagnostics to change.* Background paper for *The status of women in agrifood systems*, 2023. Amsterdam, Netherlands (Kingdom of the), Royal Tropical Institute.

v. **Aguilar, A., Carranza, E., Goldstein, M., Kilic, T. & Oseni, G.** 2015. Decomposition of gender differentials in agricultural productivity in Ethiopia. *Agricultural Economics*, 46(3): 311–334. https://doi.org/10.1111/agec.12167

vi. **Kilic, T., Palacios-Lopez, A. & Goldstein, M.** 2015. Caught in a productivity trap: A distributional perspective on gender differences in Malawian agriculture. *World Development*, 70: 416–463

vii. **Slavchevska, V.** 2015. Gender differences in agricultural productivity: The case of Tanzania. *Agricultural Economics*, 46(3): 335–355.

viii. **Mugisha, J., Sebatta, C., Mausch, K., Ahikiriza, E., Kalule Okello, D. & Njuguna, E.M.** 2019. Bridging the gap: Decomposing sources of gender yield gaps in Uganda groundnut production. *Gender, Technology and Development*, 23(1): 19–35. https://doi.org/10.1080/09718524.2019.1621597

ix. **World Bank and ONE Campaign.** 2014. *Levelling the field: Improving opportunities for women farmers in Africa.* Washington, DC, World Bank. https://openknowledge.worldbank.org/handle/10986/177900

x. **van der Meulen Rodgers, Y.** 2018. *The cost of the gender gap in agricultural productivity: Five African countries.* New York, USA, UN Women and United Nations Development Programme, and Nairobi, UN Environment. https://tinyurl.com/45cnbtar.

xi. **Anríquez, G., Quiñonez, F. & Foster, W.** (forthcoming). *Levelling the farm fields, A cross-country study of the determinants of gender-based yield gaps.* Background paper for *The status of women in agrifood systems*, 2023. Rome, FAO.

xii. **Puskur, R., Jumba, H., Reddy, B., Etale, L., Ragasa, C., Mishra, A., Mangheni, M.N., Nchanji, E. & Cole, S.** 2023. *Closing gender gaps in productivity to advance gender equality and women's empowerment.* Background paper for *The status of women in agrifood systems*, 2023. Nairobi, CGIAR GENDER Impact Platform. https://gender.cgiar.org/SWAFS-2023

Labour productivity gaps between women and men farm managers

Productivity of labour has traditionally been found to be lower in agriculture than other sectors of the economy. Recent research[1, 2, 3] suggests that labour productivity in agriculture is not as low as previously thought, but that apparent low productivity is largely a problem of underemployment linked to the seasonal nature and differential intensity of crop production. As seen earlier in this chapter, women working in agriculture are less likely than men to be in full-time employment.

Relatively few studies have examined gender gaps in labour productivity. However, one study of gender gaps in labour productivity between female and male farm managers in five sub-Saharan African countries found significant gender gaps in labour productivity.[97] These ranged from 47 percent in Nigeria and the United Republic of Tanzania to 2 percent in Ethiopia, with Ethiopia being the only country in the sample where there were no significant gender gaps in labour productivity

among managers. The average gender gap across the five countries was 35 percent (Table 2.3). The gender gap derived mainly from the endowment effect, which captures differences in observable farmer, household and plot characteristics (28 percent). Structural inequalities, associated with discrimination, explained a smaller share of the gap (7 percent). Breaking down the components of the gender gap, the study found results similar to the case of land productivity.

Differential access to family labour, manager age and education, and responsibility for household care were associated with a greater gap in labour productivity. Conversely, the smaller land plots managed by women allow them to work more intensely and are correlated with a smaller gender gap in labour productivity.

Table 2.3 The gender gap in labour productivity between male and female plot managers is 35 percent

Average labour productivity* gaps (male versus female managers) and contributing factors

	Gender of manager (full sample)
Gender gap**	35%
Endowment effect	28%
Structural effect	7%
Number of countries	5

← **NOTES:** *Labour productivity is measured at the plot level as the value of harvest from all crops grown on the plot divided by the hours worked on the plot.

** A negative sign reflects higher female productivity as compared with men; a positive sign reflects higher male productivity as compared with women.

SOURCE: Piedrahita, N., Costa, V. & Mane, E. (forthcoming). *Gender gap in agricultural labour productivity: A cross country comparison*. Background paper for *The status of women in agrifood systems*, 2023. Rome, FAO.

Gender gaps in wages in agrifood systems and off-farm employment

Women are disadvantaged as wage employees in agrifood systems. Case studies suggest significant inequalities in wages between female and male employees in both agriculture and the off-farm segments of agrifood systems. For example, in the horticulture sector in Senegal women's wages are on average 24 percent lower than those of men.[72] Women's segregation into low-wage sectors is an important contributor to the pay gap.[28] But several studies show that women's wages tend to be lower than men's wages even for the same activities[25, 1] and in activities dominated by women, such as aquaculture processing,[10] pointing to pervasive gender discrimination in wage employment in agrifood systems.

Significant gender gaps were evident in wages in agricultural and off-farm activities both within and outside agrifood systems across a sample of ten countries from sub-Saharan Africa, the Near East and North Africa, Asia and Latin America (Table 2.4).[98, 2] First, on average across the ten countries, women were paid 18.4 percent less than men in wage employment in agriculture. In other words, women earned 82 cents for every dollar earned by men. The gender gap in off-farm wages

IN WAGE EMPLOYMENT IN AGRICULTURE, WOMEN EARN 82 CENTS FOR EVERY DOLLAR EARNED BY MEN.

(within and outside agrifood systems) in these countries was smaller at 15.8 percent.

Second, in agricultural wage employment in the sample of ten countries, the structural effect – associated with discrimination – explained most of the gender wage gap (11.9 percent). These results are in line with previous findings.[104, 105] Few consistent patterns were evident among the components of the endowment effect, which accounted for 6.4 percent.

Third, in off-farm wage employment, on average the structural effect played a larger role (9.7 percent) than the endowment effect (6.1 percent). While both the endowment and the structural effects were significant contributors to the gender wage gap in most countries, their respective roles varied by country. The structural effect in most countries contributed to a larger gender wage gap. The endowment effect went in both directions, expanding the wage gap in half of the countries and reducing it in three: Colombia, Egypt and Tunisia.

Table 2.4 The structural effect, associated with discrimination, explains the largest share of the gender gap in agricultural wage employment

The gender wage* gap in agricultural and off-farm wage employment

	Agriculture	Off-farm
Gender gap**	18.4%	15.8%
Endowment effect	6.4%	6.1%
Structural effect	11.9%	9.7%
Number of countries	10	10

← **NOTES:** * Hourly wages were converted to USD PPP 2017 using purchasing power parities (PPP) and consumer price indices. The natural logarithm of the hourly wages was used for the model estimation; ** A negative sign reflects higher female wages as compared with men; a positive sign reflects higher male wages as compared with women. In agriculture, the endowment and structural effects do not add up perfectly to the gender gap due to rounding.

SOURCE: Benali, M., Slavchevska, V., Davis, B., Piedrahita, N., Sitko, N., Nico, G. & Azzari, C. (forthcoming). *Gender pay gaps among agriculture and non-agriculture wage workers: a cross-country examination.* Background paper for *The status of women in agrifood systems*, 2023. Rome, FAO.

Among the endowment factors, the role of gender differences in education, part-time employment and employment segregation in subsectors stood out. Gender differences in education were mostly associated with smaller gender wage gaps. In the countries in this sample, the relatively small number of women participating in wage employment in off-farm activities (which include highly-skilled and professional jobs) had a similar or greater level of education than men. The returns per hour to part-time employment appeared to be higher than the returns to full-time employment, and women's greater likelihood to work part-time was associated with smaller gender wage gaps. However, full-time employment may include additional benefits and social-security contributions, unaccounted for in the hourly wages. Gender segregation across sectors of employment was consistently associated with larger gender wage gaps in off-farm wage employment, which is in line with the literature. Women tended to be concentrated in the low-paid sectors and this contributed to a larger gap in pay.

SPOTLIGHT 2.11 INDIGENOUS PEOPLES AND GENDER IN AGRIFOOD SYSTEMS

Indigenous Peoples, and in particular Indigenous women, play important roles in conserving biodiversity, preserving common property resources and managing water resources. They are critical holders of traditional knowledge[i] but they continue to face significant disadvantages in agrifood systems related to poor working conditions, inadequate access to resources and deep-rooted discrimination. The majority of Indigenous Peoples (74 percent) live in rural areas and are greatly dependent on agrifood systems for their livelihoods.[ii]

Fifty-five percent of Indigenous Peoples' employment is in agriculture, compared with 27 percent of non-Indigenous Peoples' employment, and the patterns are similar for men and women.[iii] Trade, transportation, accommodation and food services are nearly twice as important as sources of employment for non-Indigenous Peoples than for Indigenous Peoples (31.9 percent versus 17.3 percent), for both women and men.

Poor working conditions, low pay and discrimination characterize the work of Indigenous women and men, with Indigenous women facing more pronounced disadvantages in labour markets. Informal employment is 20 percentage points higher among Indigenous Peoples than among non-Indigenous Peoples, and it is 25.6 percentage points higher among Indigenous women than among non-Indigenous women.

About three-quarters of Indigenous women's employment is either as a contributing family worker or as an own-account worker, both of which are forms of vulnerable self-employment. Over 33 percent of Indigenous women's work is as contributing family workers, compared with 11.9 percent for Indigenous men and 17.7 percent for non-Indigenous women in some countries.[ii] Wage employment plays a markedly smaller role in the employment of Indigenous women compared with all other workers. Almost 25 percent of working Indigenous women are wage and salary employees, compared with 51.1 percent of non-Indigenous women and 30.1 percent of Indigenous men. Less than 1 percent of all Indigenous women are entrepreneurs with hired labour (employers).[ii]

These characteristics, combined with lower levels of education, higher concentration in rural areas and entrenched discrimination, lead to an 18.5 percent gap in earnings between Indigenous Peoples and non-Indigenous Peoples. The gap is highest in Latin America and the Caribbean (31.2 percent). The pay gap is larger between Indigenous and non-Indigenous men (24.4 percent) than between Indigenous and non-Indigenous women (8.2 percent).[ii]

Indigenous women face unique challenges in accessing employment opportunities because of social and economic exclusion, discrimination, violations of their rights, high unpaid work burden[iv, v, vi] and the lack of recognition of their traditional knowledge, practices and skills.[vii] With rapid rural transformation, traditional job opportunities in rural areas have decreased.[v] In both rural and urban labour markets, Indigenous women are found in situations of greater vulnerability than non-Indigenous women as a result of their greater participation in the informal economy, exploitation and precarious working conditions.[viii] Furthermore, climate change has been singled out as a major factor of rural transformation affecting the lives of Indigenous Peoples and potentially exacerbating existing inequalities.[iv]

Indigenous women and men are important partners for sustainable development

Indigenous Peoples' food and knowledge systems are multifunctional and holistic, generating food, medicines, shelter and energy, and supporting cultural, social and spiritual manifestations. This multifunctionality is rooted in understanding and engagement in agrifood systems in their totality, giving special attention to the relationships between the different elements in the ecosystem. The very existence of Indigenous Peoples' food and knowledge systems today and their capacity to preserve 80 percent of the remaining biodiversity in the planet[ix] constitute two of the most important contributions made to the world´s sustainability.

SPOTLIGHT 2.11 INDIGENOUS PEOPLES AND GENDER IN AGRIFOOD SYSTEMS

Indigenous women have played a fundamental role in preserving Indigenous Peoples' livelihoods, language and culture and in managing natural resources in their territories. Indigenous women are knowledge holders, key for nature-based solutions in the context of climate action and sustainable development.

However, the systemic lack of recognition of Indigenous women's rights, in particular their right to self-determined development and their collective rights, places them in situations of increased discrimination, vulnerability, poverty, conflict and food insecurity. Persistent lack of disaggregated data contribute to their invisibility, even within the Indigenous Peoples' population. This fact hinders comprehensive and targeted research and thus development and implementation of policies that can address the overlapping and interdependent forms of discrimination faced by Indigenous women.[x]

Access to land, natural resources and territories is another essential factor for Indigenous women's livelihoods. Governance and social structures of Indigenous Peoples have a strong impact on Indigenous women's access to land and natural resources. The weakening or alteration of Indigenous Peoples' governance and social structures due to changes in environmental, social and political factors negatively affects the recognition of Indigenous women's roles within their communities and their participation in decision-making processes.[x]

A case study of the Wayuu people in South America has shown that changes in women's roles has significantly reduced their economic independence as they have moved from commercial to more domestic activities and that the weakening of their matrilineal structure has resulted in a breakdown of reciprocal ties in the community and increased political segregation. This increases the vulnerability of families and reduces their resilience to climatic or social shocks.[xi]

NOTES:

i. **Rani, U. & Oelz, M.** 2019. Sustaining and preserving the traditional knowledge and institutions of Indigenous communities: Reflections on the way forward. In: *Indigenous Peoples and climate change: Emerging research on traditional knowledge and livelihoods*, pp. 121–128. Geneva, Switzerland, ILO.

ii. **ILO.** 2019. *Implementing the ILO Indigenous and Tribal Peoples Convention No. 169: Towards an inclusive, sustainable and just future.* Geneva, Switzerland. https://tinyurl.com/yc6c6cav

iii. The employment estimates are based on a sample of 30 countries, home to 95 percent of the Indigenous population globally.

iv. **ILO.** 2017. *Indigenous Peoples and climate change: From victims to change agents through decent work.* Geneva, Switzerland.

v. **ILO.** 2017. *Decent work for Indigenous and tribal peoples in the rural economy.* Decent Work in the Rural Economy Policy Guidance Notes. Geneva, Switzerland.

vi. **Thornberry, F.** 2017. *Working conditions of Indigenous women and men in Central Africa: An analysis based on available evidence.* Working Paper No. 2/2017. Geneva, Switzerland, Gender, Equality and Diversity Branch, ILO.

vii. **Ahearn, A., Oelz, M. & Kumar Dhir, R.** 2019. *Indigenous Peoples and climate change: Emerging research on traditional knowledge and livelihoods.* Geneva, Switzerland, ILO.

viii. **Vinding, D. & Kampbel, E.-R.** 2012. *Indigenous women workers: with case studies from Bangladesh, Nepal and the Americas.* Working Paper No. 1/2012. Geneva, Switzerland, International Labour Standards Department, ILO.

ix. **Sobrevilla, C.** 2008. *The role of Indigenous Peoples in biodiversity conservation. The natural but often forgotten partners.* Washington, DC, World Bank.

x. **FAO.** 2020. *Indigenous women, daughters of Mother Earth*. Rome. https://www.fao.org/documents/card/en/c/cb0719en

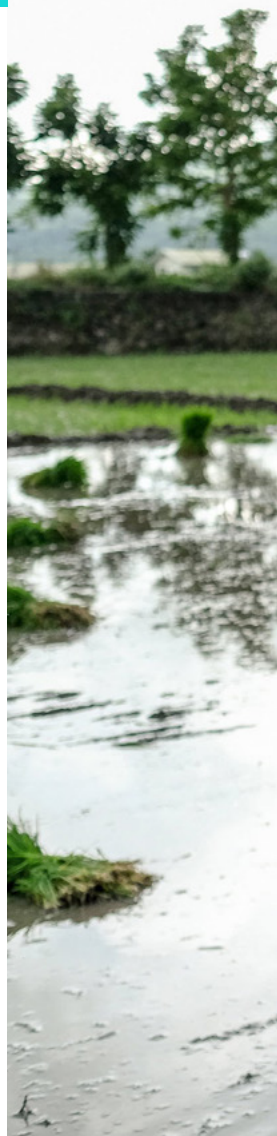
xi. **FAO.** 2020. *Territorial management in Indigenous matrifocal societies – Case studies on the Khasi, Wayuu, Shipibo-Conibo and Moso peoples.* Rome, FAO and Copenhagen, International Work Group for Indigenous Affairs. https://doi.org/10.4060/ca6887en

CHAPTER 3

LET'S
GROW
EQUALITY
IN ACCESS
TO RESOURCES

CHAPTER 3

GENDER INEQUALITIES IN RESOURCES IN AGRIFOOD SYSTEMS



KEY FINDINGS

- **Women's access to land, inputs, services, finance and digital technology – which is key to working in agrifood systems – continues to lag behind men's.**

- **In many countries there still is much to do to ensure that women own land in equal proportion to men and that legal frameworks protect their rights.** Men have greater ownership or secure tenure rights over agricultural land than do women in 40 of 46 countries with available data, and protections for women's land rights in the law are low in 50 percent of countries reporting on Sustainable Development Goal Indicator 5.a.2.

- **It is alarming how little the gaps in women's access to extension and irrigation and ownership of livestock have closed over the past decade, although it is encouraging that gaps in their access to financial services, mobile internet and mobile phones are narrowing.** The gender gap in women's access to mobile internet in low- and middle-income countries reduced from 25 percent to 16 percent between 2017 and 2021, and the gender gap in access to bank accounts reduced from 9 percentage points to 6 percentage points.

EQUAL ACCESS TO AND CONTROL OVER RESOURCES IS CENTRAL FOR WOMEN'S EMPOWERMENT.

← AFGHANISTAN – Lab technicians sorting seeds for testing.

↓ PHILIPPINES – A farmer wraps up planting a rice variety in a province suceptible to flooding.

INTRODUCTION

Ensuring that women have equal access to and control over resources is central for achieving gender equality and women's empowerment in agrifood systems. Secure rights over land, water and livestock can expand rural women's economic opportunities, strengthen their decision-making power over household productive assets and income, and contribute to their resilience to shocks, including global economic crises and climate-related shocks (see Chapter 5 for an in-depth discussion).

Equal access to agricultural inputs, technologies and complementary resources for men and women farmers would help reduce the gender gaps in land and labour productivity and reduce women's food insecurity. New sources of inequality may emerge (e.g. digital technology) as economic development and agrifood-system transformation result in employment progressively shifting from agriculture to the off-farm segments of agrifood systems. These changes also give new urgency to the need to close long-existing inequalities in access to resources such as education.

This chapter describes gender patterns in access to and ownership of resources that are important for women's livelihoods and empowerment in agrifood systems, including education, land, water, livestock as well as complementary resources, technologies and services. It takes stock of where progress has been made, has stalled or even reversed in the last decade. Recent research has moved beyond documenting the gender gap in agriculture and agrifood systems to examining decision-making processes over resources and analysing the underlying constraints that trigger and sustain such inequalities.[1]

IN A SAMPLE OF 20 COUNTRIES, LESS THAN 1% OF POOR RURAL WOMEN FINISHED SECONDARY EDUCATION.

EDUCATION

Education, for both boys and girls, is fundamental to tackling all aspects of gender inequality. Education for women and girls provides more than access to better jobs in agrifood systems. It is about empowering them to pursue the opportunities they choose to pursue, inside and outside of agrifood systems. Without sufficient education, women are significantly disadvantaged in their ability to make use of rights they may have to own and inherit land, to access agricultural finance or make use of digital technologies. The gender land gap tends to be lower in countries with higher female education levels than in those with lower levels of female education.[2] Women with higher levels of education working in agrifood systems receive higher wages and are more productive than those with lower levels of education (Chapter 2). But education has many other and wide-ranging social and economic benefits, such as, for example, improvements in maternal and child health and nutrition.[3]

Gender inequalities in education persist globally and at all levels of education, despite improvements in the last two decades. Progress in gender parity has been more consistent in primary education than in secondary and tertiary education, including across regions.[4] Sub-Saharan Africa continues to score the lowest in gender parity in both secondary and tertiary education.[4] Gender disparities in education are greater among the poorest households and in rural areas. In a sample of 20 countries, less than 1 percent of poor rural women finished secondary education,[5] a major barrier to increasing women's empowerment.

LAND

When land and property rights are insecure, women and men cannot confidently plan, invest in, improve or dispose of their land. Stronger land rights for women are positively associated with greater adoption of technologies, increase in investments and higher levels of agricultural productivity and income (see Chapter 6). Secure land tenure is also an important aspect of women's empowerment and is associated with additional social benefits, including lower rates of domestic violence (Box 3.1).

↓ **ZIMBABWE – A girl following a lesson at her secondary school.**

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BOX 3.1 LAND, WATER AND GENDER-BASED VIOLENCE

Land

A growing body of evidence seeks to unpack the ambiguous relationship between women's landownership and gender-based violence. Women's landownership by itself does not reduce gender-based violence, but instead likely works through i) increasing women's economic empowerment and bargaining power, ii) improving their knowledge and self-esteem alongside freedom of mobility and market access, and iii) enhancing women's social position by recognizing their agency and claims to rights and freedom.[i] However, if men see women's economic empowerment and increased property as a threat to their own power, they may retaliate by perpetrating violence, both within and outside the household.[i, ii]

Across several states in India, women who owned land reported that land and asset ownership had reduced verbal, physical and sexual abuse inflicted on them.[i, iii, iv] Landless women also reported that they would experience less violence if they owned land. Many women stated that landownership reduced dependency and feelings of discomfort and being unworthy, and helped them gain voice and acceptance in their parental and marital families.[i]

Men's perceptions, however, were mixed: some affirmed that women's land entitlement would enable them to better manage the household and improve nutrition, while others stated that women who were given land would become selfish and create problems in the household. Men and women complained about the poor quality of land given by the government to women but noted that landownership had led to women's increased mobility and enhanced awareness in the past decade. However, structural factors, such as poor information regarding land and revenue administration processes, all-male staffed revenue administrations and all-male institutions (for example, village governance bodies) were limiting.[i]

In Nicaragua and the United Republic of Tanzania, women's landownership was significantly related to lower levels of partner power, resulting in a decrease in physical and psychological violence.[v] Women stated that property ownership strengthened their ability to address their own needs independent of their husbands, thereby interrupting sociocultural structures of male power. However, an analysis of women's sole or joint landownership of land and experience of intimate partner violence from 28 Demographic and Health Surveys found inconclusive evidence on this relationship.[ii]

Women's awareness of their property rights and support from institutions, including social norms and laws governing landownership, are also crucial to protect them from gender-based violence.[vi] Individuals, the private sector, the government or other stakeholders may use gender-based violence as a coercive tactic in land grabbing.[vi, vii] Women may also be forced to trade sex to access land or resolve land issues. In Sierra Leone, for example, 8 percent of women and 5 percent of men reported that they had been asked for a sexual favour to resolve land issues or knew someone who had been asked for such favours.[vi, viii]

BOX 3.1 LAND, WATER AND GENDER-BASED VIOLENCE

Water

Lack of access to and inability to benefit from affordable, adequate, reliable and safe water increase the risk of gender-based violence, with women and girls struggling to safely obtain enough water for household use. A global review of the evidence related to gender-based violence carried out in 2022 shows that violence against women is connected to gender norms that rationalize violence, make water and related household tasks the sole responsibility of women, and limit women's ability to ask for support.[ix] Water insecurity commonly increases the risk of sexual violence while accessing water and having insufficient water in the household can lead to physical violence, often perpetrated by intimate partners.

NOTES:

i. **Kelkar, G., Gaikwad, S. & Mandal, S.** 2015. *Women's asset ownership and reduction in gender-based violence*. Seattle, WA, USA, Landesa and New Delhi, Heinrich Böll Stiftung.

ii. **Peterman, A., Pereira, A., Bleck, J., Palermo, T.M. & Yount, K.M.** 2017. Women's individual asset ownership and experience of intimate partner violence: Evidence from 28 international surveys. *American Journal of Public Health*, 107(5): 747–755.

iii. **Bhattacharyya, M., Bedi, A.S. & Chhachhi, A.** 2011. Marital violence and women's employment and property status: Evidence from north Indian villages. *World Development*, 39(9): 1676–1689.

iv. **Panda, P. & Agarwal, B.** 2005. Marital violence, human development and women's property status in India. *World Development*, 33(5): 823–850.

v. **Grabe, S.** 2015. Participation: Structural and relational power and Maasai women's political subjectivity in Tanzania. *Feminism & Psychology*, 25(4): 528–548. https://doi.org/10.1177/0959353515591369

vi. **International Union for Conservation of Nature.** 2021. *Gender and national climate planning: Gender integration in the revised Nationally Determined Contributions*. Gland, Switzerland. https://portals.iucn.org/library/node/49860

vii. **Izumi, K.** 2007. Gender-based violence and property grabbing in Africa: A denial of women's liberty and security. *Gender & Development*, 15(1): 11–23. https://doi.org/10.1080/13552070601178823

viii. **Transparency International.** 2018. *Women, land and corruption: Resources for practitioners and policy-makers*. Berlin.

ix. **Tallman, P.S., Collins, S., Salmon-Mulanovich, G., Rusyidi, B., Kothadia, A. & Cole, S.** 2022. Water insecurity and gender-based violence: A global review of the evidence. *WIREs Water*, 10(1): e1619. https://doi.org/10.1002/wat2.1619

The importance of women's land rights has been increasingly recognized in major international processes and instruments, including the Sustainable Development Goals (SDGs) and the *Voluntary Guidelines on the responsible governance of tenure of land, fisheries and forests in the context of national food security*,[6] which were endorsed by the Committee on World Food Security in 2012. The Voluntary Guidelines include gender equality as one of their ten implementation principles, stressing its importance in all aspects associated with land-tenure governance. Recognizing that secure land rights are critical for the achievement of gender equality and women's empowerment (SDG 5) and for poverty elimination (SDG 1), the SDGs include the following three separate indicators on land: 1) Indicator 5.a.1 tracks the gender patterns of landownership or secure rights among agricultural populations; 2) Indicator 5.a.2 assesses the extent to which national laws and policies recognize and protect women's rights to land (see Box 3.2); and 3) Indicator 1.4.2 reports gender statistics related to land tenure insecurity.[7]

BOX 3.2 WOMEN'S RIGHTS TO LAND IN THE LAW

SDG Indicator 5.a.2[i] is defined as the proportion of countries where the legal framework (including customary law) guarantees women's equal rights to own and/or control land. This indicator is not limited to agricultural populations or agricultural land and is measured using the following six proxies:

A. joint registration of land;
B. spousal consent for land transactions;
C. equal inheritance rights for women and girls in estate successions;
D. allocation of financial resources to strengthen women's landownership;
E. the protection of women's rights to land under customary law, if customary law, customary land or customary institutions are recognized in the law; and
F. quotas for women's participation in land governance.

The proxies are drawn from international law and internationally accepted good practices, in particular the Convention on the Elimination of Discrimination against Women (CEDAW)[ii] and the *Voluntary Guidelines for the responsible governance of the tenure of land, fisheries and forests in the context of national food security.*[iii]

Proxies D and F are considered to be present not only if resources or quotas are prescribed by law but also, in the absence of such provisions, if official national statistics show that at least 40 percent of individuals with ownership or secure rights to land are women. This is the case in seven countries: Cambodia, Ethiopia, Georgia, Hungary, Lithuania, Rwanda and Sweden.

Proxy E is not applicable in the national laws in 28 countries, mainly in Europe and western Asia. Proxy E is not applicable when customary law, customary land or customary institutions are not recognized in the law even if in some countries they may affect land tenure arrangements on the ground.

Countries did not start reporting on SDG 5.a.2 until 2019 because internationally accepted methodology and standards for data collection were not agreed to until November 2017. By March 2023, 68 countries, across regions, levels of development and legal systems, and representing different religious and cultural contexts, have reported on SDG Indicator 5.a.2, with Pakistan being the only country thus far that has reported twice.

NOTES:

i. See **United Nations.** 2023. SDG Indicators. Metadata repository. In: *United Nations Statistics Division, Sustainable Development Goals*. New York, USA. Cited 20 March 2023. https://unstats.un.org/sdgs/metadata/ and **FAO.** 2021. *Realizing women's rights to land in the law, A guide for reporting on SDG Indicator 5.a.2.* Rome. http://www.fao.org/3/i8785en/I8785EN.pdf

ii. Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW). Adopted: United Nations General Assembly, 18 December 1979. http://www.un.org/womenwatch/daw/cedaw/cedaw.htm

iii. **FAO.** 2022. *Voluntary Guidelines on the responsible governance of tenure of land, fisheries and forests in the context of national food security.* First revision. Rome. https://doi.org/10.4060/i2801e

Women's land rights in the law[8]

Legal protections for women's land rights are low in 34 out of 68 countries that have reported on indicator 5.a.2 (Table 3.1). In these countries, at most two of the five or six proxies used to measure indicator 5.a.2 are present. However, 21 out of the 68 countries have high or very high levels of protection of women's land rights in law, with four to six proxies present.

As highlighted in Box 3.2, seven out of these 21 countries score well because official national statistics show that at least 40 percent of individuals with ownership or secure rights to land are women.

LEGAL PROTECTIONS FOR WOMEN'S LAND RIGHTS ARE LOW IN 50 PERCENT OF COUNTRIES.

Table 3.1 Level of protection for women's land rights in national laws

Number of proxies present in the legal framework	Score	Level of protection	Number of countries (N=68)
0	1	None	11
1	2	Very low	7
2	3	Low	16
3	4	Medium	13
4	5	High	15
5 or 6	6	Very high	6

← **SOURCE:** FAO data based on officially submitted SDG Indicator 5.a.2 assessments, March 2023.

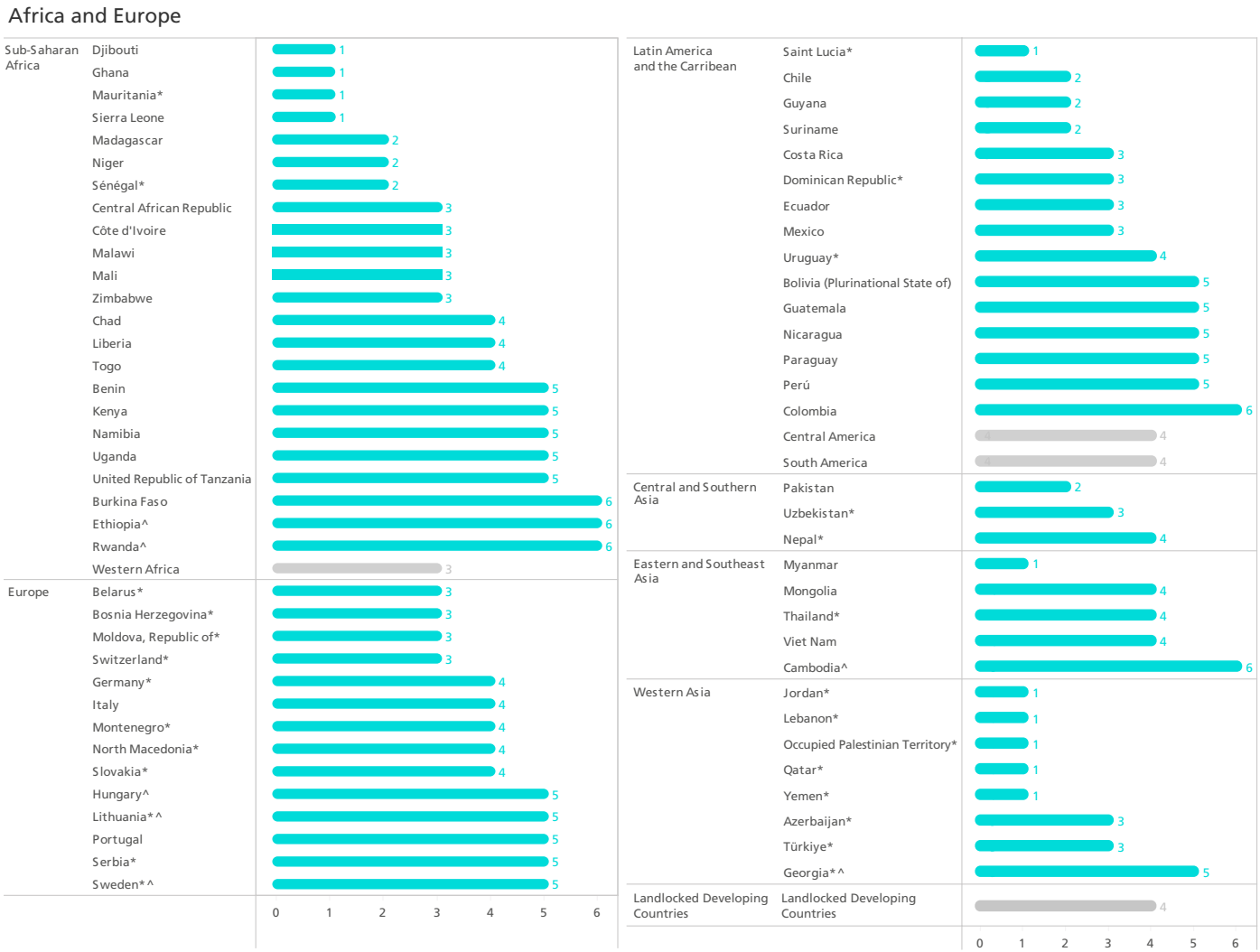
© FAO/Luis Tato

↓ **KENYA – Members of a farmers' group attend a training session on conservation agriculture in a demonstration farm.**

In each region there is wide variation in the number of proxies present at the country level (Figure 3.1). All regions have good examples of governments adopting legal and policy reforms for advancing women's land rights. However, additional efforts to improve the state of women's land rights are often needed even in countries with high or very high levels of protection for women's land rights.

Figure 3.1 Good examples of legal and policy reforms for advancing women's land rights exist in all regions

Scores of reporting countries by region



NOTES:
* Countries for which protection under customary law (proxy E) is not applicable. ^Countries for which one or two of the six proxies (see Box 3.2) are considered present because statistics show that at least 40 percent of people with ownership or secure land rights are women. Averages for the regions/subregions/groupings are marked in grey and are only reported when at least 50 percent of the countries in the particular group have officially reported on the indicator.

SOURCE: FAO data based on officially submitted SDG Indicator 5.a.2 assessments, March 2023.

A majority of reporting countries score well in the areas of marital property (proxy B)[9] and inheritance (proxy C) (Figure 3.2), but few legal reforms have been adopted in these areas since 2010.[10] In 60 percent of countries, one spouse cannot dispose of land or property that is considered joint marital property without the consent of the other. Fifty-seven percent of reporting countries support equal inheritance rights for all children and the surviving spouse, regardless of sex. In 43 percent of the countries, women's and girls' inheritance rights are not (fully) recognized, or not equal to those of men, or only applicable to certain groups.[11] This is often because religious or customary laws influence the inheritance regime.

Joint registration of land (proxy A) is present in 24 of the 68 reporting countries. In the majority of these countries, jointly owned land must be registered and certificates or titles issued in the name of both spouses. Kenya is one of the countries that have adopted land reforms to require joint registration in the last 10 years.[12] Mandatory joint titling has also been a feature of the land allocation and agrarian reform programmes in several Latin American countries, such as the Plurinational State of Bolivia[13] and the Dominican Republic.[14] Only two countries in the sample – Nepal[15] and Thailand[16] – encourage joint registration through economic incentives.

NOTES:

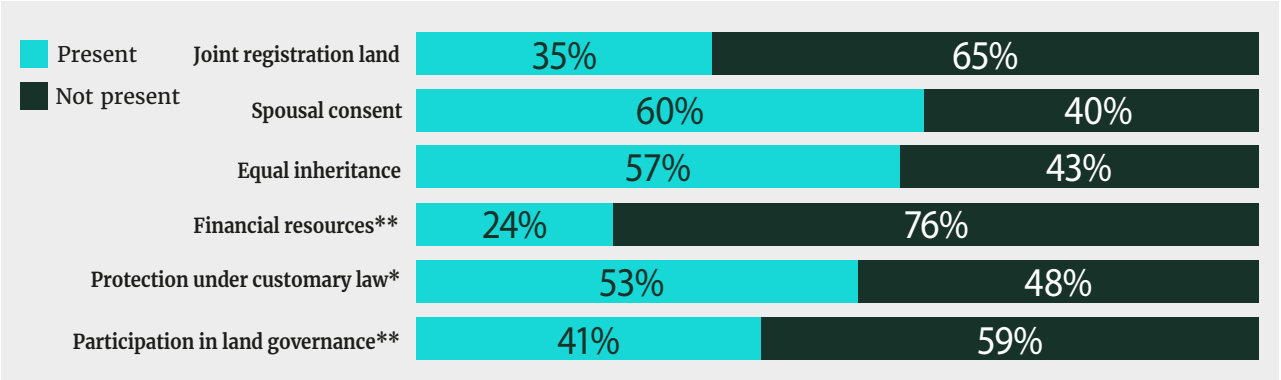
*The statistics are based on the sample of 40 countries for which *protection under customary law* (proxy E) is applicable.

***Financial resources* (proxy D) and *participation in land governance* (proxy F) are present on the basis of either legal provisions in the law or statistics (see Box 3.2).

SOURCE: FAO data based on officially submitted SDG Indicator 5.a.2 assessment, March 2023

Figure 3.2 A majority of reporting countries score well in the areas of marital property and inheritance

The percentage of the 68 countries reporting in which each proxy is present



Of the 40 countries that recognize customary law in their legal framework (proxy E), 21 countries ensure gender equality with respect to land rights. For instance, in Chad, Ecuador, Kenya, Malawi, the United Republic of Tanzania and Uganda both the constitution and land laws explicitly state that custom cannot be contrary to the principles of non-discrimination or gender equality, thereby setting clear boundaries for those who implement the laws. In other legal systems, the protections may be either only at the constitutional level or in the relevant land laws. Most of these reforms have been introduced recently, especially in sub-Saharan Africa.[17]

Temporary special measures[18] can support the implementation of policies and laws, thereby

contributing to accelerating gender equality in practice. Such measures have increasingly been adopted in the last decade, in particular in sub-Saharan Africa (often as part of a broader set of legal reforms) and Latin America. They are also found in countries with weak(er) protections in marriage and inheritance laws such as Chad, Liberia, Malawi, Mali and the Niger. Nine out of 16 countries with proxy D present have adopted legal provisions allocating financial resources to strengthening women's landownership, whereas 22 out of 28 countries with proxy F present mandate quotas for women's representation in land institutions. Although there have been encouraging advancements, additional actions may be necessary to address gender disparities in other domains that could impede the effective implementation of these measures. Ethiopia, for example, revoked the requirement in most states that demanded 30 percent of women's participation in Rural Lands Adjudication Committees because numerous rural women who were appointed to these committees were unable to fulfil their duties due to conflicting obligations related to child care and household chores.

Gender inequalities in land rights among agricultural populations

The lack of implementation and enforcement of legally-protected rights remains a major obstacle to the achievement of gender equality in land rights in practice, particularly among rural and agriculture-dependent populations. Unfortunately, harmonized, sex-disaggregated statistics on land rights remain scarce at the global level, despite advances in how to collect and produce such statistics. Most countries do not collect data on SDG Indicator 5.a.1. Even when they report on this indicator, not all countries follow the agreed methodology, and few provide information on multiple land rights (see Box 3.3).

Where data do exist, women in agricultural households remain significantly disadvantaged in landownership. In more than 30 percent of the 46 countries that have reported on SDG 5.a.1, the percentage of men who have ownership or secure tenure rights over land is twice as high as that for women (Figure 3.3). These data refers specifically to agricultural households. Additionally, in almost all countries (40 of 46) a larger share of men have ownership and/or secure tenure rights compared with women.

↓ PHILIPPINES - A farm owner prepares for the next planting season.

Figure 3.3 Men are more likely to have landownership rights than women

Share of women and men in the adult agricultural population with ownership or secure tenure rights. Dots above the diagonal line indicate that a larger percentage men than women own land.

← **SOURCE:** FAO data for SDG Indicator 5.a.1(a) for 46 countries, February 2023.

↓ **NOTE:** Dots above the diagonal line indicate that a larger percentage men than women own land.

IN 40 OF 46 COUNTRIES A HIGHER SHARE OF MEN HAVE OWNERSHIP AND/OR SECURE TENURE RIGHTS COMPARED WITH WOMEN.

BOX 3.3 THE COLLECTION OF SEX-DISAGGREGATED SURVEY DATA ON LAND RIGHTS

Significant improvements have been made in measuring and monitoring women's and men's land rights since The State of Food and Agriculture 2010–11 (SOFA 2010–11).[i]

Whose rights to report on – agricultural holder versus individual men and women? SOFA 2010–11 reported statistics about agricultural holders, defined as "the person or group of persons who exercise management control over an agricultural holding." However, the concept of agricultural holders does not capture the true distribution of landownership (or other rights) among household members and by gender,[ii, iii] and has been replaced with a focus on individual men's and women's land rights.

What rights to measure? Women's land rights are conceptualized as a bundle of rights,[iv] bringing attention to the fact that women and men may have some rights to a particular plot of land but not others. Those that manage the land do not always have the rights to sell the land (alienation rights), and in some contexts men and women may report being landowners but without the right to sell or bequeath the land.[v]

Methodological innovations were taken forward in the formulation of SDG Indicator 5.a.1, which comprises of two sub-indicators: (a) the proportion of total agricultural population with ownership or secure rights over agricultural land, by sex; and (b) the share of women among owners or rights-bearers of agricultural land, by type of tenure. In the methodology for SDG Indicator 5.a.1, secure tenure rights comprise both landownership and two key alienation rights: the right to sell and the right to bequeath agricultural land. Nevertheless, there are significant gaps in the application of the methodology, particularly with regard to how data on land rights of people dependent on agriculture for their livelihoods are collected in surveys. For example, for a large share of countries, the estimates of Indicator 5.a.1 are based on data from the Demographic Health Surveys. These surveys collect only self-reported information on whether the respondent owns any land; they frequently do not follow up with questions about the type of land owned (agricultural, residential, etc.) or whether the respondents have the rights to alienate the land through sales or bequest. They also interview women and men of reproductive age, so may not include older women, whose land rights may be more insecure.[vi]

Only five nationally representative surveys have collected data on multiple rights over land, including the right to bequeath the land, as outlined in the methodology (Table A). In the United Republic of Tanzania, a similar percentage of men and women in agricultural households have documented ownership of land, and gender balance has improved over time. However, in the other countries women clearly trail behind men in access to ownership documents. In Malawi, where a large share of all landowners are women, fewer women than men have documents confirming their land rights. The gender gap in documented rights is particularly glaring in Nigeria. The proportion of both men and women reporting having ownership or alienation rights who have documents to support their reported land rights is very low in all the countries except Cambodia and Ethiopia.

BOX 3.3 THE COLLECTION OF SEX-DISAGGREGATED SURVEY DATA ON LAND RIGHTS

Table A Percentage of agricultural population with ownership and alienation rights over land

Country	Year	Documented ownership		Alienation rights		Right to sell		Right to bequeath	
		Male	Female	Male	Female	Male	Female	Male	Female
Cambodia	2019	67.1	68.8	70.7	73.8	69.7	73.0	69.3	72.6
Ethiopia	2014	37.8	30.1	62.6	57.7	62.6	57.7	–	–
	2016	40.2	31.7	62.3	64	62.3	64.0	–	–
	2019	59.4	48	67.7	68.4	64.6	61.4	60.4	63.3
Malawi	2013	1.3	1.5	27.8	29.7	27.9	29.7	–	–
	2017	1.9	0.9	40.5	46.3	34.3	36.0	38.1	44.0
	2020	3.9	2.2	44.2	50.8	38.9	43.8	41.7	47.4
Nigeria	2013	2.8	0.4	49.6	13.9	49.6	13.9	–	–
	2016	7.3	0.8	46.5	12.5	46.5	12.5	–	–
	2019	13.9	2.1	55.5	23.1	48.0	17.5	46.0	14.2
United Republic of Tanzania	2009	7.2	4.1	48.7	28.9	48.7	28.9	–	–
	2011	8.9	6.1	48.1	34.6	48.1	34.6	–	–
	2013	10.4	7.7	50.1	37.6	50.1	37.6	–	–
	2015	12.3	9.7	44.8	33.8	44.8	33.6	–	–
	2019	10.6	10.5	44.5	36.7	44.5	36.7	–	–

↑ **SOURCE:** FAO data for SDG Indicator 5.a.1, February 2023.

NOTES:

i. **FAO.** 2011. *The State of Food and Agriculture 2010–11*. Rome. https://www.fao.org/3/i2050e/i2050e.pdf

ii. **Twyman, J., Useche, P. & Deere, C.D.** 2015. Gendered perceptions of land ownership and agricultural decision-making in Ecuador: Who are the farm managers? *Land Economics*, 91(3): 479–500.

iii. **Hillesland, M., Slavchevska, V., Henderson, H., Okello, P. & Oumo, F.N.** 2020. Beyond the sex of the holder: understanding agricultural production decisions within household farms in Uganda. *AgriGender*, 05(01): 14–27.

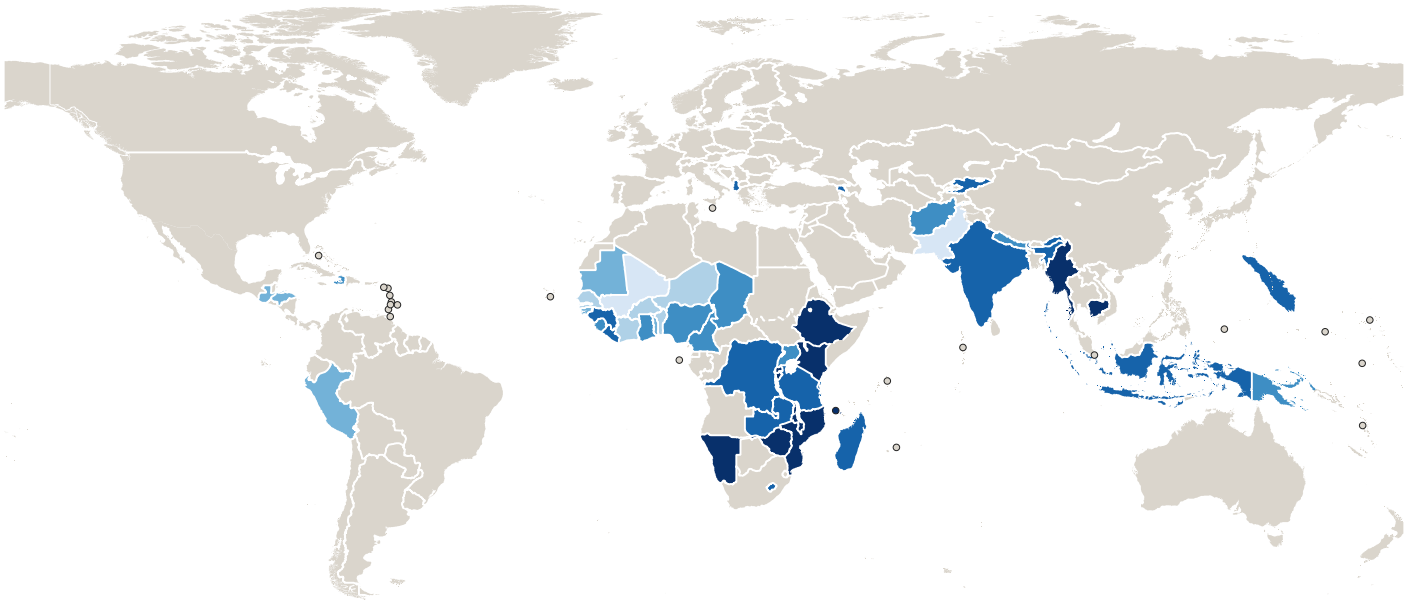
iv. **Schlager, E. & Ostrom, E.** 1w992. Property-rights regimes and natural resources: A conceptual analysis. *Land Economics*, 68(3): 249–262. https://doi.org/10.2307/3146375

v. **Slavchevska, V., Doss, R., O Campos, A.P. & Brunelli, C.** 2021. Beyond ownership: women's and men's land rights in sub-Saharan Africa. *Oxford Development Studies*, 49(1): 2–22.

vi. See also **United Nations.** 2019. *Guidelines for producing statistics on asset ownership from a gender perspective*. Studies in Methods, Series F No. 119. New York, USA, UNDESA, Statistical Division.

The share of women among all agricultural landowners or secure right holders ranges between 6.6 percent in Pakistan (in 2018) and 57.8 percent in Malawi (in 2020) (Figure 3.4). In 14 countries, representing one in three of the countries that have reported on SDG Indicator 5.a.1, men represent at least 70 percent of all landowners or holders of secure tenure rights. Most of these countries are in West Africa, but there are also examples from Asia (Pakistan) and Latin America and the Caribbean (Honduras and Peru). In 11 countries, more women than men own agricultural land in the year of their most recent survey. Both Ethiopian and Rwanda have made great efforts to ensure gender-responsive land certification and to raise awareness about women's land rights.[19] In Malawi, matrilineal lines of inheritance are strong, which may explain the large share of women among agricultural landowners.

Figure 3.4 Share of women among all agricultural landowners or holders of secure tenure rights over agricultural land



[0–10%]
]10–20%]
]20–30%]
]30–40%]
]40–50%]
]50–60%]
No data

↑ **SOURCE:** FAO data for SDG Indicator 5.a.1(b) for 46 countries, February 2023.

↑ **NOTES:** Final boundary between the Sudan and South Sudan has not yet been determined. Dotted line represents approximately the Line of Control in Jammu and Kashmir agreed upon by India and Pakistan. The final status of Jammu and Kashmir has not yet been agreed upon by the parties.

