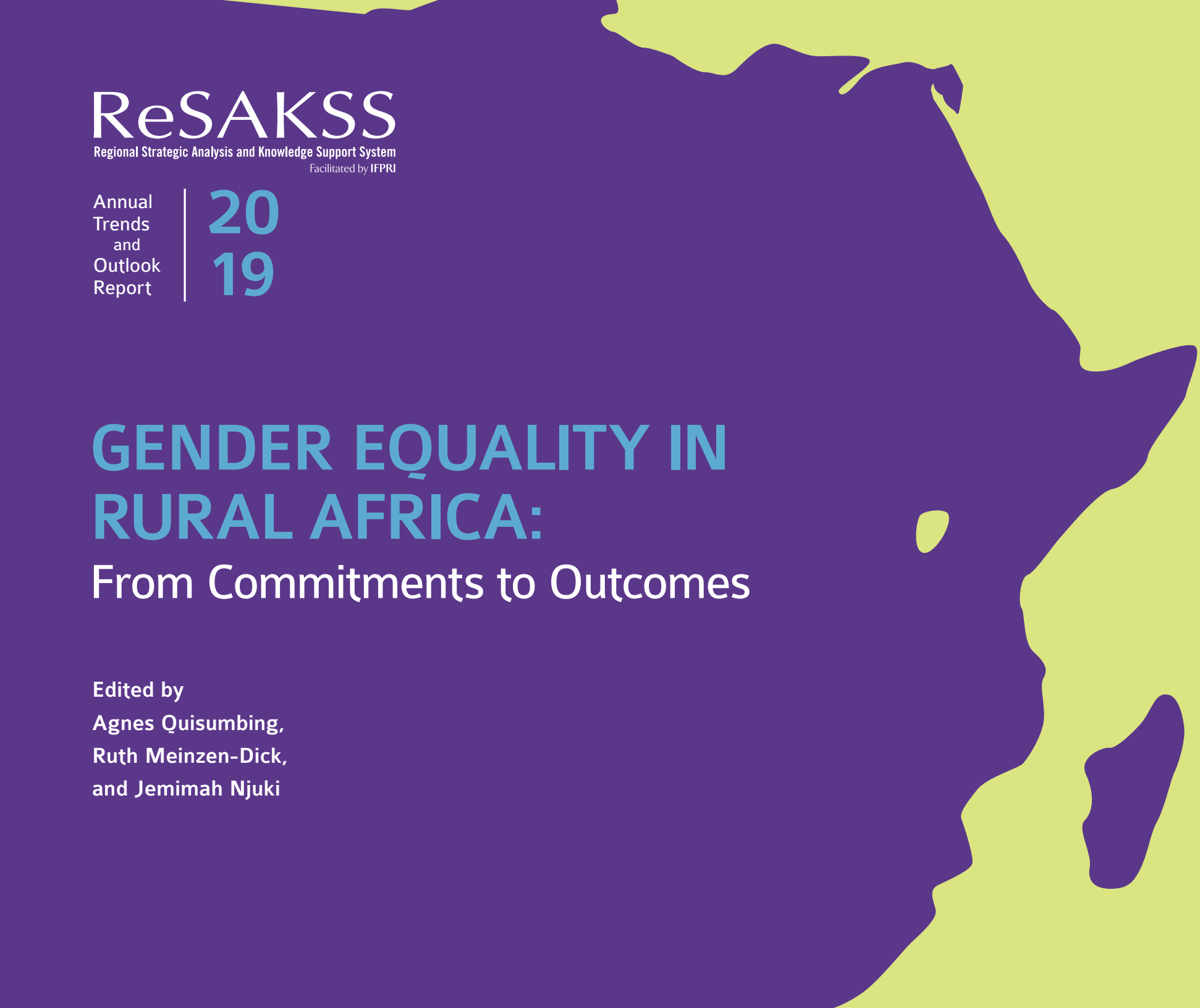
ReSAKSS
Regional Strategic Analysis and Knowledge Support System
Facilitated by IFPRI

Annual Trends and Outlook Report 2019

GENDER EQUALITY IN RURAL AFRICA:

From Commitments to Outcomes

Edited by
Agnes Quisumbing,
Ruth Meinzen-Dick,
and Jemimah Njuki



Editors
Agnes Quisumbing, Ruth Meinzen-Dick, and Jemimah Njuki

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Abbreviations

AATS	Africa Agriculture Transformation Scorecard
AfDB	African Development Bank
ASTI	Agricultural Science and Technology Indicators
ATOR	Annual Trends and Outlook Report
AU	African Union
AUC	African Union Commission
AUDA	African Union Development Agency
BR	Biennial Review
eBR	eBiennial Review
CAADP	Comprehensive Africa Agriculture Development Programme
CCT	conditional cash transfer
CET	common external tariff
CEN-SAD	Community of Sahel-Saharan States
COMESA	Common Market for Eastern and Southern Africa
COREM	Community Resilience in Mali
CSO	civil society organization
DFID	UK Department for International Development
DHS	Demographic and Health Survey
EAC	East African Community
ECCAS	Economic Community of Central African States
ECOWAS	Economic Community of West African States
EIAR	Ethiopian Institute of Agricultural Research
FAO	Food and Agriculture Organization of the United Nations
GAAP	Gender, Agriculture, and Assets Project
GALS	Gender Action Learning System
GBV	gender-based violence
GCAN	Gender, Climate Change, and Nutrition Integration Initiative
GDP	gross domestic product
GEM	Global Entrepreneurship Monitor
GINA	Integrated Framework for Gender Analysis in Nutrition Policy
GPI	Gender Parity Index
GrOW	Growth and Economic Opportunities for Women
IFPRI	International Food Policy Research Institute
IGAD	Intergovernmental Authority for Development
ILO	International Labour Organization
IMF	International Monetary Fund
IPV	intimate partner violence
JSR	Agriculture Joint Sector Review
LGAF	Land Governance Assessment Framework
MFI	microfinance institutions
NAIP	National Agriculture Investment Plan
NEPAD	New Partnership for Africa's Development
NEET	not in employment, education, or training
NNPSP	National Nutrition Policy and Strategic Plan
ODW	Open Data Watch
OECD	Organisation for Economic Co-operation and Development
PPP	public private partnership
RAIP	Regional Agriculture Investment Plan
PSSN	Productive Social Safety Net
REC	Regional Economic Community
ReSAKSS	Regional Strategic Analysis and Knowledge Support System
RF	Results Framework
SADC	Southern African Development Community
SAM	social accounting matrices
SDGs	Sustainable Development Goals
SNAP	Social Norms Analysis Plot
SSA	Africa south of the Sahara
SSN	social safety nets
UCT	unconditional cash transfer
UMA	Arab Maghreb Union
UN	United Nations
UNCTAD	United Nations Conference on Trade and Development
VCD	value chain development
VSLA	village savings and loan association
WARIDI	Water Resources Integration Development Initiative
WASH	water, sanitation, and hygiene
WEAI	Women's Empowerment in Agriculture Index
WEAI4VC	Women's Empowerment in Agriculture for Value Chains
WHO	World Health Organization

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Foreword

The Malabo Declaration aims to bring about shared prosperity and improved livelihoods by elevating the prominence of Africa's agriculture sector. Yet its benefits of promoting economic growth, poverty reduction, and more resilient livelihoods may not be equally distributed between men and women in view of the gender imbalances that pervade much of African agriculture. Maintaining agriculture's high place on Africa's development agenda requires applying a gender lens to the Malabo vision.

The African Union and its partners have increasingly recognized that gender equality belongs at the center of its development strategies, not merely for "women's issues" but in all strategies for growth and a peaceful, prosperous society. The emphasis on equality urges a paradigm shift—an invitation to view all elements of development and transformation from the perspectives of both men and women. We know that women and men respond differently to climate change, have disparate technology access and adoption preferences, and have unequal access to information. Achieving gender equality requires making changes that affect both men and women, such as increasing women's legal rights, changing gender social norms, investing in women's leadership, and fostering male champions for gender equality.

Gender equality has not yet been fully realized in African agricultural development and food systems. The *2019 Annual Trends and Outlook Report* (ATOR) makes a strong case for the potential societal gains that could be realized by increasing women's control of productive assets, promoting female leadership, and tackling institutional barriers and social norms that impact women negatively. Gender gaps impose undue costs on households and society—ranging from productivity losses, compromised resilience, and diminished health status to lost entrepreneurial opportunities. Seizing gender equality opportunities requires reshaping economic, legal, and social systems to better serve women, as well as recognizing the role that men and conceptions of masculinity play in social transformation.

The *2019 ATOR* challenges the assumption that transformative change requires transforming women. Rather, it reframes the issue to ask how we will transform our agriculture and food system to better serve women. The authors remind us that all aspects of agriculture—assets, shocks, livelihood strategies, control of income, investment, and well-being outcomes—are gendered. The ubiquity of this gendered reality demands that we more competently measure well-being indicators, develop quality data systems disaggregated by sex, and integrate a measure of women's empowerment into national statistical systems.

The United Nations Sustainable Development Goals single out gender equality as a goal in its own right, and the African Union's Agenda 2063 aggressively aspires to fully unleash African women's potential in all social, political, and economic spheres. It is clear this cannot be achieved without imbuing a gendered lens into all policies, programs, and evaluations of Africa's agricultural transformation—from the CAADP Biennial Review to Regional and National Agriculture Investment Plans. As the authors demonstrate, this is a far greater task than we imagined. But it is now a more possible task, knowing the challenges and opportunities that lie before us.

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Executive Summary

The Malabo Declaration of 2014 outlines seven commitments to enhance livelihoods through inclusive agricultural growth. Gender-sensitive policy and programming have an integral role to play in fostering inclusive agricultural growth to meet these commitments. Gender differences arise from the socially determined relationships between men and women, and the roles that men and women play in society show similarities and differences across classes and societies. Ending hunger, reducing poverty, boosting intra-African trade, and increasing resilience to climate and other risks will require examining how gender differences affect our ability to achieve these outcomes. This means paying attention to both women and men, and not just to women alone. Additionally, ensuring accountability for reaching and maintaining the goals outlined in the Malabo Declaration will require data systems that examine gendered gaps in processes and outcomes.

The 2019 Annual Trends and Outlook Report applies a gender lens to several issues that must be addressed to fully achieve the goals outlined by the Malabo Declaration. It uses a gender, agriculture, and assets framework that examines intersections between gender and (1) the context and institutions within which rural people operate; (2) the natural resources that they depend on for agriculture, sources of vulnerability, and resilience to shocks; (3) assets; and (4) livelihood strategies. The framework recognizes that each component is gendered: men and women experience their context in different ways and the context impacts them differently; access to, ownership, and control over resources and assets can be individual or joint between men and women; and men and women use these resources to pursue different and sometimes joint livelihood opportunities.

Setting the context

Gender norms and women's participation in leadership profoundly shape the context for promoting gender equality. Gender norms are the set of culturally determined expectations about what it means to be a man or a woman in a particular society. These norms are increasingly recognized as important, invisible barriers undermining women's economic empowerment and preventing women from acting on opportunities and policies. Shifting social norms can be as influential as monetary incentives or policy prescriptions in influencing behavior at scale. Although some categories of gender norms are common in the agriculture sector, all social norms are highly localized; formative research is vital to identifying both the specific social norm that is harmful and the desired alternative social norm. Norms affect different facets of agriculture—who can own and who cannot own different resources, who can do certain things and who cannot, and who makes decisions and who cannot. This in turn affects the performance of the agriculture sector. In trying to bring about normative change, it is important to recognize that although some norms can shift quickly, a social norms approach requires deliberate investments of time and resources, community mobilization, and engagement with community leaders and policymakers.

Gender equality and effective leadership are intertwined. Effective leadership cannot be achieved without considering gender equality and inclusion of different groups in leadership. An analysis of the current trends in political governance and agriculture reveals persistent gender gaps in political representation, in agricultural research and innovation systems, and in other positions of influence in many African countries. This gender gap in leadership persists because of the failure to systematically integrate a gender perspective in governance mechanisms, to promote strong and accountable leadership at all levels to address disparities in human capital and sociocultural constraints, and to tackle institutional deficiencies. Promoting gender equality in leadership will involve: (1) creating an enabling environment to provide a level playing field for all, especially women and youth; (2) removing systemic barriers that constrain women from taking on leadership positions; (3) collecting and documenting evidence of transformative leadership and how it is changing society; and (4) making leaders in both research and policymaking accountable for gender equality.