Research suggests female asset ownership is higher in countries with more egalitarian legal regimes towards women.[20, 21] However, the relationship between women's legal land rights (SDG Indicator 5.a.2) and female agricultural producers' landownership as reported in surveys (SDG Indicator 5.a.1) is not strong. More support for women's legal land rights is associated with smaller gender gaps, but the association is not statistically significant.

A few countries have strong legal protections for women's land rights, but their implementation is lagging and surveys find significant gender inequalities in land rights.[22] In other countries (e.g. Myanmar), surveys suggest equality in landownership among agricultural producers, even though very low legal protections for women's land rights were reported in SDG Indicator 5.a.2.

THE SHARE OF WOMEN AMONG LANDOWNERS INCREASED IN MORE THAN HALF OF REPORTING COUNTRIES OVER THE LAST DECADE.

Over the last decade, the share of women among landowners has increased in ten out of 18 countries for which longitudinal data are available (Figure 3.5). The increase in the share of women among landowners in India, Nepal, Nigeria and the United Republic of Tanzania is substantial. It is quite small in other countries due in part either because the change was measured over a very short period or because, in countries such as Cambodia and Rwanda, the share of women among landowners was relatively high to start with. In three countries – Burkina Faso, Indonesia and Peru – there has been no notable progress at all. In five countries the share of women among landowners has decreased.

Figure 3.5 The share of women among landowners increased in more than half of reporting countries over the last decade

The share of women among owners for selected countries with available data over time

SOURCE: FAO data for SDG Indicator 5.a.1(b) for 18 countries with multiple data points over time, February 2023.

NOTE: Burkina Faso (2014–2019); Burundi (2010–2016); Ethiopia (2014–2019); the Gambia (2013–2020); Guinea (2012–2018); Malawi (2013–2020); the Niger (2011–2019); Nigeria (2013–2019); Rwanda (2010–2019); Togo (2014–2019); United Republic of Tanzania (2009–2019); Zambia (2014–2018); Peru (2014–2019); Cambodia (2010–2019); India (2012–2020); Indonesia (2012–2017); Nepal (2011–2016); Pakistan (2013–2018).

Reported ownership does not necessarily provide a clear indication of tenure security. Based on data from 70 low- and middle-income countries,[23] one in five women and men globally report insecure tenure rights over their main property, which is often their home. A similar share also reports insecure tenure over an additional property that is specifically used for agricultural purposes. Women are significantly more likely to worry about losing property in the case of divorce or spousal death: nearly 22 percent of women report being worried of losing their main property and adjacent land, compared with 17 percent of men, and around 25 percent of women feel insecure about another agricultural property, compared with 15 percent of men. Moreover, rural women are significantly more likely than urban women to worry about losing their home and adjacent land in the case of divorce or spousal death. Insecurity decreases with age among men but not among women. Better educated women are less likely to report tenure insecurity; this may be because they might be more aware of their tenure rights.

WATER

People's health and well-being are dependent on their access to safe water, sanitation and hygiene (SDG 6), but access to drinking water services remains poor in rural areas in low- and middle-income countries. Although globally men are as likely as women to report experiencing water insecurity,[24, 25] women are more aware of all the daily activities that take place to maintain household water supply[26] and this remains an important source of inequalities. Water insecurity has direct effects on the health and nutrition of all family members; children, pregnant women and the elderly are particularly vulnerable to water insecurity because of their distinct needs and dependencies. Women and girls disproportionally bear the responsibility to collect water because of prevailing gender norms and the gender division of labour (see Chapter 2), but collecting water often exposes them to gender-based violence (Box 3.1).[27]

Water constitutes a central resource for agricultural production and for other areas of agrifood systems, such as processing, trading, retailing and consumption. Access to and use of water in agrifood systems is highly gendered and intersects with other forms of social differentiation such as class, age and ethnicity.[28, 29] Gender inequalities in access to and management of water resources have wide-reaching implications on girls' education,[30] women's livelihoods[31] and empowerment,[32] and the health and nutrition of their households.[33, 34]

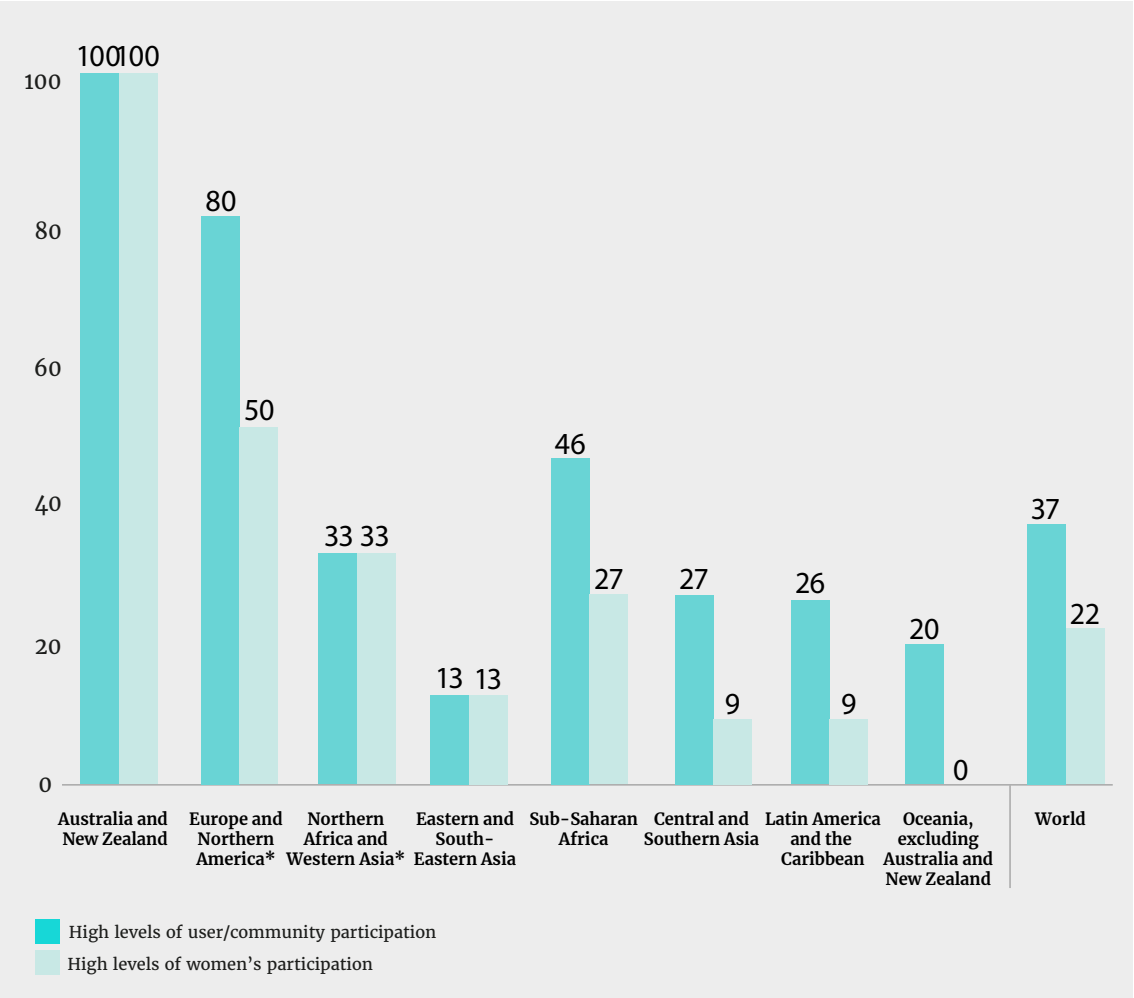
In low- and middle-income countries, land and water rights for agriculture are closely related.[35] Gender inequalities in land rights can impact women's water rights[36] and rights to irrigation technology.[37] While countries in many regions employ water user groups and community participation to manage water resources, women's participation in them remains low (Figure 3.6). Membership in water user associations may be restricted to landowners and might therefore limit women's participation.[36, 38]

At national level, few countries have developed gender-responsive water management policies. In 2020, only 44 out of 170 countries reporting data on SDG 6 (clean water and sanitation) actively worked on gender mainstreaming in water management, while only 47 out of 104 have specific policies for women's participation in water management.[39]

The gender barriers in access to water for productive purpose are also closely related to issues of governance and voice in water institutions. Globally, women's participation in integrated water resources management and governance (i.e. women formally represented or regularly consulted in these processes) occurs at a high level in only 22 percent of countries[39] (Figure 3.6).

Figure 3.6 Only 22 percent of countries report high levels of women's participation in integrated water resources management

Participation of women in integrated water resource management, 2018–2019 (percentage of countries)



← **SOURCE: UN Women & UNDESA.** 2021. *Progress on the Sustainable Development Goals. The Gender and Snapshot 2021*. New York, USA, UN Women.

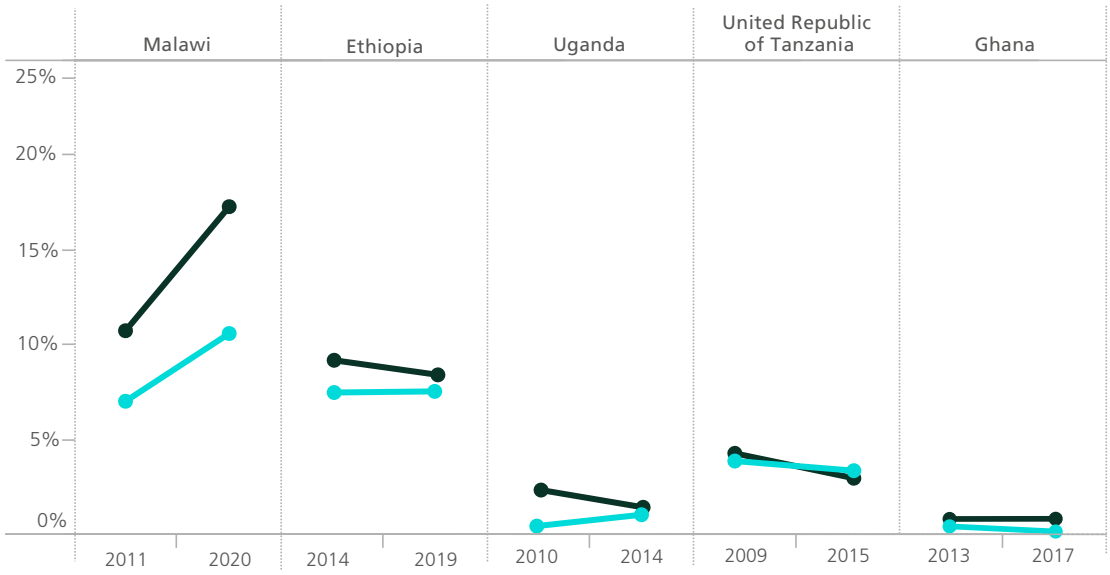
NOTES: The figure covers 104 countries. Regions marked with (*) have lower country/ populataion coverage than UN Women's criteria of 50 per cent of countries and/ or 66 per cent of population coverage in the region. Data for Australia and New Zealand are for New Zealand only.

LAND AND WATER RIGHTS FOR AGRICULTURE ARE CLOSELY RELATED.

Data on women's access to irrigation are limited, and the data available do not paint a clear picture of the gendered patterns of access to irrigation. A recent analysis of the gender gaps in agricultural productivity[40] found that female-managed farms are less likely to be irrigated than male- and jointly-managed farms in Ethiopia and Guatemala, but are more likely to be irrigated in Cambodia and Peru. There were no gender gaps in irrigation access in Uganda, but fewer than 2 percent of all farms surveyed in Uganda were irrigated. A sample of five sub-Saharan African countries with time-series data indicate that female-headed households are disadvantaged in access to irrigation when irrigation is more widely available, such as in Ethiopia and Malawi.[41] Overall, few farms use irrigation in these countries (Figure 3.7), and gender gaps have not changed appreciably in recent years.

Figure 3.7 Gender gaps in access to irrigation have not changed in recent years

Share of households using irrigation on their farm, by sex of the household head and over time



Countries ordered by level of GDP per capita in the latest year in 2015 Usd.
Data is restricted to agricultural households only

Female household head Male household head

← **SOURCE:** Authors' estimates based on data from **FAO.** 2023. RuLIS – Rural Livelihoods Information System. In: *Food and Agriculture Organization of the United Nations.* Rome. Cited 24 January 2023. https://www.fao.org/in-action/rural-livelihoods-dataset-rulis/en/

Clear gender inequalities are evident with regards to decision-making about irrigation technology. A qualitative study from Kenya and the United Republic of Tanzania found that women purchased fewer than 10 percent of irrigation pumps and men made most of the major decisions on crop choices and use of income from irrigated crops.[42] Similarly, in Sri Lanka men dominated decision-making related to irrigation[43] and in Ethiopia, Ghana and the United Republic of Tanzania mechanized irrigation technologies were more frequently applied in plots managed by men, while married women in male-headed households rarely used them on the plots they managed.[37]

Climate change and environmental degradation driving water scarcity also have different impacts on women and specific ethnic groups. For example, gender-related roles and norms were found to influence women's vulnerability during the dry season in Burkina Faso, as did ethnic differences in water use.[44]

Water stress can accelerate rural outmigration, leading to changes in gender relations and power dynamics with respect to water in the household and the community. In Tajikistan, for example, women whose husbands had migrated experienced a considerable increase in demand for their labour, leaving them with less time to participate in agricultural and water user groups.[45] In Nepal, women having to manage the irrigation of farms after their husbands had migrated reported increased difficulties in renting pump equipment and tube wells because they did not have the necessary social networks and felt uncomfortable negotiating with well owners.[46] The increasing stress on water sources driven by climate change and pollution can also increase the incidence of isolated and larger-scale conflicts over water resources and hamper further the gender equality and women's empowerment agenda (see Chapter 5).

↓ **SENEGAL – Two women collecting water from a cistern.**

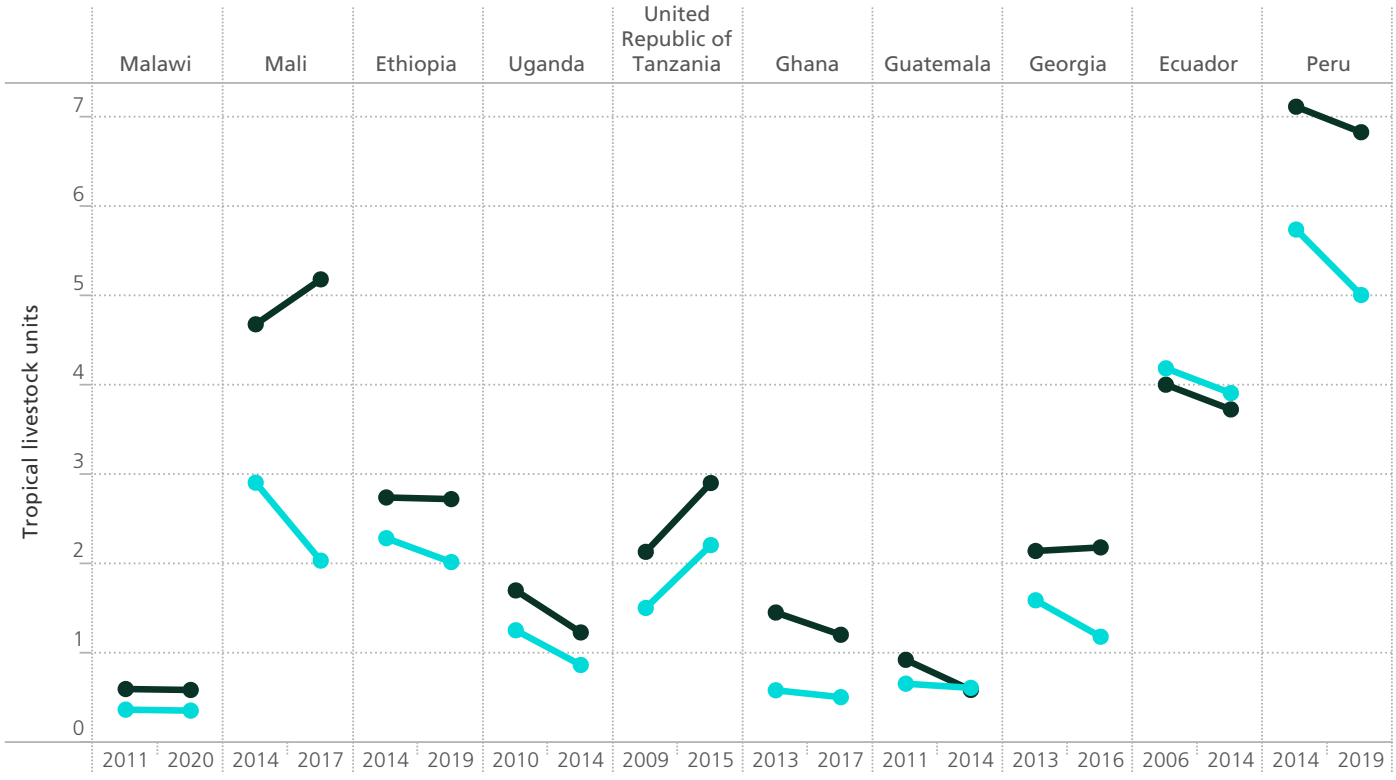
LIVESTOCK HOLDINGS

WOMEN CONTINUE TO BE DISADVANTAGED IN LIVESTOCK OWNERSHIP, PARTICULARLY OF LARGE RUMINANTS.

Livestock ownership is important for reducing poverty among women.[47] It also helps to increase household resilience to climate change and associated shocks.[48, 49] Women who have access to and control over livestock have a higher capacity to improve the health, education and food security of their households.[50, 51, 52] However, women continue to be disadvantaged in livestock ownership. Male-headed households owned more livestock (measured in tropical livestock units)[53] than did female-headed households in eight out of ten countries for which data over time are available (Figure 3.8). These gaps have widened in four countries (Ethiopia, Georgia, Mali and Peru).

Figure 3.8 Gender gaps in livestock ownership persist

Average number of tropical livestock units owned by households, by sex of household head and over time



Countries ordered by level of GDP per capita in the latest year in 2015 Usd.
Data is restricted to agricultural households only

Female household head Male household head

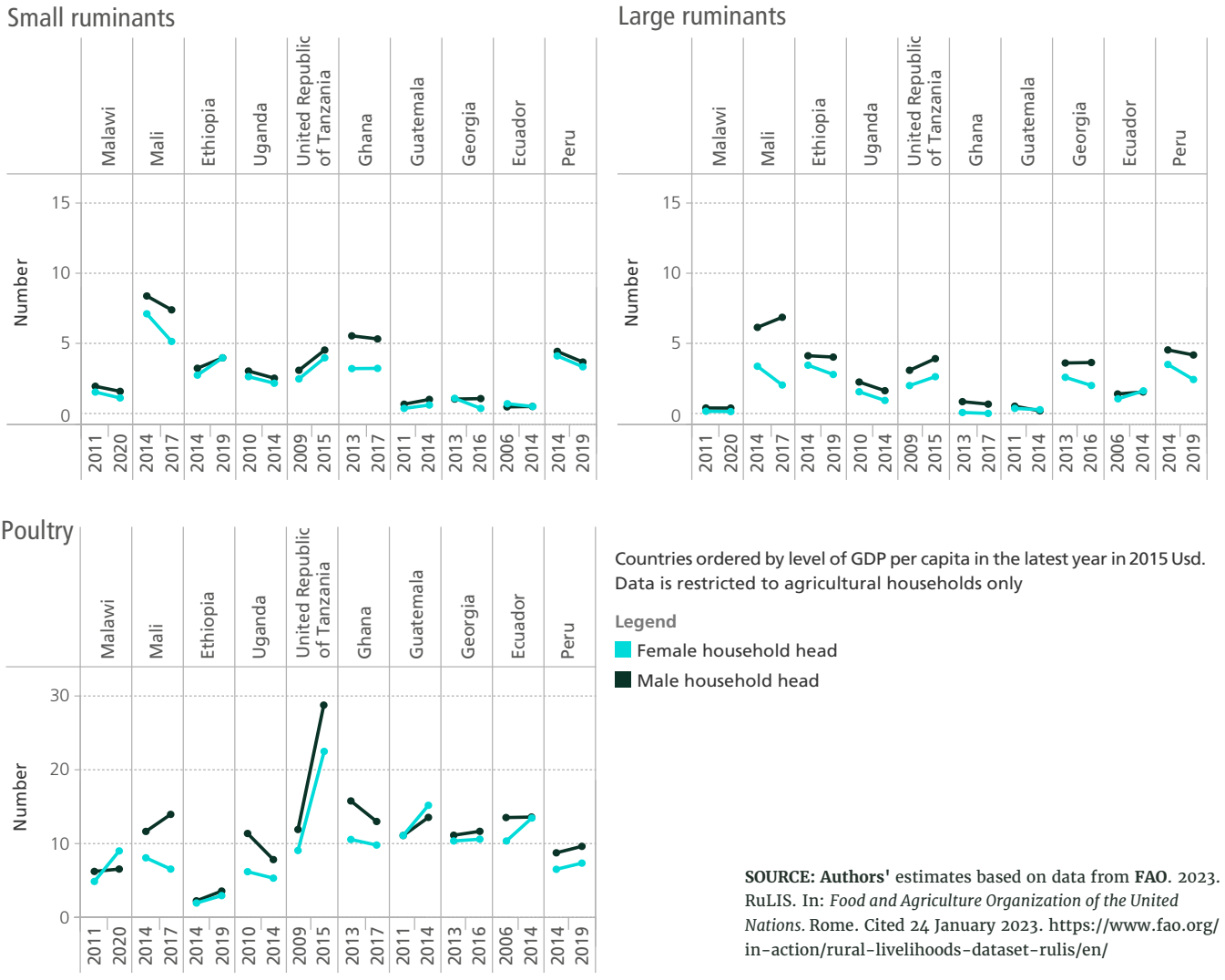
↓ **SOURCE:** Estimates based on data from **FAO.** 2023. RuLIS – Rural Livelihoods Information System. In: *Food and Agriculture Organization of the United Nations.* Rome. Cited 24 January 2023. https://www.fao.org/in-action/rural-livelihoods-dataset-rulis/en/

Gaps in livestock ownership between female- and male-headed households differ across livestock species. The gender gaps tend to be more consistent for ownership of large ruminants, but there are also gaps in ownership of small ruminants and poultry (Figure 3.9). The gaps in ownership of large ruminants do not appear to be closing over time, and have widened in several countries including Georgia, Mali and Peru; they have narrowed or closed in Ecuador and Guatemala, where the initial gaps were small.

The trend in gender gaps for poultry is less clear: in four out of ten countries, the gender gaps in poultry ownership have narrowed and in one – Malawi – it has reversed in favour of female-headed households in the most recent survey data available. However, in the other five countries, there are either no changes in the gap in poultry ownership between female- and male-headed households or the gap is widening.

Figure 3.9 Gender gaps in ownership of large ruminants are more consistent, while the trends in the ownership of poultry and small ruminants are more mixed

Average number of large ruminants owned by households, by sex of household head and over time

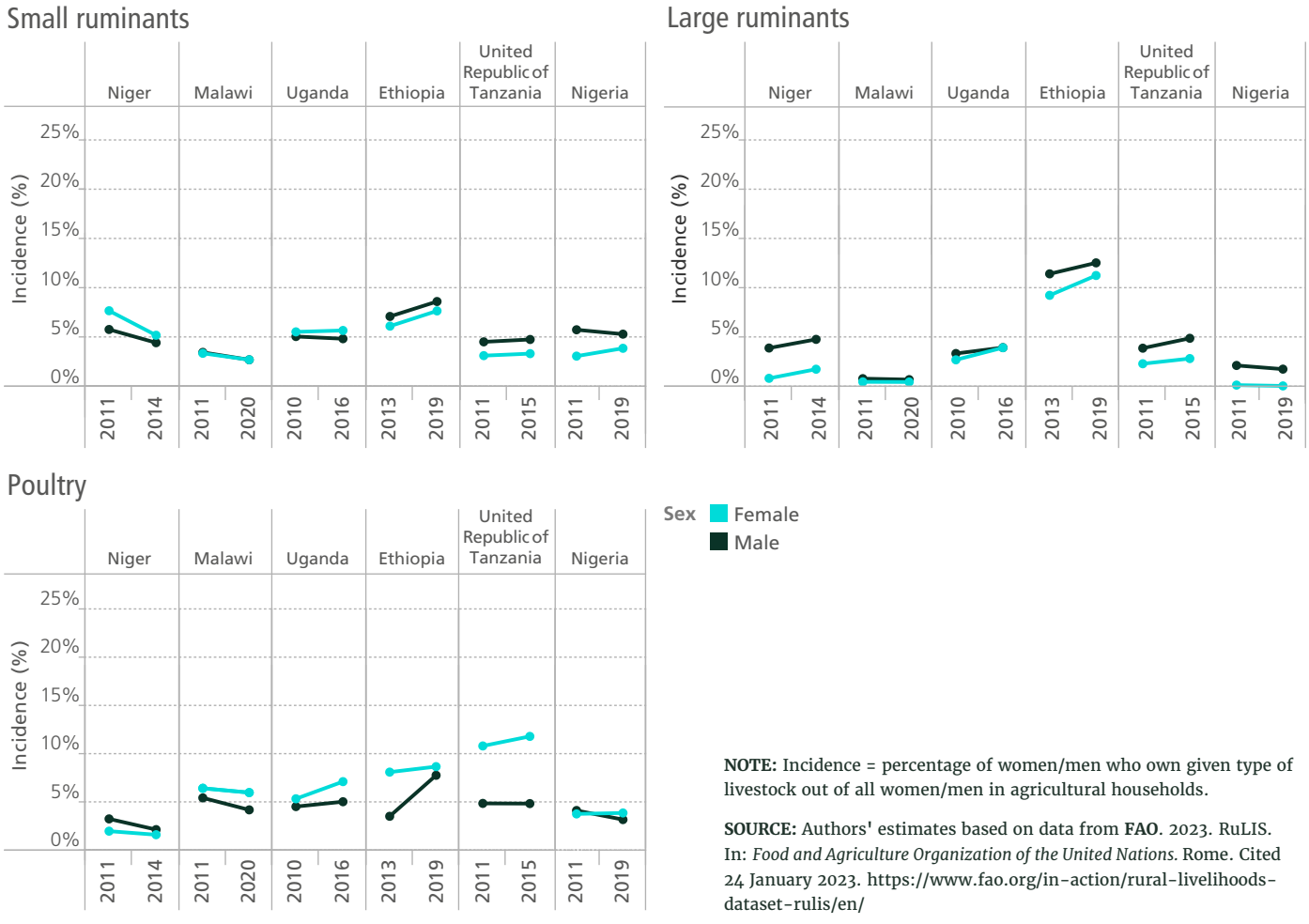


SOURCE: Authors' estimates based on data from **FAO**. 2023. RuLIS. In: *Food and Agriculture Organization of the United Nations*. Rome. Cited 24 January 2023. https://www.fao.org/in-action/rural-livelihoods-dataset-rulis/en/

Only six countries have collected individual-level data on ownership and responsibilities over different species of livestock.[54] All of them are in Africa and part of the LSMS-ISA initiative.[55] Figure 3.10 shows the share of women who own different types of livestock out of all women in agricultural households and the share of men who own livestock out of all men in agricultural households. Gender gaps in livestock ownership at the individual level are less clear than the gaps between male- and female-headed households.[56]

More women than men tend to own poultry (Figure 3.10). In the Niger, there was a gender gap in favour of men in 2011 but this had almost closed by 2014, the most recent data available. In Ethiopia, considerably more women than men owned poultry in 2013 but by 2019 the gender gap in favour of women had disappeared. In contrast, the gap in favour of women increased in Malawi, Uganda and the United Republic of Tanzania. Taken together, that data suggest that gender gaps in owning livestock are less pronounced than the gender gaps in the number of animals owned.

Figure 3.10 Changes in individual livestock ownership vary by type of animal and by sex



NOTE: Incidence = percentage of women/men who own given type of livestock out of all women/men in agricultural households.

SOURCE: Authors' estimates based on data from **FAO**. 2023. RuLIS. In: *Food and Agriculture Organization of the United Nations.* Rome. Cited 24 January 2023. https://www.fao.org/in-action/rural-livelihoods-dataset-rulis/en/

Country case studies overwhelmingly show the existence of significant differences in the types of livestock women and men own and decisions they control.[57] While there are variations across contexts, in general women are more likely to own smaller livestock and poultry than to own cattle and larger livestock.[58, 59] They are also more likely to keep local breeds.[60]

Additionally, significant gender gaps in the income derived from livestock sales have been reported,[59, 61] although this varies depending on the livestock species and product and the level of commercialization. The intensification and increase in commercial orientation of livestock production may change the traditional distribution of rights and responsibilities, with women losing control over livestock species and products they controlled.[62] In a study of smallholders conducted in Ethiopia, Kenya and the United Republic of Tanzania, higher profitability of livestock and livestock products was associated with women having less control over the income.[63]

Case studies also show gender gaps in access to the associated resources needed for livestock production.[57, 64] Women have less access than men to land and pastures,[65, 66] fodder and forages,[67] water,[68] credit,[69] technology, information and veterinary services and products, such as vaccines.[70, 71]

GENDER GAPS IN ACCESS TO IMPROVED SEEDS, FERTILIZER, EXTENSION SERVICES AND MECHANIZED EQUIPMENT PERSIST.

TECHNOLOGY

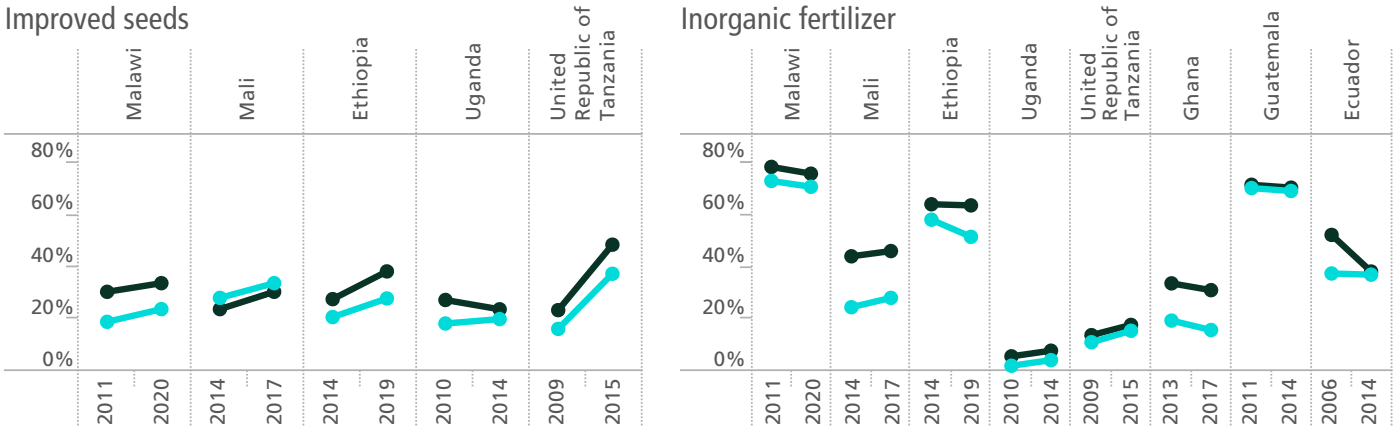
Access to agricultural and agrifood-system technologies is crucial for increasing agricultural productivity and enabling farmers to engage in higher-value chains and nodes and more profitable markets, and to adapt to the impacts of climate change.[1] Men and women are equally likely to adopt new technologies when the necessary enabling factors are put in place and they have equal access to productive resources.[72] However, women in agriculture have significantly less access than men to inputs, including improved seeds, fertilizer, extension services and training, credit and mechanized equipment.[1] A recent systematic review identified 53 studies showing gender gaps existing in access to agricultural resources; 25 of these directly linked women's limited access to resources to lower productivity of female-managed plots, female farmers or female-headed households compared with their male counterparts,[73] in line with the discussion in Chapter 2.

As women increasingly take up employment in off-farm activities, gaps in technologies relevant to non-agricultural segments of agrifood systems are becoming more apparent. For example, the post-harvest physical losses of female fish processors in Zambia are estimated to be three times greater than those of male processors, in large part because women lack access to processing technologies.[74]

For those countries for which data are available, gender gaps in access to improved seeds and inorganic fertilizer have fluctuated over time and across countries, with little evidence that the gaps are closing (Figure 3.11). In Uganda, the reduced gap in access to improved seeds is driven mainly by fewer male-headed farms using improved seeds in 2014 than in 2010. The story is similar in Ecuador in terms of the use of inorganic fertilizer.

Figure 3.11 Female farmers continue to trail behind men in access to improved seeds and fertilizer

Share of households using improved seed, by sex of the household head and over time



Countries ordered by level of GDP per capita in the latest year in 2015 Usd.
Data is restricted to agricultural households only

Female household head Male household head

↑ **SOURCE:** Authors' estimates based on data from **FAO**. 2023. RuLIS. In: *Food and Agriculture Organization of the United Nations*. Rome. Cited 24 January 2023. https://www.fao.org/in-action/rural-livelihoods-dataset-rulis/en/

The use of small-scale mechanization in smallholder farming systems is on the rise in various regions in the world, including South Asia and sub-Saharan Africa.[75, 76] The expansion of mechanization can drive substantial changes in agriculture and agrifood systems, including in the type and quality of work performed by men and women.[77] The actual changes depend on the type of technology, traditional gender division of labour and whose labour and earnings are affected.[78] While mechanization can expand the scale of agricultural production, thereby increasing farmers' earnings,[79] it can also directly replace labour.[80] For example, direct seeders, power weeders, harvesters and threshers can mechanize tasks previously carried out by women.[81] In India, a 10 percent increase in mechanized tilling between 1999 and 2011 led to a 5 percent reduction in women's farm labour with no increase in off-farm work because of limited off-farm opportunities for women.[82] Thus, while mechanization can generate significant benefits for farmers, including women farmers, it can have significant negative consequences on the livelihoods of specific groups, such as women from ultrapoor backgrounds, landless women, widows and women heads of households.[83, 84]

Conversely, mechanization can also empower women because it can reduce their dependence on men for labour, and allow them to engage in producing "male" crops and pursue other traditionally male activities.[75, 85] It also helps

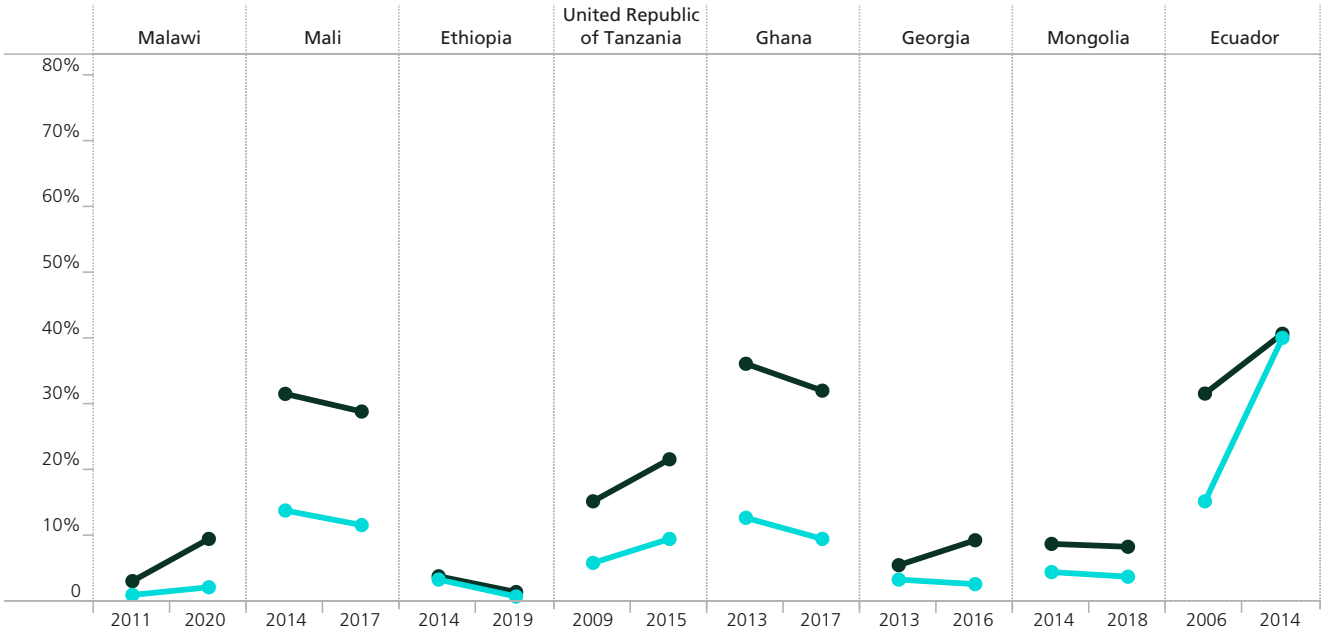
reduce drudgery, which is disproportionately experienced by women.[86] A study from southern Africa showed that the mechanization of land preparation, which is mainly done by men, also reduced the need for weeding, a laborious task often carried out by women in smallholder farms.[86] The consequent reduction in time spent on the farm allowed women to spend more time on care and self-maintenance activities, even if this was not associated with an increase in other paid work.[86]

Despite the potential benefits of mechanization for smallholder agriculture, female farmers continue to lag behind male farmers in accessing and using mechanization. A recent review of data from six countries found that women-managed farms used less agricultural machinery than male- or joint-managed farms in five out of the six countries; the only exception was Peru, where the gap was not statistically significant.[40] Female-headed households are significantly less likely to own mechanized equipment than are male-headed households (Figure 3.12). Among the eight countries in the FAO RuLIS database for which data are available over time, the gap in mechanization has either increased or remained unchanged except in Ecuador. Reasons for the lower use of mechanization by women include barriers to access capital and complementary inputs and services, lower literacy levels, physical accessibility and, in some contexts, gender-biased sociocultural norms.[87, 88]

↓ **SOURCE:** Authors' estimates based on data from **FAO**. 2023. RuLIS. In: *Food and Agriculture Organization of the United Nations.* Rome. Cited 24 January 2023. **https://www.fao.org/in-action/rural-livelihoods-dataset-rulis/en**

Figure 3.12 Gender inequalities in ownership of mechanized equipment are not improving

Share of households that own mechanized equipment, by sex of the household head and over time



Countries ordered by level of GDP per capita in the latest year in 2015 USD.
Data is restricted to agricultural households only

Female household head Male household head

Women also commonly have fewer opportunities to receive information on improved agricultural technologies, which in turn affects their ability to adopt and use them.[89] A study from Ghana showed that, while men were generally trained on new agricultural technologies directly by extension staff and became early technology adopters, women received information on these technologies through their husbands, which delayed uptake.[90]

An important barrier for women is that machinery and tools continue to be designed primarily with male farmers and male workers in mind, including for men's ergonomic characteristics. A study from Ethiopia, Ghana and the United Republic of Tanzania found that women did not typically use motorized pumps because of their technological complexity, the physical strength needed to operate them, and challenges in hiring and supervising labourers.[91] In the commercial potato production in the Plurinational State of Bolivia, although women mainly do the potato grading, they were not involved in an evaluation of a machine that automated some of the process; as a consequence it was not adopted because women found it difficult to operate.[92] A participatory evaluation approach to assessing adoption of portable flour mills in Bangladesh highlighted the importance of involving women in training sessions.[93]

Recent evidence also points to the influence of intrahousehold decision-making processes on the adoption of new technologies by men and women.[91, 94] This includes decisions on how a technology will be used and who in the household will benefit from it, which reflect different interests of male and female members of the household. In Ethiopia, women preferred solar pumps over pumps powered by internal combustion engines as the latter added to their time burden while the former were perceived to reduce domestic and field labour and to contribute to sustaining home-garden crops.[91]

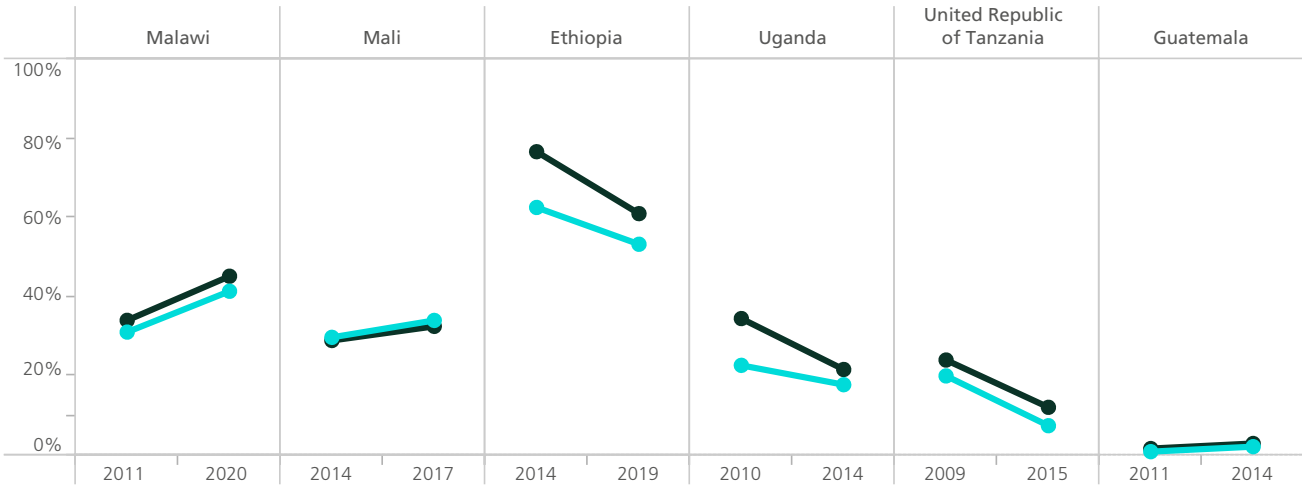
Uptake of mechanization in off-farm segments of agrifood systems is strongly influenced by male-dominated ownership and management of agribusinesses in most countries. Male owners and managers may have limited incentives to adopt technologies that do not directly increase efficiency and productivity even if such technologies improve health and safety conditions for workers in processing, the majority of whom are women.[92] Knowledge gaps remain on relationships between mechanization, gender relations and women's well-being along entire agrifood value chains.

EXTENSION AND ADVISORY SERVICES

Women remain severely underserved by extension and advisory services across the globe.[95, 96, 97] A smaller share of female-headed households than male-headed households received extension support in four out of six countries with data available for multiple years, with few improvements in recent years (Figure 3.13). A study in Ethiopia found that both female heads of households and female plot-managers are 10 percent less likely to benefit from these services than their male counterparts.[98]

Figure 3.13 Female farmers continue to have less access to extension services than do men

Share of households with access to extension, by sex of household head and over time



Countries ordered by level of GDP per capita in the latest year in 2015 USD.
Data is restricted to agricultural households only

Female household head Male household head

↓ **SOURCE:** Authors' estimates based on data from **FAO**. 2023. RuLIS. In: *Food and Agriculture Organization of the United Nations.* Rome. Cited 24 January 2023. https://www.fao.org/in-action/rural-livelihoods-dataset-rulis/en/

Women within male-headed households are also disadvantaged in access to extension, but individual-level data on this are not routinely collected in household surveys. Data from The Syrian Arab Republic indicated that women, especially young women, had limited access to improved seed and information, even if they played important roles in crop management along the agrifood system.[99] Similarly, across developing countries female workers are exposed to significant health problems because they lack information

regarding pesticides used and their associated health dangers, even when they make up the majority of workers on commercial farms and plantations.[100, 101]

Stereotypical perceptions of women as carers or helpers can translate into agricultural extension and advisory services being disproportionally delivered to the male heads of households, who are considered the main farmers.[102] In some conservative contexts, prevailing social norms mean that male extension officers only engage with male farmers,[99] and extension officers are predominantly male in many regions, such as Southeast Asia.[103] In Pakistan, women's access to extension services was found not to be a priority among a largely male-dominated extension workforce.[104] Women's ability to attend and benefit from training sessions or demonstration plots may be limited by several factors, such as social norms around mobility, literacy levels, work burden or asymmetric power dynamics.[105] Similarly, some government extension programmes may require beneficiaries to be the owners or managers of certain assets (e.g. fishponds, land), thus potentially discriminating against women.[106]

Networks and social capital are fundamental for information exchange, agricultural innovation, technology adoption, resource distribution and collective action.[1] Increased access to networks and social capital for women has been shown to increase crop yields,[107] produce a higher demand for new and innovative technologies[108] and facilitate access to information and diversified information sources.[109, 110] Improved gender parity in group membership and participation is associated with reduced conflict, increased collaboration and improved governance practices, collective knowledge and benefits.[111]

However, women continue to obtain less information from networks, and their networks tend to be smaller and less influential than those of men.[112] Poor women can face more barriers in accessing social capital, as joining and participating in groups requires time and often the payment of fees.[113] Across developing regions, household chores and care responsibilities are traditionally assigned to women, often largely confining them to the domestic space and leaving them with limited time to join or participate in groups.[109, 114, 115, 116] Further, internally held values and beliefs or imposed psychological constraints (e.g. low self-esteem) also hinder women's ability to join groups and networks, participate actively and voice their opinions publicly.[1, 117] Institutional constraints in the formal mechanisms (e.g. requirement of government-issue identification and payment of fees) and informal realms (e.g. biases towards men in community meetings) also limit the extent to which women can join, participate in and fully benefit from groups.[118] Moreover, even though women are often involved in women's social or economic self-help groups, the social and leadership capital they acquire in these women-only settings commonly do not contribute to their acquiring meaningful influence in mixed-gender settings.[119]

The use of information and communications technologies (ICTs) by advisory services, explained in more detail in the following section, can help overcome some of the problems with traditional extension and advisory services. ICTs can provide rapid and cost-effective dissemination of agricultural information to remote areas in a variety of formats – audio, visual and written – to meet the needs of farmers depending on their levels of education and literacy.

INFORMATION AND COMMUNICATIONS TECHNOLOGIES

The quantity and quality of digital technologies available to farmers and other agrifood-system actors have advanced significantly since the 1990s when modern ICTs – such as mobile phones, personal computers, internet-based services and applications – began to emerge.[120]

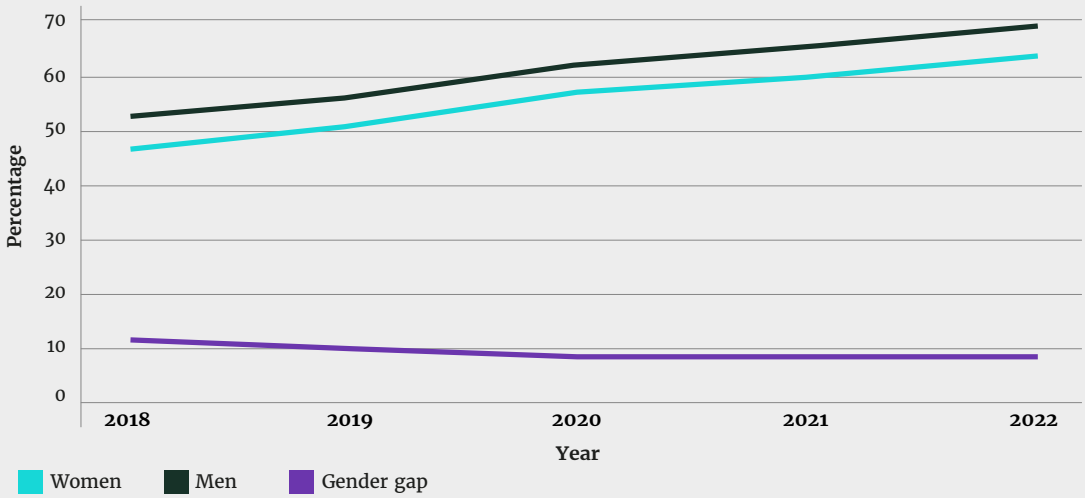
ICTs have the potential to deliver a wide range of economic, environmental and social benefits by increasing access to services in rural areas, reducing transaction costs, optimizing the use of inputs and natural resources, and strengthening resilience to shocks and crises. However, the exponential spread and scale-up of ICTs for agriculture in recent years can also exacerbate existing inequalities. The digital gap between developed and developing countries and between rural and urban areas persists. Rural women in particular are less likely to have access to ICTs or to use them. This is also closely linked to gender differences in access to other infrastructure, especially electricity. Access to electricity is gendered, with men and women having different opportunities to determine how electricity is provided, and who benefits from its use.[121] Energy poverty at the household level has wide-ranging negative impacts on women's welfare in terms of health, time use and employment, and access to information, service and technologies.[122]

Internet use

Internet use has grown immensely in the last few years: the estimated number of individuals using the internet surged to 5.3 billion in 2022,[123] up from an estimated 2.4 billion in 2011.[124] In 2022, 63 percent of women globally were using the internet, compared with 69 percent of men (Figure 3.14).[125] Internet penetration rates among both men and women have increased in recent years, and the gender gap as a percentage of men's access to the internet has fallen.

Figure 3.14 Internet access has continued to increase for both men and women while the gender gap has reduced slightly

Internet penetration rates in the world

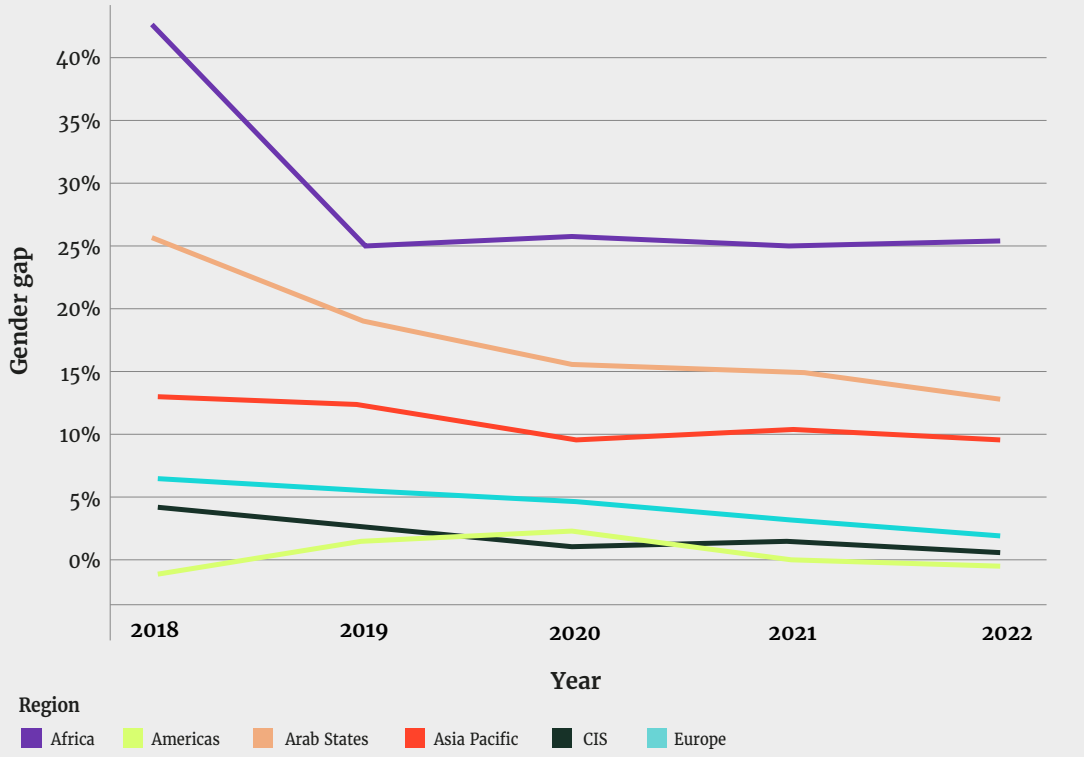


← **SOURCE: International Telecommunication Union** (various years). *Measuring Digital Development: Facts and figures, various years.* Geneva, Switzerland, ITU. https://tinyurl.com/2yexx6wy

Africa has the largest gender gap in internet use: 25 percent fewer women than men used the internet in 2022 (Figure 3.15), and the gap has remained constant since 2019. Internet penetration rates for both men and women increase with income and are considerably higher in urban areas than in rural areas.[123]

Figure 3.15 Gender gaps in internet usage have reduced in all regions but remain particularly high in Africa

Gender gap in internet use, by region



← **NOTE:** CIS – Commonwealth of Independent States

SOURCE: International Telecommunication Union (various years). *Measuring Digital Development: Facts and figures, various years.* Geneva, Switzerland, ITU. https://tinyurl.com/2yexx6wy

Mobile-phone ownership

Mobile phones accounted for the vast majority of broadband connections across low- and middle-income countries in 2022 according to the latest estimates from the International Telecommunication Union.[126] Data on mobile-phone ownership[127] collected across low- and middle-income countries since 2017 by the Global System for Mobile Communications Association (GSMA) show that rates of mobile-phone ownership have stayed relatively stable from 2017 to 2021 for both women and men, and that the gender gap in mobile ownership, while gradually narrowing over time, stood at 7 percent in 2021, corresponding to 372 million women still without mobile-phone devices.[128]

The gender gap in mobile-phone ownership varies between regions. In 2020, low- and middle-income countries in South Asia had

the widest gender gap, with women 19 percent less likely than men to own a mobile phone, followed by sub-Saharan Africa (13 percent) and the Near East and North Africa (9 percent).[128] Conversely, a larger share of women than men owned a mobile phone in low- and middle-income countries in Europe and Central Asia.[128]

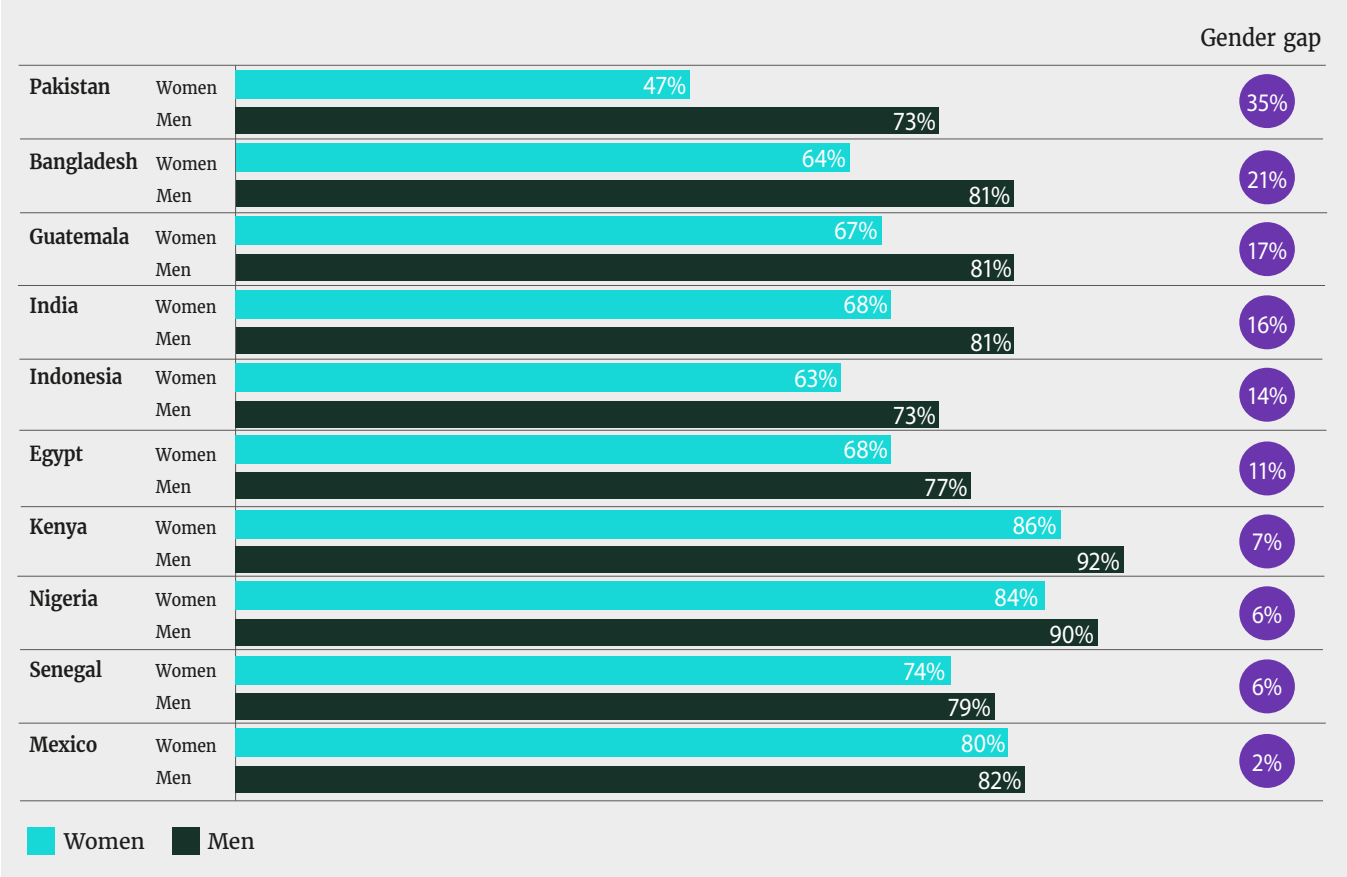
Rural women are less likely to own a mobile phone than rural men, according to data from the 2021 GSMA consumer survey.[129] Across the ten countries in the survey (Figure 3.16), Pakistan has the highest rural gender gap in mobile-phone ownership at 35 percent, while the gap is lowest in Mexico at only 2 percent.

↓ **NOTE:** The gender gap is expressed as a percentage of mobile ownership among men.

SOURCE: Data from Global System for Mobile Communications Association, 2022, FAO analysis

Figure 3.16 Rural women are less likely than rural men to own a mobile phone

Percentage of women and men in the adult population who own a mobile phone (2021)

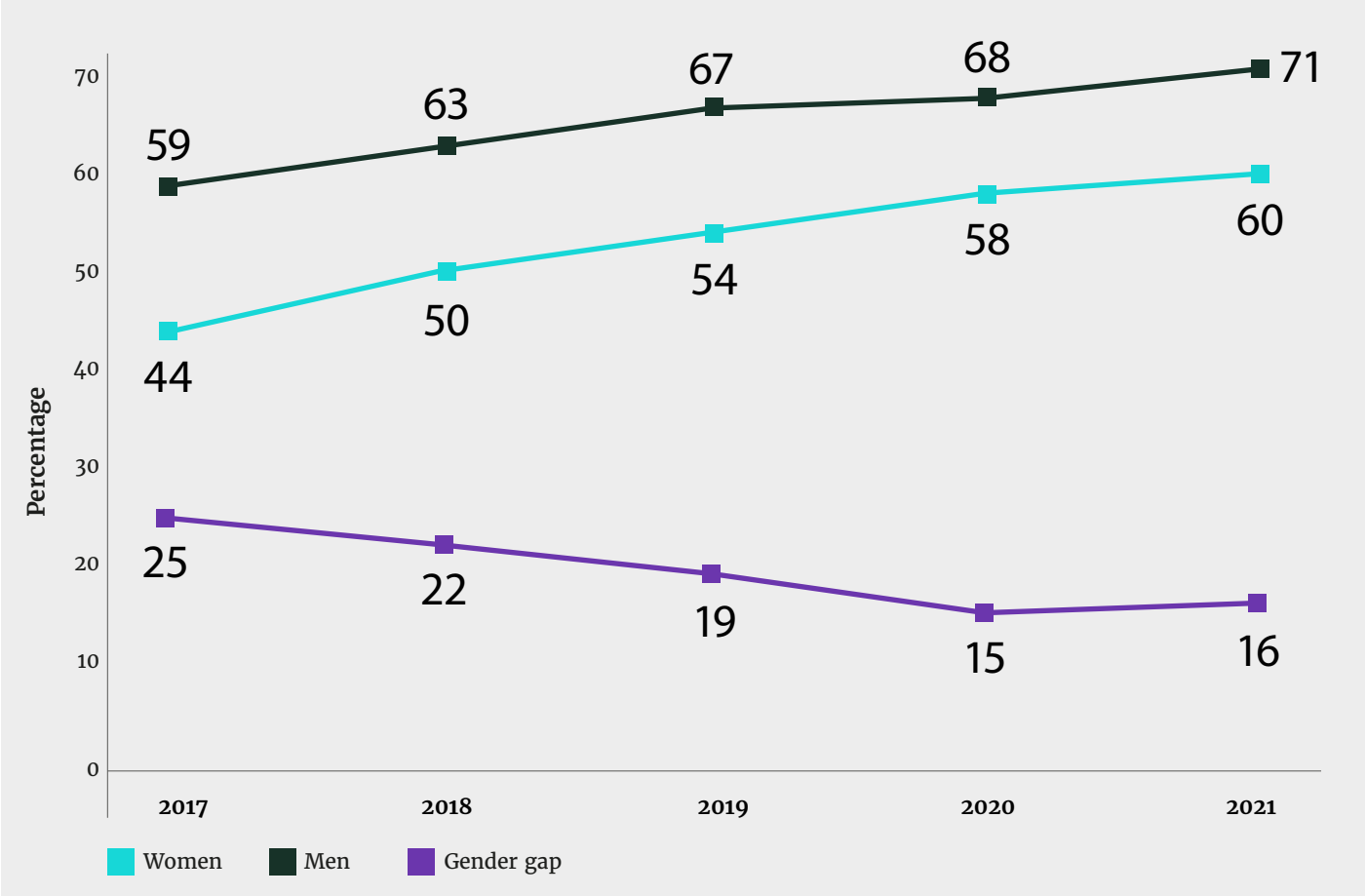


Mobile internet use

Sixty percent of women in low- and middle-income countries in 2021 had access to mobile internet, compared with 44 percent in 2017 (figure 3.17).[128] However, uptake of mobile internet usage by women increased more slowly than that of men since the onset of the COVID-19 pandemic in December 2019. The gender gap is greatest in South Asia (44 percent), followed by sub-Saharan Africa (37 percent), and is least in Latin America and the Caribbean (1 percent) and East Asia and the Pacific (2 percent).

Figure 3.17 Access to mobile internet has increased substantially for both women and men in the last few years, but the gender gap has started to widen again

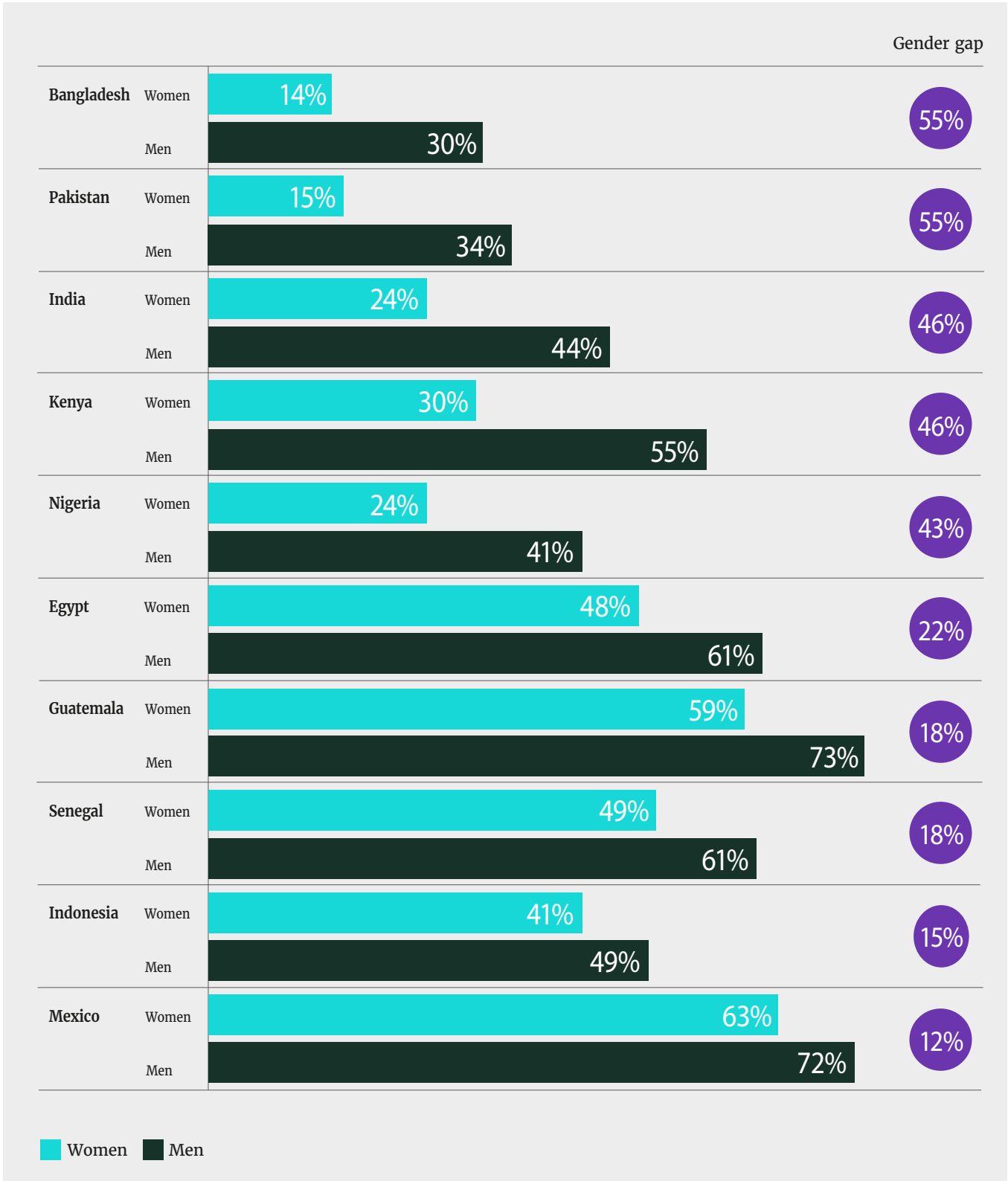
Percentage of women and men who use the internet on mobile devices in low- and middle-income countries



The gender gaps in mobile internet use in rural areas are larger than the gender gaps in mobile-phone ownership in all ten of the countries in the GSMA survey (Figure 3.18). This is primarily because rural people, and women in particular, are less aware of mobile internet than their urban counterparts in low- and middle-income countries. Even when people in rural areas are aware of mobile internet, a range of barriers prevent its use, including poor literacy and lack of digital skills. These barriers tend to disproportionately affect women and rural populations because of structural inequalities and social norms, which often result in rural women having lower education levels and lower incomes.[128] Furthermore, people living in rural areas that are sparsely populated, remote or without access to electricity are less likely to have access to a mobile broadband network than are those living in urban areas. Among the rural populations of the countries in the sample, Bangladesh and Pakistan have the highest gender gaps in mobile internet use (55 percent), while Mexico recorded the smallest (12 percent).

↑ **SOURCE:** Global System for Mobile Communications Association. 2022. *The Mobile Gender Gap Report 2022.* London, GSMA. https://www.gsma.com/r/wp-content/uploads/2022/06/The-Mobile-Gender-Gap-Report-2022.pdf

Figure 3.18 The gender gap in mobile internet use in the rural population is higher than that in mobile ownership (2021)



SOURCE: Authors' elaboration with data from Global System for Mobile Communications Association, 2022.

FINANCIAL INCLUSION

Access to financial services – savings, credit, insurance and payments – increases people's ability to seek economic opportunities, increase income, save and accumulate assets, and build their resilience and economic security. It also contributes to alleviating discriminatory social norms (see Chapter 6).

Globally, gender gaps in terms of account ownership persist but are narrowing. Across developing economies, the gender gap in account ownership – which had remained for many years at around 9 percentage points – reduced to 6 percentage points in 2021 (74 percent of men compared with 68 percent of women).[130] Mobile money accounts are contributing to closing the gender gap in accessing financial services.[130]

The major constraints to women's access to financial products and services include lack of resources (e.g. income or assets) and discriminatory social norms and policies.[131] Women are also less likely to have the identification documents required to open a bank account.[132, 133] Demand for insurance is lower among women than men and women tend to acquire lower value coverage,[134, 135, 136] which has been associated with distrust, low financial literacy and gendered exposure to specific risks.[134, 136]

Digitization of financial services offers innovative ways to ensure meaningful financial inclusion. Gender barriers, such as limited mobility or distrust of formal institutions among women, could be addressed through the use of digital tools of the home to improve women's financial autonomy and privacy.[137] Mobile money has facilitated changes in women's financial behaviour and increased their financial independence; as such, it has contributed to economic empowerment of women.[138, 139, 140] For instance, a cross-country study in South Asia and sub-Saharan Africa found a positive impact of adoption of mobile money on women's economic empowerment in terms of engaging in savings and budget planning.[141] Similarly, a study in Kenya[139] showed that access to the Kenyan mobile money system M-pesa lifted more than 100 000 households out of poverty, with a greater impact on female-headed households than on male-headed households. It has also helped an estimated 185 000 women to move into business and reduced the necessity for them to work multiple part-time jobs.

GLOBALLY, GENDER GAPS IN TERMS OF ACCOUNT OWNERSHIP PERSIST BUT ARE NARROWING.

However, women continue to lag behind men in access to mobile money accounts and the use of digital payments among account owners.[130] In 2021, 8 percent of women worldwide had a mobile money account, compared with 12 percent of men. The incidence of mobile account holders is highest in sub-Saharan Africa (excluding high-income countries), where 30 percent of women and 36 percent of men have mobile money accounts.

SPOTLIGHT 3.4 SOCIAL PROTECTION

Social protection has great potential for promoting women's economic empowerment and reducing gender inequalities, including those in human capital development and access to and control over income and assets[i] (see also Chapter 6).

Social protection is a key risk management tool for rural women and men. Social protection programmes are highly effective in enhancing household welfare across a number of dimensions, including providing relief from deprivation, helping avert deprivation, enhancing livelihoods and productive capabilities, and fostering socioeconomic inclusion and equality.[ii, iii] However, such programmes may have different degrees of gender focus, and they largely do not address the root causes of gender inequality such as norms and power relations.[iv]

Globally, 26.5 percent of working-age women are legally covered by existing legislation with comprehensive social protection systems compared with 34.3 percent of men.[v] Lower legal coverage among women is largely due to higher levels of informality in agriculture and other sectors, as well as lower labour-force participation and the type of work women do.[v] As seen in Chapter 2, a large share of rural women in farming households contribute unpaid and largely unrecognized labour to family enterprises. If a woman does not have land registered in her name – a common occurrence in many countries as explained earlier in this chapter – she may be excluded from existing social insurance schemes for farmers.[vi]

Rural women may face barriers to accessing cash transfers or public-works entitlements because of lack of time, poverty or constraints or norms that lead to discrimination and their marginalization or limit their access to resources, including transportation.[vii] Every aspect of social protection programmes, including targeting, conditionality and payment and transfer mechanisms, can have implications on gender power relations, equality and women's empowerment and welfare.[viii] Participation in social protection programmes can also influence the incidence of intimate partner violence (see Box 3.5).

Targeting and gender of recipient

Women are often the intended beneficiaries of social protection programmes, either as heads of household, facing gender-specific risks (e.g. pregnant and lactating women) or in their capacity as mothers and care-givers. The last of these was the rationale behind the practice of giving cash directly to women in conditional cash transfer programmes in Latin America since the late 1990s.[iii, ix, x, xi] However, this approach can reinforce traditional gender stereotypes that assign more care responsibilities to women and can also exacerbate women's workloads.[xi] In addition, the few studies that test whether the gender of the recipient matters find little or no difference in impacts on household welfare whether cash is given to women or to men.[xii, xiii, xiv, xv] Simply targeting women does not automatically enhance gender equality and empowerment.[xvi] Women may still face constraints to controlling the use of the money if they have weak bargaining power and authority, limited confidence or lack financial and functional literacy.[xvi, xvii, xviii]

SPOTLIGHT 3.4 SOCIAL PROTECTION

Conditionalities

Women are usually responsible for fulfilling the conditions imposed by some social protection programmes in order to receive benefits, such as taking their children to regular health check-ups and attending trainings on nutrition, because of their roles as mothers or primary carers.[xi] While evidence on the impact of conditional cash transfers on household and child well-being mostly finds positive effects, imposing conditions on receiving benefits can have unintended effects such as increasing women's time poverty, perpetuating the stereotype of unpaid care and domestic work being women's responsibility, punishing prospective beneficiaries if they lose access to benefits due to non-compliance, or side-lining women's needs altogether.[xix, xx, xxi]

Registration and delivery modalities

Women can face barriers to registering for social protection programmes if the procedures used to identify and enrol potential programme beneficiaries are not gender-sensitive. Registration and payment mechanisms that require applicants to travel far from their homes can limit women's access to such programmes because of the costs they impose in terms of both time and money. Other barriers include requiring identification documents that women disproportionately lack, providing written information on targeting and enrolment processes that demand a higher level of literacy than most women have or other constraints related to cultural norms.[xi] While electronic payments may be an effective mechanism to increase women's financial inclusion, the expansion of digital delivery mechanisms of social protection may also exclude rural women disproportionately, as such women may be less likely than rural men to own phones,[xxii] as also discussed in this chapter.

Cash plus/complementary interventions and supply-side services

Increasing emphasis in recent years has been placed on combining social protection interventions with complementary services, resources or activities. Such programmes often fall under the umbrella of so-called multifaceted economic inclusion programmes.[xxiii] Gender focus is very common in economic inclusion programmes: 88 percent of more than 200 such programmes surveyed by the World Bank prioritized female participants and a majority focused on rural livelihoods.[xxiii]

Economic inclusion programmes involve a variety of modalities. "Cash plus" programmes – complementing cash transfers with other interventions – can be used to strengthen other aspects of well-being such as health, nutrition or reproductive health[xxiv] and can include many different elements, such as behavioural change communication, strengthening productive activities, health insurance, financial inclusion or psychosocial support.

Applying a gender-sensitive approach to linking social protection to other services has the potential to improve gender equality. Transfers can be linked with skills training and child-care support to improve women's employability or with services that increase

SPOTLIGHT 3.4 SOCIAL PROTECTION

women's agricultural production and income-generation and support enterprise development and livelihood diversification.[xi] For instance, two of the largest public-works programmes in the world, the Productive Safety Net Programme in Ethiopia and the Mahatma Gandhi National Rural Employment Guarantee Scheme in India, stipulate the provision of crèche facilities for young children for women involved in the schemes.[i]

While it is well recognized that resource transfers alone are often not sufficient to empower women, it is less well understood what complementary elements can effectively drive women's empowerment and transformative change.[xxv] There are several examples of positive impacts on women's income-generation, savings, assets and/or psychosocial well-being from multifaceted economic inclusion programmes.[xxvi, xxvii, xxviii] Multifaceted programmes can be very complex and their design is often context specific, which can make scale-up more challenging than that of simple social protection programmes.

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BOX 3.5 CASH TRANSFERS AND INTIMATE PARTNER VIOLENCE

The provision of cash transfers directly to beneficiaries, a common form of social protection, can affect intimate partner violence (IPV) via three pathways: i) economic security and emotional well-being, ii) intrahousehold conflict and iii) women's empowerment.[i]

Improving economic security and emotional well-being can reduce poverty-related stress and consequently IPV. However, availability of cash can increase IPV if the money is spent on temptation goods like alcohol and tobacco or if spouses do not agree on how to spend the money. The effect of availability of cash on women's empowerment and consequent IPV depends on the partner's reaction to shifts in relationship power. Cash can reduce IPV if men are accepting of their spouses' empowerment and increase their appreciation of her worth. However, if men feel threatened, they may perpetrate more violence to maintain the power status quo in the relationship.

Most evidence shows that cash transfers either reduce or do not influence IPV in low- and middle-income countries, although some increases in reported IPV have been observed among some subgroups.[ii] Four of five social safety net programmes studied in Africa reported decreases in experience and intensity (frequency) of IPV.[iii] In Bangladesh, women who received cash or food together with nutrition behaviour change communication experienced less physical IPV.[iv] Cash, vouchers or food given to low-income households in northern Ecuador reduced physical and sexual IPV and controlling behaviours by increasing women's subjective well-being, self-confidence and decision-making power.[ii, v, vi]

BOX 3.5 CASH TRANSFERS AND INTIMATE PARTNER VIOLENCE

In the Oportunidades/Prospera conditional cash transfer programme in Mexico, women beneficiaries suffered less physical abuse but received more threats of violence in the medium-term.[vii] While these effects did not last in the long-term, legal reforms around divorce eased women's exit from violent relationships, especially among those who were beneficiaries of the Oportunidades programme.[viii, ix] Household structure and position within the household may mediate the impacts of cash programmes on gender equality. A national cash transfer programme in Mali reduced women's reported experiences of emotional IPV, physical IPV and controlling behaviours in polygamous households, but had limited effects in monogamous households.[x] The effects were particularly strong among second and subsequent wives, who experience the highest rates of violence in the absence of intervention. Participation in the programme reduced stress and anxiety among male members of recipient households, and this resulted in reductions in reported disputes.[x] The Government of Ghana's flagship Livelihoods Against Poverty 1000 programme reduced experiences of physical, sexual and emotional violence among women in monogamous households, but not in polygamous households.[xi] Increased economic security and empowerment of women were important mechanisms contributing to these impacts. The programme reduced conflict and violence: women in polygamous and non-polygamous households stated that they did not need to ask or rely on their husbands for money as often, thereby mitigating potentialthan that of simple social protection programmes.

NOTES:

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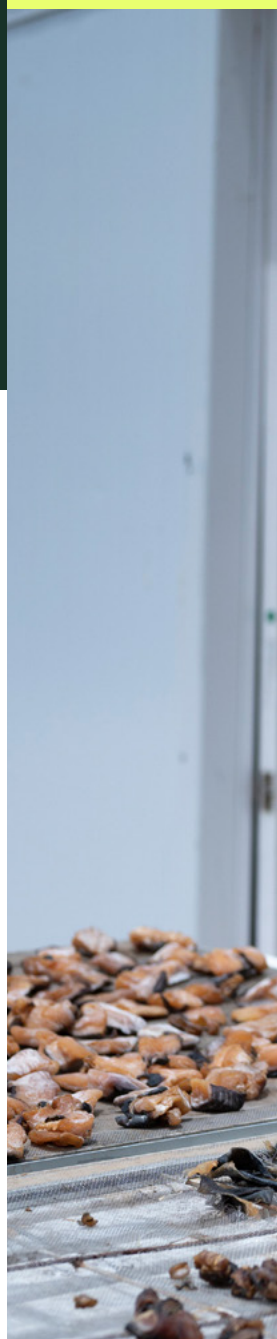
CHAPTER 4

LET'S GROW EQUALITY AND WOMEN'S EMPOWERMENT

CHAPTER 4

WOMEN'S AGENCY, NORMS AND POLICIES IN AGRIFOOD SYSTEMS



KEY FINDINGS

- Progress made in measuring women's empowerment shows that increasing their **empowerment has positive effects on agricultural production, food security, diets and child nutrition**.
- **Discriminatory social norms and rules affecting women and girls are at the heart of gender inequality**. They are slow to change and remain restrictive in many countries.
- Advancing gender equality and women's **empowerment is critical to women's well-being and thus has intrinsic value.**
- National policies and strategies related to agrifood systems increasingly recognize women's crucial roles and/or challenges they face. However, **formulation and implementation of policies and investments remain weak.**

EMPOWERING WOMEN TRANSLATES TO IMPROVED WELL-BEING FOR ALL.

← **AZERBAIJAN –** A member of a women's group learns how to produce honey.

↓ **SENEGAL – A woman** places oysters on a drying table.

↑ UNITED REPUBLIC OF TANZANIA – Farmers walk to the market with their goods.

INTRODUCTION

Addressing gaps in women's productivity or only one of the domains of gender inequality – which are discussed in chapters 2 and 3 – is insufficient to achieve a meaningful and lasting change towards gender equality and women's empowerment in agrifood systems. Over the past ten years, increasing attention has been placed on the importance of addressing structural constraints created by discriminatory social norms and gender-blind policies and laws in agrifood systems. This has led to increased urgency in designing projects aimed at increasing women's empowerment and in measuring the impact of interventions in terms of both agency and empowerment. Business as usual is not enough: gender-transformative approaches are needed to address the broader socioeconomic context where gender equality and women's empowerment occur, including the constraints that affect the engagement and aspirations of women and girls in agrifood systems.[1]

The gendered agrifood-system framework presented in Chapter 1 identifies four domains of gender inequality that act as constraints to women's empowerment. These are 1) women's agency, 2) gendered social norms, 3) policies and governance and 4) access to and control over resources. The four domains vary in the extent to which they are formal or informal and whether they constrain women at the individual or system level. Agency, norms, policies and access to resources interact and are affected by intersecting axes of social differentiation, discrimination and exclusion. Given their interdependence, benefits of improving one domain are contingent on achieving change in the other three areas. Chapter 3 covered access to assets and control over resources. This chapter looks at the first three domains.

Addressing gender equality and women's empowerment means dealing with constraining social norms and rigid gender roles affecting how women participate in agrifood systems. To do this effectively, men, boys and community leaders must all be engaged in the gender-transformative process. While there is much evidence of the importance of doing so, and of success at project or community level, it is difficult to identify large-scale societal improvements in the extent to which social norms have improved to facilitate gender equality and women's empowerment. In contrast, a growing number of policies in an increasing number of countries are designed to be inclusive of women and girls. However, the extent to which they make gender equality and women's empowerment an explicit objective, and therefore have a clear path for implementation, is still much less evident.

MEN, BOYS AND COMMUNITY LEADERS MUST ALL BE ENGAGED IN GENDER-TRANSFORMATIVE PROCESSES.

EMPOWERMENT AND AGENCY

EMPOWERMENT IS CRITICAL FOR GENDER-TRANSFORMATIVE CHANGE IN AGRIFOOD SYSTEMS.

Empowerment is "the process by which those who have been denied the ability to make strategic life choices acquire such an ability."[2] This implies a transformation or change over time.[3] Empowering men and women translates into improved well-being for all. It can also bring short- and long-term economic and social benefits for families, communities and nations at large. Empowerment is central to the global development agenda and is reflected in multiple targets for SDG 5: Achieve gender equality and empower all women and girls. It is also a critical element in gender-transformative change in agrifood systems.

Empowerment was not a major consideration in *The State of Food and Agriculture 2010–11*,[4] when attention on gender gaps focused more on inequalities in terms of access to resources and achievements. Since then, however, women's empowerment has become an explicit objective of agriculture and food systems interventions aimed at increasing agricultural productivity or household nutrition, [5] allowing for a more holistic view of achieving equality in agrifood systems.

Empowerment focuses on increasing an individual's ability to make choices and their ability to exercise choice. It incorporates three interrelated domains: 1) resources (access and future claims to material and human resources), 2) achievements (outcomes related to well-being) and 3) agency (decision-making). Agency is the ability of people to identify their goals, make choices and then act upon them and can take multiple forms, such as bargaining, negotiation or resistance.[2] Women can exercise agency in many ways, including as individuals, collectively, within the family and through their participation in markets, politics and other formal and informal networks.

In the context of agrifood systems, agency is frequently measured as women's self-reported ability to participate in intrahousehold decision-making (for example, the use of agricultural land or household income) as a proxy for their bargaining power.[6] Having a voice in intrahousehold decisions can be a meaningful dimension of empowerment because it may be desirable in itself and can also determine resource allocation within the household.[7] From an agrifood-system perspective, agency also allows women to play a stronger role in the governance of value chains, avoiding their exclusion from strategic negotiations and actions that facilitate greater access to markets. Given the centrality of agency for women's empowerment, indexes such as the Women's Empowerment in Agriculture Index (WEAI) family of tools (see Box 4.1) have strongly centered their measurements on agency.[8]

BOX 4.1 MEASURING WOMEN'S EMPOWERMENT AND AGENCY AND THE WOMEN'S EMPOWERMENT IN AGRICULTURE INDEX

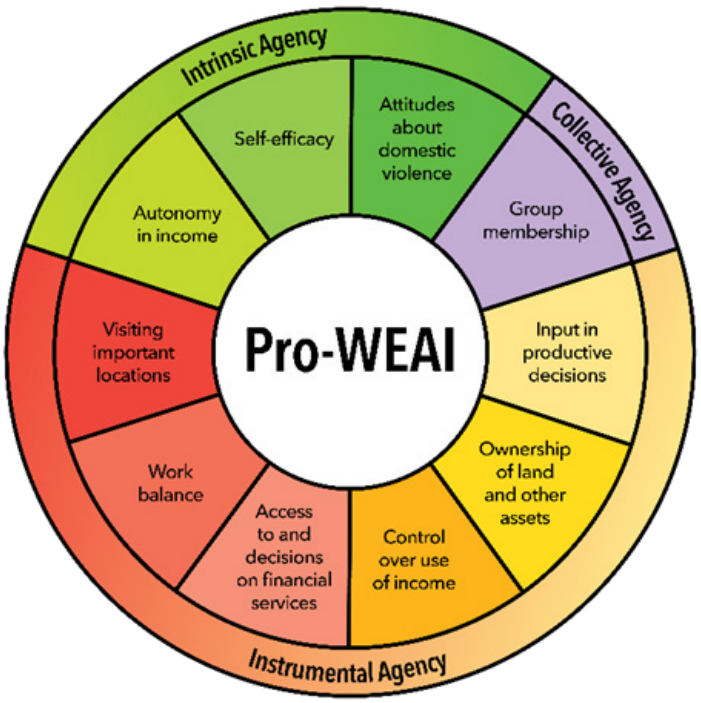
Increasing women's empowerment is challenging given its complex, intangible and political nature. Measurement of women's empowerment and gender equality is important for four main reasons.[i] It can support better project designs, and shed light on how interventions can lead to unintended adverse effects, such as GBV. Measurements and assessments of empowerment can build also accountability and credibility in projects and policies which seek to enhance it,[ii] and finally, can challenge power relations by including participants in decisions on what, how, when and who should measure empowerment.[iii]

The stronger focus on empowerment in literature related to gender equality has increased interest in measuring changes to empowerment. The WEAI, which captures women's agency and empowerment in the agriculture sector, was launched in 2012.[iv, v] Prior to the WEAI, there was no metric that focused exclusively on measuring women's agency in this sector.[vi] It includes ten indicators across five equally weighted domains: 1) Decisions about agricultural production; 2) Access to and decision-making power about productive resources; 3) Control over use of income; 4) Leadership in the community; and 5) Time allocation.

The WEAI has several advantages. First, it captures both women's and men's absolute levels of empowerment in agriculture and women's achievements relative to men within the same household. Second, the index captures access to productive capital and financial services, group membership and time use and thus incorporates a more holistic perspective of agency than indicators that measure only participation in decision-making. Third, the decomposable nature of the index allows users to track progress on the different dimensions of empowerment, including assessing complementarities and trade-offs among indicators.

The WEAI has led to a number of adaptations which include the abbreviated WEAI and the project-level WEAI (pro-WEAI), developed as a metric to measure the impact of agricultural development projects on women's empowerment and diagnose areas of disempowerment.[vii] The pro-WEAI looks at intrinsic, instrumental and collective agency. Intrinsic agency, or *power within*, reflects a person's internal voice, self-respect or self-confidence; instrumental agency, or *power to*, captures a person's ability to make decisions in their own best interest; and collective agency, or *power with*, is the power individuals get from acting together with others (see Figure A).

FIGURE A The pro-WEAI measures collective, instrumental and Intrinsic agency

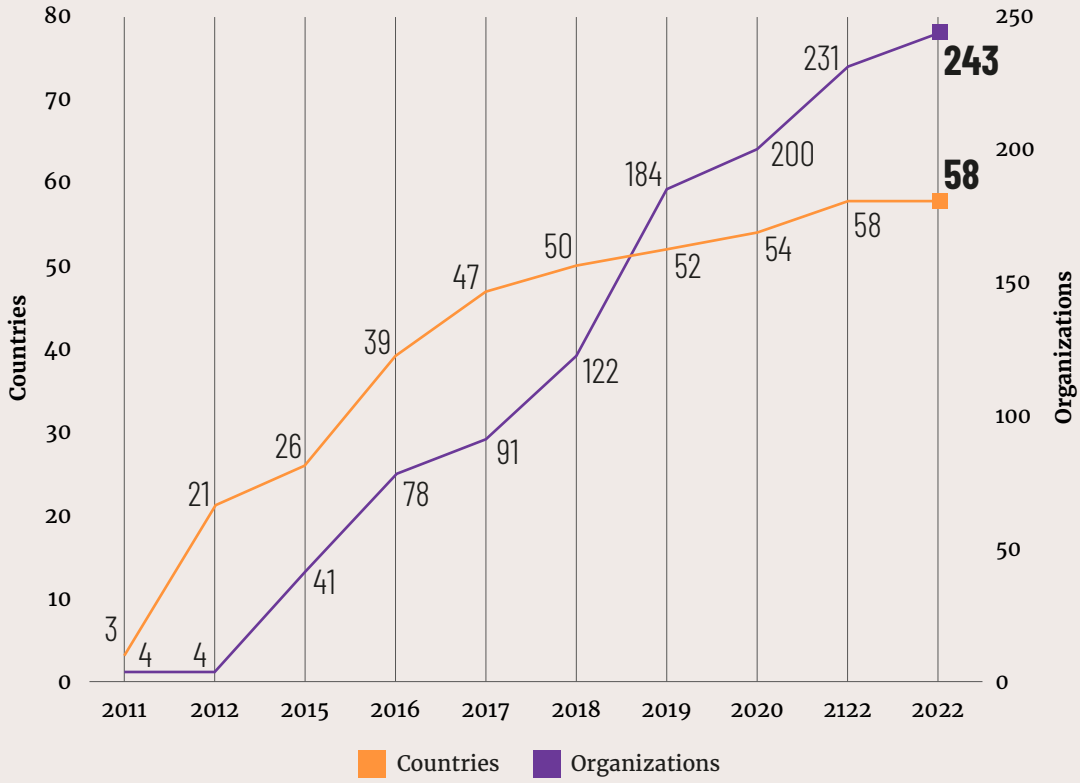


↑ **SOURCE:** WEAI Resource Center. https://weai.ifpri.info/

BOX 4.1 MEASURING WOMEN'S EMPOWERMENT AND AGENCY AND THE WOMEN'S EMPOWERMENT IN AGRICULTURE INDEX

The pro-WEAI also includes optional add-on modules for livestock and health and nutrition for projects that are interested in assessing empowerment along those dimensions.[i] There are also stand-alone adaptations measuring livestock,[viii] fisheries,[ix] market inclusion and nutritional outcomes.[x, xi] The WEAI and its variants have been widely used (Figure B).[xii]

Figure B The Women's Empowerment in Agriculture Index has been widely used across countries and organizations since its introduction in 2012



← **SOURCE: Quisumbing, A., Meinzen-Dick, R. & Malapit, H.** 2022. Measuring women's empowerment and gender equality through the lens of induced innovation. In: J.P. Estudillo, Y. Kijima & T. Sonobe, eds. *Agricultural development in Asia and Africa: Emerging-economy state and international policy studies*, pp. 343–355. Singapore, Springer. https://doi.org/10.2499p15738coll2.136405

While the WEAI and other derived tools have helped to standardize and compare impacts on women's empowerment, they also have several notable shortcomings. First, the multivariate nature of the index means that overall changes in empowerment are conditioned by trade-offs, for example, between women's increased participation in household and farm activities which can be empowering, and increased work and time burdens which are not. Second, while it is useful to measure aspects of decision-making about incomes and assets, it is hard to judge whether changes to empowerment also lead to improvements in women's well-being unless the measures are coupled with more standard impact variables that provide a measure of increases to incomes and assets, particularly among poor and extremely poor people. Third, even within the relatively standardized context of the WEAI, the use of different measures of outcomes within each domain of empowerment further complicates the ability to compare evidence across studies.

BOX 4.1 MEASURING WOMEN'S EMPOWERMENT AND AGENCY AND THE WOMEN'S EMPOWERMENT IN AGRICULTURE INDEX

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vi. **Quisumbing, A., Cole, S., Elias, M., Faas, S., Galiè, A., Malapit, H., Meinzen-Dick, R., Myers, E., Seymour, G. & Twyman, J.** 2022. *Measuring women's empowerment in agriculture: Innovations and evidence.* Background paper for *The status of women in agrifood systems*, 2023. Nairobi, Kenya, CGIAR GENDER Platform.

vii. **Malapit, H., Quisumbing, A., Meinzen-Dick, R., Seymour, G., Martinez, E.M., Heckert, J., Rubin, D., Vaz, A., Yount, K.M. & GAAP2 Study Team.** Development of the project-level Women's Empowerment in Agriculture Index (pro-WEAI). *World Development*, 122: 675–692.

viii. **Galiè, A., Teufel, N., Korir, L., Baltenweck, I., Webb Girard, A., Dominguez-Salas, P. & Yount, K.** 2019. The women's empowerment in livestock index. *Social Indicators Research*, 142(2): 799–825.

ix. **Cole, S.M., Kaminski, A.M., McDougall, C., Kefi, A.S., Marinda, P.A., Maliko, M. & Mtonga, J.** 2020. Gender accommodative versus transformative approaches: A comparative assessment within a post-harvest fish loss reduction intervention. *Gender, Technology and Development*, 24(1): 48–65. https://doi.org/10.1080/09718524.2020.1729480

x. **Narayanan, S., Lentz, E., Fontana, M., De, A. & Kulkarni, B.** 2019. Developing the women's empowerment in nutrition index in two states of India. *Food Policy*, 89: 101780.

xi. **Saha, S. & Narayanan, S.** 2022. A simplified measure of nutritional empowerment using machine learning to abbreviate the Women's Empowerment in Nutrition Index (WENI). *World Development*, 154: 105860. https://doi.org/10.1016/j.worlddev.2022.105860

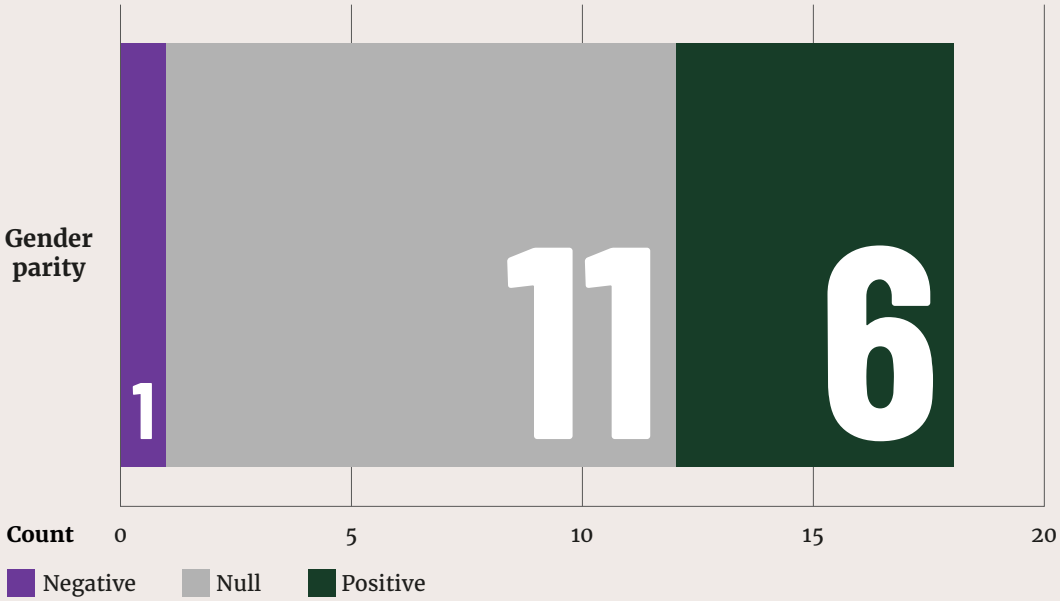
xii. **Quisumbing, A., Meinzen-Dick, R. & Malapit, H.** 2022. Measuring women's empowerment and gender equality through the lens of induced innovation. In: J.P. Estudillo, Y. Kijima & T. Sonobe, eds. *Agricultural development in Asia and Africa: Emerging-economy state and international policy studies*, pp. 343–355. Singapore, Springer. https://doi.org/10.1007/978-981-19-5542-6_25

Increased empowerment as an outcome

Increased interest in women's empowerment as an objective of development interventions and the subsequent advances in defining and measuring empowerment have resulted in new insights into what helps to increase empowerment in the context of agrifood systems. Interventions in agrifood systems can be harnessed for women's empowerment, but intentional design is needed to improve results. More is said about this in Chapter 6, which provides insights from what has worked and sets out a way forward for gender equality and women's empowerment in agrifood systems.

Women's instrumental agency – for example, control over income and assets or decisions over financial services – appears to be easier to influence, increase and measure than intrinsic agency and other elements of empowerment. In a review of a portfolio of 13 agricultural development projects from nine countries in Africa and South Asia that included combinations of crops, livestock and nutrition interventions and aimed at increasing income and nutritional outcomes, the pro-WEAI indicated that the programme impacts on empowerment were mixed.[9] One-third of interventions led to a statically significant increase in household gender parity, one intervention reduced parity and the others had no statistically significant impact (Figure 4.1).