Assets

Women continue to have less secure land tenure than men and, despite recent gender-friendly regulatory, administrative, and institutional land reforms in several countries, security is decreasing in some places. Factors contributing to the erosion of women's land rights include increasing population pressure, commodification of land, and commercialization of agriculture, which ultimately result in increasing land values. The ongoing social, demographic, and economic changes within Africa, coupled with emerging land markets, make it imperative to reassess customary

land tenure systems and to demand that government interventions be context- and gender-specific. For example, systematic land tenure regularization programs should prioritize areas with higher and/or increasing land values, while areas with relatively land-abundant settings and lower land values may do well to leave a functional customary tenure system alone. Additionally, explicit provisions for women's land rights and legal literacy programs must complement land-rights protection programs to maximize gender parity outcomes and ensure they are sustainable.

Financial inclusion can enhance women's economic prospects and allow them to better manage their lives. Women, however, often face gender-based supply-and-demand-side-related barriers that limit their access to financial services and products or the benefits from their use. A gender gap in access and use of financial services and products persists. This gap is significant because people require a variety of financial products and services to fulfil their diverse daily activities, whether these are savings, credit, insurance or transactions or any combination thereof. While the growth of "fintech" solutions has potential to close these gaps, barriers including women's lack of access to technologies such as mobile phones, lower literacy levels, and norms that limit women's mobility and ownership of assets can worsen the gender gap in financial inclusion. Strategies for increasing women's financial services have tended to focus on fixing women, or on making women "bankable." Instead, a more gender-transformative and sustainable approach is needed to ensure that financial institutions and the services they provide are "womenable"—meaning responsive to the needs, priorities, and realities of women. A gender-transformative financial inclusion system should have three interrelated outcomes: (1) enhanced women's empowerment; (2) strengthened relationships and improved negotiation dynamics between people at home, in the workplace, and in markets and between financial institutions and clients; and (3) enabling policies, regulatory frameworks, and sociocultural norms.

Agricultural productivity

Gender gaps in resources and restrictive social norms affect women's and men's livelihoods. Although women are heavily involved in agriculture and agriculture-related livelihoods across Africa, their productivity is lower than men's. Most studies that compare women's and men's productivity compare land productivity on plots managed separately by men and women, and do not recognize that men and women are both involved in production and management in the majority of agricultural households worldwide. Studies that have attempted to decompose the gender gap in productivity have found that, even after controlling for women's poorer access to resources, the gap in returns to resources remains. The gender productivity gap literature points to women's more limited access to labor, to the lower value of crops grown by women, and to the fact that women are less likely to use other inputs, particularly fertilizer and machinery. Potential solutions to close this gap involve enhancing women's use of technologies that save their time on and off the farm; improving women's access to hired labor, particularly men's labor; supporting women in growing higher-value cash crops; increasing women's participation in agricultural producer groups; improving women's access to markets; increasing women's use of other inputs by packaging fertilizer in small amounts, using innovative delivery mechanisms such as free delivery services, information-and-communication-based nudges using mobile phones, and cash and in-kind transfers for input purchases; and reducing women's risk through social protection schemes and crop insurance.

While increasing productivity on the plots that women manage is important, it should not be the only goal. Because many of Africa's farmers are poor and live in marginalized areas, agricultural interventions should be designed to reduce poverty and to increase not only the value of output per unit of land but also the value of output per unit of labor. This may mean farmers becoming engaged in off-farm activities with higher returns, especially in areas with poor-quality land. Finally, efforts to increase agricultural productivity need to be consistent with the goal of gender equality and women's empowerment. Their design must consider potential impacts on women's workload. They must ensure that interventions empower women with additional access to information, resources, and the control over outputs. Most importantly, they must recognize women's contributions by involving them in their programming and ensuring that women benefit from the increased productivity—which, in turn links to issues of financial inclusion.

Biofortified crops

Gender affects rural households' production, marketing, and consumption decisions, thereby affecting who in the household gains nutritional and economic benefits from biofortified crops. Biofortification is the process of increasing the micronutrient content of staple crops through breeding, in order to improve the micronutrient intake, and hence the micronutrient deficiency status, of populations. Understanding the role of gender along the biofortification value chain is critical for optimizing adoption and consumption outcomes. In Zambia, a qualitative monitoring survey conducted on vitamin A maize highlighted that men generally have better access to information than women. Gender-sensitive

information dissemination can better reach women by using appropriate information channels for messaging, such as informal social networks, clinics, and radio. In Rwanda, another qualitative study on iron bean adoption confirmed that women were responsible for growing food crops, including beans, whereas men were responsible for growing cash crops. As iron beans become more desirable in the market, it will be important for women to maintain control over that crop, rather than cede it to men as it becomes more commercially viable. Development and delivery activities for biofortified crops should always factor in men and women farmers' preferences and how these affect adoption and household consumption versus sales decisions. Promotional activities should consider how the role of gender in decision-making, preferences, and level of influence can affect adoption and consumption.

Value chains

Attention to gender issues in agricultural value chain development is now widely accepted; both research and guidance materials cover a wide variety of crops and livestock. Although the focus still largely addresses women as producers, there is growing attention to women in other parts of the chain, as processors, traders, exporters, and consumers. New research is especially needed to expand understanding of the value chains of previously neglected crops (such as indigenous vegetables, roots, tubers, and bananas) and new biofortified crops; to confirm "what works" to support women agri-entrepreneurs in starting and expanding their businesses and making them sustainable; to identify more options for young women to engage in value chains, especially as wage earners and entrepreneurs; and to address gender-based violence in agribusiness. Inclusive agricultural value chains can simultaneously benefit women, their families, and the larger economy, if our growing knowledge is used to intentionally promote gender equality and women's empowerment.

Youth

Young African women's and men's transitions to adulthood are changing because of ongoing structural and rural transformation and national and regional demographic changes. Given the relative size of the young population in Africa—the "youth bulge"—there is increased interest in livelihood interventions for African rural youth. To optimize their potential, it is important to address the unique barriers that young women and young men experience. Young rural women, compared to men, are transitioning to adulthood with fewer resources, such as education and land, and their family responsibilities limit school and paid employment opportunities. Patterns of economic change may also be working against African rural youth. At higher levels of structural and rural transformation, landownership and current employment are lower, and more youth are not in employment, education, or training; these outcomes are even less favorable among young women. Interventions that seek to improve youth livelihoods may have mixed results if they fail to consider the productive and reproductive responsibilities of young women and men; livelihoods-focused programs should target productive and domestic roles. Programs that target marriage, fertility, and parenthood transitions usually target young women and ignore young men. Recognizing the influence of productive and reproductive roles for both rural young women and men will be important for developing sustainable livelihood opportunities.

Trade

Trade liberalization has the potential to stimulate economic growth and increase employment, however, its gendered impacts are not fully understood. How this plays out in practice is illustrated by a case study of the gendered implications of trade in Niger. Trade is vital to economic sectors in Niger due to the country's landlocked nature. Niger joined the Economic Community of West African States (ECOWAS) in 2013 and implemented its common external tariff (CET) in 2015. Analysis shows that the implementation of the CET is likely to be pro-growth and welfare-improving, thus improving employment and incomes for both men and women compared with the baseline. However, these benefits are not equally distributed between men and women. Although women's economic activities are more exposed to regional and international trade than men's activities, women are generally less educated, less involved in associations and business networks, and have less access to productive resources. These underlying gender inequalities limit women's ability to seize the opportunities offered by greater regional trade integration. Gender disparities thus result in the misallocation of resources in the economy and lead to lost economic opportunities for Niger. The country's gross domestic product (GDP) is 17 percent lower under the prevailing gender inequalities than it would be without gender-based barriers. The case of Niger shows that closing the gender gap in access to productive resources, such as agricultural land and credit, is not only ethical but would also result in economic gains for women and men.

Shocks and resilience

Numerous external shocks affect men and women farmers. Resilience is the ability to draw upon a set of capacities to deal with these disturbances (shocks

and stressors) before, during, and after a disturbance, in a way that maintains or improves well-being outcomes such as food security or adequate nutrition. Capacities, preferences, and needs related to resilience differ between groups of people, especially when considering gendered and social differences. Programs and policies that address context- and gender-specific constraints and opportunities may be better able to build resilience by tapping into the skills and contributions of women and marginalized groups. Gender and resilience dynamics are highly complex and context-specific, and interventions need to have processes in place to effectively integrate these issues in specific settings. They must draw from assessments of gender differences in exposure and sensitivity to shocks and stressors, resilience capacities, preferences, responses, and well-being outcomes. Once local constraints are identified, approaches are available for gender-responsive resilience programming, including supporting key livelihood activities of both women and men, and promoting inclusive decision-making at the household and community levels.

Social safety nets are a core strategy in the African continent and worldwide for addressing poverty and vulnerability, responding to shocks, increasing productivity, and investing in human capital. Despite high-level commitments made by global stakeholders to advancing gender equity through social safety nets, and the important role of this shared objective, significant evidence gaps around the effects and potential benefits of social safety nets still exist. Evidence shows that social safety nets in Africa can decrease intimate partner violence, increase psychological well-being for women, and increase economic standing, and that changes in labor force participation tend to be minimal. However, there is less evidence that social safety nets lead to women's empowerment, though studies are limited by measurement concerns. There is some evidence that social safety nets improve women's dietary diversity, but very limited evidence for impacts on women's food security or nutritional biomarkers. Two notable gaps in the evidence are evaluations of non-cash modalities and evaluations of key program design activities. To move from promise to the successful implementation of gender-transformative social safety nets in Africa, we must invest in generation of higher quality evidence to demonstrate impacts on women's well-being, as well as to inform how impacts differ depending on local underlying gender inequalities.

Income and control over income

Agricultural production is the most important sector in most African countries, and as the demand for various foods changes, the relative importance of crops within the household can lead to a shift in who—women or men—controls these crops and incomes. Women's control over income has important implications for their own empowerment, and for reinvestment in crops and value chains that are important for women, food and nutrition security outcomes, and poverty reduction. The overall structure of agricultural production is changing, and while these shifts provide tremendous opportunities for women, if the processes of change are not managed well, women could lose out as men position themselves to serve new markets and engage in more technology-driven agricultural production methods. Analysis of data from Ghana, Mozambique, and Rwanda reveals significant heterogeneity in the relationship between women's control over income and their control over other resources, including land and livestock. Increasing ownership and control over these resources could have positive impacts on their control over income, but policymakers must consider how these patterns may vary across the characteristics of women themselves. The approaches that governments, development partners, and others use to transform agriculture can be designed to better integrate women into agricultural value chains, help them maintain control over income generated, and lead to greater benefits for women and their households. A few strategies to increase women's control have been identified. Examples include using novel technologies such as biometric cards and mobile-phone based accounts, innovations in farm-contracting that may directly contract women or jointly contract spouses, and interventions that trigger norm change (such as building women's confidence, engaging men for gender equality, and education campaigns).

Well-being and empowerment

Well-designed nutrition policies can simultaneously enhance gender equality and nutrition outcomes—but they must consider men as well as women. By considering men's role in maternal and child nutrition, policies can facilitate cooperation between women and men to improve outcomes. Policies that overlook men's role miss opportunities to free up women's time to take care of their own needs and engage in productive and leisure activities—essential elements in women's empowerment. Traditional leaders should also be considered as agents of change. As custodians of culture, they can influence community members to establish more equitable practices that ultimately enhance nutrition outcomes. However, commitment is not enough. In Malawi, for example, the strong national commitment to involving men in maternal and child health has been overshadowed by the limited capacity of policymakers to integrate gender into policies and programs. Overall,

policymakers must partner with gender experts to strengthen gender mainstreaming at all policy levels.

The Women's Empowerment in Agriculture Index (WEAI) provides a means to measure and track changes in women's empowerment over time and across countries, regions, and population subgroups. The WEAI is an aggregate index, reported at the country or regional level, based on individual-level data collected by interviewing men and women within the same households. The index assesses women's and men's empowerment across 5 domains and 10 indicators, and by comparing men's and women's aggregate scores, provides a measure of gender parity. Aside from assessing overall empowerment, the WEAI can be used to identify sources of disempowerment, which can then help to guide policies to close empowerment gaps. In all seven African countries for which we have data, women are more disempowered than men. Excessive workload emerges as an important contributor to disempowerment for men and women alike, with women more constrained in this indicator than men. Limited access to and control of credit likewise is a constraint for both women and men, and the extent of disempowerment with respect to this indicator is also greater for women. There is some variability across regions and across countries within regions, reflecting differences in country conditions and gender norms. Using the WEAI can help identify major sources of disempowerment for women and men and can guide policies and investments in programs to address key areas of disempowerment.