Figure 4.1 One-third of agrifood-system interventions in projects in Africa and South Asia increased household gender parity

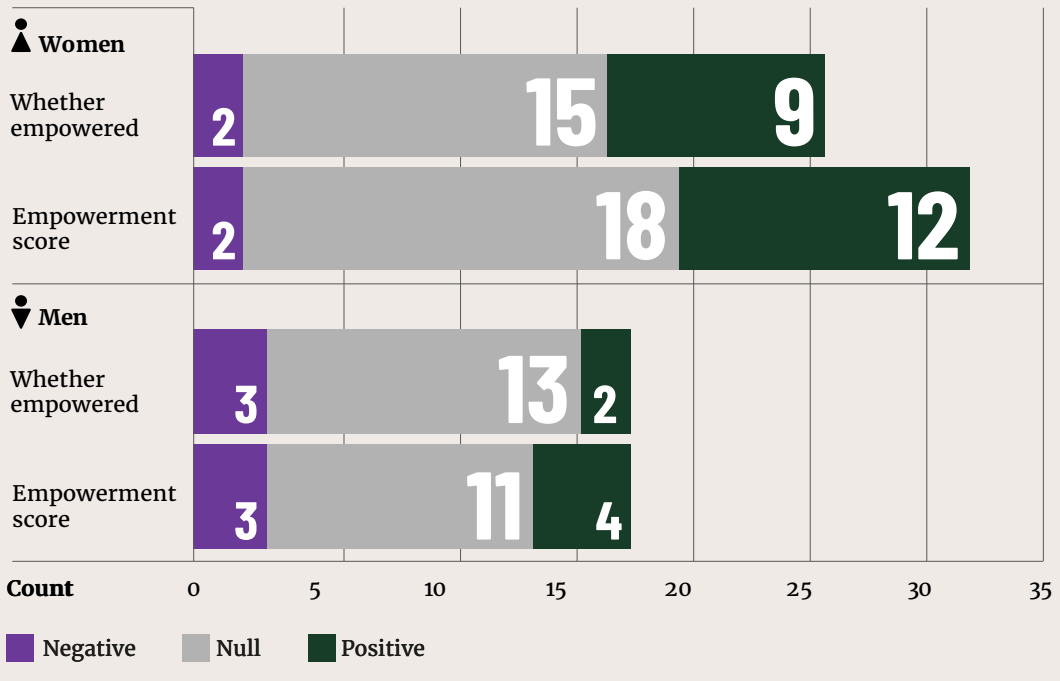


← **NOTE:** Estimates of impact on household gender parity

SOURCE: Quisumbing, A., Meinzen-Dick, R., Malapit, H., Seymour, G., Heckert, J., Doss, C., Johnson, N. ***et al.*** **2022.** *Can agricultural development projects empower women? A synthesis of mixed methods evaluations using pro-WEAI in the Gender, Agriculture, and Assets Project (Phase 2) portfolio.* IFPRI Discussion Paper 2137. Washington, DC, IFPRI. https://doi.org/10.2499/p15738coll2.136405

Additionally, most of the projects had no significant impacts on aggregate measures of empowerment. Men's and particularly women's empowerment increased in a number of projects, but not in the majority of projects (Figure 4.2).

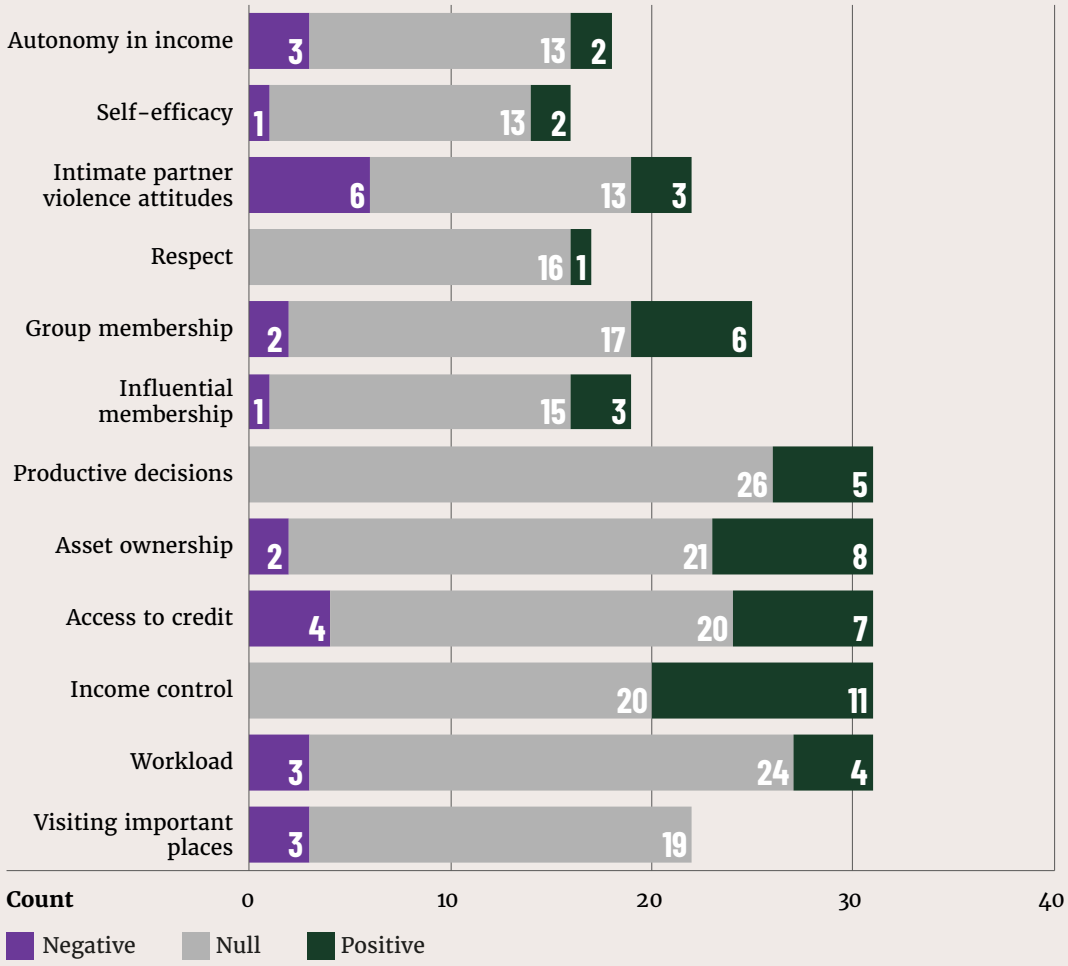
Figure 4.2 Women's and men's empowerment increased in projects in Africa and South Asia, but most projects had no impact



← NOTE: Estimates of composite empowerment indicators for women and men.

SOURCE: Quisumbing, A., Meinzen-Dick, R., Malapit, H., Seymour, G., Heckert, J., Doss, C., Johnson, N. ***et al.*** **2022.** *Can agricultural development projects empower women? A synthesis of mixed methods evaluations using pro-WEAI in the Gender, Agriculture, and Assets Project (Phase 2) portfolio.* IFPRI Discussion Paper 2137. Washington, DC, IFPRI. https://doi.org/10.2499/p15738coll2.136405

Figure 4.3 Women's control over income, asset ownership and group membership all increased in projects in Africa and South Asia



← **NOTE:** Estimates of continuous indicators of impact on women's agency.

SOURCE: Quisumbing, A., Meinzen-Dick, R., Malapit, H., Seymour, G., Heckert, J., Doss, C., Johnson, N. *et al.* 2022. *Can agricultural development projects empower women? A synthesis of mixed methods evaluations using pro-WEAI in the Gender, Agriculture, and Assets Project (Phase 2) portfolio*. IFPRI Discussion Paper 2137. Washington, DC, IFPRI. https://doi.org/10.2499/p15738coll2.136405

For women, most positive impacts on instrumental agency came from increased control over income, asset ownership and access to credit (Figure 4.3). Several projects found positive impacts on collective agency indicators, such as group membership, for women by using group-based approaches.

These results are not dissimilar to those from other large studies of the impact of interventions on empowerment. An evaluation of selected projects included in the Joint Programme on Accelerating Progress towards Rural Women's Economic Empowerment (JP RWEE),[10] which encompasses an approach focused on increasing food and nutrition security, income, leadership and participation and influencing a more responsive policy environment for gender equality and women's empowerment, found mixed results on empowerment. The degree to which empowerment significantly improved for both women and men depended on the country, context and programme implementation, with more positive results reported in Kyrgyzstan, more negative results reported in Ethiopia and a mix in Nepal and the Niger (Table 4.1).

Table 4.1 Mixed results on empowerment are seen in many projects

	Whether empowered	Empowerment score	Production	Resources		Income	Leadership	Time
			Input in productive decisions	Ownership of assets	Access to and decisions on credit	Control over use of income	Group membership	Workload
WOMEN								
Ethiopia: with access to credit						●	●	
Ethiopia: without access to credit	●	●	●		●		●	●
Kyrgyzstan: Common intervention	●	●	●				●	
Kyrgyzstan: Gender Action Learning System	●	●	●					
Kyrgyzstan: Gender Action Learning System/ Business Action learning for Innovation	●	●	●	●	●	●	●	
Nepal	●	●			●		●	
Niger		●		●		●		●
MEN								
Ethiopia: with access to credit						●	●	
Ethiopia: lost access to credit	●	●	●				●	●
Kyrgyzstan: Common intervention								
Kyrgyzstan: Gender Action Learning System	●	●	●	●	●		●	●
Kyrgyzstan: Gender Action Learning System/ Business Action learning for Innovation	●	●	●	●	●	●		
Nepal	●			●				●
Niger	●	●	●			●		●

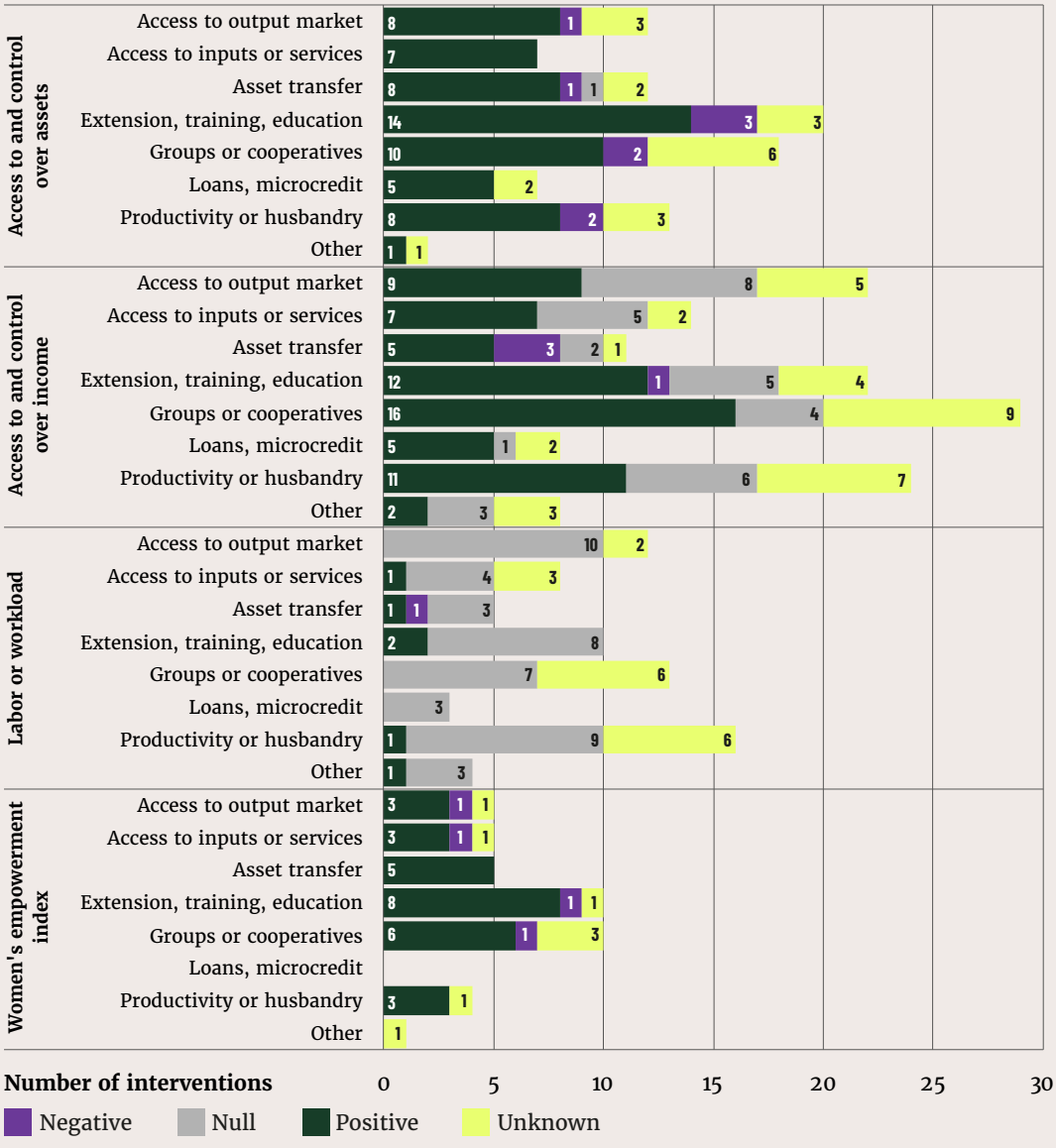
Negative; p<0.05	Negative; 0.10<p<0.05	Positive; 0.10<p<0.05	Positive; p<0.05

↑ **NOTES:** Impact estimates for binary adequacy indicators for projects included in the Joint Programme on Accelerating Progress towards Rural Women's Economic Empowerment. White cells indicate null results.

↑ **SOURCE: Quisumbing, A., Gerli, B., Faas, S., Heckert, J., Malapit, H.J., McCarron, C., Meinzen-Dick, R.S. & Paz, F.,** 2022. *Does the UN Joint Program for Rural Women's Economic Empowerment (JP RWEE) deliver on its empowerment objectives?* IFPRI Discussion Paper 2131. Washington, DC, IFPRI. https://doi.org/10.2499/p15738coll2.136302

The livestock sector has key entry points to support women's empowerment (see Chapters 2 and 3 for a discussion of the gendered patterns of participation in the livestock sector and livestock ownership). A review of 106 studies of livestock interventions and their impact on women's empowerment found that extension, training and education had the highest proportion of positive impacts, followed by asset transfers (Figure 4.4).[11] However, all types of livestock interventions had more negative than positive impacts on both women's and men's workload. Other studies shed light on the need for local context to understand how gender dynamics and norms interact with interventions to affect women's empowerment.[3, 12, 13]

Figure 4.4 Livestock interventions positively impact women's assets and income but may increase time burdens



← **SOURCES: Baltenweck, I., Achandi, E., Bullock, R., Campbell, Z., Crane, T., Eldermire, E., Gichuki, L.** *et al.* 2021. *What can we learn from the literature about livestock interventions and women's empowerment?* ILRI Research Brief 105. Nairobi, ILRI. https://cgspace.cgiar.org/handle/10568/117227

Quisumbing, A., Cole, S., Elias, M., Faas, S., Galiè, A., Malapit, H., Meinzen-Dick, R., Myers, E., Seymour, G. & Twyman, J. 2022. *Measuring women's empowerment in agriculture: Innovations and evidence*. Background paper for *The status of women in agrifood systems*, 2023. Nairobi, Kenya, CGIAR Gender Platform.

Additional benefits of increasing empowerment

A systematically positive impact on women's empowerment is difficult to achieve because women often face multiple disadvantages and because programmes often tend to tackle only some of the constraints. Even increased assets and incomes for women do not automatically translate into increasing women's opportunities to make strategic choices about their lives. However, positive relationships can be found between empowerment and a variety of development outcomes. Women's empowerment improves household diets and children's nutrition and increases agricultural production and household food security (Table 4.2). However, there is less evidence that it influences life satisfaction, educational outcomes and water, sanitation and hygiene.

WOMEN'S EMPOWERMENT IMPROVES HOUSEHOLD DIETS, CHILDREN'S NUTRITION AND HOUSEHOLD FOOD SECURITY.

Child diets and nutrition: Many studies that use WEAI metrics document significant positive links between women's empowerment and children's dietary or nutritional status (Annex 2, Annex Table 2.1).[3, 14] Women's empowerment was positively linked to child dietary diversity score across most countries, age groups and by child gender.[15, 16] There are also positive associations between the WEAI gender parity score and height-for-age z-scores and exclusive breastfeeding in several contexts (Bangladesh, Cambodia, Ghana, and Nepal), but less frequently, with child dietary diversity score (Bangladesh).[3, 15, 17, 18, 19, 20]

Table 4.2 The strength of evidence on women's empowerment varies by outcome

		AMOUNT OF EVIDENCE		
		Low	**Medium**	**High**
DEGREE OF AGREEMENT AMONG STUDIES	**Low**			
	Medium		Women's nutrition	Household-level food security Agricultural production
	High	Life satisfaction Educational outcomes Water, sanitation and hygiene		Diets Child nutrition

← **SOURCE: Quisumbing, A., Cole, S., Elias, M., Faas, S., Galiè, A., Malapit, H., Meinzen-Dick, R., Myers, E., Seymour, G. & Twyman, J.** 2022. *Measuring women's empowerment in agriculture: Innovations and evidence.* Background paper for *The status of women in agrifood systems*, 2023. Nairobi, Kenya, CGIAR Gender Platform.

Adult diets and nutrition: There are few studies that look at the relationship between women's empowerment and their own diets and nutrition; evidence from those that do is inconclusive.[3] WEAI studies indicate a need to assess aggregated and disaggregated measures to unpack the link in this relationship (Annex 2, Annex Table 2.2). While some studies show positive relationships between women's aggregate empowerment score and dietary diversity scores,[3] components of the index indicate potential trade-offs in these relationships. For example, in a six-country study greater intrahousehold equality, more autonomy in production and higher workload were associated with lower body mass index (BMI), while increases in speaking in public and satisfaction with leisure were associated with higher BMI.[21, 22]

There are also differences according to the specific context. For example, positive correlations were found between women's empowerment score and dietary diversity in Bangladesh, Ghana, Kenya, Mozambique, Rwanda and Timor-Leste but no significant effects were observed in Malawi, Uganda or Zambia.[18, 23, 24, 25] A review of gender equity in income, land and livestock, and workload found no studies that reported women's nutritional status or diet quality as outcomes.[26]

Two studies from Bangladesh assessed the relationship between women's empowerment and men's nutrition and diets (Annex 2, Annex Table 2.3). Increases in women's access to and decisions on credit and group membership were related to lower BMI for men in one study,[27] while in the other, increases in women's empowerment score, rights over assets and group membership were related to higher dietary diversity scores for men.[18]

Household diets and food security: There is limited evidence on women's agency and household food availability and access, and the results vary by context. In Bangladesh, higher levels of women's empowerment were correlated with better household dietary diversity and per capita calorie availability (Annex 2, Annex Table 2.4) [27, 28] while in South Africa, women's access to and decisions on credit were negatively related to dietary diversity.[29] The relationship between women's empowerment and food security also varies with the type of agricultural product, decision taken and indicator of empowerment.[30] There are also inconclusive findings between intrahousehold gender equality and various measures of household food security and diets, although higher-quality studies indicate more consistent positive findings.[26] In Bangladesh, for example, gender inequality within the household was marginally associated with lower household dietary diversity scores among non-poor, time-poor and income- and time-poor households, though not households that were only income poor.[31]

↓ **TAJIKISTAN – A woman feeding a flock of turkeys on her farm.**

Gains to agricultural productivity: Relatively few studies assess the relationship between women's empowerment and productivity gains in agriculture but some report positive links that vary by outcome. Empowerment has been shown to have a positive impact on agricultural productivity in Bangladesh and the Niger and among maize farmers in Kenya.[32, 33, 34] In the Niger, it was estimated that a one percent increase in empowerment would raise agricultural output by almost one percent.[34] In Bangladesh, an increase in women's input into farming decision-making led to an increased allocation of land to fruits and vegetables and a reduction in land allocated to cereals.[35] Greater intrahousehold gender parity has also been shown to be positively correlated with production efficiency in Bangladesh. [32, 36]

Other domains: Less evidence exists on the relationship between women's empowerment and other well-being outcomes such as schooling, life satisfaction and mental health. Increases in women's and men's life satisfaction were positively correlated with empowerment score and several WEAI indicators in Bangladesh.[37] The study found that women and men benefited from different domains of empowerment. For instance, having input in decisions had a larger impact on men's lives than women's. However, borrowing had a negative impact on women's life satisfaction but no impact on men's, indicating that women may feel more stress from additional responsibilities of having to pay back loans. In another study in Bangladesh, father's empowerment was positively associated with younger children's schooling, while mother's empowerment was more important for girls' education and for keeping older boys and girls in school.[38] Increasing women's empowerment has also been linked to decreased stress and postpartum depression in Burkina Faso.[39] Other empowerment indicators, including women's freedom of movement and group membership, have also been noted to be indicative of reduction in poor mental health and well-being in studies in India and Senegal.[40, 41]

FEW STUDIES ASSESS THE RELATIONSHIP BETWEEN WOMEN'S EMPOWERMENT AND PRODUCTIVITY GAINS IN AGRICULTURE.

SOCIAL NORMS, POLICIES AND LEGAL FRAMEWORKS

↑ ESWATINI – Women workers clean jars of jam before labelling them in a factory.

Informal social norms and practices, as well as formalized policies and institutions, can create barriers to women's empowerment and socioeconomic well-being. Addressing these barriers is critical to building agrifood systems in which women can fully participate and exercise their agency. Achieving gender equality, women's empowerment and other lasting changes in agrifood systems depends on building enabling policy and legal frameworks and removing or addressing the underlying constraints to women's ability to access complementary resources and feel empowered.[1, 42] It also depends on reducing existing informal restraints related to discriminatory social norms that prevent women from realizing their aspiration.[8] Norms have a material impact on the extent to which women can access services and can also shape formal regulations.[43]

Social norms

Discriminatory social norms in agrifood systems create power imbalances between men and women and limit the choices that are available for them. Shaped by belief systems, they define what is typical and appropriate behaviour for men and women, for each community or context. These often result in women being more involved in unpaid care and domestic work, having restrictions placed on their mobility and options for non-domestic work and market activities, and limitation in their access to and control over assets and income.[44] These normative limitations can create constraints for women's economic participation in agrifood systems (for example, as sellers, employers or employees) and affect their ability to access and benefit from technologies, services and social networks (such as rural organizations and agricultural trainings).[45, 46, 47] They can also affect women's aspirations (see Box 4.2).

DISCRIMINATORY SOCIAL NORMS IN AGRIFOOD SYSTEMS CREATE POWER IMBALANCES BETWEEN MEN AND WOMEN AND LIMIT THE CHOICES THAT ARE AVAILABLE TO THEM.

BOX 4.2 ASPIRATIONS AND ROLE MODELS

Low aspirations are internal constraints that may undermine individuals' beliefs in their capabilities; as such, they can hinder agency and empowerment,[i, ii] economic behaviours[iii] and political and community participation.[iv]

Men and women in farming communities and in the broader agrifood systems may have different aspirations with respect to work, education, incomes and social status; these may vary by context and generation. Across developing countries, young people often aspire to leave agriculture and to have a blue- or while-collar job.[v, vi] But when they are unlikely to obtain the needed education, young men express an interest in "modern" agriculture, whereas young women express no such interest as persistent negative norms and resource constraints limit their opportunities in agriculture.[v]

Gendered patterns of aspirations change with the transformation of rural areas.[vii] In rapidly transforming rural areas in Morocco, for example, young men aspire to modernized farming and to engage in agri-entrepreneurship while young women try to balance their aspirations between traditional gender roles (marriage and motherhood) and a desire for independent income.[vii] In areas with significant male outmigration and insufficient lucrative off-farm livelihood options, such as parts of Kenya, women farmers reported to aspire to commercialize their farms.[viii]

Diverse formal and informal institutions, including social norms, shape individuals' aspirations.[9] Individuals' aspirations are also influenced by the lives and achievements of role models in the family, in the community and beyond the community.[ix] Female leaders are important positive role models for girls and women, particularly in rural communities. Exposure to female leaders in a nationwide experiment in India raised aspirations of young women, closed the gender education gap and reduced the time girls' spent on household chores.[x] Exposure to female leaders in Lesotho led to more egalitarian attitudes among girls even though it did not change the levels of public gender biases,[xi] and female role models positively influenced young girls' labour choices and decreased their tolerance for gender stereotypes.[vi]

NOTES:

i. **Kosec, K., Akramov, K., Mirkasimov, B., Song, J. & Zhao, H.** 2022. Aspirations and women's empowerment: Evidence from Kyrgyzstan. *Economics of Transition and Institutional Change*, 30(1): 101–134.

ii. **Nandi, R. & Nedumaran, S.** 2021. Understanding the aspirations of farming communities in developing countries: A systematic review of the literature. *The European Journal of Development Research*, **33(4): 809–832.** https://doi.org/10.1057/s41287-021-00413-0

iii. **Mo, C.H.** 2012. *Essays in behavioral political economy: The effects of affect, attitudes, and aspirations.* Doctoral Dissertation, Stanford University.

iv. **Kosec, K. & Mo, C.H.** 2017. Aspirations and the role of social protection: Evidence from a natural disaster in rural Pakistan. *World Development*, 97: 49-66. https://doi.org/10.1016/j.worlddev.2017.03.039

v. **Elias, M., Mudege, N., Lopez, D.E., Najjar, D., Kandiwa, V., Luis, J., Yila, J. *et al.*** 2018. Gendered aspirations and occupations among rural youth, in agriculture and beyond: A cross-regional perspective. *Agri-Gender: Journal of Gender, Agriculture and Food Security*, 3(1): 82–107. https://doi.org/10.19268/JGAFS.312018.4

vi. **World Bank.** 2019. *Changing aspirations and stereotypes in the Maldives*. Project Brief. Washington, DC, Mind, Behavior, and Development Unit (eMBeD), World Bank. https://tinyurl.com/292bjz7x

vii. **Bossenbroek, L., van der Ploeg, J.D. & Zwarteveen, M.** 2015. Broken dreams? Youth experiences of agrarian change in Morocco's Saïss region. *Cahiers Agricultures*, 24(6): 342–348. https://doi.org/10.1684/agr.2015.0776

viii. **Crossland, M., Paez Valencia, A.M., Pagella, T., Mausch, K., Harris, D., Dilley, L. & Winowiecki, L.** 2021. Women's changing opportunities and aspirations amid male outmigration: Insights from Makueni County, Kenya. *The European Journal of Development Research*, 33(4): 910–932. https://doi.org/10.1057/s41287-021-00362-8

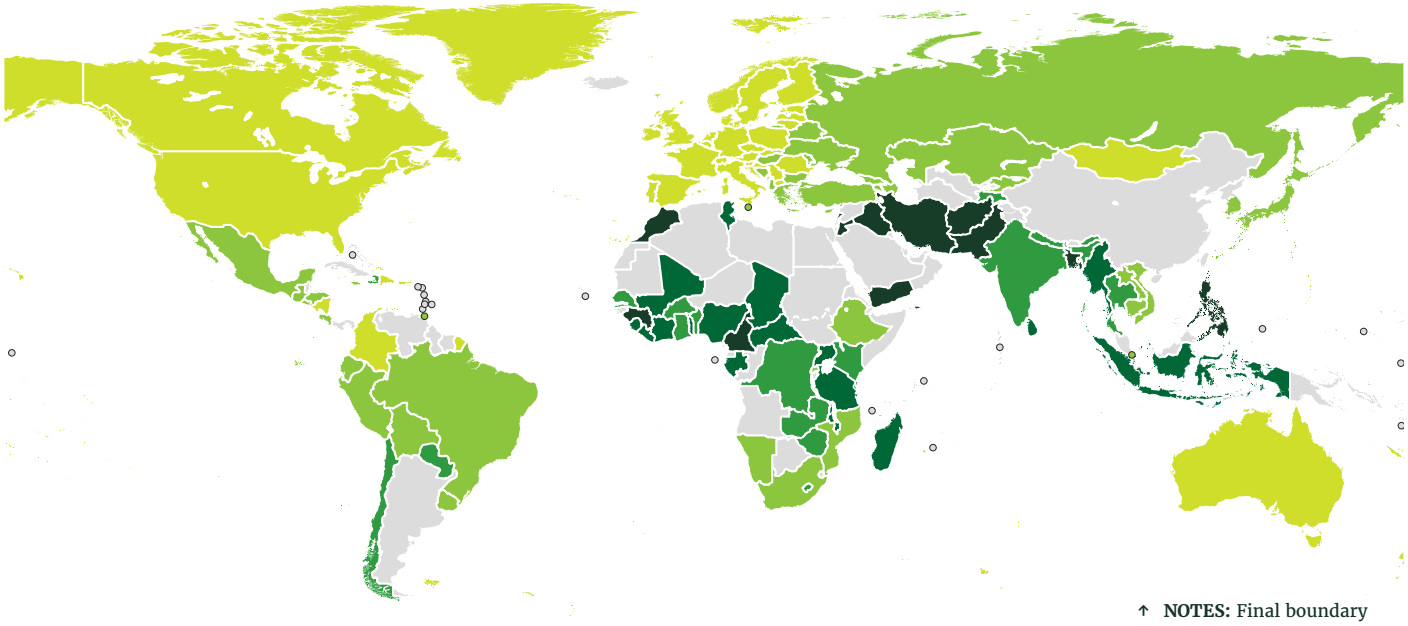
ix. **La Ferrara, E.,** 2019. Presidential address: Aspirations, social norms, and development. *Journal of the European Economic Association*, 17(6): 1687-1722. https://doi.org/10.1093/jeea/jvz057

x. **Beaman, L., Duflo, E., Pande, R. & Topalova, P.** 2012. Female leadership raises aspirations and educational attainment for girls: A policy experiment in India. *Science*, 335(6068): 582–586. https://doi.org/10.1126/science.1212382

xi. **Clayton, A.** *2018.* Do gender quotas really reduce bias? Evidence from a policy experiment in Southern Africa. *Journal of Experimental Political Science*, 5(3): 182–194.

The level of gender-based discrimination in social institutions (legal, cultural and traditional practices discriminating against women and girls) varies by region and country but remains unacceptably high globally (Figure 4.5).[48] Discriminatory norms related to other social categories such as ethnicity, religion, age or disability intersect with gender norms, further constraining options available to certain population groups.[48] Discriminatory norms around girls' value in society intersect with poverty and food insecurity to create drivers of child marriage.[49] Norms harmful to both men and women, such as the stereotype of the male breadwinner, also contribute to stress among male farmers that may lead to suicide when men feel they cannot provide for their families.[50, 51, 52, 53]

Figure 4.5 Gender discrimination varies by region and country



↑ **NOTES:** Final boundary between the Sudan and South Sudan has not yet been determined. Dotted line represents approximately the Line of Control in Jammu and Kashmir agreed upon by India and Pakistan. The final status of Jammu and Kashmir has not yet been agreed upon by the parties.

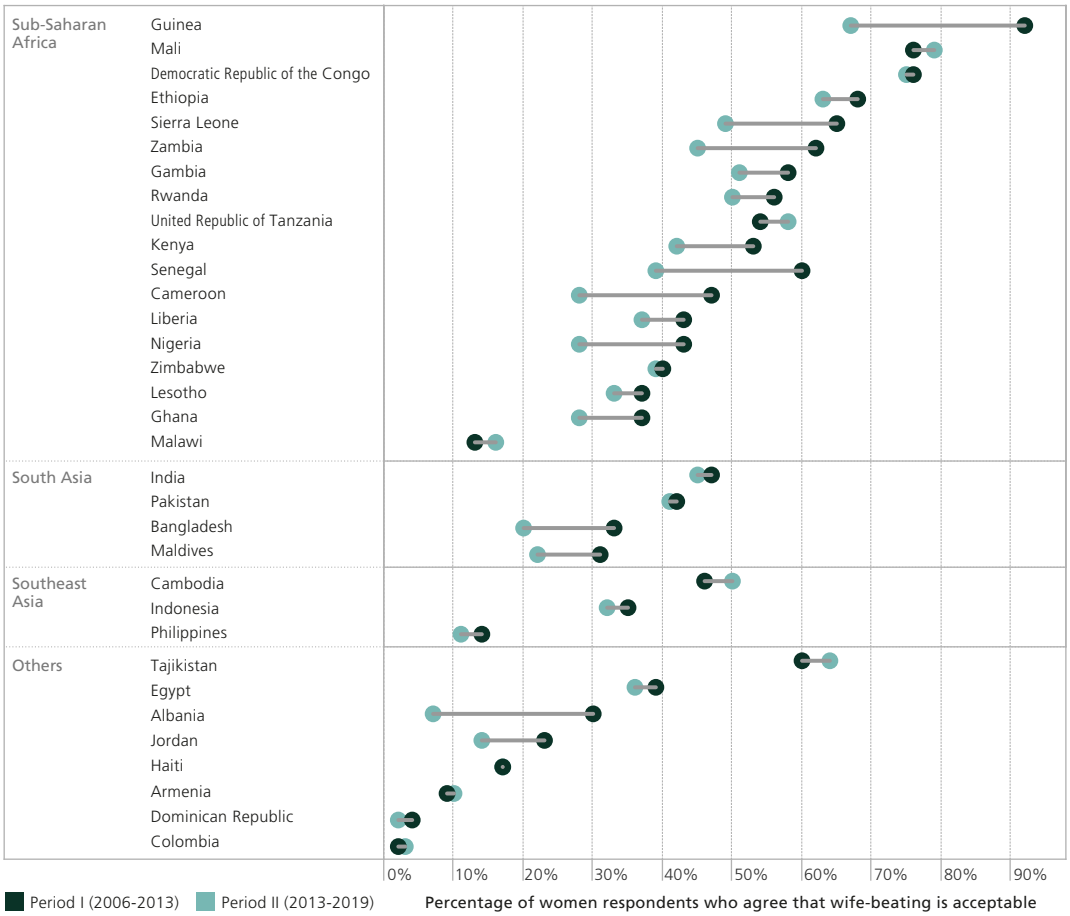
↑ **NOTE:** Higher values for the Social Institutions and Gender index indicate higher inequality. The index ranges from 0 percent for no discrimination to 100 percent for absolute discrimination.

SOURCE: OECD. 2019. *SIGI 2019 Global Report: Transforming challenges into opportunities*. Social Institutions and Gender Index. Paris, OECD Publishing. https://doi.org/10.1787/bc56d212-en

Social norms about gender and women's work remain strongly constraining in communities of Asia and sub-Saharan Africa where the most people work in primary production in either agriculture or fisheries,[54, 55] and in lower- and middle-income countries more broadly.[56] This situation also constrains women's access to and use of technology in farming, which in turn limits their productivity and earning potential.[45, 57, 58] There are exceptions, however. In parts of Kenya, for example, women are increasing their access to agricultural services and farmer groups. This is linked to perceived new roles for women in the household as primary recipients of training in new practices, despite their time constraints.[54] In some areas of Asia, norms have relaxed in ways that allow for women to have more active roles in fisheries and commercial farming, which has helped make their mobility more acceptable.[47, 55]

Globally, the acceptance of different social norms varies across nations, with slow improvement over time. For example, wide regional variation is evident in norms relating to gender-based violence (specifically, whether wife-beating should be tolerated, see Figure 4.6). In Latin America, it is rarely supported, while in sub-Saharan African countries it is more broadly tolerated. Tolerance of wife-beating modestly declined in most countries between 2006–2013 and 2013–2019.

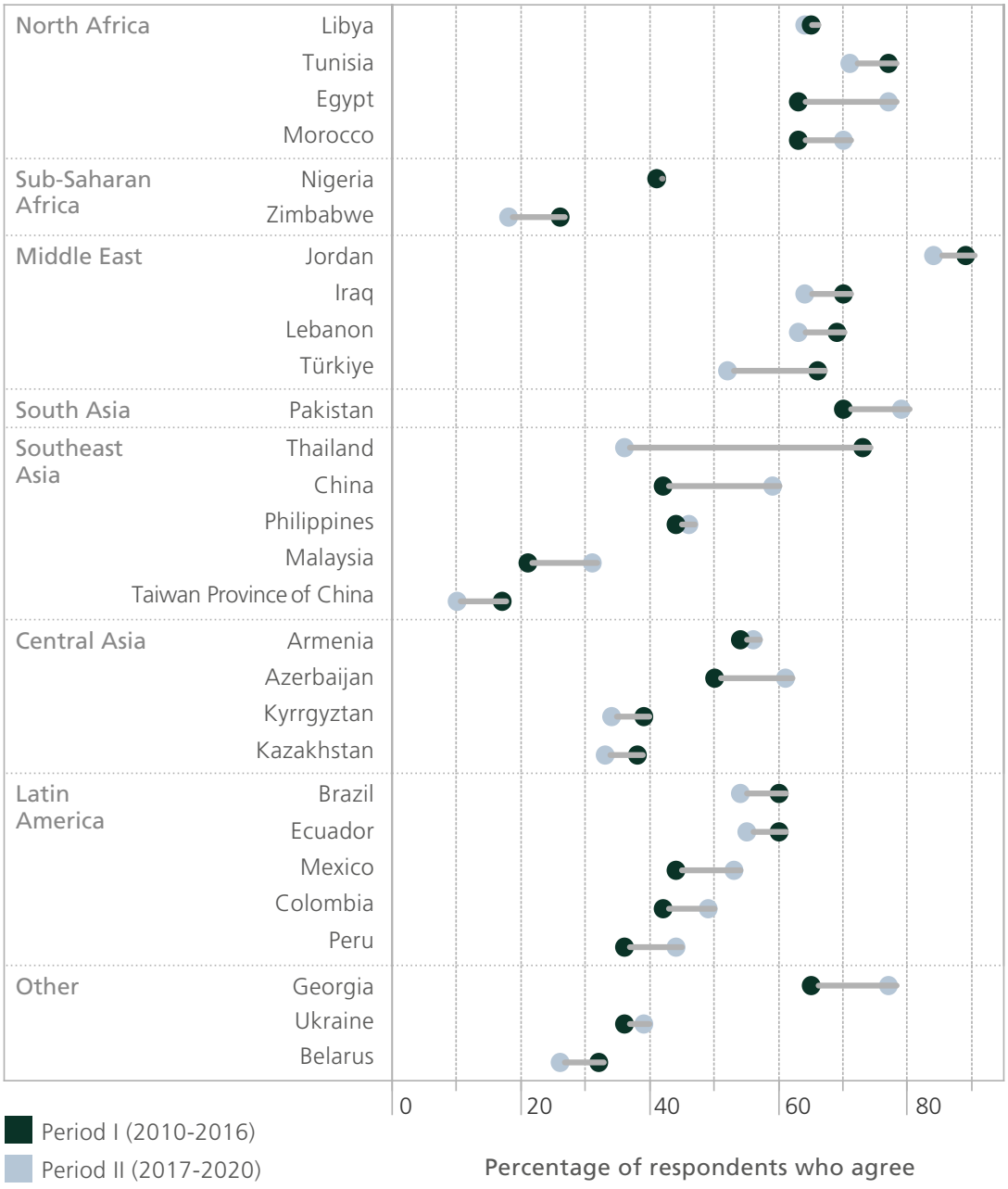
Figure 4.6 Wife-beating remains acceptable in many countries



← **SOURCE: ICF.** 2006–2019. Demographic and Health Surveys (various). Funded by USAID. Rockville, Maryland, United States of America.

In line with the constraining norms described above, it is widely believed globally that mothers should look after young children instead of engaging in paid work. In many countries across all regions, more than 50 percent of respondents believe that young children suffer when mothers work (Figure 4.7). This social norm is consistent with the widely held belief that men should have preferential access to jobs during times of crisis or downturns.[59, 60, 61]

Figure 4.7 In the majority of countries, most people believe young children suffer when mothers work



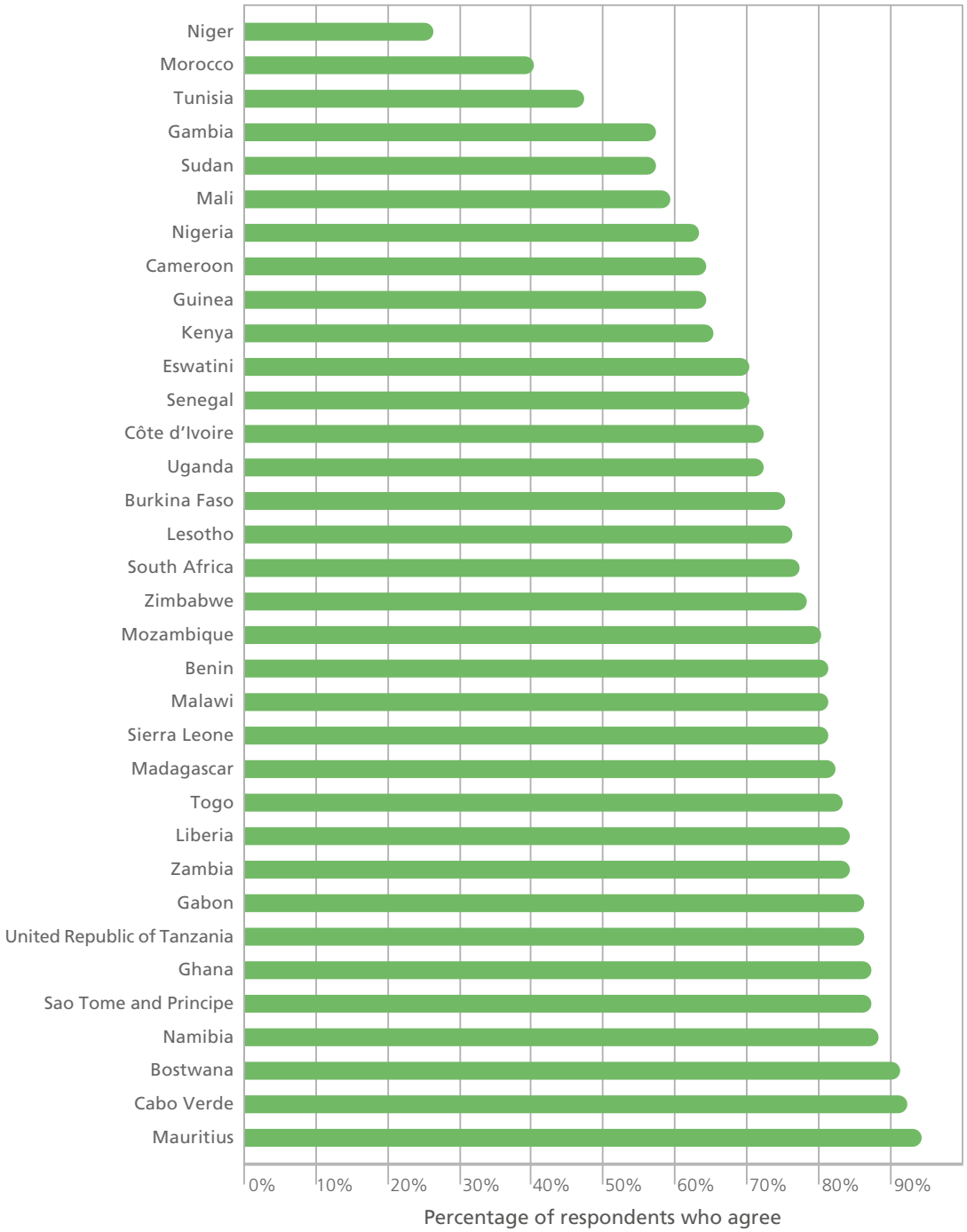
← **SOURCES: Inglehart, R., C. Haerpfer, A. Moreno, C. Welzel, K. Kizilova, J. Diez-Medrano, M. Lagos, P. Norris, E. Ponarin & B. Puranen *et al.***, eds 2018. *World Values Survey: Round Six - Country-Pooled Datafile*. Madrid, Spain & Vienna, Austria, JD Systems Institute & WVSA Secretariat. doi.org/10.14281/18241.8

Haerpfer, C., Inglehart, R., Moreno, A., Welzel, C., Kizilova, K., Diez-Medrano J., Lagos M., Norris P., Ponarin E. & Puranen B. *et al.* eds. 2020. *World Values Survey: Round Seven – Country-Pooled Datafile*. Madrid, Spain & Vienna, Austria, JD Systems Institute & WVSA Secretariat. doi.org/10.14281/18241.1

Lecoutere, E., Achandi, E.L., Ampaire, E., Fischer, G., Gumucio, T., Najjar, D. & Singaraju, N. 2022. *Fostering an enabling environment for equality and empowerment in agrifood systems.* Background paper for *The status of women in agrifood systems*, 2023. Nairobi, Kenya, CGIAR Gender Platform.

On the other hand, a majority of respondents in both North and sub-Saharan African countries support women's rights to own and inherit land (Figure 4.8).[61, 62] More than 50 percent of respondents in all but three countries believed that women should have the same rights as men to own and inherit land.

Figure 4.8 A majority of people support women's ownership of land in northern and sub-Saharan Africa



← **SOURCES:** Afrobarometer Data. 2016–17. [Multiple countries; 2016–17] available at http://www.afrobarometer.org.

Lecoutere, E., Achandi, E.L., Ampaire, E., Fischer, G., Gumucio, T., Najjar, D. & Singaraju, N. 2022. *Fostering an enabling environment for equality and empowerment in agrifood systems.* Background paper for *The status of women in agrifood systems*, 2023. Nairobi, Kenya, CGIAR Gender Platform.

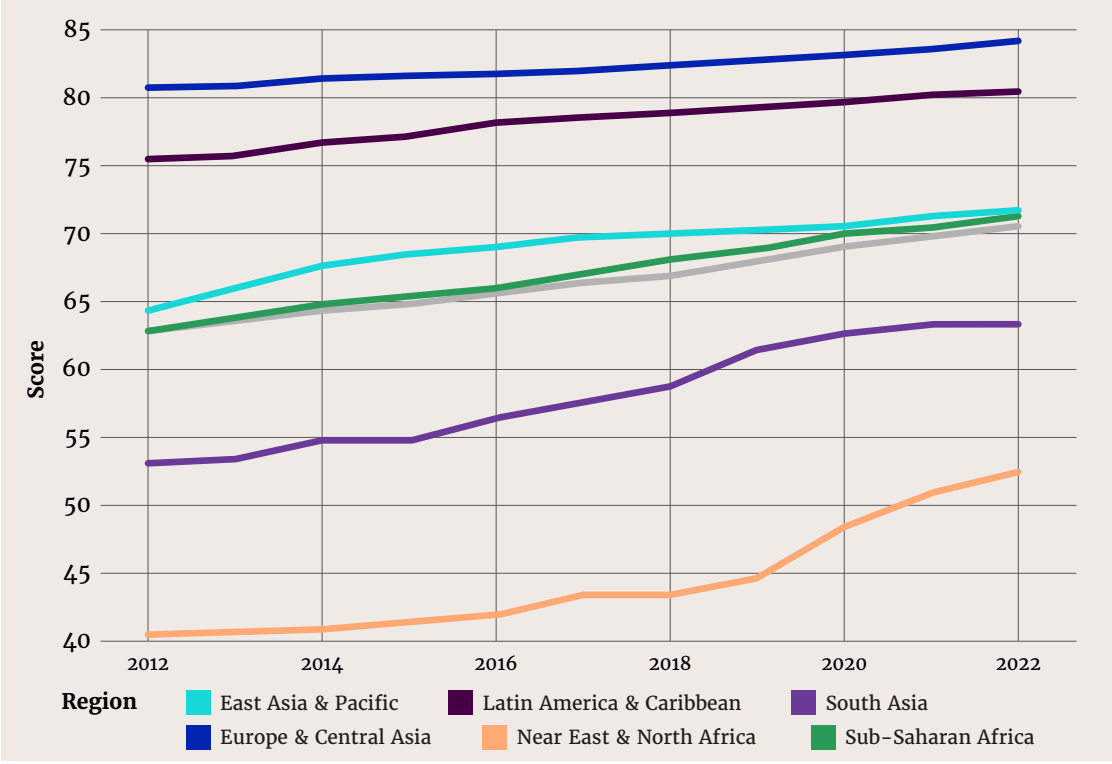
Policies and legal frameworks

THE EXTENT TO WHICH NATIONAL POLICY FRAMEWORKS ADDRESS GENDER ISSUES HAS IMPROVED OVER THE PAST DECADE.

Gender inequality in agrifood systems has persisted in part because policies and institutions continue to constrain equal opportunities, returns to labour and rights to resources, despite the fact that more attention is being paid to the gender gaps highlighted in Chapter 3.[63] Changes are needed across a broad set of policies, including fiscal policies; policies incentivizing investment, research and innovation; and policies related to social sectors such as education and nutrition.[64]

The extent to which national policy frameworks address gender issues has improved over the past decade. National policies and budgets in East Africa and Latin America have increasingly highlighted structural gaps in access and included efforts to produce gender-responsive outcomes.[65, 66, 67] An index measuring legal differences between men's and women's access to economic opportunities in 190 economies shows improvement across all low- and middle-income regions.[68, 69] These improvements are most notable in South Asia and the Near East and North Africa, both of which started from a lower level and still score significantly lower than other regions (Figure 4.9). Laws in sub-Saharan Africa about mobility, assets and entrepreneurship have improved the most *vis-à-vis* all other regions during the period 2011–2022. In Burkina Faso, Sierra Leone and Zambia, scores assigned to laws that support entrepreneurship improved by 33 percent during this period.