Data

An overarching need in the agriculture sector is for better gender data. Rural women and girls in Africa south of the Sahara are a key demographic to target in the aspiration to leave no one behind, but data on many aspects of their lives are lacking. Better data on rural African women and girls are needed to (1) account for all of women's work, (2) help improve women's productivity and food security and nutrition, and (3) better understand and more effectively tackle poverty. While the development sector has benefited from recent methodological advances, these advances have yet to fully capture the complexity of rural women's lives. New measurement approaches much take account of the fact that women's economic and social roles, especially in rural economies in developing countries, are interdependent and women's individual experiences are difficult to separate from that of the household. Sex disaggregation of key indicators remains a major challenge. An assessment of current data availability for 15 African countries found that economic measures of assets, income, and work remain challenging to disaggregate by sex. Additionally, social empowerment indicators are not well-reported at the international level. While food security and nutrition indicators overall performed best, their level of sex disaggregation varied significantly among countries. Stronger partnerships between data producers and policymakers could facilitate the development of nuanced policy that advances gender equality.

Development targets

Trends assessed using the Comprehensive Africa Agriculture Development Programme (CAADP) Results Framework show that Africa has continued to make good progress on key growth targets and development outcomes although the rate has slowed. Considering the slowing progress, accelerated efforts are needed to transform Africa's agricultural sector. This calls for substantially raising agricultural productivity growth and investments in the sector, including for market access and trade infrastructure. In addition, fast-tracking progress and the achievement of desired outcomes will require reinforcing the adoption of regular, comprehensive, and inclusive CAADP mutual accountability processes to facilitate evidence-based review and dialogue and to hold stakeholders accountable for their commitments to the sector.

Concluding remarks

Momentum and commitment are growing within Africa and globally toward the goals of women's empowerment and gender equality. Recognition is growing that gender gaps are imposing costs and leading to missed opportunities. The conceptual framework employed in this report highlights the interconnections between the themes discussed above and gender, which helps identify places for effective interventions. Nevertheless, challenging entrenched gender norms to achieve gender equality is not easy. To address the need for evidence and data for monitoring progress, the chapters in this book highlight ideas for future work in research, policy, and program design and implementation. Actions to redress gender gaps are needed across the spectrum from household to community, national, and regional levels, where gender inequities persist. Creating a context in which gender equity can take root will require countries to adopt gender-equitable laws and implement programs to deliver services to women as well as men. Achieving the goals of gender equity and empowerment will also require commitment to the continental agreements such as the Malabo Declaration, which can reinforce such positive changes for society as a whole.

CHAPTER 1

Introduction

Agnes Quisumbing, Ruth Meinzen-Dick, and Jemimah Njuki

Fifteen years ago, in July 2004, the heads of state and government of member states of the African Union signed a Solemn Declaration to reaffirm their commitment to gender equality in Africa (African Union 2004). Ten years later, the Malabo Declaration on Accelerated Agricultural Growth and Transformation for Shared Prosperity and Improved Livelihoods set forth new goals for a more targeted approach to achieve the agricultural vision for the continent, which is shared prosperity and improved livelihoods (African Union 2014b). In a series of seven commitments, that declaration reconfirmed that agriculture is a critical sector for African economic growth and poverty reduction and should remain high on the development agenda of the continent. The Malabo Declaration affirmed the African Union's resolve to ensure, through "deliberate and targeted public support," that all segments of the African population, "women, the youth, and other disadvantaged sectors," must "participate and directly benefit from the growth and transformation opportunities to improve their lives and livelihoods." The commitment to halving poverty by 2025 through inclusive agricultural growth and transformation states that governments will support and facilitate preferential entry and participation for women and youth in gainful and attractive agribusiness opportunities (African Union 2014b). However, this is the only commitment to mention women explicitly, and as stated, it focuses on women as a single category, not in relation to men, their families, and communities.

While firmly committed to gender equality, the Solemn Declaration is grounded in a concern for women's reproductive health in light of the HIV/AIDS epidemic, women's human rights, and women's freedom from gender-based violence, discrimination, and sexual exploitation. The Declaration nevertheless advocates for strengthening women's land, property, and inheritance rights, as well as literacy campaigns and education for all. The African Union's Agenda 2063 lays out an aspiration for "an Africa where development is people-driven, unleashing the potential of its women and youth" (African Union 2014a, 2). The details lay out specific aspirations: "The African woman will be fully empowered in all spheres, with equal social, political and economic rights, including the rights to own and inherit property, sign a contract, register and manage a business. Rural women will have access to productive assets, including land, credit, inputs and financial services" (African Union 2014a, 9).

For the Malabo commitments and the African Union's commitments and aspirations for gender equality to be aligned with each other, a gender lens must be applied to assess progress and identify gaps toward achieving both gender equality and the Malabo Declaration goals, so that women are recognized as productive members of society and partners in agricultural transformation and poverty reduction. This requires explicit attention to the productive as well as reproductive roles of women and men, and how gender norms and institutional structures affect access to resources, livelihood strategies, and well-being outcomes. In addition, monitoring progress toward these commitments also requires that sex-disaggregated data on those outcomes exist: what is measured matters. In 2018, for example, African countries produced the first-ever Comprehensive Africa Agriculture Development Programme (CAADP) Biennial Review (BR) report along with the Africa Agriculture Transformation Scorecard. The CAADP BR reports the progress countries are making on the seven Malabo Declaration commitments. While the BR was a big success, many countries did not do well on reporting on gender-related indicators due to lack of data—and it is unclear whether progress has been made or not. Out of 43 indicators included in the reporting guidelines, only three women- and/or gender-related indicators are included: the proportion of men and women engaged in agriculture with access to financial services, the proportion of women empowered in agriculture, and the growth rate of minimum dietary diversity for women (AUC 2017). The indicator used for women's empowerment, although supposed to be based on the five domains of empowerment in the Women's Empowerment in Agriculture Index (WEAI) (Alkire et al. 2013), in practice used only one indicator, the percentage of rural women with access to productive assets in agriculture.[1] Even indicators for child nutrition, which are gathered from individual boys and girls, were reported without any sex disaggregation, preventing countries from discerning whether there are gender differences in nutritional outcomes and identifying strategies that better target the different sexes.

1 The CAADP BR (2017) classifies women with access to productive assets in agriculture as empowered, but this is only one indicator in the full WEAI.

How can commitments to gender[2] equality and to agricultural growth and transformation be consistent? First, we identify which among the Malabo commitments require using a gender lens for them to be satisfied. We then present a conceptual framework for this report, which examines the intersections between gender and (1) context and institutions; (2) natural resource management, vulnerability, and resilience to climate shocks; (3) assets; and (4) livelihoods, to assess how these can interact to achieve development goals such as poverty reduction, zero hunger, gender equality, and women's empowerment. We show how the Malabo commitments to zero hunger, poverty reduction, intraregional trade, and resilience fit into this framework. We then summarize the chapters and case studies in this report.

The Malabo Declaration Commitments

The Malabo Declaration sets forth seven commitments to achieve shared prosperity and improved livelihoods through inclusive agricultural growth (Box 1.1). Although all the commitments lay a foundation for policy and program implementation, they do not pay explicit attention to gender. However, among the seven commitments, realizing those to end hunger, reduce poverty, boost intra-African trade, and increase resilience to climate and other risks will not be possible to achieve without taking gender into account. Moreover, adhering to commitments on accountability will not be possible without data systems that provide information on gender gaps in processes and outcomes.

Conceptual Framework: Engendering Pathways from the Malabo Commitments to Outcomes

To identify pathways from commitments to outcomes toward the goals of agricultural transformation, poverty reduction, and gender equality and to set the stage for the detailed chapters and case studies in this report, we adapt the conceptual framework of the Gender, Agriculture, and Assets Project (GAAP; see Meinzen-Dick et al. 2011). The GAAP conceptual framework, inspired by the Sustainable Livelihoods Framework (Bebbington 1999; DFID 2001), takes the gendered nature of use, ownership, and control of assets as a starting point and links assets, livelihoods, and well-being outcomes (Figure 1.1). Using assets (and resources, broadly defined to include natural, physical, financial, social, and human capital) as a starting point recognizes that for Africa's agricultural transformation to happen, men and women must have the necessary assets and resources to make a living from and transform the sector. This framework shows the links between assets and well-being while emphasizing that gender relations influence the constraints and opportunities that occur in each pathway. In the framework, each component is gendered, including the overall context of ecological, social, economic, and political factors. Within that broad context, each component is shaded to remind us that we need to consider the assets, resources, and opportunities that men and women have or use separately and those that they have and use jointly. Women and men often have separate assets, activities, and consumption and savings or investment strategies, but households can also have joint assets, activities, and consumption strategies, among others. Agricultural transformation can affect whole families jointly but can also have differential impacts on men and women.

The context includes a broad range of ecological, social, economic, and political factors. Even if individuals are living in the same household, men and women typically experience this context differently based on their roles and responsibilities and other social, economic, and cultural factors. In some cases, the gendered nature of the context is explicit. For example, cultural norms may define roles and responsibilities for men and women in agriculture and even in their families, and in some cases men and women are treated differently by laws or legal provisions. For example, if men are automatically designated as head of the household, and agricultural extension or other resources are directed to the head of the household, it may disadvantage women, with serious implications for agriculture productivity and food and nutrition security. In some societies, women may traditionally be deemed responsible for cultivating food crops for their families' consumption, while men may be responsible for cultivating other crops, including cash crops, important to household welfare. In other societies, the gender division of labor by crop may be flexible, and all over the continent, the gender division of labor may be changing (Doss and Morris 2001).

2 The guidelines for the 2020 Biennial Review call for reporting sex-disaggregated data on access to credit, secure land rights, child nutritional status, and women with minimum dietary diversity, as well as the five domains of empowerment: the proportion of women that make decisions about agricultural production, productive resources, control over income, community leadership, and time. How many countries are able to report on these remains to be seen.

BOX 1.1—COMMITMENTS IN THE MALABO DECLARATION

Here is a summary of the seven commitments in the Malabo Declaration:

1. Recommitment to the principles and values of the Comprehensive Africa Agriculture Development Programme (CAADP) process, which include the pursuit of agriculture-led growth as a main strategy to achieve targets on food and nutrition security and shared prosperity; the exploitation of regional complementarities and cooperation to boost growth; the application of principles of evidence-based planning, policy efficiency, dialogue, review, and accountability, shared by all New Partnership for Africa's Development (NEPAD) programs; the use of partnerships and alliances including farmers, agribusiness, and civil society; and supporting implementation at the country level and regional coordination and harmonization.
2. Enhancing investment finance, both public and private, in agriculture, including allocating at least 10 percent of public expenditure to agriculture; creating and enhancing policy and institutional conditions and support systems to facilitate private investment in agriculture; and fast-tracking the operationalization of the African Investment Bank to mobilize and disburse investment finance for priority agriculture investment projects.
3. Ending hunger in Africa by 2025, to include (1) accelerating agricultural growth to double agricultural productivity by creating policy and institutional conditions and support systems to facilitate sustainable production and access to quality and affordable inputs, supply of knowledge, information, and skills to users, efficient and effective water management systems, and reliable and affordable mechanization and energy sources; (2) halving current levels of postharvest losses; (3) integrating measures for increased agricultural productivity through social protection initiatives focusing on vulnerable groups; and (4) improving nutritional status, specifically the elimination of child undernutrition in Africa with a view to bringing down stunting to 10 percent and underweight to 5 percent by 2025.
4. Halving poverty by 2025 through inclusive agricultural growth and transformation, by ensuring that the agricultural growth and transformation process is inclusive and contributes at least 50 percent to the overall poverty reduction target; creating and enhancing the necessary appropriate policy, institutional, and budgetary support and conditions to sustain annual agricultural GDP growth of at least 6 percent; establishing and/or strengthening inclusive public–private partnerships for at least five priority agricultural commodity value chains with strong linkage to smallholder agriculture; creating job opportunities for at least 30 percent of the youth in agricultural value chains; and supporting and facilitating preferential entry and participation for women and youth in gainful and attractive agribusiness opportunities.
5. Boosting intra-African trade in commodities and services by tripling (by 2025) intra-African trade in agricultural commodities and services; creating and enhancing policies and institutions to simplify and formalize current trade practices; fast-tracking the establishment of a Continental Free Trade Area and transitioning to a continental Common External Tariff scheme; increasing and facilitating investment in markets and trade infrastructure; promoting and strengthening platforms for multi-actor integration; and strengthening and streamlining the coordination mechanisms to promote an African common position on international agricultural trade and partnership agreements.
6. Enhancing resilience of livelihoods and production systems to climate variability and other related risks, by ensuring that by 2025 at least 30 percent of agricultural households are resilient to climate- and weather-related risks; enhancing investments for resilience-building initiatives; and mainstreaming resilience and risk management in policies, strategies, and investment plans.
7. Mutual accountability to actions and results, through a systematic review process, using the CAADP Results Framework, including conducting a biennial Agricultural Review Process that involves tracking, monitoring, and reporting on progress; fostering alignment, harmonization, and coordination among multisectoral and multi-institutional platforms for peer review, mutual learning, and mutual accountability; and strengthening national and regional capacities for knowledge and data generation and management that support evidence-based planning, implementation, monitoring, and evaluation.