Figure 4.9 Laws on women's participation in business are improving globally



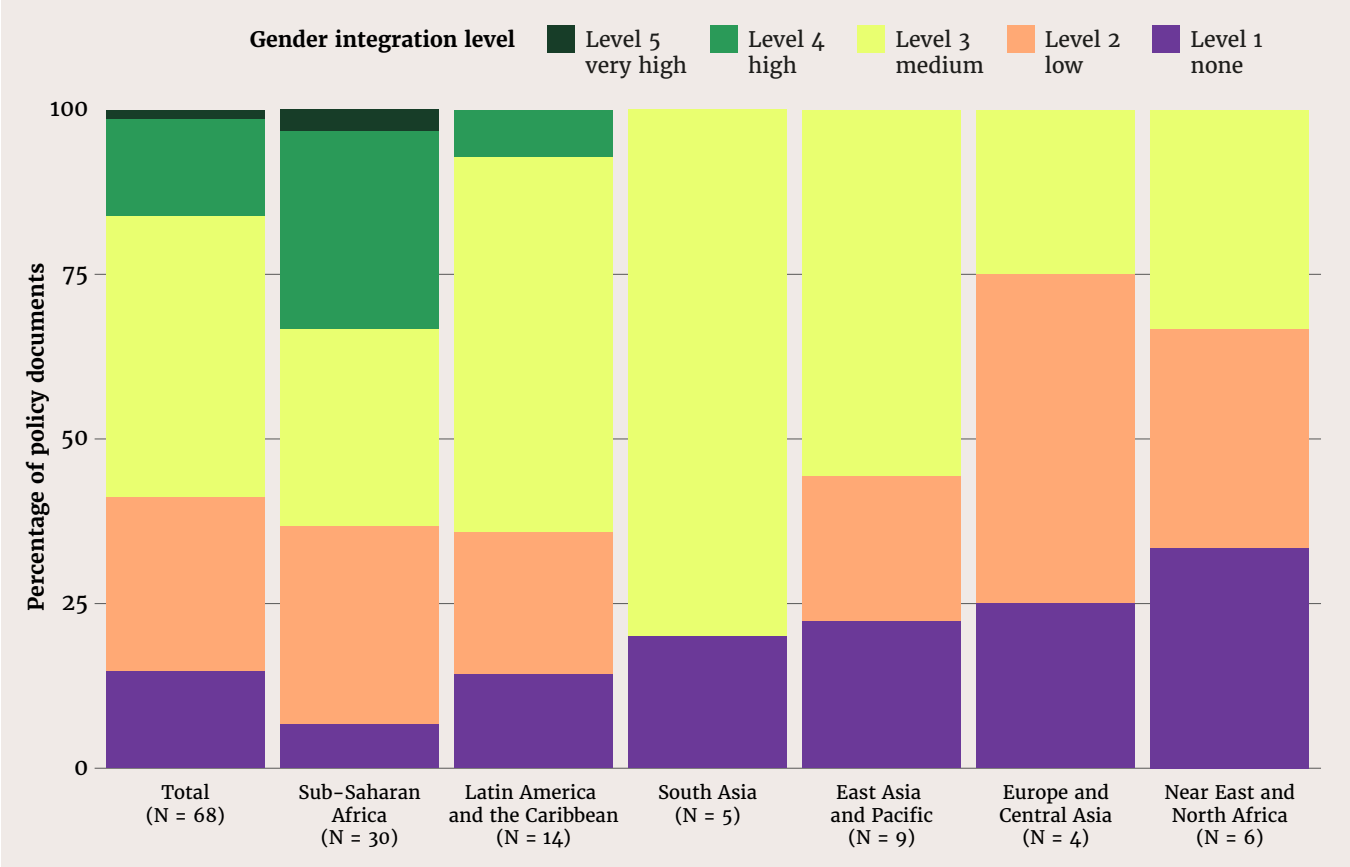
← **SOURCE: World Bank.** 2022. Women, Business and the Law Panel Data [2012–2022]. Washington, DC. https://wbl.worldbank.org/

Additionally, the Convention on the Elimination of All Forms of Discrimination Against Women has been ratified by all African countries, and 42 African countries have ratified the Protocol to the African Charter on Human and Peoples' Rights on the Rights of Women in Africa (the Maputo Protocol).[48] Positive progress was also made in enacting laws and reforms to address gender-based violence and for increasing women's rights to access credit and land.[48,70,71]

In agricultural policies: The extent to which agricultural policies address gender equality and women's empowerment varies. An analysis of agricultural policy documents (e.g. national agricultural policies and national agricultural development plans) from 68 low- and middle-income countries using FAO's Gender in Agricultural Policy Assessment Tool (GaPO)[72] showed that 15 percent of documents were gender blind (i.e. no mention of gender in/equality or women's empowerment) (Level 1, Figure 4.10), while most included some consideration of gender. However, 43 percent of policy documents included only very few and/or very generic measures to promote gender equality (Level 3, Figure 4.10). Only one document explicitly proposed gender-transformative measures to address discriminatory social norms (Level 5, Figure 4.10). Sub-Saharan Africa is a leading region in the gender-responsiveness of their national agricultural policies, followed by Latin America and the Caribbean (Figure 4.10).

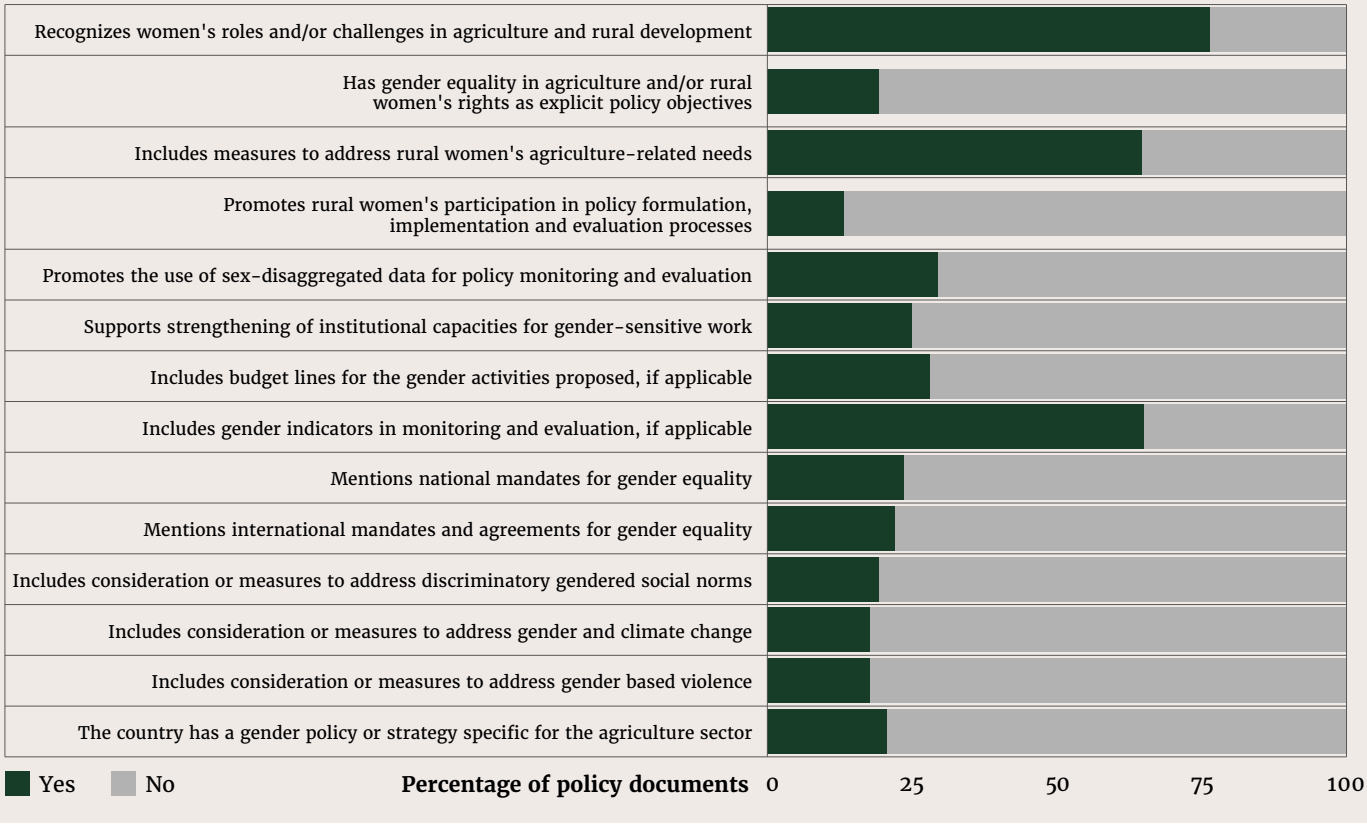
Figure 4.10 Most agricultural policy documents include very few measures to promote gender equality; sub-Saharan Africa performs best

↓ **SOURCE:** Authors' calculations.



Few of these policies fully address gender equality and women's empowerment issues. While more than 75 percent recognized women's roles and/or challenges in agriculture, only 19 percent had gender equality in agriculture and/or women's rights as explicit policy objectives, 29 percent supported the use of sex-disaggregated data for policy monitoring and evaluation and only 13 percent encouraged rural women's participation in the policy cycle (Figure 4.11). About 80 percent of policies did not consider discriminatory social norms, gender-based violence or other intersecting vulnerabilities such as climate change.

Figure 4.11 Agricultural policies recognize women's contribution and gender inequalities in the sector, but gender-responsive policy formulation remains weak



↑ **NOTE:** Total number of agricultural policies analysed was 68, except for assessments regarding the inclusion of budget lines (N=25) and indicators (N=37).

SOURCE: Authors' calculations.

Climate policies: Overall, a modest improvement was made over the past decade in the degree and way in which gender equality and women's rights issues are introduced in climate-related policy, with a progressive increase in international financing of gender-sensitive interventions and in women's representation in international climate change fora and negotiations. Heightened attention to gender and climate change in policy is also reflected in a recent review of nationally determined contribution (NDC), where the percentage of reviewed NDCs with mentions of women and/or gender increased from 40 percent in 2016 (intended NDCs) to 78 percent in 2021 (updated NDCs).[73] Agriculture was the sector with the greatest degree of integration of gender (33 percent) and sub-Saharan Africa and Latin America and the Caribbean were the regions with the highest rates of gender inclusion in their NDCs: 94 percent (17 out of 18 NDCs) and 100 percent (18 out of 18 NDCs), respectively.[73]

However, evidence from Central America, East Africa and Nepal indicates that integration of gender equality and women's rights issues in

national climate and agriculture policy is often superficial, with passing mention of "gender," often merely acknowledging its relation to climate change.[74, 75, 76] Gender integration in climate and agriculture policy has also often portrayed women as largely vulnerable and passive victims of climate change,[76, 77, 78, 79, 80] although there is evidence that this is changing: the number of NDCs that consider women as "stakeholder" and "agents of change" has increased over the period 2016–2021, signaling progress in portraying women as active participants in climate action.[73]

Despite these positive changes, national agricultural and environmental policies that mention gender-related vulnerabilities to climate change often still do not include policy measures or strategies to address them during implementation.[76, 81] A study from Zambia highlights that, while overarching national policies and development plans present clear provisions for gender mainstreaming, natural resource management and climate change programmes lack sound monitoring and evaluation mechanisms to track progress in implementing gender provisions.[82]

The mismatch between the policy discourse and policy action on gender and climate change is also evident in budget analysis. In Nepal the national budget allocated to climate change action makes no reference to gender despite recent increases in the allocation.[76] Parliamentarians and policymakers commonly lack the knowledge and capacity to integrate gender and intersectionality in climate change policy and action.[83, 84] This is often exacerbated by barriers to effective implementation, including the lack of political will and highly gendered social institutions through which gender and climate-related policies are supposed to be enacted.[74, 75, 82, 85, 86]

Limited data are available with regards to the integration of gender, agriculture and climate change in subnational development policy.

INTEGRATION OF GENDER EQUALITY AND WOMEN'S RIGHTS ISSUES IN NATIONAL CLIMATE AND AGRICULTURE POLICIES ARE OFTEN SUPERFICIAL.

In Uganda gender and climate change discourse progressively declines when moving from national to district and subnational level policies.[81] An analysis of the extent to which gender is budgeted for in implementation plans at district and lower governance levels in Uganda and the United Republic of Tanzania found a sharp difference between estimated and actual allocated budgets, with the latter remaining consistently low.[74] Similarly, in Uganda limited amounts were allocated to gender equality issues in subnational development plan budgets, with the limited amounts allocated to broad categories such as "women," "gender" and "women's affairs".[81]

Higher levels of female political representation in national parliaments leads to more stringent climate change policies.[87] However, women and women's organizations are commonly marginalized in climate decision-making processes in governance at both national and local levels.[88, 89, 90] Women's inclusion and participation in international climate decision-making policy processes also remains limited, although recent evidence points to a gradual improvement. For example, the percentage of women delegates on national delegations to the United Nations Framework Convention on Climate Change (UNFCCC) increased from 30 percent in 2009 to 38 percent in 2021, although only 13 percent of heads of delegation in 2021 were women (up from 10 percent in 2009).[91] Activism by women's organizations has also been influential in international climate policy decision-making processes, playing a key role in, for example, the establishment of the Women and Gender Constituency at the UNFCCC Convention of the Parties.[90, 92]

CHAPTER 5

LET'S GROW EQUALITY FOR GREATER RESILIENCE

CHAPTER 5

GENDERED RESILIENCE TO SHOCKS AND STRESSES

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KEY FINDINGS

- **Coping mechanisms and resilience to shocks and stressors are shaped by gender** inequalities. Shocks and crises have a large impact on women's livelihoods in agrifood systems, and they are multiple and often overlapping. In many countries, these shocks and crises occur in contexts of very high gender inequalities.

- **The impacts of the COVID-19 pandemic and the related economic crisis have been intensified and shaped by gender inequalities in agrifood-system livelihoods.** Globally, 22 percent of women lost their jobs in off-farm agrifood-system work in the first year of the pandemic, compared with only 2 percent of men. The gap in food insecurity between men and women widened from 1.7 percentage points in 2019 to 4.3 percentage points in 2021.

- **Women often have more sensitivity to climate shocks and natural disasters and have different resilience capacity than men.** While women are not inherently more at risk from climate change and shocks, resource and other constraints can make them more sensitive to their effects and less able to adapt to them, increasing their vulnerability. For example, women's work burdens, including hours worked in agriculture, tend to decline less than men's during climate shocks such as heat stress.

- **Conflict and insecurity remain key drivers of food crises and food insecurity. Women are often more vulnerable than men to acute food insecurity because they face additional risks, barriers and disadvantages.** Violent conflicts also have gender-differentiated impacts on mobility, gender-based violence, health and education outcomes, and political and civic engagement. Conflict reduces the working hours of both men and women, but women's working hours are reduced less than those of men and women's employment in agriculture increases more than that for men.

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← ETHIOPIA – A farmer undergoes a temperature check while queuing at a seed distribution centre.

↑ KENYA – A woman on her farm affected by crop and pasture losses caused by desert locust and drought.

SHOCKS AND CRISES HAVE A LARGE IMPACT ON WOMEN'S LIVELIHOODS IN AGRIFOOD SYSTEMS.

INTRODUCTION

The impacts of shocks and stresses on women, and their vulnerabilities and resilience capacity, are influenced by numerous factors. These include the type of job and conditions under which women work; the informality and uncertainty that often accompany their working arrangements; the disproportionate burden of care that falls on women; the lower access of women to productive assets and services; and social norms and policies that constrain women's empowerment and gender equality in agrifood systems. The gendered-agrifood-systems-framework presented in Chapter 1 emphasizes the different impacts both structural gender inequalities and shocks and stressors have on men and women. Women are often described as "shock absorbers" within households, in reference to the ways in which they adapt their work patterns, food consumption and even ambitions and expectations to deal with shocks.[1]

This chapter examines how different types of shocks and stresses, namely COVID-19, climate change, conflict and their associated economic crises, have impacted, shaped and, in many cases, further exacerbated existing inequalities. The chapter also explores the ways these shocks and stresses have affected the resilience of women and girls and their household members' food security and nutrition. In the context of agrifood systems, resilience is defined as "the capacity over time of agrifood systems, in the face of any disruption, to sustainably ensure availability of and access to sufficient, safe and nutritious food for all, and sustain the livelihoods of agrifood-systems' actors."[2] Increasing women's resilience to shocks and stressors is critical to achieve improved food security and nutrition and thus Sustainable Development Goal 2 targets.

INCREASING WOMEN'S RESILIENCE IS CRITICAL TO ACHIEVE IMPROVED FOOD SECURITY AND NUTRITION.

Shocks and stressors rarely happen in isolation: they commonly build on each other in complex and interconnected forms, making coping strategies harder. This is particularly true in rural areas, where poverty, inequality and climate change are inextricably linked, resulting in increased vulnerabilities for people living there, particularly women and girls.[3] These vulnerabilities are also driven by multiple and intersecting forms of discrimination linked to gender, age, ethnic group, health, disability and economic status.

In some cases, acute crises – such as pandemics or strong weather shocks – happen on top of chronic longer-term crises, such as those related to climate change. The response to this type of crisis often triggers and exacerbates already existing gendered differences, leading to women having even more unpaid care work, less and more difficult access to information and safety measures, increased gender-based violence, increased financial difficulties and more limited livelihood strategies.[4] The combination of these mixed and multiple crises often happens in areas where gender inequality is already high; for example, countries facing high exposure to extreme climatic events are often those in which gender inequalities are significant or where poverty is widespread.[6, 7, 8] Climatic stressors can also act as an indirect driver of or aggravating factor to conflict, particularly in regions dependent on agriculture and with other institutional constraining factors such as political instability and low levels of economic development.[9, 10]

EXTREME CLIMATIC EVENTS OFTEN OCCUR IN COUNTRIES WHERE GENDER INEQUALITIES ARE SIGNIFICANT.

These challenges call for interventions that focus on building resilience and adaptive capacities at social, economic and landscape level. Such interventions include gender-responsive approaches that account for the type of shocks and for the short- and long-term impacts on women's abilities to cope with multiple, recurring shocks and stressors while also empowering them as agents of change, thus contributing to overall agrifood systems resilience.

↓ **BANGLADESH – Flood victims head off to gather drinking water.**

GENDERED IMPLICATIONS OF THE COVID-19 PANDEMIC

Shocks and stresses lead to economic crises that have different impacts on men and women, on urban and rural areas and on agriculture compared with other sectors.

The COVID-19 pandemic has had more acute economic impacts on women's participation in agrifood systems than have previous economic crises. These have included large declines in women's employment in agrifood systems generally and in the off-farm segments of agrifood systems in particular. During the financial crises of the 1990s, for example, participation in agriculture grew, absorbing workers displaced from sectors such as manufacturing, construction or the public sector.[11, 12] Women's employment generally increased during these and previous crises, especially among poorer households and the less well educated or those working in the informal sector, playing a countercyclical role.[13, 14]

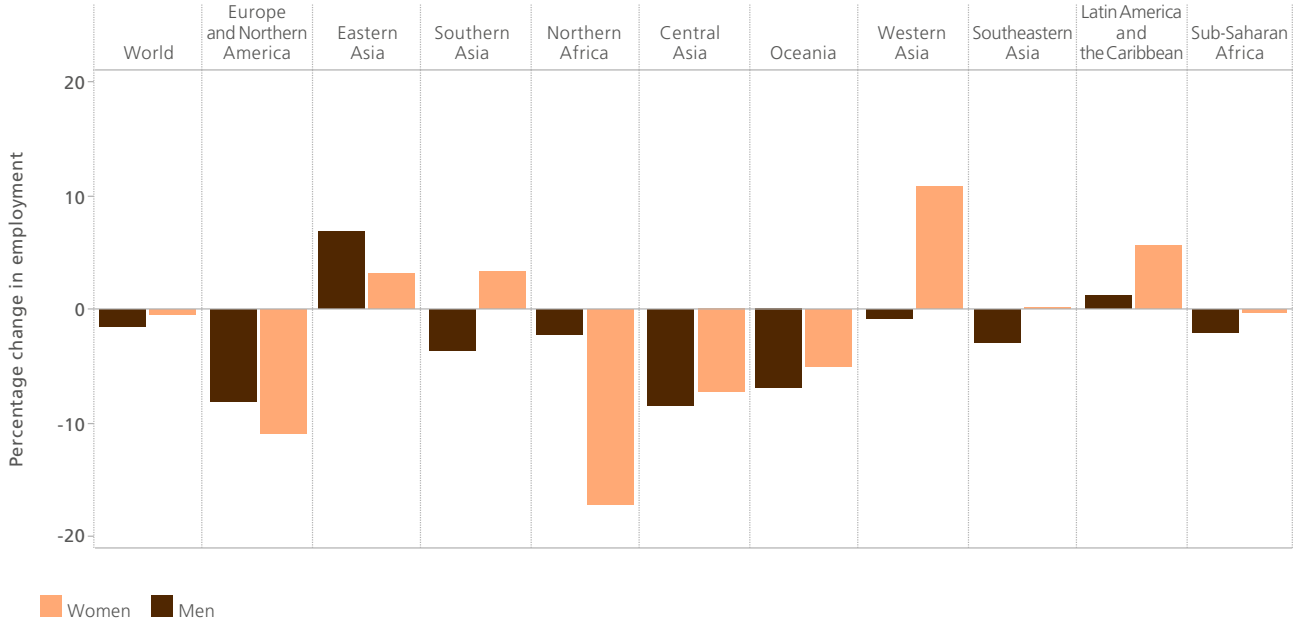
THE COVID-19 PANDEMIC IMPACTED WOMEN IN AGRIFOOD SYSTEMS MORE THAN PREVIOUS ECONOMIC CRISES.

The impact of the 2007–2008 global economic and food-price crisis on employment in agrifood systems serves as a good point of comparison. Women globally experienced a small decline in employment in both agriculture and off-farm parts of the agrifood systems between 2007 and 2008, which was broadly comparable to the small employment losses experienced in the sector by men (Figure 5.1).[15] Globally, agriculture did not act as a buffer, although there were also considerable differences across regions: Northern Africa, for example, faced the largest decline in female employment, while employment increased for both women and men in sub-Saharan Africa.

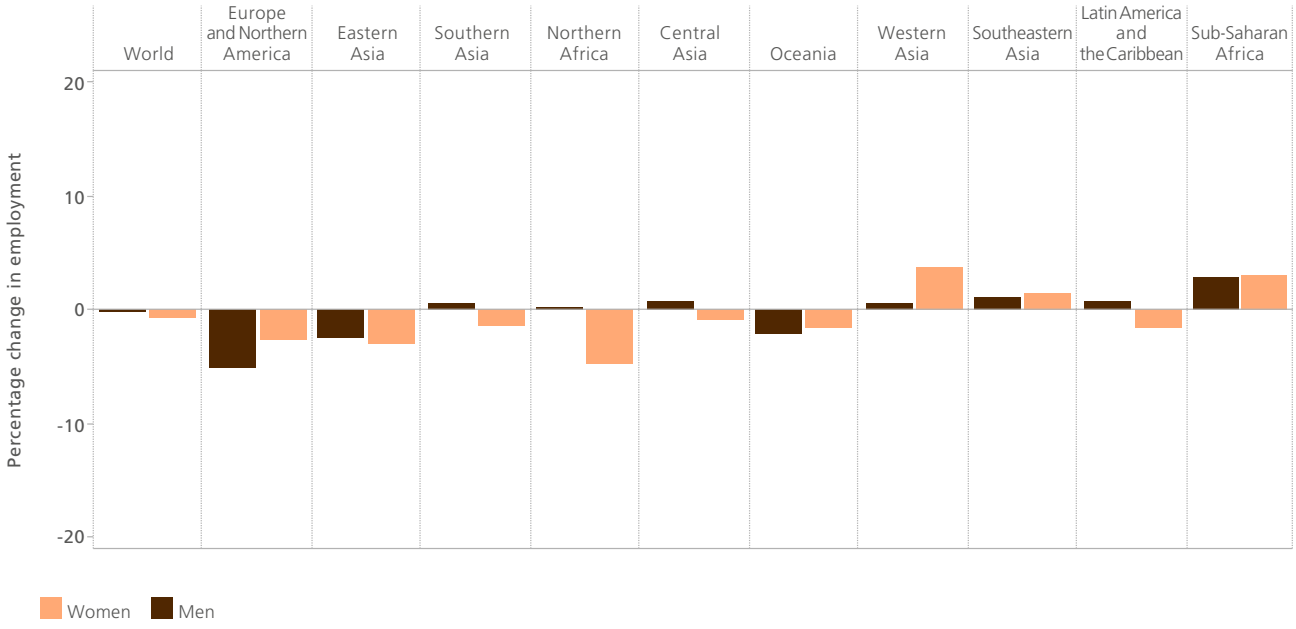
↓ BOLIVIA (PLURINATIONAL STATE OF) – A farmer in her vegetable garden during the COVID-19 pandemic.

Figure 5.1 The 2007–2008 economic crisis led to a small decline in employment in agrifood systems globally for both women and men, but with large differences across regions and sexes

Panel A: Agricultural employment



Panel B: Off-farm agrifood-system employment



↑ **SOURCE:** Authors' own elaboration based on data from ILO. 2022. ILOSTAT. Cited 26 October 2022. https://ilostat.ilo.org/

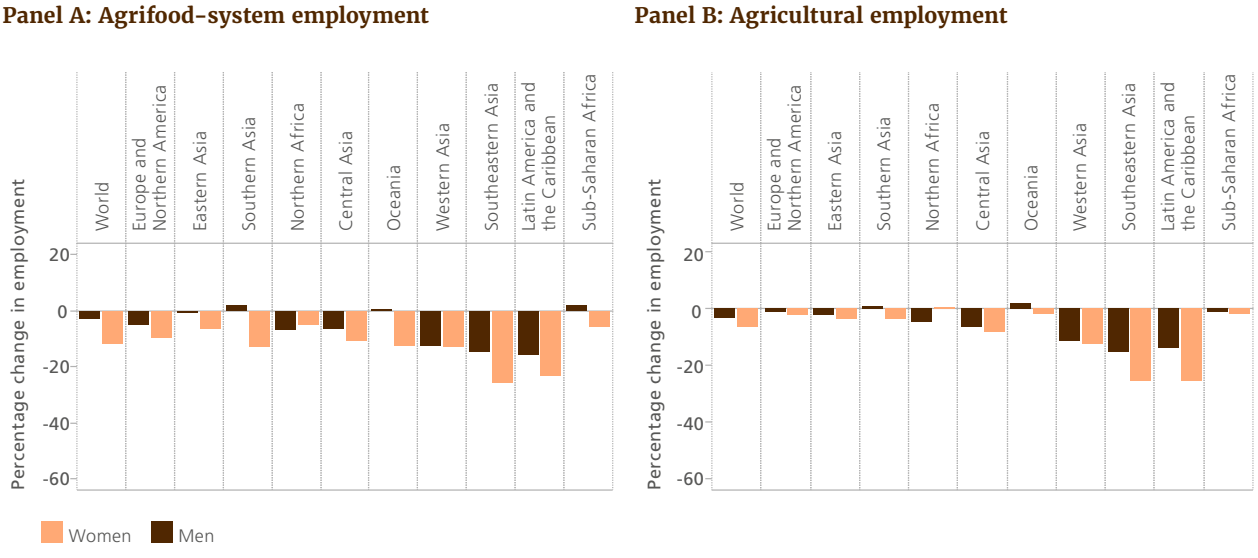
The COVID-19 pandemic exposed existing underlying gender inequalities in agrifood systems. It also worsened inequalities between men and women, particularly in employment, access to financial resources (savings, assets and access to credit) and nutritious food, access to and use of health services, the burden of care and exposure to domestic violence.[16, 17]

In contrast to previous crises, women working in agrifood systems during the COVID-19 pandemic experienced greater employment losses than men in the first year of the pandemic. Female employment in agrifood systems declined by 12 percent, compared with a decline of only 3 percent in male employment in agrifood systems. The drop in women's employment was largely driven by a reduction in off-farm agrifood-system activities: 22 percent fewer women were working off-farm in agrifood systems in 2020 than in 2019, whereas men's employment in the same sector declined only by 2 percent during the same period (Figure 5.2).[18] Gender differences in employment losses were particularly stark in Southeast Asia and Latin America and the Caribbean.

This is consistent with broader trends in the economy during the COVID-19 pandemic: women were more likely to self-report job losses than men in all regions.[19] Retail, business and manufacturing industries, where 40 percent of women worked, were hit particularly hard by the pandemic[20] (see Boxes 5.1 and 5.2 for country-specific examples). Women and youth were heavily impacted by the pandemic because they represent a large share of low-skilled and poorly-educated workers and, as such, are more likely to be self-employed or casual workers and thus more likely to lose their jobs and to experience income disruptions.[21, 22, 23, 24]

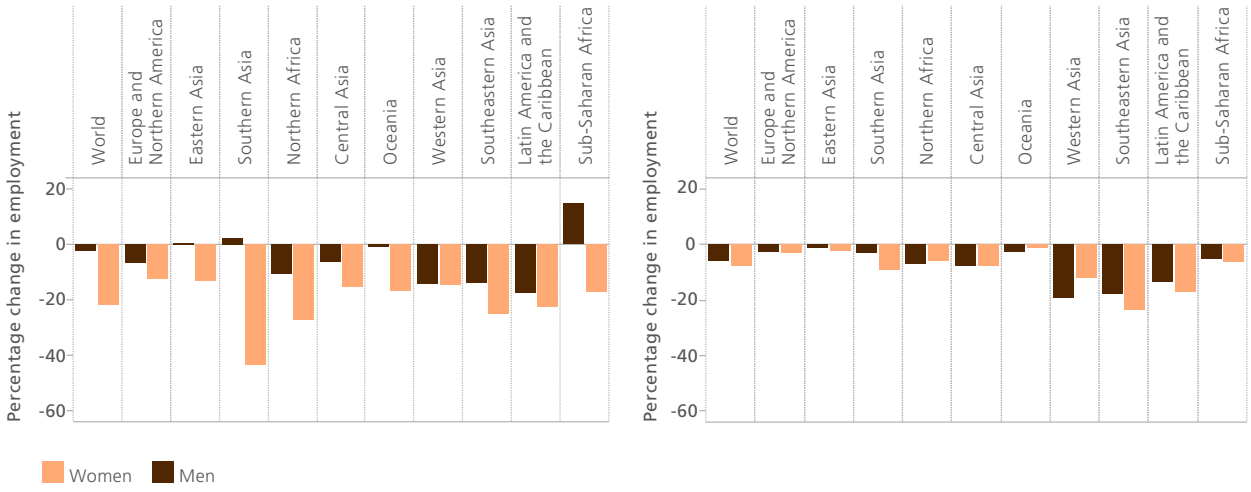
Figure 5.2 Women's employment in agrifood systems was hit harder by the COVID-19 pandemic, particularly in Southeastern Asia and Latin America and the Caribbean

Percentage change in the number of men and women employed between 2019 and 2020



Panel C: Off-farm agrifood-system employment

Panel D: Total employment



↑ **SOURCE: Costa, V., Piedrahita, N. Mane, E., Davis, B., Slavchevska, V. & Gurbuzer, Y. L.** (forthcoming). *Women's employment in agrifood systems*. Background paper for *The status of women in agrifood systems*, 2023. Rome, FAO.

The pandemic also increased women's care burden. Women's multiple care responsibilities, combined with disruptions of services and school closures, increased female unpaid domestic care, with the ratio of women's to men's care burden rising from 1.8 in March 2020 to 2.4 in September 2021.[19] Increased care burden exacerbates the risk of loss of employment because household chores and unpaid domestic duties force women to forgo work or reduce their working hours. About 49 percent of women reduced their paid working hours during the first year of the pandemic.[25]

The pandemic also caused an increase in the number of girls who dropped out of school for reasons other than school closures (girls were 1.21 times more likely to drop out of school than were boys).[19] For example, in Honduras and Uganda lockdown measures increased girls' domestic and care burden and disproportionally decreased their school attendance compared with boys.[26] When girls leave school, it can be very difficult for them to resume their studies.[27]

GLOBALLY, 22% OF WOMEN LOST THEIR JOBS IN OFF-FARM AGRIFOOD-SYSTEM WORK IN THE FIRST YEAR OF THE COVID-19 PANDEMIC, COMPARED WITH ONLY 2% OF MEN.

BOX 5.1 THE COVID-19 PANDEMIC AND RURAL WOMEN IN AFRICA

A study of the impacts of the COVID-19 pandemic found differential effects on women and men in rural households in Kenya, the Niger, Rwanda and Uganda.[i]

In Kenya, rural women were more likely than men to report pandemic-related income losses early in the pandemic. Women and men primarily engaged in casual labour, processing, marketing and trading activities were significantly more likely to experience pandemic-related income losses than were their counterparts employed in other sectors. Differences in income loss across different types of livelihood activities were similar in the Niger, where, however, men were more likely than women to experience income disruptions during the first year of the pandemic.

Women and men adopted different coping strategies. In Kenya, women used savings as a first coping response to deal with income losses, while both men and women sold assets and borrowed money as a coping strategy, with no significant gender differences. The primary sources of borrowing were friends and family, followed by self-help and village savings groups. Only a small share of respondents borrowed from banks, moneylenders or cooperative banks. Twenty percent of women and 10 percent of men reported using government transfers to support their needs.

In contrast, in the Niger, selling assets and reducing consumption were the first responses to deal with income loss, with no gender differences. Borrowing money remained an important strategy for men and women throughout the pandemic, with women being more likely to borrow money later during the pandemic when men generally used savings as a coping strategy more than did women. In Rwanda, the use of savings was the main coping strategy adopted by both men and women. Respondents reported less access to cash transfers, and both women and men drew down their own assets and savings. However, men were more likely than women to reduce expenditures, sell assets and seek alternative or additional employment. As the pandemic persisted, borrowing tended to increase, in particular for women, due to the depletion of savings and assets and lack of access to government or NGO transfers.

In Uganda, men were more likely to borrow as a first coping response, while women were more likely to borrow in a later phase, after the depletion of assets and savings. Most rural men and women borrowed primarily from informal sources, such as friends and neighbours or rotating savings schemes. Very few borrowed from formal sources, such as banks and microfinance organizations. Women were more likely than men to borrow from rotating savings schemes.

NOTES:
i. **Bryan, E., H. Mawia, C. Ringler, E. Mane, V. Costa, and R. Ndoro.** (forthcoming). *Assessing the impact of COVID-19 on rural women in Kenya, the Niger, Rwanda and Uganda*. Washington, DC, International Food Policy Research Institute and Rome, FAO.

The COVID-19 pandemic increased food insecurity globally, but the impact on women was especially acute, leading to a widening gap between men's and women's food insecurity. As reported in Chapter 1, the gap grew from 1.7 percentage points prior to the pandemic in 2019 to 3 percentage points during the first year of the pandemic[26] and reached 4.3 percentage points in 2021.

The causes of this increasing gender gap in food insecurity are varied. The reduction in

women's food production and distribution capacities reduced their purchasing power and lowered their access to nutritious food.[28] Pandemic-related income losses increased work burdens, while rising food prices induced a shift towards fewer and cheaper calories, with implications for food security and nutrition. In some countries and contexts, women and girls were more likely than men and boys to reduce the frequency and quality of food intake as a result of sociocultural values and practices that underpin gender inequalities within households.[26, 29, 30]

Incidence and perceptions of gender-based violence, especially domestic violence and abuse against women and girls, soared during the COVID-19 pandemic, largely as a result of intrahousehold tensions during lockdowns, school closures and food and financial insecurity.[31, 32] The first indications of rises in gender-based violence were visible in increased outreach to hotlines for violence survivors, to police and to domestic violence crisis units in hospitals.[33] Stay-at-home orders may have increased exposure to potential perpetrators while at the same time restricting movement and access to support services.[34] Additional factors, such as age, socioeconomic status, ethnicity and disability, also interact with vulnerability to and experience of violence during pandemics.[35]

THE COVID-19 PANDEMIC WIDENED THE FOOD INSECURITY GAP BETWEEN MEN AND WOMEN.

BOX 5.2 IMPACT OF THE COVID-19 PANDEMIC ON RURAL WOMEN IN CENTRAL ASIA

In Central Asia, the COVID-19 pandemic increased gender gaps in agricultural and off-farm employment, decision-making power and access to assets and finance. In Kyrgyzstan and Tajikistan, a significantly higher proportion of women than men reported a loss of income due to the pandemic (44 percent of women versus 37 percent of men in Kyrgyzstan; 28 percent of women versus 22 percent of men in Tajikistan).

Women and men relied on different coping strategies to overcome pandemic-induced shocks. Selling assets was more common among rural men than rural women because women in Central Asian countries are typically "asset poor" due to discriminatory legislation, customary laws and gendered social norms.[i, ii, iii] A higher proportion of women than men reported not having savings in Kyrgyz-stan and Uzbekistan, leading to significantly more men than women using savings to cope with the shock (12 percent versus 6 percent in Kyrgyzstan and 22 percent versus 18 percent in Uzbekistan). In all three countries, rural women not able to reach formal financial institutions had to borrow money from an acquaintance or relatives (between 5 percent and 16 percent of women).

Moreover, rural women increased their unpaid workloads, combining agricultural activities with household chores, treating sick family members and helping children while home-schooling. The pandemic in Tajikistan resulted in a higher proportion of women than men increasing time spent caring for children (47 percent versus 34 percent) and helping them with their education (48 percent versus 38 percent). Loss of jobs and income coupled with restricted mobility resulted in tensions and

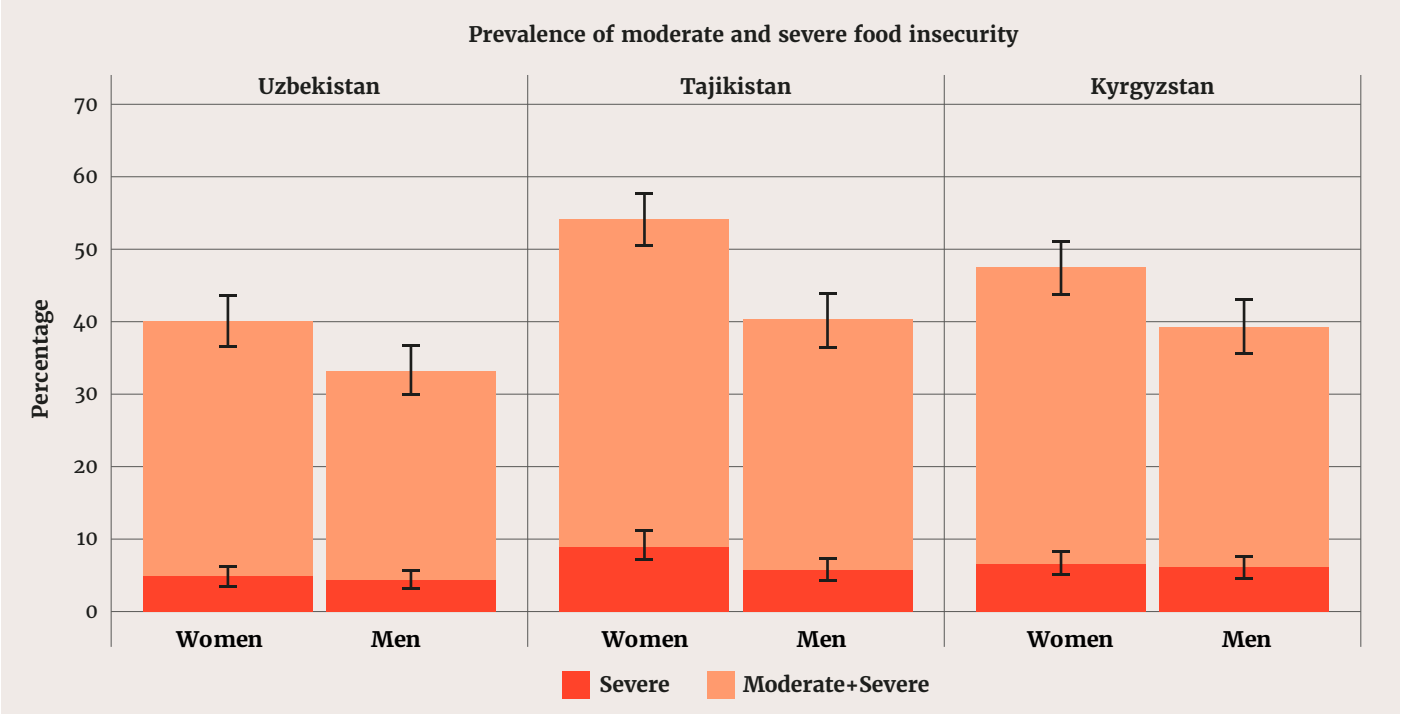
BOX 5.2 IMPACT OF THE COVID-19 PANDEMIC ON RURAL WOMEN IN CENTRAL ASIA

aggression from family members, making rural women vulnerable to physical and emotional abuse.[iv, v, vi] The pandemic also led to limitations in reaching health facilities and services: a significantly higher share of women than men reported spending less time visiting health services in Kyrgyzstan (51 percent versus 40 percent) and Tajikistan (77 percent versus 68 percent).

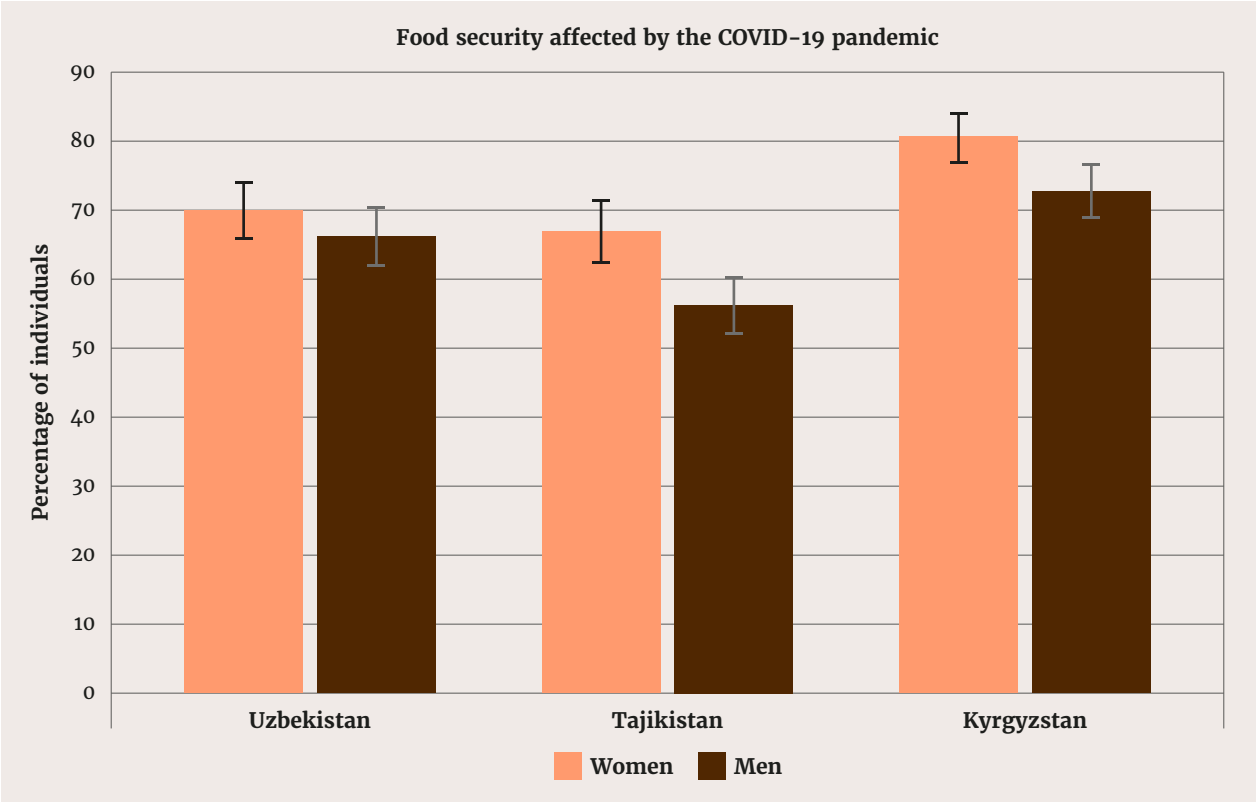
Rural women were more strongly impacted by the pandemic than were men in terms of access to food (Figure A). The onset and subsequent spread of the COVID-19 pandemic, along with related mobility restrictions enacted by many national governments, triggered sharp increases in food prices and shortages in food supply. Income losses, disruption of jobs and business and gender-based gaps in the labour market exacerbated pre-existing decision-making gaps over income spending,[vii, viii] including women's ability to buy food. This disproportionately affected female food security and women's ability to secure adequate and healthy nutrition.

Women were more likely than men to attribute their food insecurity experience to the pandemic (81 percent versus 73 percent in Kyrgyzstan, 67 percent versus 56 percent in Tajikistan and 70 percent versus 66 percent in Uzbekistan). Similar results were seen for decreased consumption of a variety of foods: more rural women than men noted that they had started to consume less meat and meat products, eggs and dairy products, fruits, vegetables, beans, legumes and nuts as a result of the pandemic.

Figure A Rural women were significantly more food insecure than men and more affected by the COVID-19 pandemic



BOX 5.2 IMPACT OF THE COVID-19 PANDEMIC ON RURAL WOMEN IN CENTRAL ASIA



↑ **NOTE**: Barbells represent 95% confidence intervals.

↑ **SOURCE: Junussova, M., Mogilevski, R., Maulsharif, M., Macchioni Giaquinto, A., Mane, E., Enikeeva, Z., Ianova, M., Niiazaliev, B. & Chalbasova S.** (forthcoming). *Gendered impact of COVID-19 on food security, agricultural production, income, and family relations in rural areas of Kyrgyzstan, Tajikistan, and Uzbekistan*. IPPA Working Paper, University of Central Asia.

NOTES:

i. **Asian Development Bank.** 2019. *Uzbekistan: Country gender assessment update*. Mandaluyong City, Metro Manila, Philippines. https://tinyurl.com/yckfhupt

ii. **FAO.** 2016. *National gender profile of agricultural and rural livelihoods – Kyrgyz Republic*. Country Gender Assessment Series. Rome. https://www.fao.org/3/I5763E/i5763e.pdf

iii. **FAO.** 2016. *National gender profile of agricultural and rural livelihoods – Tajikistan*. Country Gender Assessment Series. Rome. http://www.fao.org/3/I5766E/i5766e.pdf

iv. **UNDP.** 2020. *Impact of COVID-19 on lives, livelihoods and micro, small and medium-sized enterprises (MSMEs) in Tajikistan*. New York, USA. https://tinyurl.com/39xnca35

v. **Blundell, B., Moir, E. & Warren, A.** 2022. Vitimisation of the vulnerable older rural resident. In: R. Hale & A. Harkness, eds. *Rural victims of crime: Representations, realities and responses.* Routledge Studies in Rural Criminology. Abingdon, UK, Routledge.

vi. **UNDP & UNICEF.** 2021. *Progress at risk: Gender equality in COVID-19 response in Europe and Central Asia.* Istanbul, Türkiye, UNDP Istanbul Regional Hub, and Geneva, Switzerland, UNICEF Regional Office for Europe and Central Asia. https://tinyurl.com/yw5yw3t5

vii. **Wood, E.A., McNamara, K., Kowalewska, A. & Ludgate, N.** 2018. Household decision-making around food in rural Tajikistan: A cross-sectional study to help extension workers in the field. *Food & Nutrition Research*, 62. https://doi.org/10.29219%2Ffnr.v62.1330.

viii. **FAO.** 2019. *Gender, agriculture and rural development in Uzbekistan.* Country Gender Assessment Series. Budapest. https://www.fao.org/3/ca4628en/ca4628en.pdf

Globally, households adopted a variety of strategies to cope with pandemic-induced shocks. Coping strategies depended on pre-pandemic resilience capacities, such as financial resources and social and human capital (see boxes 5.1 and 5.2). Resilience capacities to the economic impacts of the COVID-19 pandemic are shaped by gender inequalities. In addition to gender differences, coping capacity and responses also vary by food environment (rural versus urban) and by type of agrifood value chain. Rural women and girls, who are more likely to be engaged in informal employment and have less access to productive resources, social assistance and support services, may be forced into further dependence on male partners.[35] Coupled with food insecurity and restricted movement, the consequent loss of bargaining power may have forced women to adopt negative coping strategies, such as engaging in transactional sex, or exposed them to other forms of sexual exploitation. [34, 35]

Globally, social protection programmes were a key response to the COVID-19 pandemic. However, by July 2021 only approximately 20 percent of all social protection and labour-market measures related to the COVID-19 pandemic worldwide accounted for gender. Promising gender-responsive social protection approaches adopted by governments focused mainly on informal employment, mitigating gender-based violence and addressing the unequal distribution of care work.[35]

RESILIENCE TO THE ECONOMIC IMPACTS OF THE COVID-19 PANDEMIC ARE SHAPED BY GENDER INEQUALITIES.

GENDERED IMPLICATIONS OF CLIMATE CHANGE

Economic sectors highly exposed to and dependent on weather and climatic conditions, such as agriculture, are strongly affected by climate change and climate-related shocks.[3] Climate change also affects food supply chains and other components of agrifood systems, impacting dietary, environmental, socioeconomic and livelihoods outcomes.[37] As such, the effects of climate change hamper poverty reduction efforts and undermine progress made on food security and nutrition worldwide. Local conditions, exposure to climate risk and the degree to which a rural household or individual is affected by exposure to climate risk create differing degrees of climate-change impacts within countries and societies.

CLIMATE CHANGE IMPACTS MEN AND WOMEN DIFFERENTLY.