Source: African Union (2014b).

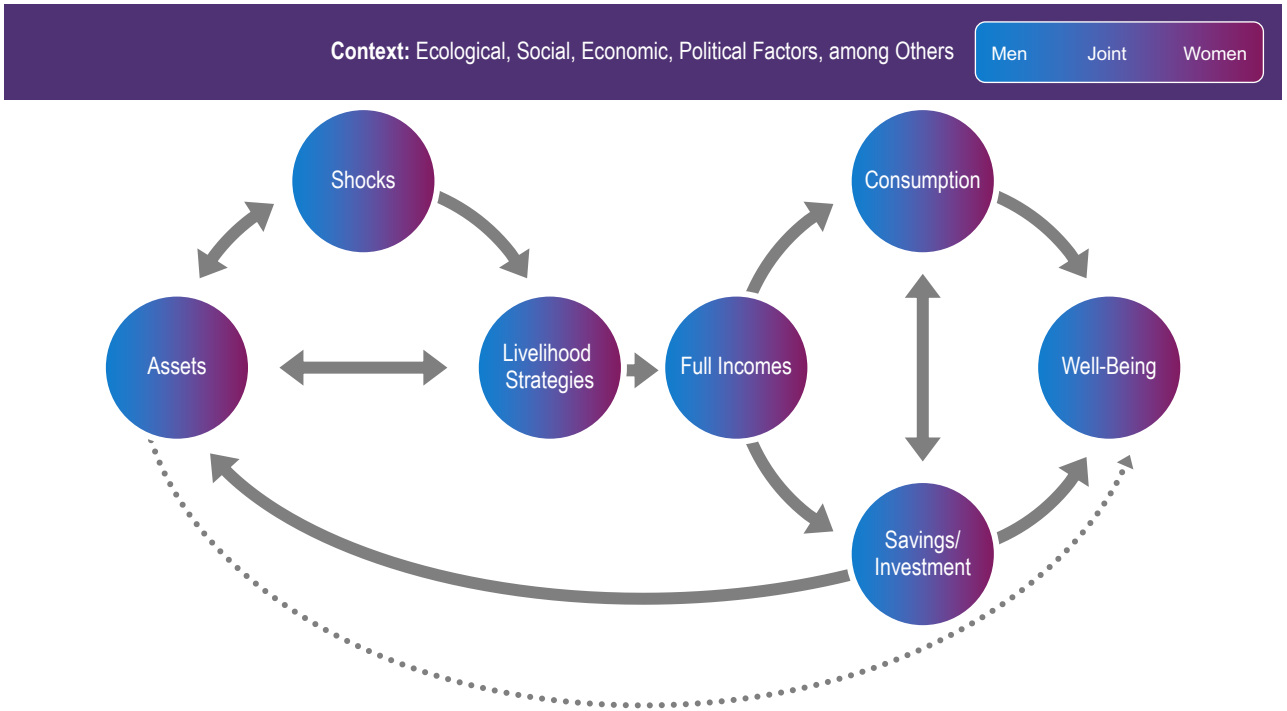
The links between culture, context, and gender roles cannot be taken for granted, as discussed in Chapter 2, on social norms. Culture and context also set the stage for concepts of leadership. Chapter 3 on leadership analyzes current data on women's leadership, both political and in the agriculture sector, where women continue to lag behind men. The underrepresentation of women in many spheres can be attributed to a combination of factors, including differences in human capital, sociocultural, and institutional factors. A policy environment and legal institutions that do not discriminate against people based on sex, race, or ethnicity are important parts of the context to deliver on the Malabo commitments.

In addition to cultural and legal institutions already mentioned, the "institutions of exchange" are especially important, as they condition the ways through which livelihood strategies are translated into incomes. Markets are the most obvious institutions of exchange, but social reciprocity norms (such as mutual help groups for labor or norms of sharing food) also play a critical role. These institutions include not only markets for agricultural production but also labor markets, in which women's participation tends to be more limited than men's. The commitment to support women's and youth's preferential entry into agribusiness markets, as well as the availability of intra-African trade opportunities to women, are ways by which the Malabo commitments may create opportunities to participate in, and benefit from, the institutions of exchange. Trade liberalization, however, does not necessarily benefit women and men equally, unless underlying structural inequalities in access to resources as well as sociocultural norms, legal barriers, and socioeconomic disadvantages are addressed, as suggested by the findings in Chapter 8.

Assets

Access to and control over assets are key determinants of individual agency. The shading in this and all other components of the diagram reflects that within a household there are assets that are held by women, some that are held by men, and others that are owned and/or utilized jointly. The distribution of assets in a particular household will influence how the household and its members use their assets to further their livelihoods and improve well-being. In this report, we focus on two types of assets: land and financial capital. The Malabo Declaration does not directly address gender differences in the ownership, control, and use of assets, but the Solemn Declaration aims to "actively promote the implementation of legislation to guarantee women's land, property and inheritance rights,

FIGURE 1.1—SCHEMATIC REPRESENTATION OF A GENDERED LIVELIHOOD CONCEPTUAL FRAMEWORK



Source: Adapted from Meinzen-Dick et al. (2011).

particularly to housing" (African Union 2004, 3). Gender issues regarding the use, ownership, and control over these assets and resources are explored in Chapter 4 on land and Chapter 5 on financial inclusion.

Livelihood Strategies

The livelihood strategies represent decisions that individuals and households make about how to invest their assets in productive and reproductive activities to generate expected returns. The Malabo commitment most relevant in shaping livelihood opportunities is the commitment to halve hunger through inclusive agricultural growth and transformation. As noted above, this is the only commitment that explicitly mentions women and youth as target groups.

The livelihood strategies available in a particular area will depend on many of the contextual factors, such as agroecology and market access, which may be heavily influenced by gender roles. Whether men and women will be able to pursue the available strategies will further depend on what assets those livelihood strategies require, and on how "household assets" are allocated across different household members to enable them to engage in specific livelihood strategies. In some cases, men and women pursue different livelihood strategies; however, they may also be involved in joint activities such as "family farms" or family businesses. The diagram also shows a reverse arrow from livelihood strategies to assets, to capture how some assets like social or natural capital can be built or depleted in the process of carrying out livelihood strategies.

In this report, we look at the following issues related to gender and livelihoods: (1) agricultural productivity—Case Study 3; (2) adoption and diffusion of biofortified crop varieties—Case Study 4; (3) value chains—Chapter 6; (4) employment, with a focus on youth—Chapter 7; and (5) trade—Chapter 8.

Shocks and Resilience

Actual returns to different activities may also be affected by shocks (negative or positive). Weather, disease, violent conflicts, theft, and even sudden policy changes represent potential shocks. Shocks such as weather shocks or widespread food price increases can also affect a wide area at a given time or could be specific to the household (death or illness of an income earner) or an individual (divorce or abandonment). Because negative shocks can have long-term consequences for livelihoods, increasing attention has been paid to resilience, defined as "the ability of people, households, communities, countries and systems to mitigate, adapt to and recover from shocks and stresses in a manner that reduces chronic vulnerability and facilitates inclusive growth" (USAID 2012, 5).

Resilience or vulnerability to shocks can be gendered because (1) men and women experience shocks differently depending on their different roles and responsibilities; (2) men and women have a differential ability to withstand shocks, owing to differential access to means to cope with shocks, such as irrigation, insurance, or social protection; and (3) men's and women's assets, as well as their savings and investments, are often used differently to respond to shocks.

In addition to shocks affecting communities and households, there are also shocks that specifically affect women and lead to the loss of their assets and threaten their livelihood strategies. For example, divorce or the death of a husband can lead to women losing their assets especially in cases where marriage is governed under customary laws that do not protect women's rights to property (Peterman 2010).

Both the importance of resilience to shocks and the need to protect the most vulnerable are recognized by the Malabo commitments to enhance resilience of livelihoods and production systems and to end hunger, which advocates for social protection initiatives focusing on vulnerable groups. However, the Malabo Declaration does not explicitly address women's vulnerability to marital dissolution—one of the major types of shocks and sources of vulnerability for women. The Solemn Declaration mentions women's land, property, and inheritance rights, but it does not mention women's rights to property in case of marital dissolution. However, the Protocol to the African Charter on Human and People's Rights on the Rights of Women in Africa notes that "in case of separation, divorce, or annulment of marriage, women and men shall have the right to an equitable sharing of the joint property deriving from the marriage (African Union 2003, 9). The reform of the Family Code in Ethiopia, which guaranteed equal rights to spouses upon marital dissolution (including both widowhood and divorce), has been associated with improvements in women's well-being and schooling outcomes for girls in rural Ethiopia (Kumar and Quisumbing 2012). In this report we pay attention to resilience in agricultural production in Chapter 9, as well as to gendered aspects of social protection programs in Chapter 10.

Full Income

The livelihood strategies and shocks result in a household's full income, which is defined as the total net value of products and services produced by the household members or transferred to members, some of which are consumed directly and others sold for cash or traded for other goods or services. The concept of full income also includes leisure time of household members. Because it is more

likely for women's time to be devoted to nonmarket or reproductive activities—including growing food consumed at home, caring for children, and caring for the ill—measures of income that do not consider the value of time will tend to underestimate women's contribution.

Household members differ in their contributions to household income, and they also differ in their control over how that income is used. A large body of evidence shows that in many parts of the world men and women spend money differently: women are more likely to spend the income they control on food, healthcare, and education of their children (Haddad, Hoddinott, and Alderman 1997; Yoong, Rabinovich, and Diepeveen 2012). Yet many efforts to increase market orientation of smallholder agricultural production have led to women's loss of control over income from crops that they traditionally produced, especially as such crops' cultivation becomes more profitable. This is one aspect of the commitment to increase women's opportunity to enter agribusiness that needs to be monitored closely, as the chapters on control of income (Chapter 11) and value chains (Chapter 6) will show. We focus on control of income rather than control of spending because the former is broader, including how income is allocated between consumption and savings/investment (below), rather than decision making about how expenditures are allocated.

Savings and Investment

Full income is either consumed or invested. Savings are the balance of income that is not consumed. How savings are invested will affect asset accumulation (or loss) for the future. If kept in a bank account, savings would increase financial capital; if used to purchase equipment or build a house, savings builds physical capital; if used to buy land, plant a tree, or install irrigation (water control), savings increase natural capital; and if used for school fees, savings help to build human capital.

The Malabo commitment to enhance investment finance should not neglect the mobilization of savings from individual men and women. Efforts to promote financial inclusion should attempt to reach smallholder farmers, and because access to financial services tends to be more difficult for women, gender-sensitive ways to increase women's access to financial services must be explored.

Although much economic theory dichotomizes between consumption and savings, in fact the dividing line is not so clear. Certain types of consumption can also increase intangible assets of human and social capital. Consumption of healthy food, clean water, adequate shelter, and a clean environment improves nutrition and health outcomes for adults and children, thereby improving human capital. A large body of evidence shows that investments in early childhood nutrition—and their opposite, malnutrition in early childhood—have implications for outcomes later in life, and even across generations (Alderman, Hoddinott, and Kinsey 2006; Hoddinott et al. 2013). The link between women's control of resources and better human capital outcomes is well established (Yoong, Rabinovich, and Diepeveen 2012), but the role of men in achieving good nutrition of families is less explored. To that end, Case Study 5 analyzes how men can be brought on board as partners in achieving better nutrition in Malawi's Nutrition Policy.

Empowerment and Well-Being

Our framework shows how gender and assets influence well-being of households and individuals. Many outcomes related to well-being that are of interest to policy makers and development donors are linked to the results of consumption (education, food security, nutrition, health), though with clear links to investment and asset accumulation because achieving these well-being outcomes requires the ability to maintain and build up assets over time. Other aspects of well-being, such as self-esteem, one's status within the household and society, agency, and empowerment, are less easy to measure but are also important, and are increasingly being considered as development goals in themselves.

One such goal is expanding individuals' incomes and consumption choices, but also empowering them—expanding their ability to make strategic life choices, particularly in contexts where this ability had been denied to them (Kabeer 1999).[3] Being empowered has also been shown to positively affect the health and nutrition of children and their mothers (Smith et al. 2003; Sraboni et al. 2014; Malapit et al. 2015; Malapit and Quisumbing 2015), so these goals are interrelated. Empowerment also contributes to improved agricultural productivity, which can improve income and other outcomes in the future (Diiro et al. 2018;

3 There is a growing literature on the measurement of empowerment (see Kabeer 1999; Alsop et al. 2005), including recent efforts to measure women's empowerment in agriculture (Alkire et al. 2013; Malapit et al. 2019).

Wouterse 2017, 2019). We are beginning to measure women's empowerment in a systematic way that allows comparisons across time, as discussed in Case Study 6.

This gendered conceptual framework helps to identify key empowerment outcomes and analyze how the commitments made in the Malabo Declaration help to achieve them; however, to track and monitor progress in attaining these empowerment outcomes, data for monitoring and evaluation need to be gendered, as discussed in Chapter 12.

Outline of the Report

This report draws heavily upon the growing body of data, analyses, and documented policy and practice on gender differences in African agriculture. It includes both chapters and case studies from researchers and practitioners. The following is an overview of the issues and themes taken up in the remaining sections of this report.

Setting the Context

Chapters 2 and 3 set the stage for the report. Chapter 2 on social norms addresses the issues of definition of norms and the links between norms and women's empowerment and how these play out in the agriculture sector. A key feature of this chapter is the details on how norms define what is acceptable or not acceptable for women and how this defines women's lives. The chapter includes a case study illustrating how social norms vary in patrilineal and matrilineal areas of Malawi (Case Study 1) and another on engaging men and boys to change harmful social norms as well as how to measure norm change (Case Study 2). Chapter 3, on leadership, focuses on how to build transformative female leadership. It starts with definitions and key features of transformational leadership, the current status of women's leadership and politics, and how that is mirrored in the agriculture sector. It describes the barriers that women face and some of the strategies to close the gap in leadership.

Assets and Capital

The section on assets and capital focuses on two important assets: land and financial capital.

Chapter 4 on land provides a broad view of land policies in 10 African countries with regard to women's land rights. But policies are not sufficient, without implementation, so the chapter reviews aspects of land administration that affect gender differences in land rights in those 10 countries. It then examines evidence from four of those countries on factors that affect women's land rights in practice, noting that demographic, social, and economic changes such as increased youth population, population density, agricultural commercialization, and land market vibrancy are all associated with lower women's land rights, while land registration can have mixed effects on gender equity in land rights.

Chapter 5 focuses on gender transformative financial inclusion. The chapter starts with a description of the current status of women's financial inclusion and the gender gaps using key indicators of financial inclusion such as the ownership of a bank or mobile account. The chapter looks at the demand and supply barriers to women's financial inclusion and the extent to which technology is being used to address some of these gaps. The chapter recommends a paradigm shift in financial inclusion to change the way financial institutions enable women to transform their lives by becoming "womenable" (rather than by making women "bankable") and addressing some of the critical barriers to women's financial inclusion and economic empowerment. The chapter uses the financial inclusion value chain from market research to product development, delivery, and impact measurement to show how gender considerations can be more adequately integrated.

Livelihoods

The livelihoods section discusses pathways to improving livelihoods and the gendered nature of these pathways. Case Study 3 focuses on the gender gaps in agricultural productivity and the causes of these gaps, especially the differential access to resources by men and women, and women's lower probability of engaging in high-value crops and livestock. The authors document some of the challenges of measuring the gender gap in agricultural productivity and propose policy actions for closing the gap.

Case Study 4 describes the role of gender in the adoption and utilization of biofortified crops and then takes a value chain approach from input supplies to consumption to illustrate the integration of gendered ways in which these nodes of the value chain are structured. The chapter ends by proposing a gendered biofortification value chain that can be applicable to other technologies as well.

Chapter 6 delves more deeply into how value chains can be made more inclusive. It outlines the benefits of building inclusive market systems, of which gender-equitable agricultural value chains are an important component,

summarizes recent work on women's entrepreneurship in agriculture, and examines how value chain interventions may be categorized as those that seek to reach, benefit, or empower women.

Chapter 7 focuses on employment of young women and men in rural Africa. The chapter starts by detailing the processes of structural and rural transformation across the continent, which are occurring even as the youth population bulges. The authors describe the barriers that young women face, including fewer opportunities in certain careers and social norms that leave women with the majority of the care work. They further analyze how different young men and women fare in the job market, depending on their marital status and the presence of children in their households. The chapter ends with a review of programs targeted to African youth and suggests that a better understanding of the gendered transitions to adulthood is important for more effective youth programming.

The last chapter in this section (Chapter 8) focuses on gender and trade. The chapter reviews the theoretical and empirical evidence on gender and trade, and then presents data on trade and gendered economic activities in Niger. It assesses the ex ante gendered economic impact in Niger of a customs union scheme enacted in 2013 to strengthen and accelerate regional integration among the 15 members of the Economic Community of West African States. The findings suggest that trade may not improve gender equality unless it addresses underlying gender inequalities in access to productive resources, such as agricultural land and other physical capital. Neither will trade improve women's employment prospects if they are concentrated in sectors that are less exposed to trade.

Shocks and Resilience

This section has two chapters. Chapter 9 focuses on resilience to climate and other shocks. It provides a framework for systematically identifying gender differences from risk exposure to outcomes of productivity and nutrition. It shows how resilience capacities—absorptive, adaptive, and transformative—are affected by gender differences in assets. This, in turn, shapes decision making and responses, resulting in different outcomes at different levels. In addition to examples illustrating how this applies in practice, the chapter provides guiding questions to help decision makers design and implement programs that address gender in resilience strategies.

Chapter 10 focuses on gender dimensions of social protection. It reviews the earlier literature on how social protection initiatives targeted women to achieve their programmatic outcomes as well as more recent approaches that use social protection as a means to achieve gender equality and women's empowerment. The chapter outlines some of the ways in which social protection can be used to achieve gender equality, including addressing gender in program design, developing payment and transfer mechanisms that work for women, and measuring gender equality and women's empowerment outcomes from social protection programs.

Income and Control of Income

Chapter 11 discusses why women's control of income is important for their own empowerment, for other development outcomes such as child nutrition and education, and for investments in agriculture. The authors discuss current evidence and gaps in data on women's control of income including from data collected to compute the WEAI and the factors that influence women's control of income. These include characteristics of markets such as types of and distance to markets, the types of crops and livestock enterprises, and intrahousehold dynamics.

Well-Being and Empowerment

Many programs and policies target women in order to achieve their development objectives. Yet expecting gender norms to change without involving men is unrealistic. Focusing development programs, particularly those on child health and nutrition, on women alone not only reinforces gender stereotypes about women as caregivers but may also increase women's time burdens. It may also be a missed opportunity to involve men. Case Study 5, on the role of men in Malawi's nutrition policy, examines the opportunities and challenges for men to play a supportive and complementary role in nutrition.

Numerous internationally comparable indicators of well-being, such as health and nutritional status, exist at the individual level. In contrast, only relatively recently have internationally validated measures of women's empowerment been developed. Previous attempts to measure empowerment have used questions on household decision making, such as those from the Demographic and Health Surveys, which, although multicountry in scope and internationally validated, have tended to focus on decision making in the reproductive rather than productive sphere. A more recent, internationally validated measure, the WEAI, captures women's empowerment in the productive

sphere (Alkire et al. 2013). Case Study 6 provides an overview of women's (and men's) empowerment in Africa, based on surveys conducted as part of the Feed the Future Initiative (Malapit et al. 2014). It finds that lack of access to and decision-making power over credit, workload, and lack of control over income are the most important contributors to the disempowerment of African women farmers. Identifying the most important contributors to disempowerment can be used to guide the design and implementation of policies and programs to empower women and achieve gender equality.

Data

Evidence-based findings would be impossible to generate without reliable, sex-disaggregated data. Chapter 12 discusses both the need for and availability of gender data on rural women. Building on the themes of this report, the authors particularly focus on assets, income, and work; social and political empowerment; and food security and nutrition. The interlinkage between women's economic and social roles and the need to understand women both as individuals and as members of households create challenges for collection of adequate data to measure women's contributions. However, recent advances in measurement approaches, along with the adoption of common international standards for collection and reporting of sex-disaggregated data and data on women's empowerment, offer encouraging signs that future policies will be able to build on more accurate diagnosis and monitoring of gender issues.

In line with the role of the Annual Trends and Outlook Report (ATOR) as the official monitoring and evaluation report for CAADP, Chapter 13 monitors progress on CAADP indicators outlined in the CAADP Results Framework 2015–2025. The chapter also reviews progress in the CAADP implementation process across the continent including the formulation of second-generation national agriculture investment plans (NAIPs) and preparation of the second BR report and the Africa Agriculture Transformation Scorecard (AATS) to be presented during the African Union summit of heads of state and government in January 2020.

The Way Forward

The concluding chapter (14) points out promising avenues for future work in research, policy, and program design and implementation. It briefly revisits the evidence presented in the other chapters on how gender gaps in assets, livelihood strategies, and control over income have negative effects on households, communities, and nations. The conceptual framework of this report shows the connections among these elements, and the implications for interventions. For example, women's assets can contribute to resilience, while insurance and social protection can affect livelihood strategies. Analysis of these relationships can lead to more effective interventions; the concluding chapter reprises the recommendations and key insights from the individual chapters for more effective programs and policy.

CHAPTER 2

Gender and Social Norms in Agriculture: A Review

Emily Hillenbrand and Maureen Miruka

There is a growing literature on gender norms—the unwritten, informal social rules that determine socially acceptable behavior for men and women—and how they shape the possibilities for women's empowerment. Research on social norms is moving beyond public health into other sectors, including agriculture, and there is growing interest in incorporating a social norms lens in policy models and strategies for women's empowerment. In this chapter we review the current thinking around the gender dimensions of social norms and offer some examples of how gender norms influence and shape some of the key indicators of women's empowerment in the agriculture sector. There is much to learn about how norms operate, how to change them, and how interventions can most strategically build on this understanding, particularly in agriculture. We first outline how different disciplines have approached social norms within the larger framework of behavior-change models and how norms, as categories of collective beliefs, differ from and relate to attitudes and practices. We discuss how feminists frame gender norms in the goal of gender equality and present some of the growing literature from women's economic empowerment programs on how entrenched gender norms broadly can hinder women's economic gains. We discuss five common domains of gender norms that are applicable to agricultural programming across multiple contexts, including norms that shape skills, capacities, and self-confidence; norms that govern productive and reproductive work; norms that shape access and control over inputs, land, and productive resources; and norms that can limit women's intrahousehold voice and influence. We also emphasize the context-specificity and inherent fluidity of gender norms, which shift in response to new opportunities as well as over the life cycle of men and women. Presenting some global evidence about what seems to work to support transformation of harmful norms, we conclude with reflections on the complexities, precautions, and ethical dimensions of integrating a social norms approach into women's empowerment in agriculture programming.

Understanding Social Norms: Definitions and Disciplinary Approaches

Social norms theory has entered the development discourse relatively recently, predominantly in the field of public health and in public policy interventions in developed countries—for example, to popularize safe driving, safe drinking, or recycling practices. Social norms fall into a broader literature of behavior-change theories, which examine the determinants and influences of people's actions at individual, interpersonal, and societal levels. While development interventions have often focused on individual behavior and one-way behavior change (theories of diffusion of innovation, for example, focus on one lead farmer influencing another), behavior-change research from a variety of disciplines recognizes that a cluster of social and nonsocial factors determine one's actions (both one-off and habitual). In early behavior-change theories, rational choice theory prevailed, and interventions focused on influencing individual behaviors. Drawing from economic theories and influencing many information/education/communication (IEC) campaigns, rational choice theory is based on assumptions that humans make rational decisions to maximize their well-being, and therefore, if they are informed of a superior practice (or seed or product) or if they understand the harms or costs of an existing practice (smoking, gender-based violence), they will be persuaded to make different actions and decisions. Social psychology and behavioral economics research, however, showed that people often take mental shortcuts and engage in "irrational" rationalizations that, for example, allow them to downplay future consequences or reject immediate loss or risk at the expense of future benefit (Mayne et al. 2018, 5). Social psychology theories also acknowledge that humans are influenced by their social environment and peer groups, and that effective behavior-change strategies must also understand and address the social factors (including norms, role models, institutional cultures) that influence behaviors.

So, what are social norms? Social norms are a category of *collective belief* referring to the social environment—specifically, the *expectations* one has about a peer or reference group, or an agreed-upon expectation and rule by which a given group guides the behavior of its members in any particular situation. The DFID Guidance Note "Shifting Social Norms to Tackle Violence Against Women and Girls" defines a social norm as "a rule of behavior that people in a group conform to because they believe: a) most other people in the group **do** conform to it (i.e. it is typical behavior) AND b) most other people in the group believe they **ought to** conform to it (i.e. it is appropriate behaviour)" (cited in Alexander-Scott, Bell, and Holden 2016, 9). In sum, social norms refer to the desire for social approval or risk of sanction from one's peer group, which appears to have a greater influence on behavioral outcomes than individual attitudes and internal beliefs alone (Mayne et al. 2018).