Adaptive capacity – the ability of an individual, household or community to develop resilience and adjust to climate risks – determines the level of vulnerability to climate change, which is not homogeneous within communities and differs by gender and other intersecting social categories such as class, socioeconomic status, ethnic group and education.[3, 38, 39] Increasing adaptive capacity reduces sensitivity to climate change and makes the individual, household or community less vulnerable to its impacts. Adaptive capacity is influenced by access to, availability of and capacity to use resources, including financial, technical, educational, social and natural resources. As such, climate change is interrelated with global patterns of inequality: the poor and the most vulnerable sectors of society, who have a lower capacity to cope with economic and environmental shocks and stressors, suffer disproportionally from climate-change-related impacts.[8, 37, 40, 41]

Climate change impacts men and women differently.[3] As the next sections will show, gender disparities exist in terms of sensitivity to climatic stressors and shocks which, combined with exposure, determine the level of impact. In turn disparities in adaptive capacities and climate-response preferences determine different levels of vulnerability and welfare outcomes.[38] These disparities are context-specific and influence the ability of women and men across age, class, ethnicity and other social dimensions to exercise agency in climate-response preferences at different levels.[42] Unlike the other largely unanticipated shocks discussed in this chapter (the COVID-19 pandemic and conflicts), climate change poses particular challenges associated with both slow onset changes and acute shocks. As such, it requires gender-responsive anticipatory governance to manage climate crises *ex ante*.

Gender disparities in the exposure and sensitivity to climatic stressors and shocks

The extent to which people are exposed to climatic stressors and shocks and whether they are or could be negatively affected by this exposure are influenced by gender, among other things. Rural women and men's differentiated livelihood roles, responsibilities and rights, largely shaped by gender norms and social structures, influence the nature of their climate risk sensitivity.[38] For each location, this gendered heterogeneity in exposure and sensitivity to climatic stressors and shocks also intersects with other forms of social differentiation such as class, age or disability status,[40, 42] affecting adaptive capacity and therefore level of vulnerability.

Poverty, marginalization and discrimination of ethnic minorities, Indigenous Peoples and low-income women – who are highly dependent on agrifood systems for livelihoods (see Chapter 2) – tend to make these groups more vulnerable to food insecurity and malnutrition resulting from climate-change impacts.[3] The context-specificity of such gendered impacts and the intersecting factors influencing vulnerabilities is key towards identifying the specific groups of men and women that might become more at risk from specific climatic stressors and shocks.[42] Geospatial systems, mapping approaches and other index-based methodologies show potential for identifying climate-risks hotspots and climate vulnerability of different groups of men and women within agrifood systems, thus permitting more targeted gendered climate-adaptation planning and interventions.[5, 43, 44, 45]

Climate change inflicts significative negative impacts on agrifood systems by, for example, reducing agricultural productivity and disrupting food supply chains. As such, it reduces the livelihoods of a high proportion of women living in low- and middle-income countries whose employment is directly dependent on agrifood systems (see Chapter 2).

The nature of gendered climate-risk exposure varies by context, such as rural or urban, poor or rich.[41, 40] For example, in low- and middle-income countries, rural women, who are generally responsible for water collection (Chapter 2), may have a disproportionate exposure and sensitivity to changes in water availability exacerbated by climate change.[46, 47] Vulnerable urban households may experience more harm from flooding and associated health risks (e.g. cholera, diarrhoea) than rural households because of poor water infrastructure and the crowded conditions they live in, and these impacts have a disproportionate effect on urban women.[48]

Mortality following extreme weather events and natural disasters shows clear gendered patterns. Women – particularly those with lower socioeconomic status, with limited agency and poor access to information – often have less access to relief and assistance, lower survival rates and reduced life expectancy following natural disasters than men.[49, 50, 51, 52] In South Asia and Southeast Asia, cultural norms limiting rural women's ability to swim or climb trees have been linked to lower survival rates of women during floods.[53, 54] Similarly, in South Asia, the practice of purdah, which limits the extent to which women can contribute to socioeconomic activities outside their homesteads, has been linked to greater vulnerability and higher mortality of women following natural disasters. This may be because women might not be able to participate in evacuation planning or might be hesitant to leave their house to seek shelter before disasters hit.[55, 56]

Mortality following heat stress also differs between women and men, although data on this topic remain strongly focused on high-income countries, with fewer studies on low- and middle-income countries. Several countries in Europe have reported higher heat-stress-related mortality for women than for men, particularly among the elderly,[57, 58, 59] while higher natural heat-stress-related deaths among males have been reported in the USA.[60] There are also clear links between exposure to heat stress and other extreme events and gender-based violence,[61, 62] which can further increase morbidity and mortality risks for women. For example, heat waves in Spain increased reported intimate partner violence, femicides and calls to helplines, probably because of increased irritability and stress, which lowered the threshold for perpetrating violence.[63]

GENDER INEQUALITY PLAYS A KEY ROLE IN DETERMINING ADAPTIVE CAPACITY TO CLIMATE RISKS.

Gender differences in climate-response preferences and in adaptive capacities

Vulnerability to the impacts of climate change is inextricably linked to adaptive capacity.[64] Adaptive capacity in turn is determined and shaped by a range of socioeconomic and institutional factors, with gender inequality playing a key role, particularly in areas most exposed to climate risks. The connection and intersections between gender inequality and adaptive capacity range from uneven access

to resources, education and institutions to cultural norms and existing social structures.[41]

Men and women also exhibit differing preferences and choices for how to adapt to the negative impacts of climate change.[65] Choices of adaptation practices tend to partly reflect gender differences in roles and responsibilities, with men and women tending to favour the adoption of practices that directly impact their livelihoods and operations.[66, 67] Despite women's crucial role in the adoption of climate-resilience strategies,[3] their limited agency constitutes a key constraint to advocating, negotiating and exerting power over their preferred climate-adaptation strategies and choices at different levels (household, community, group, organization and policy).[3]

Women and men differ in their access to the productive inputs and technologies needed to adapt to climate change. Given that women's labour burden is increasing with climate change in some contexts, access to labour-saving technologies and tools is of particular importance to improving the well-being of women.[68, 69, 70] In East Africa, the level of resource constraint women face can limit the use of such technology, even when women have an interest and willingness to adopt climate-smart technologies.[71, 72] Gender norms may also affect the ability of women to access or adopt certain technologies that are not considered appropriate for the local context.[73] For example, gender norms may limit women's ability to adopt climate-smart solutions[74] such as conservation agriculture[75] or agroforestry[76] or may restrict women's access to and ability to use fertilizers or improved seeds.[77, 78] They may also prevent women from adopting newer productive technologies or energy-saving technologies in food processing and transformation, all of which can prove key for climate-change adaptation. At the same time, in many contexts rural women play a central role in crop seed selection and conservation of traditional varieties and crop wild relatives, thus contributing to the maintenance of a wide genetic base for crop production that can prove fundamental for climate-change adaptation.[79]

Access to services (both financial and advisory) and information is important for climate-change adaptation. Discriminatory gender norms tend to limit women's mobility and their ability to access extension services and climate information, to engage in income-earning opportunities and to join and participate in groups and local organizations, all of which are important to climate resilience.[46, 68, 80] In Africa the major barrier to adoption of agroforestry practices is a lack

WOMEN AND MEN DIFFER IN THEIR ACCESS TO THE PRODUCTIVE INPUTS AND TECHNOLOGIES NEEDED TO ADAPT TO CLIMATE CHANGE.

of access to information, and women farmers and woman-headed households face particular difficulty in accessing such information.[81] Additionally, women may have different preferences to those of men for the types of climate information services and weather index insurances products that they receive.[82, 83] When women's preferences are not considered in the design of climate-smart agriculture extension services, the services run the risk of reducing participation by women and limiting knowledge-sharing.[84] The gender gap in mobile phone ownership (see Chapter 3) can also limit women's ability to access climate and weather information.[85] Women also have less access than men to financial services (see Chapter 3). In Guatemala and Honduras, for example, women have less access to agricultural credit and loans from formal financial institutions than men, even though women are more likely to invest in climate-change-adaptation strategies.[86] There are also substantial gender gaps in the access to, use of and demand for agricultural insurance.[87] Gender norms limiting women's mobility and access to land documentation can negatively influence their ability to take out weather-index-based insurance.[88]

Social capital is fundamental for the resilience capacities of female and male farmers. Membership in community-based organizations and the ability to participate in their activities can enhance adoption of climate-smart agricultural technologies.[89] Social networks and groups have been shown to be important sources of climate information, resources and economic opportunities for women and to contribute to their capacity development and increased agency.[39] In some contexts, men tend to have wider social networks (see Chapter 3) and greater participation in community decision-making, which in turn can influence adaptive behaviour.[67]

Likewise, human capital is fundamental for climate resilience. People with better education, knowledge and skills tend to adopt new technologies, to have a more diversified livelihood portfolio and to have better access to services.[90] Climate change can affect girls' education more than boys'[38, 91] and supporting girls' education, reproductive rights and life skills could lead to improved climate resilience.[92] For example, in Malawi, school feeding programmes have been shown to reduce the probability that girls are withdrawn from school when droughts occur.[93]

Gendered welfare impact of climate-change coping responses

The ways in which women, men and households cope with climate shocks, for example by reducing food consumption, selling assets, migrating or adjusting labour allocation, have important implications for women's well-being and future resilience[46, 94] Rural women, who have limited resilience capacity and consequently restricted options to respond to changes in climate, often have to resort to short-term coping strategies at the expense of their long-term resilience to climate shocks and stressors.[46, 95, 96, 97, 98] In India, for example, women often resort to decreasing the number and size of meals they consume during droughts, with negative effects to their overall health.[99] In Uganda, husbands' assets are better protected against weather shocks than those of their wives, with some indication that households affected by flood may be disposing of wives' non-land assets as a coping

RURAL WOMEN OFTEN HAVE TO RESORT TO SHORT-TERM COPING STRATEGIES AT THE EXPENSE OF THEIR LONG-TERM RESILIENCE.

mechanism.[100] Women whose husbands have migrated due to climate change and other economic constraints may face additional work burden[101] or increased mortality risks.[102]

Decisions to alter labour allocation in response to climate change also have different outcomes on men and women in terms of relative labour burden. Households may alter labour patterns in response to heat stress in ways that increase women's work burden in agriculture. In the United Republic of Tanzania, for example, heat stress was associated with reductions in family agricultural labour by men but did not affect family agricultural labour by women in households with both men and women present and was associated with increases in family agricultural labour by women in female-only households.[103] A recent study from Africa[104] demonstrated that, while both heat waves and droughts are correlated with reduced hours worked in agriculture, this impact is 40 percent lower if the farmer is female. Thus, the portion of hours worked by women in agriculture during extreme heat and drought increased relative to those worked by men, suggesting that women suffer disproportionally from weather-related shocks by maintaining working levels despite the impacts of the weather. Older girls may also face a greater risk of being pulled out from school than do older boys when the demand for family labour increases as a consequence of climate shocks, with long-term consequences for their well-being.[98, 105, 106]

Short-term strategies to cope with climate change may also drive women and households to adopt maladaptive practices, such as practices that may degrade natural resources, or to adopt negative coping mechanisms, such as engaging in transactional sex, including for aid.[62, 107] Extreme weather also contributes to increases in early and forced marriages (see also Box 5.3 on potential impacts on child labor). In Bangladesh, for example, women and girls are more likely to be married early or forced to marry in the year of or after moderate to severe heat waves and are more likely to marry men with less education and who were more supportive of intimate partner violence.[108] During such extreme weather events, families may be more willing to accept less-desirable marriages (i.e. marriages into poorer households and to less-educated husbands) to ease financial burden, reduce dowries or bring forward a marriage, thus exposing women to morbidity and mortality risks that endure beyond weather events.[108]

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← **COLOMBIA - Participants in an association that works with people displaced by the more than 50-year-long armed conflict.**

BOX 5.3 CLIMATE CHANGE AND CHILD LABOUR IN AGRICULTURE IN CÔTE D'IVOIRE, ETHIOPIA, NEPAL AND PERU

The increasing frequency and intensity of extreme weather events resulting from climate change affect the living conditions and livelihoods of millions of people, including vulnerable children. Moreover, boys and girls may be affected differently by climate-related events given gender differences in domestic and work activities and care burden.

A recent study in Côte d'Ivoire, Ethiopia, Nepal and Peru found differences, but no consistent patterns, between genders and countries in the effects of dry spells and heavy rains on children's work, both in terms of incidence and intensity (time worked). In Côte d'Ivoire, heavy rains are associated with a lower incidence of work for boys but an increased incidence of work for girls. Conversely, dry spells lead to an increased intensity of work for boys but not for girls. In Ethiopia, heavy rains are more likely to increase the incidence and intensity of work for boys, while there is no evidence of effects of dry spells on work by boys or girls. In Nepal, heavy rains are associated with a reduced intensity of work for girls but not for boys. In contrast, dry spells are associated with an increase in the incidence of work for girls but a decrease in the incidence and intensity of work for boys. In Peru, the results show no evidence of an association between independently verified heavy rains or dry spells and children's work. However, an additional analysis found an association between self-reported dry spells and an increase in the incidence and intensity of work for boys but not for girls.

While it is evident that the work burden of boys and girls is affected differently by climate-related events, the lack of a consistent pattern by gender or event suggests the importance of taking a closer look at the underlying mechanisms and in particular the link between climate-related shocks, child work and care burden.

NOTES: FAO. (forthcoming). *The relations between climate change and child labour in agriculture: Evidence on children's work trends after climate-related events in Côte d'Ivoire, Ethiopia, Nepal and Peru.* Rome, FAO.

Overcoming gender inequality is a key and indispensable step in climate-resilient development. Addressing climate-change issues and achieving climate-adaptation and mitigation objectives must be done in a way that not only avoids further gender imbalances but purposively aims at reducing vulnerability and enhancing women's empowerment.[41]

OVERCOMING GENDER INEQUALITY IS KEY IN CLIMATE-RESILIENT DEVELOPMENT.

GENDERED IMPLICATIONS OF CONFLICT

Building the resilience of agrifood systems is vital, given the increasing rates of hunger and food insecurity in recent years, particularly in countries affected by conflict (see Box 5.5).[2] Food insecurity, malnutrition and undernutrition are all increasingly concentrated in settings affected by armed conflict.[109] Conflicts and instability have been a major driver of the increasing prevalence of hunger, particularly in the Near East and North Africa since 2012.[110] Globally, conflict and insecurity remain the main drivers of food crises in terms of the number of people affected.[111] In 2021, around 139 million people were facing a crisis or worse (Integrated Food Security Phase Classification-Cadre Harmonisé [IPC/CH] Phase 3 or above[112]) across 24 countries or territories where conflict or insecurity was considered the primary driver.[113] Conflicts were the main driver in three of the four countries with populations in catastrophe (IPC Phase 5) – Ethiopia, South Sudan and Yemen. By 2030, two-thirds of the global poor will be living in states classified as either fragile or in conflict; poverty is either stagnant or rising in these states.[114]

IPC/CH data are not sex-disaggregated, but evidence shows that women are often more vulnerable to food insecurity as they continue to face additional risks, barriers and disadvantages due to their gender.[115] Conflicts and peacebuilding, food security and nutrition, and gender equality are interlinked, with causal relations in both directions.[116] Violent conflicts have specific gender-differentiated impacts in terms of nutrition, food security, gender-based violence (see Box 5.6), health and economic outcomes, educational outcomes, mobility and political and civic activities.[117, 118, 119, 120] In some cases, armed conflicts have a greater effect on women and girls than on men and boys, particularly in terms of sexual violence, malnutrition and not returning to school. In other cases, men and boys suffer more in terms of conflict-related deaths and injuries, abduction and recruitment to armed groups, and job and education losses.

Conflicts can have detrimental effects on people whose livelihoods rely on agrifood systems. While urban areas have often been considered as the principal space for violence and conflicts due to their greater population density, conflicts are becoming more ruralized in North and West Africa, despite the rapid growth of urban populations.[121, 122] For example, 53 percent of the violent events observed in 2021 took place in rural areas, compared with 20 percent a decade ago.[122] This ruralization of conflicts poses serious threats for empowerment of rural women and girls and their role in agrifood systems, although evidence remains limited.

The current war in Ukraine poses gendered risks on women, men and children and is predicted to become the largest humanitarian emergency in Europe since the Second World War (Box 5.4).[123] It also has implications for global food security as the Russian Federation and Ukraine are among the most important producers and exporters of wheat, maize and sunflower seeds and oil.[124] The conflict is likely to have gendered implications through several pathways: i) rising food prices may affect affordability of healthy diets differently for women and men; ii) rising costs of agricultural

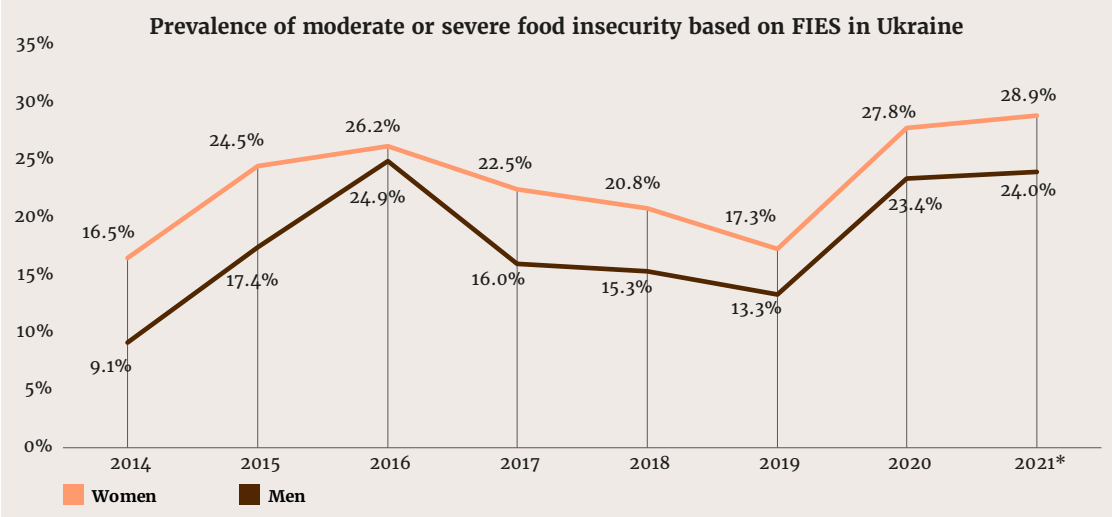
inputs might affect productivity of women and men farmers differently; iii) strained government budgets (especially following the COVID-19 pandemic) may further reduce already limited support to rural farming communities, and especially women; and iv) the lack of international collaboration may reduce official development assistance to vulnerable groups.[38, 124] As such, it is important to focus on women and girls to ease the impacts of the war.

BOX 5.4 GENDER DIFFERENCES IN FOOD INSECURITY IN UKRAINE[i]

The COVID-19 pandemic had caused increasing food insecurity in Ukraine before the outbreak of the war. Moderate or severe food insecurity among women increased from 17.3 percent in 2019 to 28.9 percent in 2021; among men it increased from 13.3 percent to 24.0 percent over the same period (Figure A). While the differences between women and men are not statistically significant, the pattern suggests that women have been more food insecure than men since at least 2014.

NOTE:
i. **FAO**. 2022. *Gender-related impacts of the Ukraine Conflict*. Rome. https://www.fao.org/3/cb9419en/cb9419en.pdf

Figure A Food insecurity increased by more than 10 percentage points during the COVID-19 pandemic and was consistently higher among women



← **SOURCE: FAO.** 2022. *Gender-related impacts of the Ukraine Conflict*. Rome. https://www.fao.org/3/cb9419en/cb9419en.pdf

Gender intersects with other social dimensions affecting the vulnerabilities of distinct groups, including the Roma population, people living with disabilities, women in rural communities, in displacement and conflict zones, and LGBTI+ communities.[i] The war in Ukraine and its impact on agricultural production and trade and other aspects of life have caused significant changes in the sex and age patterns of mortality and (out)migration, with important consequences for gender equality, family dynamics and social relations.[i]

BOX 5.5 DEFINITION OF CONFLICT

Violent conflict has been defined as the "systematic breakdown of the social contract resulting from and/or leading to changes in social norms, which involves mass violence instigated through collective action."[i] The OECD uses several criteria to define which instances of violence amount to "conflict".[ii] They include the nature of the violence; the number of fatalities; the type of actors involved; and their level of organization. International humanitarian law distinguishes international armed conflicts between states, using armed force, and non-international armed conflict where hostilities reach "a minimum level of intensity" and parties demonstrate "a minimum" of organization. The Uppsala University Conflict Data Program defines armed conflict as the use of armed force between organized groups resulting in at least 25 battle-related deaths in one calendar year and differentiates state-based from non-state-based armed conflict depending on whether the government or the state is involved.[iii] The Armed Conflict Location & Event Data Project, data from which is presented in this chapter, does not define what a "conflict" is but defines six political disorders and event types and 25 subevent types.[iv]

NOTES:

i. **Verwimp, P., Justino, P. & Brück, T.** 2019. The microeconomics of violent conflict. *Journal of Development Economics*, 141: 102297. https://doi.org/10.1016/j.jdeveco.2018.10.005

ii. **OECD.** 2017. *Gender equality and women's empowerment in fragile and conflict-affected situations: A review of donor support*. OECD Development Policy Papers, No. 8. Paris, OECD Publishing. https://doi.org/10.1787/b75a1229-en.

iii. **Uppsala Universitet.** 2023. UCDP definitions. In: *Department of Peace and Conflict Research, Uppsala Universitet*. Uppsalla, Sweden. Cited 17 February 2023. https://www.pcr.uu.se/research/ucdp/definitions/

iv. **Armed Conflict Location & Event Data project**. 2023. *The ACLED Conflict Alert System (CAST)*. Cited 15 January 2023. https://www.acleddata.com/

Armed conflict and women's economic activities in agrifood systems

Country case studies suggest that conflict has complex implications on women's economic roles in the household, community and broader society.[117, 120, 125, 126, 127] Studies from Bosnia and Herzegovina, Colombia, Nepal, Tajikistan and Timor-Leste show that armed conflict can increase women's participation in economic activities and labour markets;[118] in some cases, this is associated with increases in overall household and community welfare.[120] Agriculture is sometimes seen as "spoils of war", where higher potential gains from agricultural production increase risks of social instability and violence. In other contexts it is described as a source of grievances and frustrations stemming from low productivity or a lack of economic opportunities that can feed into these risks.[128]

Table 5.1 summarizes the results of a series of regression estimates showing the relationship between labour outcomes, exposure to conflict in the past 12 months, gender and the interaction between gender and conflict exposure in 29 countries in sub-Saharan Africa.[128] Women are less likely than men to participate in the labour force overall and less likely to be in the labour force after conflict exposure than are men (columns 2 and 3). Conflicts reduce work intensity for both women and men, but the reductions are greater for men than women (Figure 5.3). Exposure to conflicts may lead to greater participation in agriculture for both women and men, but the increase is greater for women than for men (12.9 percentage points versus 8.3 percentage points). Exposure to conflicts also leads to a reduction in income for women but has no impact on men's income, suggesting that the existing wage gaps that disadvantage women are even greater in the presence of conflicts.

CONFLICTS REDUCE WORK INTENSITY FOR BOTH WOMEN AND MEN, BUT THE REDUCTIONS ARE GREATER FOR MEN THAN WOMEN.

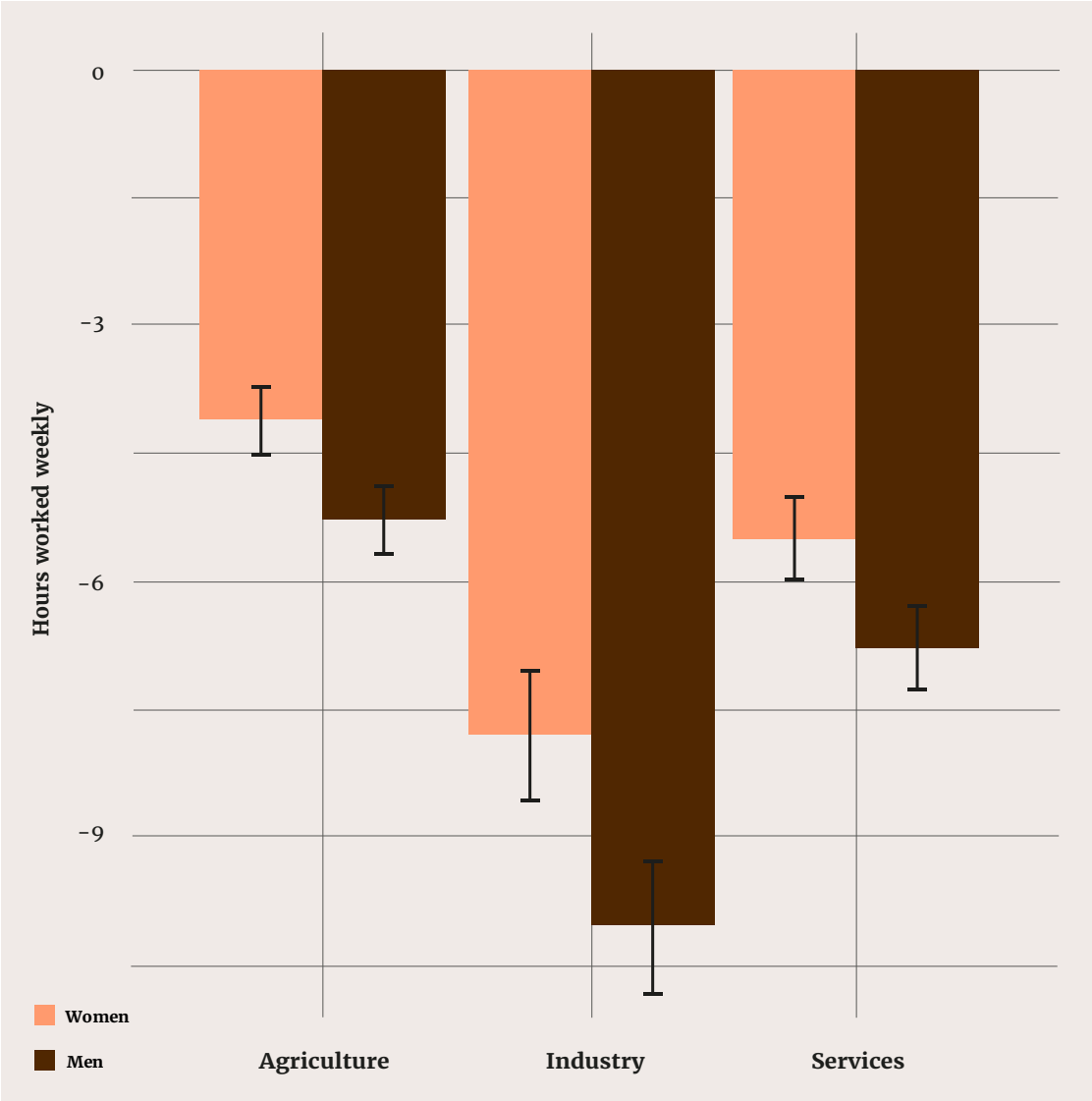
Table 5.1 The effects of armed conflicts on labour outcomes in 29 sub-Saharan African countries

Outcome	Conflict exposure (1)	Being a female (2)	Both conflict exposure and being a female (3)
Labour-force participation	n.s.	–	–
Hours worked total (in labour force)	–	–	+
Hours worked in agriculture (in labour force)	–	–	+
Hours worked in industry (in labour force)	–	–	+
Hours worked in services (in labour force)	–	–	+
Participation in agriculture	+	+	+
Earned income in USD per month (in labour force)	n.s.	–	–

↓ **NOTE:** Each row presents the direction of the effects for a specific outcome variable. Conflict in all models is a dummy variable that refers to the presence of conflict in the last 12 months prior to the survey. The three columns summarize respectively the first order effect of conflict and female, and the interaction term between conflict and female. When the coefficient is not statistically significant "n.s" is specified. All other results are statistically significant with a p-value < 0.001.

SOURCE: Brück, T., Ronzani, P. & Stojetz, W. (forthcoming). *Armed conflict and gendered participation in agrifood systems: Survey evidence from 1.8 million individuals in 29 countries.* Background paper for *The status of women in agrifood systems*, 2023. Rome, FAO, and Berlin, International Security and Development Center.

Figure 5.3 Conflict reduces work intensity for both women and men, but more for men



← **SOURCE: Brück, T., Ronzani, P. & Stojetz, W.** (forthcoming). *Armed conflict and gendered participation in agrifood systems: Survey evidence from 1.8 million individuals in 29 countries.* Background paper for *The status of women in agrifood systems*, 2023. Rome, FAO, and Berlin, International Security and Development Center.

While the novel findings described above focus on Africa, the evidence for gender differences in impacts of conflicts on employment in agrifood systems in the rest of the world is mixed and particularly limited. A recent study in Colombia over the 1994–2014 period found that high-intensity armed conflict increased the unemployment rate by about 3.9 to 4.3 percentage points, with a greater effect on women than on men, which probably reflects changes in household dynamics among conflict-affected households.[129] In contrast, a study in several Asian cities showed that more women joined the labour force and became breadwinners as a result of changing social attitudes or loss of male family members during conflict.[130] However, given their limited skills and business experience, women were mostly absorbed in the labour market as informal workers on low pay and often were not allowed to work in male-dominated sectors such as trade and transport. Moreover, women's new roles were extremely challenging in terms of security, hazardous working conditions and wage exploitation.[130]

BOX 5.6 GENDER-BASED VIOLENCE IN CONFLICT AND HUMANITARIAN SETTINGS

Gender-based violence (GBV) manifests in many ways during crises. Prior conditions are often aggravated during crises, while new forms of violence may emerge.[i] For example, eight forms of GBV were identified during armed conflict in Uganda: physical, sexual and economic violence; quarrelling; early marriage; land grabbing; poor family relations; and failure to disclose HIV status.[ii] In Colombia, additional forms of GBV included threats of violence against family, forced recruitment, forced abortion or reproductive control, abduction, rape and trafficking.[iii] Estimating the nature and magnitude of sexual and gender-based violence in conflict and post-conflict contexts is difficult because of the different types of violence, stigma associated with victimization and breakdowns of legal frameworks and social services that occur during these events.[iv, v, vi] Multiple forms of violence may overlap and exacerbate vulnerability to or experience of violence. Individuals' characteristics, such as being widowed or orphaned or having low socioeconomic status, interact with gender inequalities affecting the risks of GBV.

In conflict settings, sexual violence is at times employed as a tool to torture and terrorize people.[vii, viii] The term "conflict-related sexual violence" refers to rape, sexual slavery, forced marriage, prostitution, pregnancy, abortion and sterilization, and any other form of sexual violence of comparable gravity perpetrated against women, men, girls or boys that is directly or indirectly linked to a conflict.[viii] Women and girls are often the most affected by violence; in 2021 some 97 percent of all reported conflict-related sexual violence was against women and girls. The true magnitude of violence, however, remains underreported.[ix]

NOTES:

i. **FAO.** 2018. *How can we protect men, women and children from gender-based violence? Addressing GBV in the food security and agriculture sector*. Rome. https://www.fao.org/3/i7928en/I7928EN.pdf

ii. **Mootz, J.J., Stabb, S.D. & Mollen, D.** 2017. Gender-based violence and armed conflict: A community-informed socioecological conceptual model from northeastern Uganda. *Psychology of Women Quarterly*, 41(3): 368–388. https://doi.org/10.1177/0361684317705086

iii. **Wirtz, A.L., Pham, K., Glass, N., Loochkartt, S., Kidane, T., Cuspoca, D., Rubenstein, L.S., Singh, S. & Vu, A.** 2014. Gender-based violence in conflict and displacement: Qualitative findings from displaced women in Colombia. *Conflict and Health*, 8(1): 10. https://doi.org/10.1186/1752-1505-8-10

iv. **Dolan, C.** 2014. *Into the mainstream: Addressing sexual violence against men and boys in conflict*. A briefing paper prepared for the workshop held at the Overseas Development Institute, London, 14 May 2014. https://tinyurl.com/54ns5rbp

v. **International Committee of the Red Cross.** 2022. "That never happens here": Sexual and gender-based violence against men, boys, LGBTIQ+ people. In: *ICRC*. Geneva, Switzerland. Cited 17 February 2023. https://www.icrc.org/en/document/sexual-gender-violence-against-men-boys-lgbtiq

vi. **Stark, L. & Ager, A.** 2011. A systematic review of prevalence studies of gender-based violence in complex emergencies. *Trauma, Violence, & Abuse*, 12(3): 127–134. https://doi.org/10.1177/1524838011404252

vii. **Clark, H., Bachelet, M. & Albares, J.M.** 2022. Conflict, climate change, and COVID-19 combine to create a breeding ground for sexual and gender based violence. *BMJ* 378: 02093. https://doi.org/10.1136/bmj.02093

viii. **United Nations Security Council.** 2022. *Conflict-related sexual violence: Report of the Secretary-General*. S/2022/272. New York, USA. https://digitallibrary.un.org/record/3967573?ln=en

ix. **United Nations, Office of the Special Representative of the Secretary-General on Sexual Violence in Conflict.** 2021. Factsheet: 2021 Report of the Secretary-General on CRSV. In: *United Nations, Office of the Special Representative of the Secretary-General on Sexual Violence in Conflict*. New York. Cited 17 February 2023. https://tinyurl.com/4bmkamvm

SOMALIA – A farmer with her herd on her farm.

CHAPTER 6

LET'S MAKE AGRIFOOD SYSTEMS WORK FOR WOMEN

CHAPTER 6

TRANSFORMING AGRIFOOD SYSTEMS AND ACHIEVING GENDER EQUALITY

INTRODUCTION

Progress in gender equality and women's empowerment in agrifood systems is possible if policies, programmes and investments are intentionally designed to tackle the multidimensional and interrelated challenges that men and women face. They must address the gaps in resources and assets identified in this report, many of which were called out in *The State of Food and Agriculture* (SOFA) *2010–11: Women in Agriculture – Closing the gender gap for development*[1] but have not been sufficiently addressed in the last decade. They must also address the constraints that underlie the gender gaps in agrifood systems, including discriminatory social norms and constraining institutional and policy frameworks that fail to adequately acknowledge and address gender inequalities. And they must do so across scales, from individual and community to national.

Reducing gender inequalities in livelihoods, access to resources and resilience in agrifood systems is critical to efforts to achieve gender equality and women's empowerment and more just and sustainable agrifood systems. Empowerment, which focuses on increasing an individual's ability to make choices and the ability to exercise such choices, requires adequate resources, skills and agency. In agrifood systems, key resources include land, water, technology, services and finance, and opportunities for education, extension and training, group participation and networks. Increasing agency requires approaches aimed at strengthening women's participation in intrahousehold decision-making over the use of land or income, approaches that often include addressing policies and norms.

INCREASING GENDER EQUALITY IN AGRIFOOD SYSTEMS REQUIRES INTENTIONAL APPROACHES.

← DOMINICAN REPUBLIC – The owner of a fish market negotiates with a male boat owner on the purchase of mahi mahi.

↓ KENYA – A young woman trained in agribusiness skills with her piglets.

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This chapter looks at the range of programmes, policies and specific design features that have successfully reduced gender inequalities in these domains and contributed towards women's empowerment in agrifood systems. In many cases, empowerment is the end goal of these interventions; in others, specific gains in productivity, income or resilience are measured as pathways to empowerment. While there are numerous case studies to draw on, there is less comprehensive evidence of what works across contexts and outcomes, particularly for women facing additional intersectional constraints related to their age, ethnicity or other sources of marginalization.

Nevertheless, some programmatic features appear consistently and allow some lessons to be drawn. For example, access to education and training is critical, and the way that this training is offered matters. Likewise, interventions aimed at improving women's work and productivity have been successful, particularly when they have addressed care and unpaid domestic work burdens, strengthened women's capacities, improved their access to technology and resources and strengthened their land tenure security. Closing the gap in secure land rights is particularly important, as such rights have multiple positive impacts.

Achieving these impacts requires that services from extension to social protection and resources such as technology and finance be designed with women's needs in mind. Digital tools and information and communications technology can facilitate closing multiple gaps. Group-based approaches are important both for increasing women's empowerment and for increasing resilience to shocks and stress such as the COVID-19 pandemic and climate change. Social protection programmes have been successful in helping women manage risk, develop livelihood options and build resilience.

Three elements are critical to moving the agenda forwards. First, the **collection and use of high-quality data, disaggregated by sex, age and other forms of social and economic differentiation, and the implementation of rigorous qualitative and quantitative gender research are paramount for effectively monitoring, evaluating and accelerating progress on gender equality in agrifood systems.** Despite improvements in the past 10 years, significant gaps remain in the availability, scope and granularity of data and in the evidence on what works and under what conditions for building more inclusive agrifood systems.

Second, **localized interventions that address multiple inequalities that have been proven to close gender gaps and empower women in agrifood systems should be carefully scaled up, taking into consideration the local context.** Scaling up can occur through policy pathways, through greater levels of investment or through uptake by public- and private-sector actors. Only by reaching scale can we achieve large benefits for women's well-being as well as economic growth and food security. **FAO estimates that closing the gender gap in farm productivity and the wage gap in agrifood-system employment would increase global gross domestic product by 1 percent (or nearly USD 1 trillion). This would reduce global food insecurity by about 2 percentage points, reducing the number of food-insecure people by 45 million.**

Finally, **interventions must be designed to close gender inequalities and empower women and, when possible, should use transformative approaches at community and national level to address discriminatory gender norms and attitudes.** As explained later in the chapter, although a surprisingly large percentage (65 percent) of bilateral aid

focused on agriculture and rural development is marked as incorporating a gender lens, outperforming most other sectors of aid, only a small share (6 percent) currently treats gender as fundamental in the design of the project. **FAO estimates that if half of small-scale producers benefited from development interventions that focused on empowering women, it would significantly raise the incomes of an additional 58 million people and increase the resilience of an additional 235 million people.**

ADDRESSING NORMS AND POLICIES

As highlighted in Chapter 4, discriminatory social norms and rules affecting women and girls are at the heart of gender inequality and they are slow to change. Achieving lasting transformative change for gender equality in agrifood systems requires addressing informal (norms) and formal (policy) factors that perpetuate gender inequality, while concurrently addressing gendered resource constraints in work, productivity, assets, services and shocks.[2] A number of gender-transformative approaches have emerged that are designed to actively address barriers to gender equality at different levels (household, group/community, organization/institutional) and to different degrees of formality (formal policies and informal norms) within agrifood systems (see Box 6.1). Given the relational nature of social norms that govern behaviour in communities and societies, engaging with power holders (e.g. local leaders, customary authorities) and with men and boys is key to shifting discriminatory norms and constraining policies (see Box 6.2).

In the context of agrifood systems, gender-transformative approaches have shown positive results in enhancing women's self-worth and negotiation capacities within couples;[3] shifting norms related to women's empowerment involvement in agriculture;[4] increasing women's decision-making in households and access to cash-crop income,[5, 6, 7] and enhancing their roles in fisheries,[8] livestock[9] and forestry.[10, 11] They have also contributed to more equitable sharing of resources[12] and enhanced young women's ability to own a business and decide on use of income.[8, 13] In South Asia, the implementation of gender-transformative approaches has resulted in changing discriminatory norms and increasing both men's and women's empowerment in both Nepal[14] and Bangladesh.[15, 16]

GENDER TRANSFORMATIVE APPROACHES HAVE SHOWN POSITIVE RESULTS ACROSS DOMAINS.

BOX 6.1 WHAT ARE GENDER-TRANSFORMATIVE APPROACHES?

Programmes and interventions seeking to challenge unequal gender relations and address discriminatory gender norms through the incorporation of mechanisms of social change are often referred to as gender-transformative approaches. They seek to achieve sustainable improvements in gender equality by transforming barriers to change, such as norms and policies, rather than working around them. Gender-transformative approaches focus on the systems that perpetuate gender inequality.[i] They embrace transformative methodologies and often use participatory methods and engage with agents of social change, including local and religious leaders.[ii, iii] They aim at shifting discriminatory gender relations and build on ways to influence norms by changing individuals' attitudes and social expectations with information and reflection, social pressure, social sanctions and incentives, or by altering the symbolic meaning or signaling function of norms.[iv, v] Gender-transformative approaches typically include both women and men with the aims of fostering more egalitarian power relationships and transforming harmful masculinities into more positive norms of manhood (see also Box 6.2).[vi, vii, viii, ix] Gender-transformative approaches may also address institutions, policies and legislation that constrain empowerment.

Examples of these methodologies include the Dimitra Clubs and Gender Action Learning System (GALS) tools. The Dimitra Clubs challenge gender-discriminatory social norms and behaviours at the community level and tackle several forms of gender-based violence such as domestic violence and early marriage by harnessing the power of collective action and community engagement.[x] Dimitra Clubs work closely with chiefs (administrative and customary) and community leaders with the aspiration that they can be role models in promoting more gender-equitable norms and behaviours. This process has led to behavioural changes such as men engaging in tasks traditionally assigned to women (e.g. household chores) and women experiencing greater freedom of movement and engagement in socioeconomic and political activities.[xi] In sub-Saharan Africa, the Dimitra Clubs have been shown to enhance women's agency and increase couples' cooperation within the household.[xii, xiii]

GALS focuses on peer-to-peer learning and facilitates the development of individual and joint vision for change using participatory and visual tools such as graphics and concept maps. It has been used at multiple levels – individual, household, community and organizational – and implemented in different areas of the agrifood system such as agricultural production, value chains, agribusiness and enterprise development, nutrition, rural finance and climate-change adaptation. The approach has influenced behavioural change at household level, leading to increases in productivity, improved access to services and markets, improved food security and nutrition and increased investments in education for boys and girls.[xiii] In Zimbabwe, the implementation of GALS led to an increase in the number of women taking leadership positions and the number of women speaking in public and being consulted by community leaders; it also saw a shift in gender social norms at the household level that led to increases in household productivity and women's control over assets and income.[xiv]

However, because gender-transformative interventions may cause changes in established

BOX 6.1 WHAT ARE GENDER-TRANSFORMATIVE APPROACHES?

power relations between different groups, it remains particularly important to regularly identify and address any potential backlash, tensions, setbacks or any other unintended negative consequences that may derive from their implementation.[iii] Notwithstanding the potential of gender-transformative approaches, the evidence remains limited for assessing the sustainability and depth of norm change ensuing from their implementation[xv, xvi] and on their effect in sustainably improving agricultural and nutritional outcomes.

NOTES:

i. **MacArthur, J., Carrard, N., Davila, F., Grant, M., Megaw, T., Willetts, J. & Winterford, K.** 2022. Gender-transformative approaches in international development: A brief history and five uniting principles. *Women's Studies International Forum,* 95: 102635. https://doi.org/10.1016/j.wsif.2022.102635

ii. **FAO, IFAD & WFP.** 2020. *Gender transformative approaches for food security, improved nutrition and sustainable agriculture—A compendium of fifteen good practices.* Rome, FAO, IFAD and WFP. https://doi.org/10.4060/cb1331en

iii. **McDougall, C., Badstue, L., Mulema, A., Fischer, G., Najjar, D., Pyburn, R., Elias, M., Joshi, D. & Vos, A.** 2021. Toward structural change: Gender transformative approaches. In: R. Pyburn & A.H.J.M. van Eerdewijk, eds. *Advancing gender equality through agricultural and environmental research: Past, present, and future*, pp. 365–401. Washington, DC, International Food Policy Research Institute. https://doi.org/10.2499/9780896293915_10

iv. **Eriksson, L.** 2015. *Social norms theory and development economics*. Policy Research Working Papers. Washington, DC, World Bank. https://doi.org/10.1596/1813-9450-7450

v. **Hillenbrand, E. & Miruka, M.** 2019. Gender and social norms in agriculture: A review. In: A.R. Quisumbing, R.S. Meinzen-Dick, & J. Njuki, eds. *2019 Annual Trends and Outlook Report: Gender equality in rural Africa: From commitments to outcomes,* pp. 11–31. Washington, DC, International Food Policy Research Institute. https://doi.org/10.2499/9780896293649_02

vi. **Achandi, E.L., Kidane, A., Hepelwa, A. & Mujawamariya, G.** 2019. Women's empowerment: The case of smallholder rice farmers in Kilombero District, Tanzania. *Agrekon,* 58(3): 324–339. https://doi.org/10.1080/03031853.2019.1587484

vii. **Cole, S.M., Puskur, R., Rajaratnam, S. & Zulu, F.** 2015. Exploring the intricate relationship between poverty, gender inequality and rural masculinity: A Case study from an aquatic agricultural system in Zambia. *Culture, Society & Masculinities*, 7(2): 154–170.

viii. **Dworkin, S.L., Fleming, P.J. & Colvin, C.J.** 2015. The promises and limitations of gender-transformative health programming with men: Critical reflections from the field. *Culture, Health & Sexuality*, 17(sup2): 128–143. https://doi.org/10.1080/13691058.2015.1035751

ix. **Farnworth, C.R., Badstue, L., Williams, G.J., Tegbaru, A. & Gaya, H.I.M.** 2020. Unequal partners: Associations between power, agency and benefits among women and men maize farmers in Nigeria. *Gender, Technology and Development*, 24(3): 271–296. https://doi.org/10.1080/09718524.2020.1794607

x. **FAO.** 2022. *The State of World Fisheries and Aquaculture 2022: Towards blue transformation*. Rome. https://doi.org/10.4060/cc0461en

xi. **FAO.** 2020. *Dimitra Clubs in the Democratic Republic of the Congo: Improving the prospects for local peace*. Rome. https://www.fao.org/3/ca7711en/ca7711en.pdf

xii. **Adisa, O.** 2020. Rural women's participation in solar-powered irrigation in Niger: Lessons from Dimitra Clubs. *Gender & Development*, 28(3): 535–549. https://doi.org/10.1080/13552074.2020.1833483

xiii. **FAO, IFAD & WFP.** 2020. *Gender transformative approaches for food security, improved nutrition and sustainable agriculture—A compendium of fifteen good practices*. Rome, FAO, IFAD and WFP. https://doi.org/10.4060/cb1331en

xiv. **FAO & CARE.** 2019. *Good practices for integrating gender equality and women's empowerment in climate-smart agriculture programmes*. Rome, FAO and Atlanta, Georgia, USA, CARE USA.

xv. **Galiè, A. & Kantor, P.** 2016. 8. From gender analysis to transforming gender norms: Using empowerment pathways to enhance gender equity and food security in Tanzania. In: J. Njuki, J.R. Parkins & A. Kaler, eds. *Transforming gender and food security in the Global South*. Abingdon, UK, Routledge.

xvi. **Lecoutere, E., Achandi, E.L., Ampaire, E.L., Fischer, G., Gumucio, T., Najjar, D. & Singaraju, N.** 2023. *Fostering an enabling environment for equality and empowerment in agri-food systems.* Background paper for *The status of women in agrifood systems*, 2023. Nairobi, Kenya, CGIAR GENDER Impact Platform. https://gender.cgiar.org/SWAFS-2023

A central requirement for transformative change is the design of institutional frameworks and public policies that go beyond acknowledging gender gaps to including programmatic interventions able to address systemic constraints to gender equality and women's empowerment. Instances of gender-transformative interventions in policy include the inclusion of gender-transformative messaging in education and extension curricula and the design of policies that address harmful gender stereotypes and discriminatory norms and practices.[2] Programmatic policy interventions promoting gender-transformative change include the promotion of the active involvement of men in feeding and caring for children and the development of material and tools to address sociocultural barriers to women's nutrition, as in the Ethiopia Nutrition Sensitive Agriculture Strategy of 2016,[17] or the inclusion of household methodologies to improve gender relations, as in the Malawi National Agriculture Investment Plan 2017/18–2022/23.[18]

As highlighted throughout the report, women are vulnerable to gender-based violence in all segments of agrifood systems – in the household, the factory, the market and elsewhere. This constrains their economic and social opportunities, the realization of their rights and thus their empowerment and well-being. While a range of interventions such as empowering women, access to social protection and protective infrastructure can minimize the incidence of gender-based violence, policies and laws which impose penalties for violence are key to addressing the root causes of the violence against women and girls at scale.[19]

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↓ NIGER – Two participants in a local Dimitra Club collecting millet.