> "Beliefs about what others do, and what others think we should do, within some reference group, maintained by social approval and disapproval, guide a person's action in her social setting. If a harmful practice is social in nature, programs that concentrate on the education of the individual or increase in the availability of alternatives, or provide external incentives, may not be enough to change the social practice. Programs may be more effective if they support the revision of social expectations of people throughout the community of interest" (Mackie et al. 2015, 5).

The terms *attitudes, beliefs,* and *norms* are sometimes used interchangeably in development practice, but these terms must be used with precision for intervention efficacy. *Attitudes* describes one's personal beliefs and convictions, which may necessarily adhere to individual *behaviors*—the ways in which individuals conduct themselves, whether in one-off actions and decisions or habitual practices and patterns of action. While many interventions (particularly in health or adoption of technologies) have focused on *individual* adoption of behaviors, a *social norms* perspective shifts the unit of analysis to examine the broader "social ways of doing things," or *social* behaviors of a particular group. This recognizes that people's identity as group members is also important, and it places an emphasis on relational social processes, as opposed to individual cognitive processes (Mackie et al. 2015; Reynolds, Subašić, and Tindall 2015).

The lens of social norms examines multidirectional influences on *group* behavior, showing how beliefs about what one's peer reference group thinks and does, and potential social sanctions of that reference group, motivate and influence individuals' behavior and actions (Mackie et al. 2015). *Social norms* are located at the interpersonal or community level of behavior patterns and are considered interdependent behaviors—meaning that we engage in a behavior under the condition and expectation that others conform to the same—and therefore strategies need to examine how to influence *collective* rather than individual behaviors.

As Cislaghi and Heise's diagram illustrates (Figure 2.1), a social norms lens integrates a broader constellation of behavior-change influences on gender–power dynamics. Individuals can exercise agency according to their *personal* beliefs, while *material* factors such as economic incentives and sanctions or political, legal, or technological changes drive social behavior shifts and influence normative change at the broader environmental level (Cislaghi and Heise 2018).

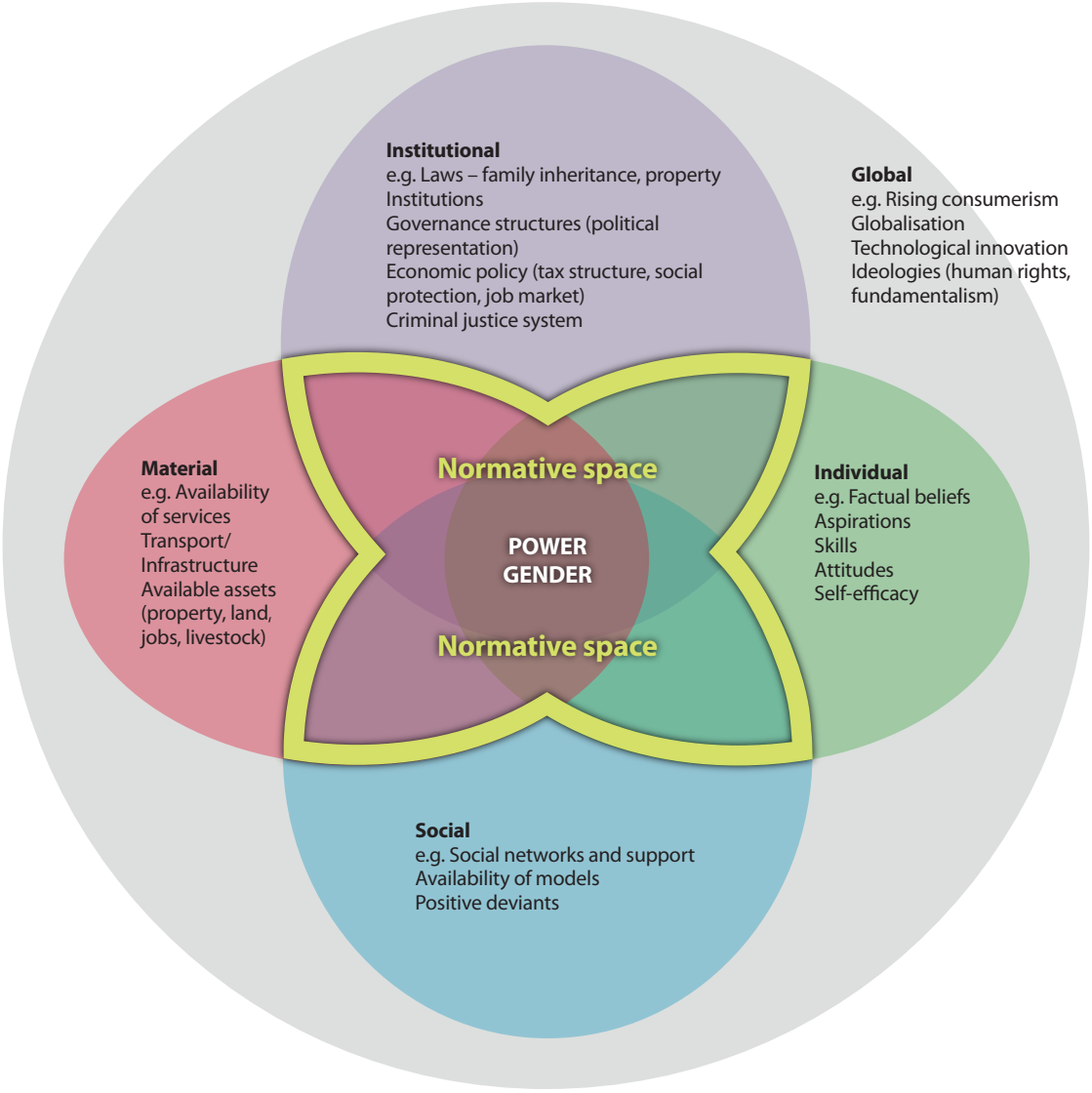
Gender Norms and Women's Economic Empowerment

In the women's economic empowerment space, two World Bank reports, *Gender Equality and Development* (World Bank 2011) and *Mind, Society, and Behavior* (World Bank 2015), brought mainstream attention to the role of gender norms in fostering or undermining women's economic empowerment, and to the possibility of engineering social norms to influence behaviors. Gender norms internalized into women's and men's consciousness can limit women's individual self-confidence and self-efficacy, which constrains their agency—regardless of their particular skills or potential. For example, societal beliefs that leadership is associated with maleness can hinder women's self-confidence, preventing them from attempting leadership positions—even when quotas or affirmative actions are in place. Their lack of representation then reinforces the social norm and societal perception that leadership is a male domain (World Bank 2011).

Looking at the relationship between women's empowerment (comprised of agency, endowments, and economic opportunities) and growth, the 2012 report showcases how informal institutions (including social norms around care and markets) pose some of the major systemic challenges that explain the gap in women's economic achievements and overall equality despite much progress and policy attention to gender. Dispelling rational-choice economic theories and the myth of "economic man," the 2015 report draws on behavioral economics to emphasize that, for better or worse, "human sociality" and the tendency to act as groups determine behaviors, and that this has important implications for designing development interventions or enforceable policy. Describing social norms as *informal governance mechanisms*, the report points to growing examples of policy interventions that have successfully leveraged social norms to enforce socially beneficial behaviors, such as safer driving or tax paying. Economic incentives are not the only motivating factors, and desire for social prestige and belonging can be used alongside economic motives to influence practices (World Bank 2015).

In their review of gender and women's economic empowerment programs, Singh, Butt, and Canepa (2018, 11) concur that "social norms can be more potent than a monetized incentive or deterrence/cost. Meaning, an opportunity for more profit may not incentivize someone to do something new if a norm implies there are negative consequences." Even where appropriate policies and laws exist, social norms and fear of social sanctions can constrain women's agency and prevent them from taking opportunities that are available to them. For example, while legal restrictions on women's mobility are quite rare, social norms governing women's

FIGURE 2.1—THE INFLUENCE OF SOCIAL NORMS VISUALIZED ON THE DYNAMIC FRAMEWORK



Source: Cislaghi and Heise (2018).

sexual purity, modesty, and caregiving roles in many parts of the world effectively curtail their movement, leading to negative health-seeking behaviors and job-seeking outcomes. Where a law is at odds with a strong social norm (such as genital cutting or early marriage), legal changes are unlikely to influence practices.

Prevailing gender norms may determine whether women's increased income translates into greater bargaining power at the intrahousehold level (World Bank 2011). Gendered norms broadly determine what is valued and supported by public policy and private investment. For example, the assumption that "if you are working for no pay, that work has no value" applies to women's socially assigned caregiving roles as well as to subsistence or food-crop agriculture production that is often performed by women. As a result of these normative assumptions and value systems, policy supports and investments go to technology and equipment for production of "high-value" crops or market-oriented activities, rather than into labor-saving technologies that might, for example, reduce women's laundry and caregiving efforts (Singh, Butt, and Canepa 2018). In a review of "the norms factor" in women's economic empowerment programs, Marcus (2018) identifies four common categories of social norms that can impede women's advancement. These include (a) norms that assign most domestic work to women; (b) norms of sexual decorum and fear of sexual violence as retribution; (c) norms of decorum and reputation (which can include prohibitions on women interacting with men in the workplace); and (d) norms about women working outside the home (distant farms or markets is an example in the agriculture sector). Entrenched norms of masculinity also hold back gender equality, and men's behaviors appear to be influenced

less by their own personal attitudes and even enabling policies than the normative climate (what they think other men do) (Institute for Gender and the Economy, n.d.). However, to date, limited rigorous empirical data exist about the ways in which norms of masculinity affect division of labor, job segregation, and women's paid and unpaid work (Marcus 2018).

Gender Norms in Agriculture

When it comes to gender norms in agriculture, it is important to understand that there is no single set of norms—or even regional set of norms—that determines gender and agricultural practices. Norms operate and must be understood in a very specific, localized context (cultural as well as economic). A major qualitative comparative research initiative of CGIAR entitled GENNOVATE examined interactions between gender norms, agency, and agricultural innovation in 137 agricultural communities from 26 countries across the Global South. Drawing on a set of GENNOVATE case studies from Africa south of the Sahara, Petesch et al. (2018) introduce the concept of the local normative climate to address the contextual social processes by which different gender norms relax, hold tight, or perhaps tighten further to accommodate the varied and changing circumstances of community members. They examine the normative climate in a village where men but not women are perceiving significant latitude for exercising agency in their agricultural livelihoods, and then compare those conditions with a context where women but not men observe strong agency. The authors discuss how norms fluidly evolve as women and men move through their life cycle and as the local economy and other institutions change. The very fluidity of norms contributes to heterogeneity in the processes affecting women's and men's perceptions of their agency. They also emphasize the importance of examining norms of masculinity along with norms for women and how these interact with women's agency (Petesch et al. 2018).

At the same time, in an effort to draw lessons for practice, across cultures some familiar patterns of gender norms exist that can interact with opportunity structures to prevent women from advancing in the agriculture sector. We have outlined several root categories of gender norms that can reproduce unequal power relations and produce unequal outcomes within the male-dominated agriculture systems and structures. These categories can serve as areas of inquiry for identifying how the local normative climate may interact with and constrain opportunities for women's equitable participation in agriculture programs.

Capacities, Skills, Confidence: Norms of Who Is a Farmer and What Are Women's Crops

Agriculture extension systems and many agriculture interventions led by nongovernmental organizations (NGOs) aim to build farmers' skills and capacities and improve their uptake of technologies and services. In many contexts, however, women are considered "farmers' wives," not farmers, and are thus not targeted for services regardless of their actual contributions to production and marketing. Gender norms and gendered images of who is a farmer may limit women's access to timely information and quality extension services. Many policy makers and rural advisory services implicitly or explicitly characterize their target groups according to features such as "head of household" or "cash crop versus subsistence crop farmer," while women are seen as subsistence producers (Manfre et al. 2013; Farnworth and Colverson 2015). The common categorization of "men's" and "women's" crops often segregates food and cash crops, orienting extension support and financial resources toward the cash crops, which are often owned or controlled by men. This gendered crop segregation can yield significant income disparities, as in Malawi, where the primary cash crop, tobacco, is planted on only 3 percent of women's plots compared to 10 percent of men's plots. Overall, there is a 28 percent gender gap between women and men in the fraction of land devoted to export crops in Malawi. Closing this gendered cash-crop gap has the potential of raising gross domestic product more than $28 million in Malawi, $3 million in Tanzania, and $8 million in Uganda (UN Women et al. 2015). In commercial agriculture, gender norms around occupational segregation reserve certain jobs—generally technical or higher-paid—to be more appropriate for men than for women (Singh, Butt, and Canepa 2018).