BOX 6.2 ENGAGING MEN AND BOYS IN NORMATIVE CHANGE

Men and boys have been successfully engaged as allies for women's empowerment and gender equality, incentivizing more equitable gender relations through processes of self-reflection, couples' household vision goal setting, and peer-group support. In eastern and southern Africa and Asia, interventions using Promundo's "Journeys of Transformation" methodology – which incentivizes engagement of men in caregiving and household tasks and focuses on critical reflection on unequal power relations among couples – resulted in more equitable gender attitudes, increased support of men for women's engagement in paid work, increased participation of men in child care and household chores and decreased conflict between couples.[i] Working on masculinities, rather than just working with women, has also been shown to have significant potential towards more gender-transformative results in violence prevention, fragility and peacebuilding interventions,[ii] although, as noted throughout the report, changing norms can also lead to backlash and gender-based violence.[iii]

Simultaneously targeting both male and female co-heads of households can be also effective in improving intrahousehold cooperation. The World Bank's Gender Innovation Lab has found that working with men and women can yield enhanced outcomes in a number of circumstances, including land titling, women's engagement in contractual farming work and increased productivity in specific value chains.[iv, v, vi]

NOTES:

i. **Doyle, K.** 2020. *Journeys of transformation or engaging men as allies in women's economic empowerment*. Good Practice Guide. Rome, FAO. https://www.fao.org/3/cb1331en/cb1331en-05.pdf

ii. **Bias, L. & Janah, Y.** 2022. *Scoping study: Masculinities, violence, and peace*. Basel, Switzerland, Swiss Peace. https://tinyurl.com/5n6tr59d

iii. **Choudhury, A., McDougall, C., Rajaratnam, S. & Park, C.M.Y.** 2017. *Women's empowerment in aquaculture: Two case studies from Bangladesh*. Rome, FAO, and Penang, Malaysia, WorldFish.

iv. **Ambler, K., Jones, K. & O'Sullivan, M.** 2021. *Increasing women's empowerment: Implications for family welfare*. IZA Discussion Paper No. 14861. Bonn, Germany, IZA – Institute of Labor Economics.

v. **Donald, A., Goldstein, M. & Rouanet, L.** 2022. *Two Heads are Better than One: Agricultural Production and Investment in Côte d'Ivoire*. Policy Research Working Papers. Washington, DC, World Bank. https://doi.org/10.1596/1813-9450-10047

vi. **World Bank.** 2020. *Women and trade: The role of trade in promoting gender equality*. Washington, DC, World Bank. https://doi.org/10.1596/978-1-4648-1541-6

Women's rights activists and civil society organizations play an important role in creating sustained demand for gender-transformative change in agrifood policy. Their meaningful engagement in policymaking processes – including building their capacities for effective participation and enhancing their authority to influence these processes – is thus fundamental to such change.[2] Nationwide policy consultation processes were found to represent well the diversity of women's realities in the design of the 2017 Gender Equality Strategy for Ethiopia's Agriculture Sector.[20] In Zambia, civil society organizations have been shown to advance gender-transformative change in customary tenure systems through leveraging global and national frameworks and by working with traditional authorities, local magistrates and men and women at the village level.[21]

REDUCING GENDER INEQUALITIES IN WOMEN'S WORK AND PRODUCTIVITY

↑ MALAWI – A farmer in her pineapple field. Participation in a farmer field school has helped her improve her income.

As noted in Chapter 2, despite the importance of agrifood-system employment for women, their roles tend to be marginalized and their working conditions are more likely to be on worse terms than those of men. Women's participation in and returns to work in agrifood systems are constrained by various factors, including their high care and domestic work burden, lesser education and skills and unequal access to resources. Several actions can be taken to address these constraints. These should often be taken in coordination with actions successful at closing asset and resource gaps. These are reviewed in the next section.

ACCESS TO CHILD CARE HAS A LARGE POSITIVE EFFECT ON MOTHERS' EMPLOYMENT IN AGRIFOOD SYSTEMS.

Address care and unpaid domestic work burdens

Interventions to improve women's employment outcomes must address the disproportionate care and domestic work obligations faced by women, which influence their engagement in paid work and the types of paid work they do. Access to child care has a large positive effect on mothers' employment opportunities in agrifood systems[22, 23, 24, 25, 26] and can also increase women's ability to join and participate in rural organizations.[27] Provision of child care allowed single women in Nairobi, Kenya, to shift into better jobs with more stable and regular hours of work, earning the same while working fewer hours.[23] In the Democratic Republic of the Congo, the provision of rural child-care centres enabled women to reduce multitasking while farming, leading to a greater sense of control and happiness. Both spouses increased their participation in commercial agriculture with large gains in agricultural productivity and household income.[28] Projects that attempt to shift norms about the distribution of care and unpaid household work between spouses have also been successful in Colombia, Ethiopia, the Philippines, Malawi, Uganda and Zimbabwe, with a stronger effect in households where both men and women participated in the project.[29]

Strengthen women's capacities through education and training

Better education opens greater opportunities for work in higher-paid sectors and occupations, away from vulnerable forms of employment[30] and is linked to smaller gender gaps in wages, as Chapter 2 showed. Education can also facilitate women's access to the resources needed to participate in better-remunerated activities in agrifood systems. While having more education and technical capacity alone is not enough to change deeply rooted social attitudes, in Nicaragua women with higher levels of education had higher participation in household decision-making.[31] Higher education and literacy are associated with greater take-up of agricultural technologies and financial products,[32, 33] disadvantaging rural women who on average tend to have fewer years of schooling and lower levels of literacy.

Capacity development through extension and business training can be also effective in strengthening women's livelihoods and empowerment in agrifood systems. Capacity building in value chains can increase female farmers' and entrepreneurs' empowerment by building their confidence[34, 35] and abilities to negotiate with family on access to resources and with traders and buyers.[36] Impact evaluations from the Côte d'Ivoire rubber sector, Ethiopia and Uganda[37, 38] show that gender-responsive extension training, discussed in more detail in the next section, and behavioural-change training that includes both spouses can increase women farmers' adoption of high-value crops and improved technologies, resulting in higher productivity.

Soft-skills training and adapting business training to the needs and constraints of women entrepreneurs are promising approaches for growing women-led businesses, including in agrifood systems.[39] Personal-initiative training, which focuses on building participants' socio-emotional skills, had greater impacts on both men and women entrepreneurs' profits than did traditional business training in a randomized experiment in Togo[40] and appears to be especially effective for women who start at low levels of empowerment.[41] Combining business training and gender-oriented content such as how to enter male-dominated sectors and deal with gender stereotypes has been effective in increasing profits and the adoption of recommended practices.[42, 43]

CAPACITY DEVELOPMENT CREATES OPPORTUNITIES IN MORE PROFITABLE AGRIFOOD-SYSTEM ACTIVITIES.

Strengthen women's tenure security

Greater access to land and enhanced tenure security for women can facilitate investment in crops and technologies, with greater returns in the longer run. In Ethiopia, for example, acquiring land rights encouraged women to engage in cash-crop production and invest in better technology.[44] The impacts of women's land rights on participation in collective or policy processes has been found to be small but positive in several countries.[45, 46, 47] A recent review of women's land rights as a pathway out of poverty found high agreement on the positive link between women's land rights and outcomes relevant for agrifood systems, including natural resource management, access to services and institutions, resilience, food security and consumption; it also found that enhanced women's land rights increased their bargaining power and decision-making capacity (Table 6.1). However, evidence on the link between women's land rights and several other outcomes including access to credit and technology, agricultural productivity, and non-agricultural livelihoods is uneven.

Table 6.1 Evidence on the link between women's land rights and selected agrifood-system outcomes

	Amount of evidence		
Level of agreement	**Limited**	**Medium**	**High**
Low	• Non-agricultural livelihood pathways		
Medium	• Access to credit • Technology adaptation • Agricultural productivity		
High	• Poverty reduction	• Natural resource management • Government services and institutions • Empowerment and domestic violence • Resilience and HIV risk • Consumption and food security	• Bargaining power and decision-making over consumption, human capital investment, intergenerational transfers

↑ **SOURCE: Meinzen-Dick, R., Quisumbing, A., Doss, C. & Theis, S.** 2019. Women's land rights as a pathway to poverty reduction: Framework and review of available evidence. *Agricultural Systems*, 172: 72–82. https://doi.org/10.1016/j.agsy.2017.10.009

Increase access to and control over technologies and resources

Technologies including improved seeds, fertilizers, improved agricultural practices and mechanization) have been shown to contribute towards women's empowerment by facilitating women's entry into new value chains,[48, 49] increasing their assets[50] and increasing productivity and freeing labour for other employment opportunities.[51] In the United Republic of Tanzania, for example, providing women with improved bean varieties and training in good agricultural practices resulted in a 34 percent increase in productivity in women's plots and a reduction in the gender productivity gap.[52] In Nepal, the provision of low-cost pedal threshers and weeders translated into both increased participation of men in threshing and an overall reduction of women's drudgery, resulting in increased

THE DESIGN OF TECHNOLOGY SHOULD CONSIDER THE PREFERENCES AND CONSTRAINTS OF WOMEN.

overall production and productivity at the household level.[53]

The design of agricultural technology that takes into consideration the specific preferences, needs and constraints of men and women can influence livelihoods strategies and agency at the individual and collective level.[54] For example, a barley breeding programme in the Syrian Arab Republic using participatory seed improvement and seed governance increased women's recognition as farmers, increased their economic contribution to the household, enhanced their access to information and seed and strengthened their decision-making power in agriculture.[55, 56]

However, there are certain pitfalls related to the introduction of technologies that must be avoided. Even when input subsidies and the provisions of inputs through agricultural programmes target women, requirements for cofinancing the inputs can exclude women, who are often more resource-poor than men.[57] Such discrepancies between policy aims and implementation mechanisms can help explain the absence of impacts. For example, evidence from Malawi, the United Republic of Tanzania and Zambia – where national input schemes have deliberately targeted female farmers since 2010[58] – shows that maize intensification programmes providing seed and fertilizer did not result in a significant increase in yields nor in a reduction of gender productivity gaps in Malawi and the United Republic of Tanzania. They substantially increased yields in Zambia but gender productivity gaps between plot managers persisted, with double the yield increases in plots managed by men (45 percent) compared with plots managed by women (22 percent).[57] Moreover, the mechanization of traditionally female-dominated value chains can displace women's labour, as discussed in Chapter 3, suggesting that inclusive technology distribution should also consider complementary policies or interventions such as reskilling programmes and social protection to support those who may lose livelihoods opportunities with the introduction of new technologies.

Gender-responsive financial products can also enhance women's productive capacity along agricultural value chains and help support women's climate action.[59, 60] Savings groups have been shown to have positive impacts on women's empowerment and microenterprise outcomes in Ghana, Malawi and Uganda[61] and on food security and savings levels in Mali.[62] In Côte d'Ivoire, offering private direct-deposit commitment savings accounts to help convert productivity increases into long-term savings increased labour productivity and earnings among female workers in cashew-processing plants.[63] However, a review of 32 meta-studies (systematic reviews and meta-analyses) on the impacts of financial inclusion found that, while financial services related to credit, saving, insurance and mobile money on average have positive impacts on women's empowerment, these impacts are often linked to other programme features such as being in a group, opportunities to leave the house, and rights and skills training.[64] The evidence on the effects of financial inclusion (microfinance, microcredit and savings) on women's economic status and livelihoods is not robust, with only one meta-analysis finding that women's participation in self-help groups had generally positive and significant effects on women's economic outcomes.[64]

Facilitate access to producer groups and foster collective action

Collective action and group-based approaches are important tools for more inclusive development. Membership in a farmers' organization, including associations, cooperatives, self-help and women's groups, is associated with positive and significant effects on farmers' incomes in a majority (57 percent) of cases reviewed across 24 countries.[65] Women's groups, in particular, have consistently been shown to improve women's economic empowerment and broader well-being.[66, 67]

Group-based approaches have been successfully used for gender-based interventions and have been shown to strengthen women's income-earning opportunities,[68] support greater access to financial resources for women in fisheries businesses,[69] improve social outcomes,[70] enhance agency[71] and enable women to take on leadership roles, such as in the tea sector in Kenya.[72, 73] A recent review, however, emphasizes that, while women's groups generally achieved positive impacts on women's economic outcomes – mainly through the delivery of information, resources and training at scale, which is often the primary motivation for joining a group – impacts on other outcomes (for example, decision-making or norms) require intentional interventions.[67] Marginalized farmers, including younger, less-educated and female farmers, tend to derive fewer benefits from farmers' organizations.[65]

Policies and private governance mechanisms to increase employment and productivity

National policies and laws are also critical for giving women equal opportunities in agrifood-system employment. Countries with more gender-egalitarian laws, in particular laws regulating marriage, parenthood, assets and entrepreneurship, exhibit smaller gender gaps in vulnerable employment (that is, a smaller difference in the share of women and men working as contributing family workers and own-account workers).[74]

Private governance mechanisms, which include the use of voluntary standards such as labour codes and auditing, also play a role in addressing gender inequalities, but the evidence for their effectiveness in improving women workers' circumstances is conflicting. A systematic review of the evidence on the socioeconomic impacts of certification systems[75] on agricultural producers and wage workers in low- and middle-income countries found that they have had little or no effect on improving gender-equality outcomes as they do not engage with gender norms that undermine women's ability to participate in and benefit from such initiatives.[76] Women producers in certification systems remained invisible as they were less likely than male producers to participate in farmers' organizations and they saw their workloads increase without an equal share of the benefits. Female workers on certified plantations continued to receive lower wages than their

GROUP-BASED APPROACHES CAN STRENGTHEN WOMEN'S INCOME-EARNING OPPORTUNITIES.

male peers and were less likely to occupy supervisory or management positions.[76] While some studies report benefits of certification programmes in terms of improved participation in household decisions, greater access to training and capacity development and even changes in norms,[36] more carefully designed studies are needed to evaluate under what governance mechanisms and under what conditions such interventions can support gender equality and women's empowerment.

Use social protection in support of work and productivity

Social assistance and labour-market programmes develop livelihood options through management of risks and facilitating liquidity.[77] Evidence from Lesotho, for example, shows that the Child Grant Programme led women to increase work on their own farms[78] and girls to reduce time spent on household chores in male-headed households.[79] The Ghana Livelihood Empowerment Against Poverty programme increases the probability of transitioning from unemployment to employment for both men and women.[80] In the Plurinational State of Bolivia, a nearly universal conditional cash-transfer programme for families with school-aged children increased women's employment, in particular in areas with low access to financial services, suggesting that overcoming liquidity constraints may play a role in improving women's employment opportunities.[81]

IMPROVING WOMEN'S ACCESS TO RESOURCES

As noted in Chapter 3, women's access to assets and resources that are key to agrifood systems continues to lag behind men's. Successful approaches to closing gender gaps in women's access to resources such as land, water, livestock, extension services and technology include comprehensive interventions, collective action and building human capacities through training and extension. Policies are critical for creating an environment that enables the achievement of a more equal and equitable distribution of resources. Some approaches that have reduced gaps in access to specific resources, such as closing the gender gap in landownership and extension services, are a good source of evidence to guide policies, investments and interventions in the agrifood system.

Address women's multiple constraints through comprehensive interventions

Comprehensive approaches, with interventions focused on improving women's agency while closing gender gaps through adequate resources, skills and capacity, are crucial to successful results. For example, in several impact assessments conducted by the IFAD,[82] it emerges that projects that strengthened women's access to resources and their role in decision-making while also paying attention

to developing their technical and financial capacities and their collective power are successful in improving welfare in various domains for the entire household, including income, food security, resilience and dietary diversity.

For example, in the Indonesian Coastal Community Development project, formal fishers' groups were formed and equipped with better fishing tools, whereas women's groups were formed for business enterprises to process, transform and sell fish products. The groups were also given financial support and technical training and were directly connected to markets. The project increased women's participation in fish and marine processing by 27 percent and their general participation in community groups by 84 percent. Overall, the project increased household-level income by 33 percent and sales of fish and marine products by 28 percent.[83]

In a similar project in Djibouti, earnings from fisheries-related activities where women are main decision-makers increased by 91 percent while income increased by 32 percent and food insecurity decreased by 35 percent.[84] The Rural Enterprise Program III in Ghana, which sought to trigger local economic development through agribusiness enterprises and better agricultural production, improved women's empowerment along several dimensions. It has provided women with training in business management and other skills together with complementary inputs. It also increased their access to financial services and control of income-generating activities and other resources, with the overall result of increased income (50 percent), enhanced resilience (6 percent), more diversified diets (10 percent) and increased food security (24 percent).[85]

Leverage collective action and rural organizations to reduce gender inequalities in resources

Women's groups and women's movements can be powerful forces for change around women's rights to resources and assets. In the peacebuilding process following the 2008 post-election violence in Kenya, rural and urban women's organizations mobilized in unprecedented ways to promote women's rights within key legal instruments, including the Constitution, challenging the deeply traditional norms that excluded women from landownership. The participatory process led to the recognition in the Constitution of the equal rights of women and men to inherit land and to matrimonial property, and the inclusion of commitments for women's representation in elective and appointed bodies.[86] In the United Republic of Tanzania, a bottom-up participatory process strengthened women's knowledge of their land rights, which contributed to an increase in women's claims for individual plots of land. The requirement that at least half of village assemblies should be women and the establishment of women-only committees gave more voice to women in local assemblies, thus contributing to gender-equitable decisions.[87]

Rural organizations have effectively influenced changes in gendered access to water and related technologies. In Sri Lanka, for example, the participation of women's groups in community water-resource management was associated with improvement in women's skills related to water management (e.g. meter reading, billing and money collection) and increased their decision-making in village water-resource management.[88] In northern India, participatory village committees addressing water access, health and nutrition issues have facilitated shifts in discriminatory norms, enabling women to speak in front of men and take on public roles.[89] In Egypt, landownership, educational attainment,

institutional support and access to training in irrigation technologies were key in enabling women to participate meaningfully in public institutions related to irrigation, such as water user associations.[90]

A community-based initiative aimed at changing gendered social norms that was implemented as part of the larger United States Agency for International Development Water Resources Integration Development Initiative in the United Republic of Tanzania triggered changes in social norms, with positive impacts on women's participation in water-related governance structures.[91] Interventions that address constraints in the formal rules (e.g. rules of group membership) and in the governance structures of such groups can help address women's participation in them.[92] Women's groups were also central in the target countries of the UN Joint Programme for Rural Women's Economic Empowerment, which helped build women's social capital and increase their participation and influence in public spaces.[93]

Interventions and institutions that enable collective action in forest and farm producer organizations have shown to be effective in improving women's empowerment and entrepreneurship.[94] Participatory rangeland management in East Africa has been shown to increase women's participation and decision-making power in rangeland governance.[95] Producer groups and rural organizations are also important for the dissemination of new and improved technologies and practices in both primary agricultural production and agribusiness and have been shown to facilitate pathways for women's empowerment. In Bangladesh, interventions that promoted vegetable growing and group fishponds that operated through women's groups and that provided them with access to resources (credit and fishpond sites) showed a great potential to reach and benefit women by improving decision-making power and the nutritional status of women and girls by more than other individual interventions.[96]

Improve women's access to capacity development training and gender-responsive extension

Greater education and capacity development can strengthen women's claims over and access to resources and property.[97] Women's education is correlated with greater ownership of land,[98] while literacy, including legal literacy, contributed to greater gender equity in the inheritance of land in Latin America.[99] The provision of legal aid at the community level has been shown to strengthen women's knowledge of their rights and, when complemented with interventions addressing the underlying norms that discriminate against women, can increase women's ownership of land (Box 6.4).

Women's access to and use of extension services is conditioned by who conveys extension material and whether information is provided through social networks.[100] In Mozambique, increasing the number of female extension agents that served farms led by women increased awareness and adoption of sustainable land-management techniques.[101] Similarly, in two interventions in Uganda, the use of women model farmers to facilitate training and access to hybrid maize seed and the inclusion of women role models in video extension resulted in increased adoption rates of recommended agronomic practices, increased food security and a shift in norms.[102, 103] Including gender and women's empowerment components in farmer-led rural advisory services has also been shown to be effective in other contexts.[104, 105, 106]

EDUCATION AND TRAINING CAN STRENGTHEN WOMEN'S ACCESS TO AND CLAIMS OVER RESOURCES AND PROPERTY.

BOX 6.3 INVOLVING BOTH SPOUSES FOR GENDER EQUALITY

Targeting both spouses with extension services is a promising approach to strengthening women's access to training and information, with significant positive impacts on farm productivity and productivity. In Côte d'Ivoire, for example, targeting both female and male co-heads in an agricultural extension training for rubber production showed improved efficiency of household farm production and promoted higher levels of investment.[i] In Ethiopia, rural capacity-building interventions that targeted both women and men, and that were designed to be more responsive to female smallholders' needs, increased the adoption rates of high-value crop farming, the total area of land cultivated and the economic participation of household members.[ii]

In Uganda, a behavioural-change training programme for couples that addressed cooperation between spouses, gender training and women's participation in cash-crop production resulted in increases in women's self-confidence, self-esteem and life satisfaction and reductions in intimate partner violence.[iii] Additionally, an economic intervention providing incentives to the couples improved women's access to productive resources and their decision-making power regarding financial, agricultural and household management.[iv]

NOTES:

i. **Donald, A., Goldstein, M. & Rouanet, L.** 2022. *Two heads are better than one: Agricultural production and investment in Côte d'Ivoire*. Policy Research Working Papers. Washington, DC, World Bank. https://doi.org/10.1596/1813-9450-10047

ii. **Buehren, N., Goldstein, M., Molina, E. & Vaillant, J.** 2019. The impact of strengthening agricultural extension services on women farmers: Evidence from Ethiopia. *Agricultural Economics,* 50(4): 407–419. https://doi.org/10.1111/agec.12499

iii. **Donald, A.A., Cucagna, M.E. & Vaillant, J.** 2022. *Top policy lessons in agriculture.*, Washington, DC, Gender Innovation Lab, World Bank. https://doi.org/10.1596/33493

iv. **Ambler, K., Jones, K. & O'Sullivan, M.** 2021. *Increasing women's empowerment: Implications for family welfare.* IZA Discussion Paper No. 14861. Bonn, Germany, IZA – Institute of Labor Economics.

Addressing time and mobility constraints is central to improving rural women's access to extension and advisory services.[107] In Ethiopia and India, successful strategies for addressing rural women's time and mobility challenges included planning training sessions around women's schedules and time availability; recruiting local trainers with awareness of women's time constraints and seasonal variations in workloads; delivering trainings in easily accessible locations; allowing women to take their children to the trainings; and providing child-care services during the trainings.[104, 106]

Understanding rural women's literacy and education constraints in accessing and benefiting from extension and rural advisory services is also crucial to the effective delivery of such services.[107] Effective strategies include videos, demonstration plots, theatre and group discussions, and using local languages and local trainers.[104, 105, 106] Other strategies to improve access to and effectiveness of extension and rural advisory services for rural women include the provision of demand-based training so that services are tailored to the constraints, needs and interests of rural women;[104, 37] offering a variety of trainings to

allow women to diversify their livelihoods;[106] and bundling extension trainings with other services to increase women's knowledge and ability to claim their rights.[106]

Combining complementary interventions that strengthen women's intrinsic agency with other extension efforts can also be effective. In Mozambique, pairing agricultural extension with a psychology-based training that encouraged female farmers to adopt a more entrepreneurial and proactive mindset resulted in doubling the share of women engaging in profitable off-farm businesses and in the generation of additional income for the household.[28, 108]

Involving both men and women in water management and related trainings has been critical for facilitating more gender-equitable access to and control over water resources. Expanding women's rights to and participation in irrigation and water management interventions has been shown to reduce their labour burden for water collection, increase their leadership in water-related areas and shift discriminatory norms. In northern Ghana, women who participated in a small-scale irrigation intervention saw benefits in terms of agency and well-being and reduced labour burden in irrigated agricultural production.[109] In Fiji and Vanuatu, interventions that applied a gendered participatory approach to water, sanitation and hygiene interventions have been shown to reduce women's labour in water collection, increase leadership of women and increase responsibility of men in hygiene roles in the household, with some limited evidence also pointing to a decrease in the instances of gender-based violence as a result of conflict over water management.[110] Beyond involving men and women (often from different households), targeting both spouses with agriculture and agribusiness training shows positive effects on women's empowerment and on investments and productivity in agrifood systems (Box 6.3).

JOINT LAND REGISTRATION PROGRAMMES HAVE BEEN SUCCESSFUL IN STRENGTHENING WOMEN'S LAND RIGHTS.

Undertake reforms and programmes to enable joint land titling and registration

Strengthening women's rights to land in the law is critical to improving access to and ownership of land in practice. Joint land registration programmes have been successful in strengthening women's land rights as evidenced by case studies from Ethiopia, the Lao People's Democratic Republic, the Philippines and Uganda. In Ethiopia, evidence from the early phase of the nationwide joint land registration and certification programme, which started in 1998, found that between 35 percent and 45 percent of registered land was in the name of women.[111] While not strictly comparable, by 2019, more than half of all landowners in Ethiopia were women (Chapter 3). The programme increased women's awareness and claims of their rights to land.[112] In some regions with low literacy rates, a photo of all owners was required for joint land certification, which increased women's visibility and improved accountability.[113] Similar positive results were observed in the Philippines under the Land Administration and Management Program, which started in 2002.[114] The Second Land Titling Project in the Lao People's Democratic Republic also stressed the importance of including additional activities to raise women's awareness of their land rights even when women's right to land is formally recognized in the law.[115]

BOX 6.4 LEGAL AID CAN STRENGTHEN WOMEN'S AWARENESS OF THEIR LAND RIGHTS

When women's equal rights to land are enshrined in law, community-based legal aid programmes can improve women's and men's awareness of their rights and access to justice in the case of land-related disputes.[1] However, to be effective and shift perceptions towards gender equality, legal aid must be supported by sensitization activities tailored to the needs of the beneficiary community.[i]

A field experiment in Liberia that introduced trained community paralegals to mediate legal disputes on a range of topics, including land and debt disputes and criminal acts, increased women's satisfaction with the outcomes of dispute resolution.[ii] Evidence from a randomized control trial of a community-based legal aid and education programme in the United Republic of Tanzania showed that women with access to a trained voluntary paralegal experienced an increase in legal services and knowledge of land-related regulations. However, these did not result in a shift in women's attitudes or more favourable gendered land practices.

In Kenya, the Justice Project included legal training for chiefs, elders, women and youth and information campaigns for the broader community. Men who received the training were 21 percent more likely to recognize women's constitutional right to own land than those who did not. The project also increased the probability of women and girls inheriting land – 84 percent of wives in the Justice Project compared with 67 percent of wives in the control group and 39 percent of girls in the Justice Project compared with 3 percent of girls in the control group.[iii]

NOTES:

i. **Patel, P., Douglas, Z. & Farley, K.** 2014. *Learning from a 'paralegals' intervention to support women's property rights in Uganda*. Washington, DC, International Center for Research on Women.

ii. **Sandefur, J. & Siddiqi, B.** 2013. Delivering justice to the poor: Theory and experimental evidence from Liberia. In: *World Bank Workshop on African Political Economy*, 20: 1–61. Washington, DC, World Bank.

iii. **USAID.** 2013. *Enhancing customary justice systems in the Mau Forest, Kenya. Final report*. Washington, DC. https://tinyurl.com/54edxhad

Behavioural approaches aimed at encouraging joint titling of land through making couples aware of the benefits have also proved useful. A randomized field experiment in Uganda, conducted in 2018 during the rural land titling programme, found that the demand for joint titling increased when price subsidies were conditional on the registration of the wife as co-owner of the land and when additional information about the benefits of co-titling was provided.[116] Small price incentives also increased women's access to land titles in the United Republic of Tanzania.[117]

Joint titling can significantly increase women's decision-making power in the household.[118] In Rwanda, land titling programmes that include women's names led to increases in rural land investment that were nearly twice as large in female-headed households as in men-headed households, but benefits can fade if strategies are not put in place to prevent reversion to informality.[119]

Leverage digital technologies to close gender gaps in resources

Digitalization offers great potential for closing the gender gaps in access to resources, including extension and advisory services, business training, markets and market information, finance and savings options. It thus has the capacity to strengthen women's livelihoods and empowerment. For example, in Uganda delivering extension and advisory services to women through videos had a positive effect on their knowledge of agronomic practices; increased their participation in agricultural decision-making, especially on the adoption of recommended practices and inputs; and increased maize yields and the quantities of maize women sold on the market.[102] Similar impacts were observed with video-mediated extension services in Ethiopia.[120] Providing women with mobile phones and targeting both women and men living in the same household with agricultural extension information improved the adoption of practices and women's participation in household decision-making and agricultural production.[121]

DIGITALIZATION OF FINANCIAL SERVICES OFFERS INNOVATIVE WAYS TO ENSURE MEANINGFUL FINANCIAL INCLUSION OF WOMEN.

Similarly, the digitalization of financial services offers innovative ways to ensure meaningful financial inclusion of women. Mobile money has facilitated changes in women's financial behaviour, increased their financial independence and strengthened their incomes and economic empowerment.[122, 123, 124, 125, 126] In the Niger, cash-transfer programmes using mobile delivery have also been shown to improve women's decision-making regarding the use of the money.[127]

Agricultural e-commerce platforms can empower rural women by improving their bargaining rights and increasing their incomes.[128] A study using information from interviews with key informants and survey data from 821 farmers who are members of the four most prominent digital agricultural platforms in Uganda found that women on digital platforms reported having a greater access to formal work than those who were not on platforms: 21 percent of female farmers who were on platforms received formal contracts for their produce and 49.5 percent had access to working capital loans, compared with 9.3 percent and 29 percent of those female farmers not using the platform, respectively.[129] In Bangladesh, a digital agricultural crowdfunding platform, iFarmer, allows investors to provide capital to rural women cattle farmers, and ekShop Shoron, an e-commerce platform, has been used to help build the livelihoods of Rohingya refugees in Cox's Bazar, Bangladesh.[130] Nevertheless, there is considerable variation in the readiness of developing countries to support agricultural e-commerce in rural settings and ensure that the platforms are accessible by women, particularly those in remote areas, with low education and literacy and other intersecting drivers of exclusion.

Enhance access to information and communications technologies through policy measures and targeted programmes

Large-scale initiatives specifically focused on equipping rural women with digital literacy and skills are rare, but a few promising examples exist. For example, the Bangladesh Access to Information programme, with over 5 000 digital centres in rural and remote regions, connects around 5 million visitors each month. The centres offer a Digital Skills for Entrepreneurs programme, which has trained 3 000 women entrepreneurs on business, digital and hardware repair skills that equip them to open their own information technology repair centres, a much-needed service in many rural areas.[131] In Rwanda, half of the positions within the government-backed Digital Ambassadors Program are reserved for women, to enable them to be advocates within their own communities and networks to encourage other women and girls to go online.[132] As of December 2019, the program had provided digital skills training to 41 980 women, youth and rural people across 12 districts. An impact assessment reported that 87 percent of those trained reported increased incomes, and use of e-government services increased by 129 percent.[133] Seventy-five percent of the women trained reported increased determination and interest to use technology, while 58 percent reported increased family incomes. As of March 2020, the Rwanda Utilities Regulatory Authority estimates the internet penetration rate in Rwanda to be 62.9 percent – double the figure from 2016.[134]

Improving women's low technology adoption rates will require policy reforms or the introduction of policy frameworks that directly address hurdles facing women in accessing improved technology. Gender-responsive sectoral policies are key to bridging the gap between rural women and men in their ability to benefit from information and communications technologies. An analysis of data from 46 countries conducted by GSMA demonstrated that an enabling regulatory framework is strongly associated with higher mobile money use, particularly among women.[135]

Policy measures that explicitly seek to close the digital gender gap have also proven successful. Leaders in this area include Botswana, Costa Rica, Nigeria, the Philippines and Senegal, all of which set clear targets for women's inclusion in their national broadband policies. The Botswana national broadband strategy includes gendered targets for smartphone access, improving digital literacy and increasing the number of female graduates in information and communications technology-related fields, while the digital plan in Senegal includes a high-level commitment to mainstream gender in all broadband policy decisions and explicitly set a target for 33 percent use of e-commerce and public services by rural women by 2025.[136]

↓ BURKINA FASO - A young microbiologist reasarching climate change and desertification.

ADDRESSING GENDER INEQUALITIES IN RESILIENCE TO SHOCKS

Chapter 5 presented information that shows that **coping mechanisms and resilience to shocks and stressors are shaped by gender inequalities**. Three mechanisms have served to enhance women's resilience and leadership in anticipatory and shock-response actions: community-based approaches, policy engagement and social protection. A number of interventions have proven effective in empowering women in conflict, post-conflict and fragile contexts, including asset and cash transfers and group-based approaches.

Foster community or group-based approaches to enhancing resilience and adaptation

Group-based approaches have been shown to enhance women's empowerment and resilience to shocks. Participation in groups has increased access to climate information and adoption rates of climate-smart agricultural practices in India and Viet Nam.[137, 138, 139] Similarly, during the COVID-19 pandemic, women who were part of village saving and loans associations were less likely to report negative impacts from the COVID-19 pandemic on food security and health, suggesting increased resilience to crisis.[140]

In Kenya, group membership contributed to the adoption of climate-smart agricultural practices, improved women's safety nets and contributed to household resilience.[141] Additionally, groups have been shown to increase productivity and income in Southeast Asia;[142, 143] to reduce workload and increase production through the management of solar irrigation pumps in Nepal;[142] to improve women's adaptive capacity through microcredit and training in Kenya;[144] and to increase women's participation in local environmental decision-making in Senegal.[142]

In the Niger, Dimitra Clubs (see Box 6.1) enabled communities to innovate and develop climate-resilient solutions, increasing women's voice in the community and empowering women to overcome barriers to accessing the solar irrigation pumps.[145] There and in other countries of the Sahel region, Dimitra Clubs have also played a key role in strengthening community social cohesion and building rural women's leadership skills to act as peace mediators in farmer–herder conflicts, increasing resilience and fostering the prospects for peace at community level.[146, 147, 148]

In Vanuatu, a community-based adaptation programme implemented by CARE International also increased women's self-esteem and confidence to participate in activities, with a positive shift in community attitudes towards recognizing women's crucial roles in climate adaptation.[32] In Ethiopia, another CARE International initiative that aimed at increasing household income and resilience to climate change through a gender-transformative community-led approach also saw increased participation of women in groups (saving groups, women's associations, livestock marketing groups) and reported increased recognition of the public role of women at community- and local-government-administration levels.[149]

Group-based approaches are also effective in fragile and conflict-affected states. A systematic review of evidence from 104 distinct quantitative and qualitative studies published between 2000 and 2021 from 29 countries and across 14 intervention types found that interventions that engaged with self-help groups in fragile and conflict-affected states had positive and significant effects in all domains of women's empowerment: resources, agency and achievements.[150]

Formulate and implement policies to improve resilience

Gender-responsive climate policies and investments are central for creating an enabling environment that enhances resilience and reduces gender inequalities in agrifood systems.[59] The formulation of gender-responsive climate policies and investment strategies has been slow but has gradually improved in recent years.[59, 151] An impact assessment of the Zambian National Agricultural Sector Investment Program, which introduced gender-transformative approaches in nutrition and introduction of climate-smart technologies, shows that, in addition to increasing production of food crops and enhancing household food security, the programme improved relationships within couples and their roles and access to resources, decision-making and division of labour.[152]

Group-based approaches to collective action on climate policy have also shown great potential to foster capacity development tailored to women's specific needs[59] and to decrease gender inequality by supporting women's climate action and increasing their access to information, collective resources, finance and collective agency.[142, 153] For example, the inclusion of women in policy consultation processes helped in the formulation of gender-sensitive policies on climate change and food security in Latin America.[154]

Use social protection to buffer against shocks and improve resilience

Social protection programmes have been successful in supporting women's resilience. They have facilitated climate resilience in helping recovery from shocks and in improving well-being outcomes in high climate-risk contexts.[155, 156] Labour guarantee systems that include provisions to promote the equal participation of women have shown potential to transform gendered power structures and increase resilience to climate change.[157] In Bangladesh, the Chars Livelihoods Programme, which transfers assets and provides training on livelihoods and nutrition to extremely poor women, has increased the social and economic abilities of programme participants to prevent and cope with the impacts of floods and erosion.[158]

A systematic review of interventions in conflict and fragile states found that asset- and cash-transfer interventions have large positive effects on women's access to resources, including diverse assets, credit and income.[150]

SOCIAL PROTECTION PROGRAMMES HAVE BEEN SUCCESSFUL IN SUPPORTING WOMEN'S RESILIENCE.

WAY FORWARD FOR TRANSFORMATIVE, EQUITABLE, EMPOWERING AGRIFOOD SYSTEMS

Empowering women and closing gender gaps in agrifood systems lead to significant benefits for the well-being of women and their households. The analysis and review of evidence carried out for this report uncovered a wide range of interventions and specific features that have proven to enhance gender equality and women's empowerment. As a way forward, three actions are critical to facilitating the transformation of agrifood systems for gender equality and women's empowerment.

Disaggregated data and rigorous research

Developing strategies to close gender gaps and tackle the structural causes of inequalities in agrifood systems requires high-quality research and data disaggregated by sex, age and other dimensions of social and economic differentiation. As evidenced by this report, great strides have been made in the past decade in terms of the availability of sex-disaggregated qualitative and quantitative data, tools to measure women's empowerment and high-quality empirical research. However, important challenges and gaps remain in the availability and use of quantitative and qualitative data to measure and analyse gender equality and women's empowerment over time and across areas relevant to agrifood systems.

First, harmonized, multidimensional measures of agency and empowerment need to be more consistently integrated into national-level surveys and measured over time. They also need to be better linked to individual-level indicators on access to resources (e.g. irrigation and finance) and achievements (e.g. employment, wages and food security). The Women's Empowerment Metric for National Statistical Systems recently developed under the 50x2030: Data-Smart Agriculture Initiative[159] is an important initiative in this regard.

Second, more work is needed to develop methods to collect and measure changes in norms and sources of structural inequalities, including in large-scale data initiatives. The Joint Programme on Gender Transformative Approaches for Food Security and Nutrition[160] and the CGIAR HER+ initiative[161] are examples of efforts to develop tools to measure gender-transformative change in agrifood systems.

Third, increased attention to the collection of qualitative and quantitative data and research focused on marginalized populations is necessary to better understand and address overlapping inequalities and distinct experiences of discrimination.

Fourth, efforts to systematically collect nationally representative disaggregated data related to employment activities (in agriculture and outside of agriculture), time use and access to assets and resources relevant for agrifood-system livelihoods should move beyond the relatively small number of countries in the LSMS+ initiatives, which primarily focus on sub-Saharan Africa and South Asia.[162]

Fifth, increased availability of longitudinal data is central for following changes over time in the same individuals and households and facilitating the identification of the causal drivers of change.

Sixth, greater efforts need to be made on data

collection and research throughout agrifood systems. Substantial progress has been made in gathering global sex-disaggregated data in the fisheries and aquaculture primary sector and along the entire value chain.[163] However, progress in other sectors such as livestock and forestry is still insufficient.[164] More broadly, national and multicountry data on gender relations, roles and individual's empowerment are relatively scarce beyond the primary agricultural sector, such as in manufacturing and processing, wholesale and retail trade, transportation and food services,[36] and high-quality individual-level dietary survey data are lacking in many countries, especially in low- and middle-income countries.[165] The report also found a lack of relevant sex-disaggregated data on the impact of climate change, adaptive capacity and resilience, and relatively scarce sex-disaggregated data about access to important assets and resources (e.g. irrigation, fertilizer and technology).

Seventh, while important advances have been made in the evaluation of gender-focused interventions, such as the experience of the World Bank's Gender Innovation Lab, more systematic efforts should be made to evaluate interventions using rigorous impact-evaluation methods in order to provide evidence on what works best in different contexts, with a particular focus on capturing change in the underlying discriminatory social norms and entrenched unequal power dynamics sustaining gender inequality.

Eighth and finally, more data and evidence on the cost-effectiveness of interventions addressing gender inequality will contribute to finding solutions and political commitment to work at scale.

Addressing these gender data gaps can support rigorous research that better identifies the constraints to gender equality and women's empowerment in agrifood systems, including those faced by women and men experiencing multiple and overlapping sources of discrimination. Advances in data would also support a more accurate assessment of the effectiveness and cost-effectiveness of agrifood-system programmes and policies, which should in turn inform the prioritization, design and roll-out of interventions and policies that can successfully contribute to building transformative, equitable and empowering agrifood systems for all.

Leveraging successful approaches at scale

Solutions at scale are needed to achieve tangible changes in gender equality and women's empowerment. Unfortunately, many of the interventions reviewed for this report are relatively small in scale. Widespread change in gender attitudes is unlikely to occur unless lessons learned about ways to reduce gender-based discrimination are scaled up beyond households and communities to markets and policy and legal spheres.[166] While it remains critical to engage with communities and households about gender-biased local norms through gender-transformative approaches, it is imperative that governments, international organizations, civil society organizations and the private sector influence positive changes in gender norms and improve women's access to resources through national policies, campaigns and large-scale integrated programmes.

Scaling, however, poses challenges about what and how to scale. Approaches that have shown promise in multiple contexts, and where there are clear pathways to enlarge their reach and scope, are appropriate for scaling. Assessing this requires not only successful pilots, but also rigorous monitoring, evaluation and knowledge about results (see above on the need to ensure adequate data and monitoring and evaluation for gender equality). Above all, scaling up requires political will and commitment from government and societal leaders. Scaling can occur through governments that decide to make policy changes, mainstream approaches into national programmes or provide domestic co-financing for international projects. It can also occur through private-sector investment, increased financing and advocacy from development actors or through the efforts of communities and groups to invest in and adopt successful approaches.[167] It is critical to ensure that approaches that have been successful in one context are tailored to new contexts, and that elements that were not a priority of interventions at a small scale (e.g. national policy engagement) are included when scaling.

USD 1 TRILLION

INCREASE OF GLOBAL GROSS DOMESTIC PRODUCT

Achieving gender equality in agriculture and agrifood systems at scale could bring tremendous benefits. Using data presented in Chapter 2 on gender gaps in farm productivity and wage gaps in agrifood-system employment, FAO conservatively estimates that closing the gender gaps in farm productivity and the wage gap in agrifood systems alone would increase global gross domestic product by at least 1 percent (or nearly USD 1 trillion). This would reduce global food insecurity by at least 2 percentage points, reducing the number of food-insecure people by 45 million (see Annex 3).

2% POINTS

REDUCTION OF GLOBAL FOOD INSECUIRTY

45 MILLION

REDUCTION OF FOOD-INSECURE PEOPLE

Intentional, transformative approaches

Interventions are more likely to bridge gender gaps in agrifood systems and bring about positive and lasting improvements in women's welfare when they integrate explicit actions towards gender equality and women's empowerment. The impacts are largest when social norms and institutional barriers that discriminate against women are also addressed.[168] Interventions aiming at empowering women might inadvertently also result in disempowering outcomes, and avoiding these will require intentional and carefully designed interventions.[36] For example, interventions targeting women may present trade-offs in terms of women's greater decision-making and increased work burden, with important implications for development outcomes.[169] Most projects that claim to empower women often include only strategies that reach and benefit women; few projects include strategies explicitly aimed at transforming gender norms and relations that can usher in greater gender equality and women's empowerment. More-effective interventions aimed at enhancing gender equality and women's empowerment in agrifood systems require a multidimensional nature, targeting multiple gender constraints across different scales and aiming at addressing structural causes of gender inequality. Information from several cost-effectiveness studies show that gender-transformative approaches provide a high return on investments (see Box 6.5).

Although a surprisingly large percentage (65 percent) of bilateral aid focused on agriculture and rural development is marked as incorporating a gender lens, outperforming most other sectors of aid (Figure 6.1), only a small share (6 percent) currently treats gender as fundamental in the design of the project.[170] A similar proportion of multilateral aid that undergoes screening has a gender focus (67 percent of multilateral aid in all sectors).[171]

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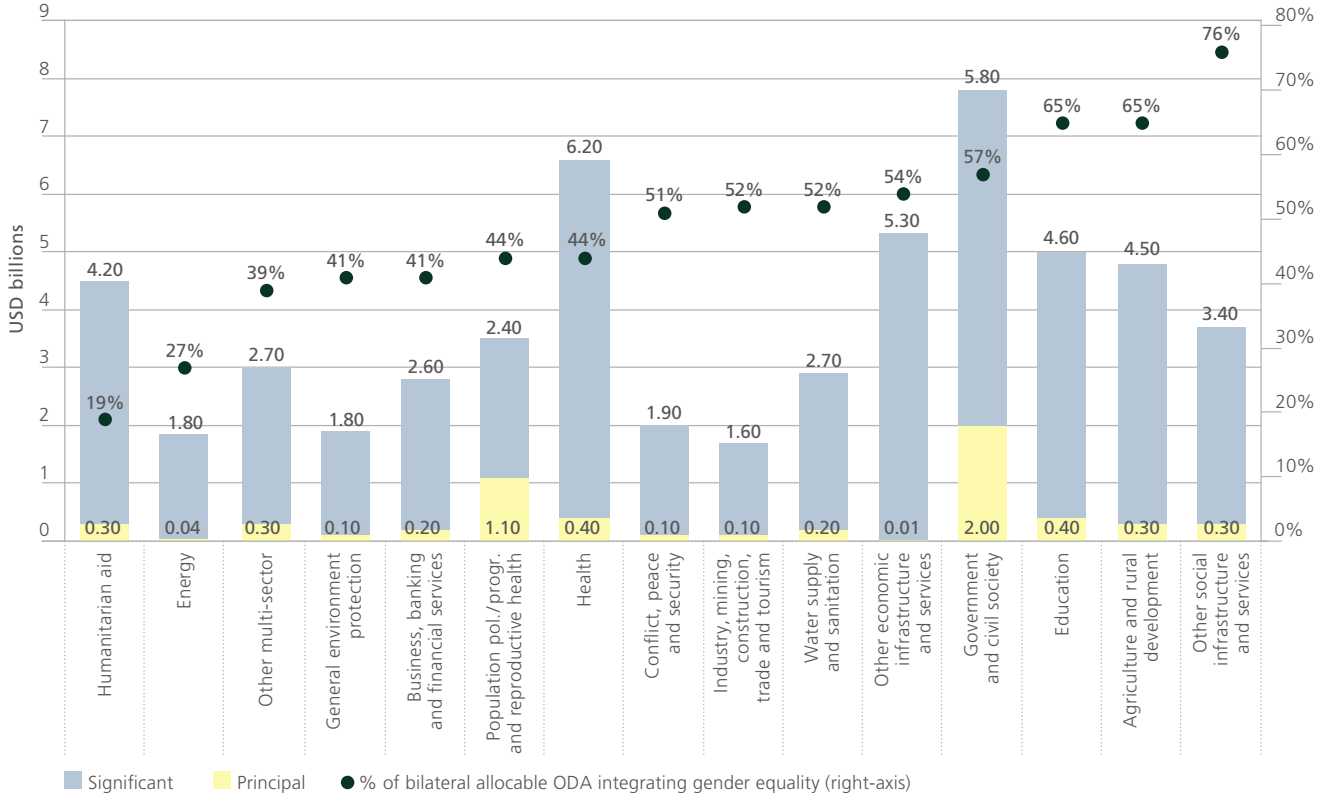
↓ KENYA – A woman drying bananas that her company will use to produce flour.

Figure 6.1 A high percentage of bilateral development finance focused on agricultural and rural development mainstreams or focuses exclusively on gender

Volume and share of aid focused on gender by sector (average, 2020–2021)



A meta-analysis of impacts achieved by 24 projects funded by IFAD, representative of a portfolio of 96 projects worth USD 3.1 billion in IFAD investments and an overall investment of USD 7.1 billion including cofinancing, shows that projects that contribute to women's empowerment by increasing their decision-making power over income and/or resources are also significantly more effective in increasing household incomes, dietary diversity, food security and resilience than projects that do not address women's empowerment. In particular, results show that the number of people that see appreciable gains in their incomes increases by 5 percentage points and the number of people that see significant gains in resilience increases by 20 percentage points (see Annex 4 for methodological details).

Repurposing a share of bilateral funding from mainstreaming gender towards treating women's empowerment as a fundamental objective in project design would thus be likely to produce significant additional benefits in terms of incomes, dietary diversity, food security and resilience. **If half of small-scale producers benefited from development interventions that focus on empowering women, it would significantly raise the incomes of an additional 58 million people and increase the resilience of an additional 235 million people compared with a gender mainstreaming approach.** These outcomes could be achieved by repurposing the significant amount of money currently mainstreaming gender towards projects that intentionally seek to empower women in a cost-effective fashion.[172]

↑ **SOURCE: OECD.** 2023. *Official development assistance for gender equality and women's empowerment: A snapshot*. Paris. https://www.oecd.org/dac/snapshot-oda-gender-2023.pdf

BOX 6.5 THE COSTS AND BENEFITS OF GENDER-TRANSFORMATIVE APPROACHES

Data and information on the costs and benefits of moving from gender mainstreaming to gender-transformative approaches in development interventions are scarce, consistent with the lack of data overall on the impact of gender interventions in agricultural and rural development interventions. Only 10 percent of interventions in agriculture and rural development assess gender differences in outcomes of interventions.[i]

Nonetheless, three studies, from Burundi, Côte d'Ivoire and the Democratic Republic of the Congo, show that gender-transformative approaches are a cost-effective solution for improving rural livelihoods and enhancing gender equality.

In Côte d'Ivoire, the World Bank used a randomized control trial to compare the impacts of inviting both husbands and wives to an agricultural extension training on rubber production with the more traditional extension training targeted mainly at men, who traditionally dominate this export crop. The inclusion of wives in agricultural trainings led to higher levels of investment (planting 20 percent more rubber seedlings) while maintaining preprogramme levels of agricultural production on older trees and other crops.[ii] These changes come primarily from greater agricultural management by wives, increased retention of the action plan and improvements in the gendered division of tasks.[ii] Although the cost of these interventions was an additional USD 25 per household, or USD 35 if the time to design the training is included, households that benefited from the gender-transformative approach were able to maintain rubber production to pre-programme levels while households that benefited from the traditional approach experienced a USD 346 drop in annual value of rubber production.

In the Democratic Republic of the Congo, the Africa Gender Innovation Lab of the World Bank conducted a randomized control trial between 2019 and 2021 comparing gender-transformative provision of community-based child-care centres against informal child-care arrangements. An assessment of these interventions showed an average increase of USD 34 per month in household income as a result of increased labour supply due to significant reduction in the time that household members spent on child care. Although the evaluation did not take into consideration indirect or future benefits, the intervention had a significant positive impact on early childhood development. The cost-effectiveness analysis indicated "a high return on investment"[iii] with a monthly cost of USD 144 per centre (between USD 10 and 16 per child per month) compared with a USD 34 gain per month in household income.

In Burundi, between 2016 and 2019, CARE and partners tested the effectiveness of a gender-transformative approach known as Empowerment through Knowledge and Transformative Action as part of a randomized control trial against a "gender-light" approach and a gender-blind control. An evaluation revealed that women's empowerment was significantly greater in the transformative group and the gender parity index improved by 51 percent compared with less than 10 percent in the gender-light and gender-blind interventions.[iv] Additionally, the project had significant positive impacts on women's dietary diversity and led to important changes in men's and women's perceptions about gender-based violence.[v] The cost-benefit analysis estimates that the value of the gender-transformative approach is two times greater than that of gender-light approach and approximately 8.5 times greater than the gender-blind approach.[v]

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EGYPT – The supervisor of a tomato processing unit spreading salt on the cut tomatoes.

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Chapter 3

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9. Different marital property regimes can be identified as: i) **separation of property**: all types of assets acquired before or during marriage remain separate property; ii) **partial community of property**: assets acquired during the marriage become common property, but assets acquired before marriage and through inheritance remain separate property; iii) **absolute community of property**: all assets acquired before or during marriage become common property; and iv) **deferred partial or full community of property regime**: some or all property that the husband or wife acquires before and during marriage remains the property of the person who acquired it, but if the marriage dissolves, the assets are divided (**Almodóvar-Reteguis, N., Kushnir, K. & Meilland, T.** 2011. *Mapping the legal gender gap in using property and building credit*. Women, Business and the Law Topic Note. Washington, DC, World Bank. https://tinyurl.com/48s6w3e8) Reports on SDG Indicator 5.a.2 show that most countries have a prevalent marital regime in place, whereas other countries provide for several optional regimes or fail to regulate the effects of marriage. Often the default marital property regime overlaps with other regimes relevant to land or property acquisition, such as customary or religious law.

10. Exceptions include **Kenya**. *Matrimonial Property Act*, 2013, **Kenya**. *Marriage Act*, 2014, and **Gabon.** *Loi N° 004/2021 du 15/09/2021 portant modification de certaines dispositions de la loi portant Code Civil*, 2021.
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16. **Thailand.** *Regulations of the Department of Lands Regarding the registration of spouse's signature and dividing property between spouses in land and other immovable properties, B.E. 2553*, 2010.
17. The most recent example is Sierra Leone where important reforms were introduced in 2022 (**Sierra Leone**. *The Customary Land Rights Act*, 2022. **Sierra Leone**. *The National Land Commission Act*, 2022. **Sierra Leone**. *The Gender Equality and Women's Empowerment Act*, 2022). These are not yet reflected in the results reported in this publication.
18. General recommendation No. 25, on article 4, paragraph 1, of the Convention on the Elimination of All Forms of Discrimination against Women covers the use of temporary special measures (TSM) as a mechanism to address gender disparities and to accelerate progress towards de facto equality between men and women. TSM which are often also referred to as affirmative action or positive discrimination measures, include legislative, executive, administrative and regulatory instruments, as well as the (re)allocation of resources, preferential treatment and quota systems (para. 22). (**UN Committee on the Elimination of Discrimination Against Women (CEDAW)**, *General recommendation No. 25, on article 4, paragraph 1, of the Convention on the Elimination of All Forms of Discrimination against Women, on temporary special measures*, 2004. https://www.refworld.org/docid/453882a7e0.html).
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Chapter 4

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Chapter 5

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170. The Organisation for Economic Co-operation and Development's Development Assistance Committee offers three markers of gender intention: Principal: Gender equality is the main objective of the project and is fundamental is its design and expected results; Significant: Gender equality is an important and deliberate objective but is not the principal reason for undertaking the project; and Not targeted: The project has been screened but has not been found to target gender equality.
171. Data for multilateral institutions is not disaggregated by sector.
172. Over 80 percent of the estimated 570 million farms worldwide are smallholder farms of less than 2 hectares (**Lowder, S.K., Sánchez, M.V. & Bertini, R.** 2021. Which farms feed the world and has farmland become more concentrated? *World Development*, 142: 105455. https://doi.org/10.1016/j.worlddev.2021.105455) and these are the types of households that investments by the International Fund for Agricultural Development target. We assume that half of smallholders are reached by gender mainstreaming interventions and the other half are reached by interventions treating gender as fundamental.

Glossary

1. Definitions were retrieved and/or adapted from FAO, the UN Women Training Centre eLearning Campus Gender Equality Glossary, and the Glossary of Terms from the CGIAR GENDER platform Background Papers prepared for this report (unless otherwise noted).

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Annex 1

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Annex 4

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3. The mean effect sizes from the meta-analyses are validated by estimating impacts using the *pooled* household-level data. The International Fund for Agricultural Development (IFAD) re-runs analyses by combining all individual micro-level impact assessment data together and running a pooled data analysis, which controls for country-/project-level unobserved characteristics that may influence impacts. The data, programmes, and other details of the computations sufficient to permit replication along with their revisions are encrypted and anonymized (**Arslan A. & Cavatassi, R.** 2022. *IFAD's methods for impact assessments, a summary note*, IFAD, Rome).
4. This is done using decision-making power over income and/or resources attributed to women only or jointly with men. Projects whose value of this variable is at least equal to the aggregated mean value are considered to empower women, as opposed to the rest of the projects.

GLOSSARY

Adaptation
(in relation to climate change impacts)
Adjustments in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderate harm or exploit beneficial opportunities.

Adaptive capacity
(in relation to climate-change impacts)
The ability of a system (individual, household or community) to develop resilience and adjust to climate-change risks (including climate variability and extremes) to respond to potential damages, take advantage of opportunities, or cope with climate consequences.

Agency
The ability of people to identify their goals, make choices and then act upon them. Agency can take multiple forms, such as bargaining, negotiation or resistance. Women can exercise agency in many ways, including as individuals, collectively, within the family and through their participation in markets, politics and formal and informal networks.

Agricultural holder
A civil or judicial person who exercises management control over an agricultural holding operation and makes major decisions regarding resource use. The holder has the technical and economic responsibility for the holding and may undertake all responsibilities either directly, or delegate the daily work management to a hired manager.

Agricultural, rural and structural transformation
The process by which low-income societies, in which agriculture absorbs most labour and generates most economic output, become high-income societies characterized by a relatively smaller but more productive agricultural sector. Structural transformation involves the reallocation of economic activities away from agriculture and natural resources to industry and services, expanded domestic and international trade, increased specialization and division of labour, and increased rural-urban migration. It also includes the urbanization of the countryside, combined with a reduction in birth rates and a greater participation of women in the workforce. Agricultural transformation is both a cause and effect of structural transformation – involving productivity-increases in agriculture and a shift from subsistence farming to commercial, highly diversified production systems and value chains. Rural transformation captures all aspects of agricultural transformation, and also includes emergence of livelihood- and income-generating opportunities in the rural, non-farm sector.

Agrifood systems
Agrifood systems comprise the entire range of actors and interlinked activities that add value in agricultural production and related off-farm activities such as food storage, aggregation, post-harvest handling, transportation, processing, distribution, marketing, disposal and consumption. Agricultural production refers to primary crop, livestock, fisheries and forestry production.

Disaster risk reduction
Programmes and practices targeted at avoiding (prevention) or limiting (mitigation and preparedness) the adverse impacts of hazards, within the broad context of sustainable development. Denotes both a policy goal or objective, as well as strategic and instrumental measures employed for anticipating future disaster risk, reducing existing exposure, hazard or vulnerability, and improving resilience.

Empowerment (of women and girls)
The expansion in the ability of women and girls, and other marginalized populations, to make strategic life choices and to transform these choices into actions and outcomes in a context where this ability was previously denied to them.[2] This relates to equal enjoyment of human rights, development of capabilities and increased access to resources and opportunities. Empowerment requires building agency to use these rights, capabilities, resources and opportunities strategically in order to transform societal structures and processes that perpetuate inequalities and cause discrimination against women and girls.

Feminization of agriculture
The increased concentration of women in agricultural production with the concomitant decrease of men in the agriculture sector.

Gender
Socially constructed roles, identities and expectations of women and men, and the differences between them. As a social construct, gender varies from society to society and can change over time. Other factors such as class, age, marital status, health status, disability status, sexual orientation and race determine the distribution of roles, power, and resources between men and women.

Gender analysis
Analysis of the different roles of women and men in order to understand what they do, what resources and capacities they have, what their needs and priorities are, and the power relations between them. It provides the basis to identify and address inequalities in policies and programmes.

Gender-based violence (GBV)
Any harmful act that is perpetrated against a person's will, based on gender differences. It is a widespread and life-threatening health, protection and human rights issue with serious negative consequences not only for survivors but also for the achievement of food security and the social and economic development of communities and states. Most survivors of GBV are women and girls who suffer a range of physical and mental health problems, stigma and discrimination, affecting their ability to earn incomes and participate in public life.

Gendered division of labour
The way work is divided between men and women according to gender roles, or what is considered suitable and valuable based on gender. This does not necessarily concern paid employment only, but more generally the work, tasks and responsibilities assigned to women and men in their daily roles within and outside the household and community, including unpaid or care work.

Gender equality
Indicates a state in which women and men enjoy equal rights, opportunities and entitlements in civil and political life. It implies their equal participation in decision-making, their equal ability to exercise their human rights, their equal access to and control of resources, services and the benefits of development, in addition to equal opportunities in employment and in all other aspects of their livelihoods.

Gender equity
Implies fairness and impartiality in the treatment of women and men in terms of rights, benefits and obligations so that resources and opportunities are distributed fairly between them. This often requires allocating additional resources targeted to women in order to overcome longstanding inequalities in accessing means of self-improvement and empowerment. This process leads to gender equality.

Gender integration
The process of applying strategies in programme and policy planning, design, implementation, monitoring and evaluation to consider gender norms and compensate for gender-based inequalities. The gender integration continuum includes several approaches:

- **Gender-blind approaches**
  Approaches that ignore gender aspects, gender differences and gender relations and may reinforce existing inequalities.

- **Gender-responsive approaches**
  Approaches that acknowledge, recognize and address the specific barriers, needs, priorities and outcomes of men and women based on the social construction of gender roles.

- **Gender-transformative approaches**
  Approaches that seek to examine, challenge and transform the underlying causes of gender inequalities rooted in discriminatory social structures. As such, gender-transformative approaches aim to address the unequal gendered power relations, discriminatory gender norms, attitudes, behaviours, and practices as well as discriminatory or gender-blind policies and laws that create and perpetuate gender inequalities. By doing so, these approaches seek to eradicate the systemic forms of gender-based discrimination by creating or strengthening equitable gender relations and social structures that support gender equality.[3]

Gender mainstreaming
The process of assessing the implications for men and women of any planned action – including legislation, policies and programmes – in any area and at all levels. It is a strategy for making the concerns and experiences of women and men an integral part of the design, implementation, monitoring and evaluation of policies and programmes in all political, economic and societal spheres so that they benefit equally and inequality is not perpetuated.

Gender norms
Define and govern what is expected, appropriate and acceptable behaviour for men, women, boys and girls. Gender norms are learned early in life, shaped by belief systems, can differ within and among cultures, and depend on ethnicity, social class, age and other socioeconomic factors.

Gender parity
The equal representation of women and men in a specific area. Gender parity is a key component for achieving gender equality.

Gender relations
Indicate the ways in which society defines the rights, responsibilities and identities of men and women in relation to one another.

Gender roles
The behaviours, tasks and responsibilities that a society considers appropriate for men, women, boys and girls.

Inclusivity
An approach used to ensure that everyone, regardless of their social, economic or political status and identities (including race, ethnicity, gender, age, beliefs, geographical location, health status, migrant status), is fully and actively involved in and benefitting from development processes.

Increasing women's voices
Implies ensuring that women have an active, meaningful and participatory role in making and influencing decisions in all spheres (public and private), which is central to achieving change and boosting their leadership and political participation. The full and equitable inclusion of women in all stages of decision-making is critical for effective oversight and implementation of gender-equality commitments. Women's meaningful inclusion requires capacity, open spaces to engage and influence policy dialogue, transparent and accessible information, and recourse mechanisms.

Intersectionality (in relation to gender)
An approach used to study, understand and respond to the ways in which gender intersects with other social factors and/or personal characteristics/identities linked to age, ethnicity, education, wealth, health status, disability status, and how these intersections combine to influence unique experiences of privilege, social exclusion and discrimination.

Labour-saving practices and technologies
Tools, technologies and practices used in farming and non-farm enterprises to make the tasks of men and women easier, increase labour productivity and change farming practices to methods that use less farm power. Labour-saving technologies and related services can contribute to freeing up women's time and improving their quality of life, enabling them to engage in activities of their own choice, whether for the home or remunerative in nature, as well as invest in their education.

Mitigation (in relation to climate change)
The use of human interventions to prevent or reduce emissions or enhance sinks of greenhouse gases. It involves the implementation of technological changes, such as cultivation practices, or substitution of technologies (such as substituting fossil fuels).

Non-food agricultural production
The production of non-food products such as forestry, animal rearing, feedstock and biomass used to produce biofuels, oilseeds transformed into oleo-chemical products, starch producing polymers for biodegradable plastics, or fibres used in textile and automotive industries

Occupational segregation (by gender/sex)
The extent to which occupations are segregated and distributed in a specific sector based on the gender/sex of workers.

Participatory approach
A process in which individuals or groups share knowledge, ideas, opinions, votes, materials, resources, labour and finances in order to reach a common consensus, or to make joint decisions in a transparent way.

Resilience
The ability to prevent disasters and crises as well as to anticipate, absorb, accommodate or recover from them in a timely, efficient and sustainable manner. This includes protecting, restoring and improving livelihoods systems in the face of threats which impact agriculture, nutrition, food security and food safety. Resilience is the ability of people, communities or systems that are confronted by disasters or crises to withstand damage and recover

rapidly. In the context of agrifood systems, it refers to "the capacity over time of agrifood systems, in the face of any disruption, to sustainably ensure availability of and access to sufficient, safe and nutritious food for all, and sustain the livelihoods of agrifood systems' actors."

Sustainability
The ability of socio-ecological processes and activities to produce long-term environmental, social, technical, financial and cultural benefits. FAO's vision for Sustainable Food and Agriculture is of a world in which food is nutritious and accessible for everyone, and natural resources are managed in a way that maintains ecosystem functions to support current and human needs.

Vulnerability (in relation to climate change)
The characteristics and circumstances of a community, system or asset that make it susceptible to the damaging effects of a hazard – including climate variability and extremes. Vulnerability is a function of the character, magnitude and rate of climate variation to which a system is exposed, its sensitivity and adaptive capacity. Therefore, adaptation can also include efforts to address these components.

ANNEXES

Annex 1. Classification, data sources and regional estimates of agrifood-system employment

Annex Table 1.1 Agrifood-system activities based on the ISIC codes

Categories	ISIC divisions	ISIC Rev.4 2-digit codes
Agriculture, forestry and fishing	Agriculture	01
	Forestry and logging	02
	Fishing	03
Food processing and service	Manufacture of food products	10
	Manufacture of beverages	11
	Food and beverage service activities	56
	Undifferentiated goods- and services-producing activities of private households for own use	98
Manufacture of non-food agricultural products	Manufacture of tobacco products	12
	Manufacture of textiles	13
	Manufacture of leather and related products	15
	Manufacture of wood and of products from wood and cork, except furniture	16
	Manufacture of paper and paper products	17
Trade *Agrifood system share estimated	Wholesale trade, except of motor vehicles and motorcycles	46
	Retail trade, except of motor vehicles and motorcycles	47
Transportation *Agrifood system share estimated	Land transport and transport via pipelines	49
	Water transport	50
	Air transport	51
	Warehousing and support activities for transportation	52
	Postal and courier activities	53

NOTE: *The agrifood systems shares in total trade and transport are estimated using a methodology described in **Davis, B., Mane, E., Gurbuzer, L.Y., Caivano, G., Piedrahita, N., Schneider, K., Azhar, N.** ***et al.*** 2023. *Estimating global and country-level employment in agrifood systems*. FAO Statistics Working Paper Series, No. 23-34. Rome, FAO. https://doi.org/10.4060/cc4337en

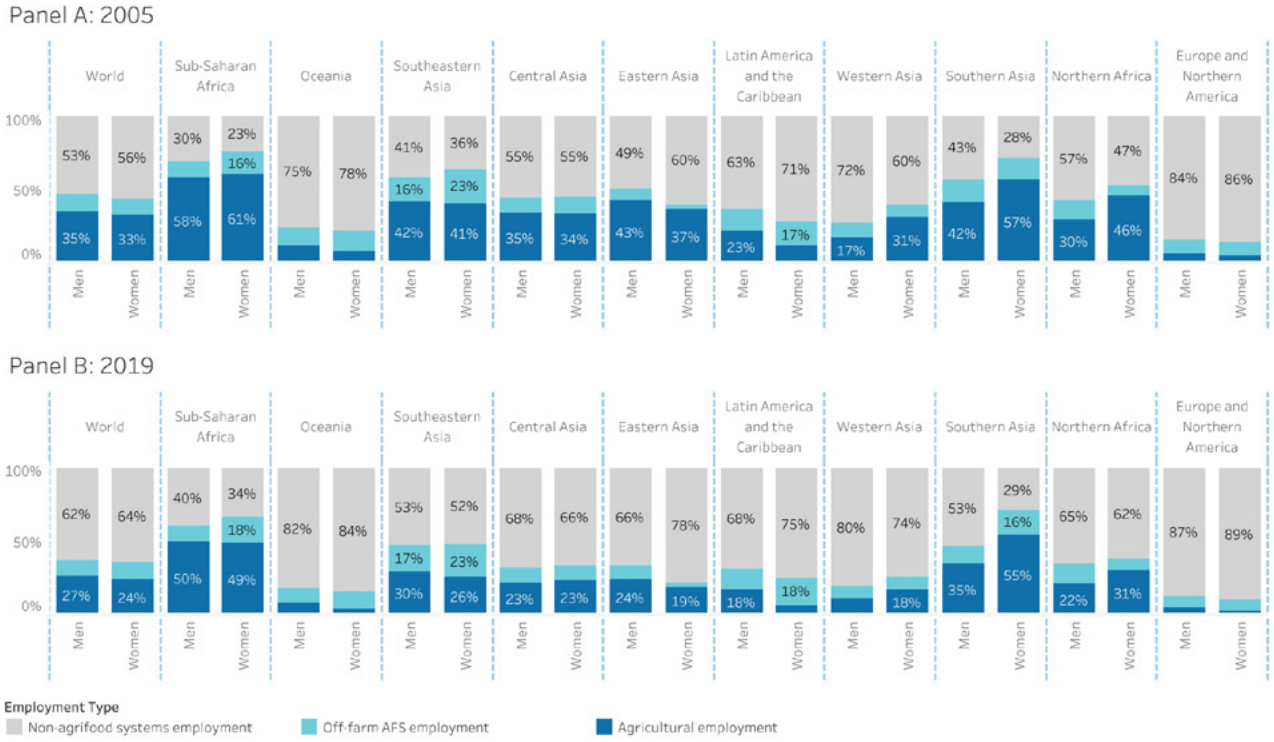
Annex Figure 1.1 shows the share of agrifood-system employment in total employment and compares the estimates from the RuLIS[1] pool of household surveys with the estimates from the ILOSTAT[2] database. The agrifood-system employment estimates may differ between the two sources for three main reasons.[2] First, though both databases use household surveys, the survey used for specific countries to compute the agrifood-system employment may differ (for example, living standards measurement surveys versus labour force surveys) in terms of question formulation and sampling etc. Second, the employment figures of some countries included in the ILOSTAT database are computed using the new measure of employment based on the nineteenth International Conference of Labour Statisticians resolution, excluding people whose work was performed for own-use production (for ex. Sierra Leone). Finally, while RuLIS surveys computed employment in AFS using 3-4-digit ISIC codes available in the microdata sets to increase the precision, ILOSTAT disseminated the same data using two-digit ISIC codes.

The RuLIS estimates tend to be higher than those from ILOSTAT, but the difference is not great across most countries for which we have data (Annex figure 1.1). It is, however, more pronounced with respect to measures of women's employment than with men's employment.

Annex Figure 1.1 Share of employment in agrifood systems, RuLIS versus ILOSTAT data

SOURCE: Costa, V., Piedrahita, N., Mane, E., Davis, B., Slavchevska, V. & Gurbuzer, Y. L. (forthcoming). Women's employment in agrifood systems. Background paper for *The status of women in agrifood systems*, 2023

Annex Figure 1.2 The share of agrifood-system employment in total employment in 2005 and 2019, by sex



NOTE: The regional and global statistics are weighted by the population of each country.
SOURCE: Costa, V., Piedrahita, N., Mane, E., Davis, B., Slavchevska, V. & Gurbuzer, Y. L. (forthcoming). *Women's employment in agrifood systems.* Background paper for *The status of women in agrifood systems*, 2023. Rome, FAO.

Annex 2. Detailed results on the link between women's empowerment and nutrition

Annex Table 2.1 WEAI & children's dietary and nutrition outcomes

Indicator	Age group	Gender	Country	Aggregated			Production		Resources			Income	Leadership		Time allocation		Source
				Empowerment score	Whether empowered	Gender parity	Decisions	Autonomy	Asset ownership	Asset rights	Credit access and rights	Control over use of income	Group membership	Speaking in public	Workload	Leisure	
Exclusive breastfeeding	<6 months	Pooled	Bangladesh, Cambodia, Ghana and Nepal (pooled)				§					§					Quisumbing *et al.* 2021
Exclusive breastfeeding	<6 months	Boys	Ghana														Malapit & Quisumbing 2015
Exclusive breastfeeding	<6 months	Girls	Ghana				§										Malapit & Quisumbing 2015
DDS	6–23 months	Pooled	Bangladesh, Cambodia, Ghana, Mozambique and Nepal (pooled)											§	§		Quisumbing *et al.* 2021
DDS	6–23 months	Boys	Ghana														Malapit & Quisumbing 2015
DDS	6–23 months	Girls	Ghana				§				§						Malapit & Quisumbing 2015
DDS	6–59 months	Boys	Bangladesh							§							Sraboni & Quisumbing 2018
DDS	6–59 months	Girls	Bangladesh														Sraboni & Quisumbing 2018
DDS	12–59 months	Pooled	Timor-Leste*						§				§				Bonis-Profumo *et al.* 2021
DDS	5–10 years	Boys	Bangladesh							§			§				Sraboni & Quisumbing 2018
DDS	5–10 years	Girls	Bangladesh							§							Sraboni & Quisumbing 2018
DDS	11–17 years	Boys	Bangladesh														Sraboni & Quisumbing 2018
DDS	11–17 years	Girls	Bangladesh														Sraboni & Quisumbing 2018
Height-for-age z-score (HAZ)	<24 months	Pooled	Bangladesh, Cambodia, Ghana and Nepal (pooled)				§			§	§					§	Quisumbing *et al.* 2021
HAZ < – 2	<24 months	Pooled	Nepal														Clement *et al.* 2019
Length-for-age z-score	<24 months	Pooled	Nepal														Cunningham *et al.* 2015
HAZ	0–59 months	Boys	Ghana														Malapit & Quisumbing 2015
HAZ	0–59 months	Girls	Ghana														Malapit & Quisumbing 2015
HAZ	0–59 months	Pooled	Nepal														Malapit *et al.* 2019
HAZ	6–59 months	Pooled	Bangladesh														Holland & Rammohan 2019
HAZ <= – 2	6–59 months	Pooled	Bangladesh														Holland & Rammohan 2019
Health (HAZ and Weight-for-height z-score (WHZ))	0–59 months	Pooled	Ghana														Zereyesus *et al.* 2017
Minimum acceptable diet	6–23 months	Boys	Ghana								§						Malapit & Quisumbing 2015
Minimum acceptable diet	6–23 months	Girls	Ghana														Malapit & Quisumbing 2015

Indicator	Age group	Gender	Country	Aggregated			Production		Resources			Income	Leadership		Time allocation		Source
				Empowerment score	Whether empowered	Gender parity	Decisions	Autonomy	Asset ownership	Asset rights	Credit access and rights	Control over use of income	Group membership	Speaking in public	Workload	Leisure	
Minimum diet diversity	6–23 months	Boys	Ghana														Malapit & Quisumbing 2015
Minimum diet diversity	6–23 months	Girls	Ghana				§										Malapit & Quisumbing 2015
Weight-for-age z-score (WAZ) < – 2	<24 months	Pooled	Nepal														Clement *et al.* 2019
WAZ	0–59 months	Boys	Ghana														Malapit & Quisumbing 2015
WAZ	0–59 months	Girls	Ghana														Malapit & Quisumbing 2015
WAZ	0–59 months	Pooled	Nepal										*				Malapit *et al.* 2019
WAZ	6–59 months	Pooled	Bangladesh														Holland & Rammohan 2019
WHZ	<24 months	Pooled	Bangladesh, Cambodia, Ghana and Nepal (pooled)														Quisumbing *et al.* 2021
WLZ	<24 months	Pooled	Nepal														Cunningham *et al.* 2015
WHZ	0–59 months	Boys	Ghana														Malapit & Quisumbing 2015
WHZ	0–59 months	Girls	Ghana								§						Malapit & Quisumbing 2015
WHZ	0–59 months	Pooled	Nepal														Malapit *et al.* 2019
WHZ	6–59 months	Pooled	Bangladesh														Holland & Rammohan 2019

NOTES: § indicates continuous version of indicator; * indicates gap measure. White shading indicates non-significant results; grey shading indicates not measured or included in A-WEAI measure.
DDS – dietary diversity score; HAZ – Height-for-age z-score; WAZ – Weight-for-age z-score; WHZ – Weight-for-height z-score; WLZ – weight for length z-score.

Negative; p<0.05	Negative; 0.10<p<0.05	Positive; 0.10<p<0.05	Positive; p<0.05

SOURCES:
Bonis-Profumo, G., Stacey, N. & Brimblecombe, J. 2021. Measuring women's empowerment in agriculture, food production, and child and maternal dietary diversity in Timor-Leste. *Food Policy*, 102: 102102. https://doi.org/10.1016/j.foodpol.2021.102102
Clement, F., Buisson, M.-C., Leder, S., Balasubramanya, S., Saikia, P., Bastakoti, R., Karki, E. & van Koppen, B. 2019. From women's empowerment to food security: Revisiting global discourses through a cross-country analysis. *Global Food Security*, 23: 160–172. https://doi.org/10.1016/j.gfs.2019.05.003
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Quisumbing, A., Sproule, K., Martinez, E.M. & Malapit, H. 2021. Do tradeoffs among dimensions of women's empowerment and nutrition outcomes exist? Evidence from six countries in Africa and Asia. *Food Policy*, 100: 102001. https://doi.org/10.1016/j.foodpol.2020.102001
Sraboni, E. & Quisumbing, A. 2018. Women's empowerment in agriculture and dietary quality across the life course: Evidence from Bangladesh. *Food Policy*, 81: 21–36. https://doi.org/10.1016/j.foodpol.2018.09.001
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Annex Table 2.2 WEAI & Women's dietary and nutrition outcomes

Indicator	Country	Aggregated			Production		Resources			Income	Leadership		Time allocation		Source
		Empowerment score	Whether empowered	Gender parity	Decisions	Autonomy	Asset ownership	Asset rights	Credit access and rights	Control over use of income	Group membership	Speaking in public	Workload	Leisure	
BMI	Bangladesh														Sraboni *et al.* 2014
BMI	Bangladesh, Cambodia, Ghana, Mozambique, Nepal and United Republic of Tanzania (pooled)				§	§						§	§	§	Quisumbing *et al.* 2021
BMI	Ghana														Malapit & Quisumbing 2015
DDS	Bangladesh							§							Sraboni & Quisumbing 2018
DDS	Bangladesh, Cambodia, Ghana, Nepal and United Republic of Tanzania (pooled)				§	§	§			§		§			Quisumbing *et al.* 2021
DDS	Ghana								§						Malapit & Quisumbing 2015
DDS	Kenya*						§		§	§	§				Kassie *et al.* 2020
DDS	Timor-Leste*								§						Bonis-Profumo *et al.* 2021
DDS	Mozambique														Onah *et al.* 2021
DDS	Rwanda														Onah *et al.* 2021
DDS	Malawi														Onah *et al.* 2021
DDS	Uganda														Onah *et al.* 2021
DDS	Zambia														Onah *et al.* 2021
Health status (BMI & DDS)	Ghana														Ross *et al.* 2015
No iron deficiency	India†														Gupta *et al.* 2019
No iron deficiency anaemia	India†														Gupta *et al.* 2019

Negative; p<0.05	Negative; 0.10<p<0.05	Positive; 0.10<p<0.05	Positive; p<0.05

NOTES: § indicates continuous version of indicator; † indicates modified-WEAI version. White shading indicates non-significant results; grey shading indicates not measured or included in A-WEAI measure.
BMI – body mass index; DDS – dietary diversity score.

SOURCES:
Bonis-Profumo, G., Stacey, N. & Brimblecombe, J. 2021. Measuring women's empowerment in agriculture, food production, and child and maternal dietary diversity in Timor-Leste. *Food Policy*, 102: 102102. https://doi.org/10.1016/j.foodpol.2021.102102
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Malapit, H. & Quisumbing, A. 2015. What dimensions of women's empowerment in agriculture matter for nutrition in Ghana? *Food Policy*, 52: 54–63. https://doi.org/10.1016/j.foodpol.2015.02.003
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Sraboni, E., Malapit, H., Quisumbing, A. & Ahmed, A.U. 2014. Women's empowerment in agriculture: What role for food security in Bangladesh? *World Development*, 61: 11–52. https://doi.org/10.1016/j.worlddev.2014.03.025

Annex Table 2.3 WEAI & men's dietary and nutrition outcomes

Indicator	Country	Aggregated			Production		Resources			Income	Leadership		Time allocation		Source
		Empowerment score	Whether empowered	Gender parity	Decisions	Autonomy	Asset ownership	Asset rights	Credit access and rights	Control over use of income	Group membership	Speaking in public	Workload	Leisure	
BMI	Bangladesh								§		§				Sraboni *et al.* 2014
DDS	Bangladesh							§			§				Sraboni & Quisumbing 2018

NOTES: § indicates continuous version of indicator. White shading indicates non-significant results; grey shading indicates not measured or included in A-WEAI measure.
BMI – body mass index; DDS – dietary diversity score.

SOURCES:

Sraboni, E. & Quisumbing, A. 2018. Women's empowerment in agriculture and dietary quality across the life course: Evidence from Bangladesh. *Food Policy*, 81: 21–36. https://doi.org/10.1016/j.foodpol.2018.09.001
Sraboni, E., Malapit, H., Quisumbing, A. & Ahmed, A.U. 2014. Women's empowerment in agriculture: What role for food security in Bangladesh? *World Development*, 61: 11–52. https://doi.org/10.1016/j.worlddev.2014.03.025

Annex Table 2.4 WEAI & household dietary and nutrition outcomes

Indicator	Country	Aggregated			Production		Resources			Income	Leadership		Time allocation		Source
		Empowerment score	Whether empowered	Gender parity	Decisions	Autonomy	Asset ownership	Asset rights	Credit access and rights	Control over use of income	Group membership	Speaking in public	Workload	Leisure	
DDS	Bangladesh														Holland & Rammohan 2019
DDS	Bangladesh						§				§				Sraboni *et al.* 2014
DDS	Bangladesh, Ghana, and United Republic of Tanzania (pooled)					§				§				§	Quisumbing *et al.* 2021
DDS	South Africa														Murugani & Thamaga-Chitja, 2019
Per capita calorie availability	Bangladesh						§	§			§				Sraboni *et al.* 2014
Share of cereals retained for feeding household	Nepal														Clement *et al.* 2019
Share of vegetables retained for feeding household	Nepal														Clement *et al.* 2019

NOTES: § indicates continuous version of indicator. White shading indicates non-significant results; grey shading indicates not measured or included in A-WEAI measure.
DDS – dietary diversity score.

SOURCES:

Clement, F., Buisson, M.-C., Leder, S., Balasubramanya, S., Saikia, P., Bastakoti, R., Karki, E. & van Koppen, B. 2019. From women's empowerment to food security: Revisiting global discourses through a cross-country analysis. *Global Food Security*, 23: 160–172. https://doi.org/10.1016/j.gfs.2019.05.0036 1
Holland, C. & Rammohan, A. 2019. Rural women's empowerment and children's food and nutrition security in Bangladesh. *World Development*, 124: 104648. https://doi.org/10.1016/j.worlddev.2019.104648
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Sraboni, E., Malapit, H., Quisumbing, A. & Ahmed, A.U. 2014. Women's empowerment in agriculture: What role for food security in Bangladesh? *World Development*, 61: 11–52. https://doi.org/10.1016/j.worlddev.2014.03.025

Annex 3. Methodology for estimating the benefits of closing the gender gaps in farm productivity and wages

This annex describes the methodology and the data sources used to estimate the potential impact of closing the gender gaps in farm productivity and wages in agrifood systems on gross domestic product (GDP) and food insecurity. The approach uses the estimations presented in Chapter 2 on the gender gaps in farm productivity and wage gaps in agriculture to measure the income gains from reducing those gaps and then simulates the potential impact on food insecurity using income elasticities derived from the food insecurity Tobit model described in Box 1.1 in Chapter 1.

The equations, assumptions and data sources presented below provide a conservative measure of the impacts because **we do not assess** the multiplier and spillover effects of reducing the gender income gaps on the whole economy. The estimations are conducted separately for countries aggregated by income groups. We show that closing the gaps in farm productivity and wages in agrifood systems would increase global GDP by at least 1 percent (or nearly USD 1 trillion). This would reduce global food insecurity by at least 2 percentage points, reducing the number of food-insecure people by 45 million.

Farm productivity gap model

GDP, following a simplified value-added approach, is defined as the sum of the value added of the agricultural sector, Y_A, and non-agricultural sectors, Y_N:

$$(1) \quad Y = Y_A + Y_N$$

Using this simple accounting definition, one can show that, as a result of an expansion of agricultural value added, GDP would grow according to the expression:

$$(2) \quad \frac{\Delta Y}{Y} = \alpha \frac{\Delta Y_A}{Y_A}$$

where the share $\alpha \equiv \frac{Y_A}{Y}$ defines the portion of national GDP that is due to agricultural production.

On the other hand, agricultural value added can be decomposed as the product of average agricultural yields per land area (Y_A/A) and the total area devoted to agricultural production, A:

$$(3) \quad Y_A = A \cdot \frac{Y_A}{A}$$

This total agricultural output can be separated into the output produced in male farms (Y_A^M) and the output produced in female farms (Y_A^F):

$$Y_A \equiv Y_A^M + Y_A^F$$

Using this accounting definition, total agricultural production can be decomposed using yields, according to the expression:

$$(4) \quad Y_A = A \cdot y^F \cdot \frac{A^F}{A} + A \cdot y^M \cdot \frac{A^M}{A}$$

where the yields $(y \equiv Y_A/A)$ are different for male (M) and female farms (F). Given that area under female farms and area under male farms must equal the total area, $A = A^M + A^F$, total agricultural production can be decomposed, using differentiated yields by gender as:

$$(5) \quad Y_A = A[\beta y^F + (1-\beta) y^M]$$

where β is the share of the total agricultural land area held by female farms, $\beta \equiv \frac{A^F}{A}$. Using expression (5), the impact on agricultural output of increasing yields in female farms is:

(6) $\frac{\Delta Y_A}{Y_A} = \frac{\beta \Delta y^F}{y}$

For simulation purposes we assume that the gender yield gap is closed and that female farm yields grow according to the expression:

(7) $\frac{\Delta y^F}{y} = \frac{y^M - y^F}{y} \approx \ln(y^M / y^F)$

Using expressions (2), (6) and (7), we can express the impact on national GDP of closing the gender yield gap as:

(8) $\frac{\Delta Y}{Y} = \alpha \cdot \beta \cdot \ln\left(\frac{y^M}{y^F}\right)$

The overall ratio of farmland managed by female farmers to male farmers, β, is obtained by multiplying the ratio of female- to male-managed agricultural holdings $\frac{H^F}{H^M}$, as reported by the agricultural censuses, with the ratio of the average farm size of female-managed farms to male-managed farms, $\frac{A^F}{A^M}$, estimated using household surveys and approximately equal to 0.69.

Annex Table 3.1 The impact of closing the farm productivity gender gap on gross domestic product and food insecurity

Income group	Agriculture share in GDP[1]	Female-managed holdings[2]	Female-managed land area	Gender yield gap[3]	Impact on agricultural value added (%)	Impact on GDP (%)	Income elasticity of food insecurity[4] (%)	Impact on food insecurity (%)
	α	$\frac{H^F}{H^M}$	β	$\ln\left(\frac{y^M}{y^F}\right)$		(1)		
LIC	0.2532	0.15848	0.10875	0.24	2.6	0.66	-1.23	-0.81
LMC	0.1547	0.18639	0.12790	0.24	3.1	0.47	-2.52	-1.20
UMC	0.0672	0.21713	0.14899	0.24	3.6	0.24	-2.12	-0.51
HIC	0.0129	0.19743	0.13547	0.24	3.3	0.04	-1.42	-0.06
WORLD	0.1018	0.19540	0.13408	0.24	3.2	0.33	-1.93	-0.63

NOTES: LIC – low-income countries; LMC – lower-middle-income countries; UMC – upper-middle-income countries; HIC – high-income countries

Wage gap model

GDP, following the income approach, can also be understood as national income distributed to workers (wL), returns to capital owners (rK) and taxes (T):

(9) $Y = wL + rK + T$

If only wages expand in the economy, then GDP would grow according to:

(10) $\frac{\Delta Y}{Y} = \gamma . \frac{\Delta w}{w}$

where γ is the share of labour income in national GDP, $\gamma \equiv \frac{wL}{Y}$.

The total labour bill can be decomposed into income earned by males (M) and that earned by females (F):

(11) $wL = w^M L^M + w^F L^F$

Using expressions (11) and (10), we can express the impact of raising female wages on national GDP as:

(12) $\frac{\Delta Y}{Y} = \gamma . \delta . \frac{\Delta w^F}{w}$

where δ is the share of female employment in total national employment, $\delta \equiv \frac{L^F}{L}$. Hence, the effect of eliminating the gender wage gap on national GDP would be obtained using expression (10) and the expected percentage wage gain: $\frac{\Delta w^F}{w} \approx \ln (w^M / w^F)$.

If we focus on raising female wages in agrifood systems (AFS) only, equation (12) becomes:

(13) $\frac{\Delta Y}{Y} = \gamma_{AFS} . \delta_{AFS} . \frac{\Delta w^F_{AFS}}{w_{AFS}}$

Given the data sources at hand, we have information on the share of female employment in agrifood systems, δ_{AFS} from Chapter 2, while in the absence of a precise measure of gender wage gaps in agrifood systems $\frac{\Delta w^F_{AFS}}{w_{AFS}}$, this gap is assumed to be equivalent to the wage gaps found in the agricultural sector. The contribution of the AFS wage bill to national GDP, $\gamma_{AFS} \equiv \frac{w_{AFS} \cdot L^{wage}_{AFS}}{Y}$, is a bit more difficult to obtain with the available data. Hence, we approximate it with the following formula:

(14) $\gamma_{AFS} \approx \gamma . \frac{L_{AFS}}{L} . \frac{L^{wage}_{AFS}}{L_{AFS}} = \frac{w \cdot L^{wage}_{AFS}}{Y}$

which implicitly assumes that AFS wages are the same as the wages in other sectors. Thus, the final equation to estimate the impact of closing the gender wage gaps in agrifood systems on GDP becomes:

(15) $\frac{\Delta Y}{Y} = \gamma . \frac{L_{AFS}}{L} . \frac{L^{wage}_{AFS}}{L_{AFS}} . \delta_{AFS} . \frac{\Delta w^F_{AFS}}{w_{AFS}}$

Annex Table 3.2 The impact of closing the gender gap in agrifood systems on gross domestic product and food insecurity

Income group	Labour income share in gross domestic product	Share of agrifood systems in total employment[5]	Share of wage workers in agrifood systems employment[6]	Female share in employment in agrifood systems[5]	Gender wage gap in agriculture[7]	Impact on GDP (%)	Total effect on GDP (%)	Income elasticity of food insecurity[4]	Impact on food insecurity (%)
	γ	$\frac{L_{AFS}}{L}$	$\frac{L_{AFS}^{wage}}{L_{AFS}}$	δ_{AFS}	$\frac{\Delta w_{AFS}^{F}}{w_{AFS}}$	(2)	(1) + (2)		(3)
LIC	0.41	0.684	0.11	0.494	0.65	0.99	1.65	−1.23	−2.03
LMC	0.48	0.526	0.26	0.371	0.14	0.34	0.82	−2.52	−2.06
UMC	0.49	0.300	0.42	0.356	0.17	0.37	0.61	−2.12	−1.30
HIC	0.57	0.118	0.72	0.423	0.16	0.33	0.37	−1.42	−0.52
World	0.53	0.379	0.37	0.385	0.23	0.66	0.98	−1.93	−1.90

NOTES: LIC – low-income countries; LMC – lower-middle-income countries; UMC – upper-middle-income countries; HIC – high-income countries

SOURCES (Annex Table 3.1 and 3.2):

1. Refers to 2021 data. World calculated as simple difference across countries. Source: World Development Indicators (https://databank.worldbank.org/source/world-development-indicators), Last Updated: 12/22/2022.
2. Share of holdings operated by civil persons, female. Source: **FAO.** 2023. Structural data from agricultural censuses. In: *Food and Agriculture Organization of the United Nations, FAOSTAT*. Rome. Cited 22 March 2023. https://www.fao.org/faostat/en/#data/WCAD
3. **Anríquez, G., Quiñonez, F. & Foster, W.** (forthcoming). *Levelling the farm fields, A cross-country study of the determinants of gender-based yield gaps.* Background paper for *The status of women in agrifood systems*, 2023. Rome, FAO. This study measures farm productivity gap drawing on national survey data from 11 countries in Africa, Latin America and the Caribbean and Asia: Bangladesh Household Income and Expenditure Survey 2010; Ethiopian Socioeconomic Survey 2018/19; Ghana Living Standards Survey 2012/13; Guatemala Encuesta Nacional de Condiciones de Vida 2014; Cambodia Socio Economic Survey 2009; Malawi Integrated Household Survey 2017; Nicaragua Encuesta de Medición de Nivel de Vida 2014; Pakistan Social And Living Standards, Measurement Survey 2013/14; Peru Encuesta Nacional de Hogares 2019; Uganda National Panel Survey 2016; Vietnam Household Living Standard Survey 2010.
4. The income elasticities of food insecurity are estimated using the Tobit food insecurity model described in **Mane, E., Macchioni, G.A., Cafiero, C. & Viviani, S.** (forthcoming). *Why are women more food insecure than men? Exploring socioeconomic drivers and the role of COVID-19 in widening the global gender gap.* Background paper for *The status of women in agrifood systems*, 2023. rome, FAO. The model uses food insecurity estimates, income and other individual-level variables to estimate income elasticities for 121 countries during the period 2014–2021. Then, simple country averages are implemented to calculate income elasticities for each income group.
5. Own computations using 2019 data of the dataset constructed by **Davis, B., Mane, E., Gurbuzer, L.Y., Caivano, G., Piedrahita, N., Schneider, K., Azhar, N. *et al.*** 2023. *Estimating global and country-level employment in agrifood systems*. FAO Statistics Working Paper Series, No. 23-34. Rome, FAO. https://doi.org/10.4060/cc4337en
6. The share was computed based on data from ILO Harmonized Microdata (https://ilostat.ilo.org/). These were used to compute the share of wage workers in agrifood systems in each country (number of wage workers in agrifood systems/number of total persons working in agrifood systems). Data were available for 101 countries.
7. The wage gap estimate was obtained from **Benali, M., Slavchevska, V., Davis, B., Piedrahita, N., Sitko, N., Nico, G. & Azzari, C.** (forthcoming). *Gender pay gaps among agriculture and non-agriculture wage workers: a cross-country examination*. Background paper for *The status of women in agrifood systems*, 2023. Rome, FAO.

Annex 4. Methodology for estimating the benefits of reaching small-scale producers with development interventions that focus on womens's empowerment.

The International Fund for Agricultural Development (IFAD) measures the impacts of the interventions it finances by systematically conducting impact assessments on a sample of projects selected from those closing during each replenishment cycle. Between 2019 and 2021, IFAD conducted such impact assessments on 24 out of 96 projects that closed during that period, which corresponds to the eleventh Replenishment of IFAD's Resources.[1] The sample covers USD 3.1 billion in IFAD investments and represents an overall investment of USD 7.1 billion (including cofinancing).[2]

The methodology used consists of *ex post* quasi-experimental impact assessments and allows the estimation of the impacts achieved by projects on key indicators of interest.

Meta-analysis is then conducted on the estimated impacts of the 24 projects to estimate mean effect sizes.[3] Once it is established that the sample of projects is not statistically significantly different from the universe of projects that closed during the same period, the mean effect sizes represent attributable impacts of interventions. They can be interpreted as percentage changes in the indicators estimated for the beneficiaries (or treatment group) over the comparison group. Once the mean effect sizes are estimated, a projection exercise is implemented to compute aggregate impacts of the entire portfolio of projects that have closed in the reference period.

Following IFAD's approach, we conduct an exercise to estimate results obtainable in the case in which all projects had a women's empowerment focus. To this purpose we identify treatment and comparison groups by distinguishing two types of projects in our sample: projects that improve women's decision-making power over the use of income and/or resources versus projects that do not contribute to such improvement.[4] Once this classification is done, we replicate the meta-analysis and projection, which, as reported in IFAD (2022),[2] is based on one important assumption related to the distribution of impacts. It is assumed that the estimated impacts are normally distributed across the entire population of beneficiaries and have the same means and standard deviations as the estimated impacts (i.e. mean effect sizes). As a next step we calculate the total number of beneficiaries who have achieved results above the following targets:

- At least 10 percent increase in income;
- At least 20 percent increase in production;
- At least 20 percent improved market access;
- At least 20 percent improved resilience;
- At least 10 percent more food secure;
- At least 10 percent with improved nutrition (diversified diet).

We: 1) randomly draw a normal distribution of impacts (with an associated mean and standard deviation as empirically estimated from the meta-analysis) for 112 million people, which corresponds to the total number of beneficiaries reached by the 96 IFAD-funded projects; and 2) count the number of people that have experienced an increase that exceeds the thresholds for key outcome indicators. The results are summarized in Annex Table 4.1.

Annex Table 4.1 Projection results for projects with a women's empowerment focus versus standard projects with no women's empowerment focus.

	No women's empowerment focus projects		Women-empowering focus projects		Difference in projection between projects withwomen's empowerment focus and others	Predicted increase in percentage points of people that achieved results beyond threshold
Indicators	*Projected number of people*	*Percentage of total beneficiaries*	*Projected number of people*	*Percentage of total beneficiaries*		
FIES	53 133 009	47.49	59 239 076	52.95	6 106 067	5.46
HDDS	976 061	0.87	11 375 355	10.17	10 399 294	9.30
Income	68 774 573	61.48	73 880 395	66.04	5 105 822	4.56
Market access	65 039 137	58.14	60 476 286	54.06	-4 562 851	-4.08
Productive capacity	63 061 939	56.37	56 564 368	50.56	-6 497 571	-5.81
Recovery from shocks	33 371 174	29.83	54 661 170	48.86	21 289 996	19.03

NOTES: FIES – Food Insecurity Experience Scale; HDDS – Household Dietary Diversity Score. The numbers in Annex Table 4.1 refer to the number of people that achieved improvement in indicators beyond the thresholds listed above.

These results suggest that with respect to income, food insecurity measured by FIES, household dietary diversity measured by HDDS and recovery from shocks, every person – men and women – benefits in a significant fashion from projects where women enjoy greater decision-making power. On the other hand, and in line with other findings, agricultural productivity and access to markets is lower for people in the group of non-women's empowering projects. This is a reasonable result given that most of the successful gains resulted from agribusiness opportunities, fishery and/or livestock and dairy projects rather than from primary agricultural production.

These findings also suggest that interventions that are comprehensive and multifocused on improving households' benefits while placing emphasis on the role played by women are more successful in many domains, although there is still scope for improvements. For example, productivity and access to market require more focused investments towards production-oriented goals.

Donors already investing in agriculture and rural development projects can thus enhance people's livelihoods by focusing on approaches that improve women's well-being by enhancing their empowerment while simultaneously increasing incomes, dietary diversity, food security and resilience for households.

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