In practice, the shorthand of "men's and women's crops" tends to be oversimplified, as production practices and control are not neatly divisible by sex, and women often contribute significantly to "men's crops" and vice versa. When new opportunities arise, through changes in markets or technologies, these norms can shift rapidly—but not always to women's advantage. Socially determined patterns of labor will shape who is able to take advantage of new opportunities, and women's labor burdens in household work and food production may limit their ability to take advantage of such opportunities (Doss 2017).

Even when technical trainings and services are made available to women, gendered norms around mobility and communication with male nonrelatives

(interacting with norms of control over women's sexuality and purity) can prevent women from attending meetings, hence barring them from building skills. Gender social norms that prioritize marriage over education for girls can limit the literacy and numeracy skills of women—and since such skills are often key selection criteria for the lead farmers or community-based extension representatives that agriculture advisory systems look for, these systems may continue to reproduce the normative image and assumption of the male farmer.

Beyond technical agricultural skills, self-confidence, group management, and negotiation skills are vital for farmers to proactively seek agriculture-related opportunities, and to leverage the collective bargaining power they need to compete effectively in agricultural markets. Multicountry research into what works to empower women shows that the soft skill of "critical consciousness-raising" and the solidarity that women can gain through participation in collectives remain instrumental to challenging normative assumptions about women's representation and building the skills to claim entitlements and recognition within discriminatory systems (Cornwall 2016, 347; Hillenbrand et al. 2015, 35).

Norms of Productive versus Reproductive Work

The almost-universal patriarchal value system that views productive work as more important than reproductive work has far-reaching gendered implications. Gender norms and social institutions feminize caregiving, assigning unpaid care work as women's domain while associating norms of masculinity and manhood with the provision of income and paid work. These discriminatory social norms influence labor markets as well as overall productivity. This normative division of labor dissuades men from assuming equal caring responsibilities, symbolically diminishes women's contributions to earned income, and burdens female farmers with unremunerated childcare work in addition to their agricultural activities (Singh, Butt, and Canepa 2018). Gendered expectations that good mothers should prioritize caregiving responsibilities first can also limit women's access to training and external capacity-building opportunities (see above), which contributes to lower productivity, as women have less access to labor and time for crop activities. Closely related to the gender norms that create the breadwinner/caregiver dichotomy, the common notion that women are primarily responsible for food crops and small livestock for nutrition (which is not universally true) normalizes men's control of earning income from cash crops and presents "women's crops" and nutrition outcomes as secondary objectives of farming enterprises.

Access and Control over Inputs, Land, and Productive Resources

Asset accumulation and ownership of productive resources are vitally important for productive engagement in sustainable agriculture. Appropriate equipment and technology can greatly increase yields and returns to labor inputs, while productive assets allow farmers to manage short-term environmental shocks and longer-term climate shifts. Ownership of assets also increases women's bargaining power, giving them greater voice in decision making at home and in the community and securing their fallback position, particularly in the event of dissolution of marriage. Women may also be required to work on men's fields and in men's businesses before tending to their own. Sometimes women find it hard to implement the training they have received because they need to obtain the agreement of their partners to make changes—which may not be forthcoming (Farnworth et al. 2013). An IFPRI-Oxford paper exposing four common myths about women in agriculture cites a study of forest user groups in Kenya, Uganda, Mexico, and Bolivia to challenge the myth that women are "naturally" better stewards of the environment (Doss 2017). This research based on comparative analysis of International Forestry Resources and Institutions (IFRI) data found that female-dominated groups were less likely to adopt new technologies and resource-monitoring practices that are associated with improved sustainability. The authors attributed this gap to gender biases in technology access, labor constraints, and limitation to women's sanctioning authority (Doss 2017). The consequences and productivity gaps associated with unequal access to quality inputs (land, labor, knowledge, fertilizer, and improved seeds) have been well documented and constitute a considerable financial loss in Africa south of the Sahara (UN Women et al. 2015).

Social norms around land inheritance and land rights often contradict legal frameworks and need to be understood and addressed in their local cultural context. Even where women's rights to land are guaranteed by law, many women can access land only through men, and they may not have the same rights if the marriage dissolves; they are often expected to renounce their inheritance claims to preserve alliances and secure support within the family (Singh, Butt, and Canepa 2018, 14). Social norms around land inheritance are often embedded in religious institutions—which may contradict and outweigh the legal rights frameworks. In a project in Niger, CARE found that working with religious leaders and using the Koran was a crucial starting point for

negotiating women's land inheritance and land control. As one participant observed, "Religion is everywhere in Niger—it structures people's lives with different rituals from when they get up in the morning until they go to bed at night. We cannot promote social changes effectively for the benefit of the poor without a dialogue with the religious leaders. So even if Islam says that women are only entitled to inherit half that of men, we think it's a place to start. The use of the Koran can promote women's access to land, also when NGOs are long gone" (CARE 2013, 12). Along with raising women's awareness of their rights, the project found that promoting community recognition of women's role in agriculture creating a favorable environment for a normative and material shift in women's land claims.

Intrahousehold Influence and Voice

Gender norms that designate men as heads of household and privilege male control over productive resources can enshrine practices of intrahousehold competition, inefficient allocation of resources, and poor information sharing within the household unit, all of which can have a detrimental effect on food security, productivity, and nutrition outcomes (Smith et al. 2011). In Uganda, for example, research found that the quality of the coffee that was being sent to the market was poor, because both women and men were picking and selling unripe beans in order to sell them before their partners managed to do so (Markel and Jones 2015). Gender norms that tolerate gender-based violence can dissuade women from sharing their views, leading to male-biased (and partial) perspectives on household needs and production decisions. In societies where seclusion of women is the norm, women are dependent on a family middleman for all communication external to the household, including accessing loans and markets (CARE 2013).

A cost–benefit analysis of CARE's multicountry smallholder agriculture program Pathways demonstrated that directly addressing gender norms in intrahousehold power relations contributed significantly to gains in food security, resilience, and women's empowerment (Weatherhead et al. 2016). In the Uganda coffee project example mentioned above, the Gender Action Learning System (GALS) methodology was introduced to identify gender disparities and support changes to informal rules at the household level. Results included significant changes in gender relations, particularly with regard to gender division of labor. Participants reported more equal management of household resources and increased income, while coffee buyers reported increased quality of coffee (Markel and Jones 2015).

In Niger, CARE Danmark found that challenging social norms of women's seclusion (by providing women access to mobile phones) countered their sense of isolation and freed them from dependence on husbands, allowing them to receive updates on prices for market products and land plots and access markets. Contravening this social norm around technology access had far-reaching implications for women's solidarity, empowerment, and intrahousehold independence. Symbolically, it restored an important sense of privacy and reduced their sense of social isolation: as one project staff person observed, "the prospect of getting a phone motivates women to learn to write and read. After receiving a phone, women become much more connected to other women and relatives outside the household. They write text messages to reach family members, who live both nearby and far away, for instance in the village, where they were born and raised. They are no longer restricted to talk only with their husbands, children and family-by-marriage. This social aspect is very important" (CARE 2013, 19).

A number of papers have indicated the importance of collective action and solidarity groups to women's empowerment in both social and economic terms (Singh, Butt, and Canepa 2018; Cornwall 2016; Sanyal, Rao, and Majumdar 2015). Sanyal, Rao, and Majumdar's qualitative investigation into *how* self-help groups in Bihar empower women and change gender norms discovered that participation in groups gave women access to *symbolic resource*s that complemented their previous identities as members of kin or caste groups. This shifted their intrahousehold influence by giving them access to "a well-defined network of people and access to new systems of 'knowledge' with which they could challenge old generationally transmitted systems of knowledge that were more concerned with preserving gender boundaries than disrupting them" (Sanyal, Rao, and Majumdar 2015, 10).

Transforming Social Norms: What Works?

The deep-seated gender norms described above are reflected in the design and enforcement of formal policies and are embedded within the mentalities, mind-sets, and habits of actors at multiple institutional levels—including the traditional authorities that govern resource access; market actors; farmers' collectives and farmers' unions that represent smallholders' interests; and the NGO

staff and researchers implementing empowerment interventions. This highlights the importance of applying the ecological model for transformative change, but also of recognizing that institutions are ultimately made up of and influenced by humans and their biases. The potential application of social norms theory to deep systemic change derives from understanding that people are influenced by what they think others are doing and are deeply motivated by desire for social acceptance. People are especially motivated by the need to belong to a given reference group, and therefore are motivated to bring their behavior in line with what the community believes is acceptable.

In policy application, use of behavioral "nudges" referring to social norms has been shown to effectively shift behavioral outcomes. In one classic study, a hotel notice that simply requested people to reuse towels had a 35 percent response rate. When the notice *also* reminded people that most *previous guests* had recycled (suggesting the prevalence of a social norm), the reuse rate increased to 49 percent (Mayne et al. 2018). In intervention terms, an "I love recycling" campaign focuses on an individual positive *attitude* change (precursors to individual behavior change), whereas a social norms change campaign would aim to influence the *perception* of what is commonly practiced ("recycling is really common in my community") (Tankard and Levy Paluck 2016).However, the cues that affect behavior in one direction or another may be very subtle, and campaigns can also misfire or have unintended effects. For example, in one famous experiment, a national park sign requesting forest park users not to steal wood (and depicting a *single* thief on the sign) had the intended effect of reducing the behavior, as the sole thief suggested this is an isolated and unsanctioned behavior. In contrast, a sign with the same message—but depicting *several* thieves—subtly conveyed the idea that stealing wood *is* a group norm, and it actually increased the behavior by 7 percent (Mayne et al. 2018). In a 2007 study by Schultz et al., surveyed participants who learned they were using *less* electricity than the norm responded by increasing their electricity consumption; the study found that adding evaluative feedback (a smiley face to signal approval of the non-normative performance) could eliminate that negative response (Tankard and Levy Paluck 2016).

Gender norms are not static or learned for a lifetime; rather, perceptions of norms are constantly being updated by our interactions and observations of others' public behaviors. Thus, interventions that aim to reshape gender norms recognize that women and men resist and withdraw from norms continually throughout their lifetimes. While gender norms may represent dominant perspectives on what gender relations should be like and how individuals of particular genders should behave through their gender role, equitable and less-equitable practices exist in a given community at any given point at time (Marcus 2014). The challenge and opportunity for interventions is to promote the more equitable norms to become more openly recognized as typical and therefore appropriate behaviors by the wider community (Springer and Drucza 2018; Tankard and Levy Paluck 2016).

In development practice, much of the evidence on how to do that comes from efforts to tackle HIV/AIDS (because of the clear link between unequal gender relations and infection risks), harmful traditional practices such as early marriage and female genital mutilation, and violence against women (Cislagi and Heise 2018). The Department for International Development's (DFID's) comprehensive guidance note offers a three-point framework for shifting social norms that entails (a) shifting social expectations not just individual attitudes; (b) publicizing the change; and (c) catalyzing and reinforcing new norms and behaviors. Importantly, "in order to shift social norms, ***'interventions must create new beliefs within an individual's reference group*** *so that the collective expectations of the people important to them allow new behaviours to emerge*" (Alexander-Scott, Bell, and Holden 2016, 11, citing Heise and Manji 2015).

The critical first step to changing social norms is to diagnose the existing gender norm and to understand what behavior is acceptable, and whether the targeted behavior is upheld by personal beliefs and attitudes or social norms and sanctions. In other words, do people practice it because they believe others do it (typical) or because they think others expect them to do it (appropriate), or both? In diagnosing collective beliefs, it is important to note that social norms operate with respect to a specific social reference group, and that what is appropriate may be defined within a very localized normative climate (Petesche et al. 2018). Only after actually diagnosing all the facets of a social norm (including who the reference group is, what the social sanctions are for a particular behavior, what the range of actual practices are) can one intervene effectively to change social expectations. DFID's guidance note on shifting social norms to prevent violence against women and girls identifies five key steps that can be adapted to tackling gender norms in the context of agricultural programming. These are outlined as follows.

1. Influence individual attitudes.

Although social norms are *collective beliefs*, and individual attitudes are generally not enough to change rigid social expectations and behaviors, influencing

individual attitudes can help weaken the hold of a harmful social norm. Tactics such as interpersonal counseling, trainings, and awareness raising can also operate to influence individual attitudes. A social norms campaign can also be used to highlight the harms of a particular practice, reframing it to show how it is in contradiction to other values (including religious, cultural), or highlighting the fluidity of a practice or how it is changing. It is possible that individual attitudes and collective norms may differ, as in the case of "positive deviants" or change agents, who for personal or moral reasons choose not to conform to a particular practice. In the case of "pluralistic ignorance," a behavior might be prevalent in some areas despite individual attitudes being against it. In this case, people are *conforming in the mistaken belief* that the majority supports it. Using data to expose the difference between "taken-for-granted" attitudes and the actual diversity of practices in a community can be effectively used to shift the perception of what is acceptable and normal behavior (Alexander-Scott, Bell, and Holden 2016). As described earlier, however, such interventions can backfire and make a harmful norm more prevalent; they should be carefully pilot-tested for effectiveness and coupled with evaluative feedback to influence the direction of the normative shift (Tankard and Levy Paluck 2016).

2. Provide inclusive arenas for dialogue and learning.

Because social norms operate as collective expectations, the element of public debate and discourse seems vital to shifting behaviors and expectations, particularly around gender. Engaging influential leaders in this process can be particularly effective, as it can offer models for communities to change together and to allay fears of social sanction. Community mobilization approaches that use community conversations, public debates, and also radio call-in programs or "edutainment" can provide platforms for people to hear how others in their reference group are shifting their own views and practices. This helps communities come to agreement on the harms of a practice and propose alternatives.

3. Promote alternative expectations.

It is not enough to condemn an existing practice or harmful norm. It is also vital to provide alternative rules and social expectations, and to frame them in a way that highlights the benefits of the new practice. Promoting the family and economic benefits of women's empowerment has appeared to be an effective message for some level of gender norm changes, but the benefits must be salient to the reference group's values. Promoting positive relationship terms (respect, partnership, harmony) and the benefits of egalitarian decisions (happier families, sounder decisions, more resources) may be appealing to men as well as women; formative research can identify how the reference group expresses the positive benefits of the desired changes in their own words. Making sure that the new behavior is visible (see point 4) can accelerate the process of changing social expectations.

4. Provide opportunities for public change.

Because norms are collective and enforced within a reference group, providing public opportunities to speak out against a harmful practice or to commit to a new norm can effectively cement the perception of the social acceptability and potential social sanctions for a new practice. According to DFID guidance, this works best once significant individual attitudinal shifts have taken place, and when social sanctions against the new norm are already weakened. Making collective action plans to address gender inequalities as a community, under the leadership of influential community members, is often a culminating step in community dialogue and social mobilization approaches (Alexander-Scott, Bell, and Holden 2016). For more on practitioner considerations for changing social norms, see Box 2.1.

5. Unpack norms of masculinity.

It is recognized that masculinities, like femininities, are multiple, and that norms and performances of masculinity vary culturally and contextually, with expectations differing by class, race, and age. Globally, social norms about what it means to be a man can be defined in four broad categories of behavioral expression: (a) physical dominance (expressed as well through risk-taking and violence); (b) family formation and fatherhood; (c) schooling and education; and (d) employment and breadwinning status. The concept of hegemonic masculinity—the dominant form of masculinity in a given context, which defines the masculine in contrast to the feminine, and is the prevailing concept against which men measure themselves and other men—is important for understanding the social pressures and expectations that men are held to, even as personal beliefs about gender and gender-equitable relations may vary (Green, Robles, and Pawlak 2011).

Like women's roles, attitudes and practices of masculinity can shift in response to policy and structural opportunities. While economic shifts and emergencies have been shown to produce rapid changes in the gendered allocation of roles and responsibilities, particularly for women, observations

BOX 2.1—SHIFTING SOCIAL NORMS TO INFLUENCE BEHAVIORS: CONSIDERATIONS FOR PRACTICE

- Use "attractive" messengers—such as people "like" those you wish to influence, role models, and opinion formers—to champion and enroll others in the cause. (But be conscious of gender and power relations; for example, ensure that not all of your champions are men.)
- In your communications provide "social proof" that "relevant" others (authority figures, people like them) are doing the desired behavior or supporting the campaign.
- When highlighting the impacts of an undesirable behavior, be careful not to inadvertently signal a norm.
- Provide people with information comparing their behaviors with those of their (anonymized) neighbors, but ensure that it is accompanied by normative information about what is "desirable" and "undesirable" behavior.
- Spread new social norms by changing the behaviors of existing reference groups and/or creating new ones.

Source: Mayne et al. (2018, 32).

indicate that the bounds of hegemonic masculinity are rather more rigid than the more changeable occupational roles that women can take up. A study from the United States indicates that even when supportive policies are in place (in this case, paid paternal leave), those supportive structures and even men's own progressive ideologies are not as significant at influencing men's behaviors as are the social norms and expectations around masculinity. Where men thought that other men valued more egalitarian social relationships, they were more likely to take advantage of existing paternal leave policies. Calling out the "stalled revolution," the article notes that a focus on women's empowerment and efforts to integrate women into market systems, leadership positions, and equality in the workplace have tended to put the onus on women "leaning in," and have required little behavioral change on the part of men to adopt more egalitarian practices, particularly in the household (Thebaud and Pedulla 2016).

Gender-awareness education with girls and women alone does not always provide them with the skills and social support to challenge norms; nor does economic empowerment alone translate into gender norm changes. There is some evidence, however, that small-group education with men and boys *combined* with intensive community mobilization can be effective at changing gender norms (Alexander-Scott, Bell, and Holden 2016). Promundo's Program H and its Journeys of Transformation, EngenderHealth's Men As Partners program, and MenEngage Alliance's MenCare campaign are examples of successful models that create opportunities for men to separately discuss and share about underlying gender norms, usually through the lens of a particular sectoral issue that matters to them, including reproductive health/sexuality, fatherhood, and, in the case of Journeys of Transformation, supporting women's economic empowerment. (See the accompanying case study for a discussion of Journeys of Transformation and other approaches to influencing norms of masculinity and men's behaviors.)

Applying Evidence-Based Gender Norms Models to Agriculture Interventions

Rigorous evaluations of Stepping Stones, Raising Voices' SASA!, and Tostan's Community Empowerment Program have demonstrated their effectiveness in reducing gender-based violence and harmful traditional practices (such as female genital mutilation) by addressing underlying gender norms and beliefs. These models follow a community-mobilization approach that relies on skilled and passionate community facilitators to lead community groups through a series of public dialogues, reflections on the harms of the norm, and commitment to an action plan. In the agriculture sector, there is a limited but growing body of evidence about the efficacy of integrating similar approaches into agriculture programs to improve both social norms and sectoral outcomes. For example, an aquaculture intervention by WorldFish in Zambia and Bangladesh tested a gender-transformative approach that used community mobilization tools and role-plays to publicly debate and tackle gender norms. The studies found that in both contexts, there was a significantly higher positive change in gender

attitude scores for those who participated in the gender-transformative approach as compared with the "practical gender approach" that did not address social norms. There were also noticeable differences in gender behaviors, such as joint ownership of agriculture equipment and assets (Choudhury, Cole, and McDougall 2017). An external evaluation of CARE's Pathways to Empowerment program, which integrated gender dialogues with men, women, and community leaders into an incorporated service delivery model, found that the gender activities specifically contributed not only to gender equality outcomes but also to gains in food security, incomes, and resilience (Weatherhead et al. 2016). A recent meta-analysis conducted by CIMMYT into social norm change in Ethiopian agriculture interventions concluded that CARE Ethiopia's agriculture programs WE-RISE and GRAD are currently providing the strongest evidence of effective gender norm change models in the sector. Both approaches followed a combination of women's economic empowerment activities (starting with the village savings and loan model) and Social Analysis and Action, a community-mobilization model of dialogue around gender and social exclusion norms. The evaluation concluded that "by targeting economic empowerment through loans, savings, and agricultural productivity, and then layering on gender norm change, VESA's appear to have successfully stimulated discussion and norm change between genders. This builds the evidence base that economic models, when paired with explicit gender-sensitivity programming, can enhance women's, men's, and household outcomes from development projects" (Springer and Drucza 2018, 21).

Implications for a Social Norms Lens on Gender and Agriculture Programming

Social norms tie into systemic change aspirations that few NGOs or civil society organizations (CSOs) can "engineer" on their own, but they can contribute ethically and effectively by working through broad social networks, encouraging adoption of change by government and legislation, and addressing other structural constraints or influences that determine or limit behavior change (Mackie et al. 2015). Organizations applying a social norms approach must have a deep understanding of the theory and evidence behind social norms so that they may recognize the risks and potential for such interventions to backfire—which can in turn call into question or invite funding cuts to the entire gender approach.

When it comes to introducing a new social norm, Tankard and Levy Paluck (2016) identify five key conditions under which norms are more likely to shift. First, when individuals identify with the source of the information, they are more likely to accept the proposed norm. Second, the new norm must be a believable representation of the group's opinions and behaviors; if the idealized new norm that is being promoted is too far from the current practice and reality, people may resent or disbelieve the picture that is being presented and respond negatively. Similarly, when an individual's personal beliefs are already somewhat in line with the new norm, they are more likely to respond favorably. When information about a new norm is widely broadcast, rather than personally shared, people are more likely to perceive this as information that is endorsed and legitimated by the social group. Finally, contextualizing descriptive norms makes it less likely that awareness-raising about negative norms can backfire and unintentionally reinforce a negative trend. For example, sharing statistics to raise awareness about the prevalence of a trend (such as the rate of gender-based violence) can unintentionally have the effect of legitimizing or normalizing that behavior. Describing the favorable direction in which a harmful norm is changing can prevent this; if the central tendency of a behavior is negative, another effective tactic may be to demonstrate the diversity and heterogeneity of practices, allowing people to relate favorably to a positioning outside what they perceive to be *the* norm (Tankard and Levy Paluck 2016).

Diagnostic and Measurement Issues

Building the evidence base for how to change social norms in the agriculture sector is a pressing priority. The CIMMYT evaluation of social norms interventions in Ethiopia noted that the CARE examples stood out because of the rigor of their external evaluations, a quality that many gender-focused interventions lack, even though internal documentation may provide rich documentation on processes of social change. To build that rigorous evidence base on social norms in the agriculture sector, the authors recommend gender-focused monitoring-and-evaluation (M&E) systems that establish explicit gender goals at the highest level, follow a clear theory of change for how those goals are to come about, and use credible and rigorous qualitative data to explain quantitative trends (Springer and Drucza 2018).

One of the pitfalls of measuring and monitoring social norm change is the common habit of using attitudes as proxies for social norms or behaviors. While many programs measure *attitudes* or *beliefs* about the nonsocial environment, and some measure *self-efficacy*, which relates to behavior change, few programs draw on social norms theory or measure the central question of *social expectations* that are at the heart of social norms. Many programs rely heavily on

information campaigns and measure attitudinal change as an outcome, despite strong evidence that attitudes do not always correlate with habitual practices. Practitioners must design M&E tools for measuring *social norms* change based on a deep understanding of the social determinants of a given behavioral practice. For example, it is important to diagnose whether the practice in question is a custom, a social norm, or a preference, as well as to understand the incentive structures that uphold it (Mayne et al. 2018; Mackie et al. 2015; Bicchieri 2017).

CARE's Social Norms Analysis Plot (SNAP) framework (CARE 2016) tries to bridge this gap by providing guidance for integrating social norms theory into both quantitative and qualitative measurements. The SNAP tool offers guidance for integrating normative aspects of behavioral/attitudinal questions into baseline–endline surveys to capture how empirical and injunctive norms may shift over the course of an intervention. It also proposes using hypothetical vignettes to explore norms in qualitative discussions. Hypothetical vignettes, rather than speaking to direct experience, allow respondents to explore the social sanctions associated with a particular transgression and to consider the circumstances under which a socially transgressive behavior might be acceptable. Dialogue around the vignettes allows for exploration of how and where particular social norms might be weakening.

In addition, it is important to note that although gender roles can transform rapidly (especially in response to conflict, new economic opportunities, or new technologies), the transformation of collective behaviors and beliefs particularly around gender can take time. While designing for longer-term programming is important to promote this type of social transformation, better monitoring tools can also be used to capture the dynamic and interactive nature of social change, document incremental shifts, and monitor for and reduce the backlash that almost inevitably accompanies gender social change. CARE's gender-indicator monitoring approach offers a gender-transformative monitoring tool for both encouraging and measuring incremental behavior change related to gender relations (Hillenbrand et al. 2015). Drawing on outcome-mapping methodology (Earl, Carden, and Smutylo 2001), which focuses explicitly on visible, measurable behaviors (rather than norms or attitudes), this tool works through community mobilization approaches to define the gender-equality goals that the men and women of the community would love to see, in visible and measurable terms. They then collectively establish the "progress markers," or the visible, tangible baby steps that would demonstrate movement in the direction of this broader social vision. In the process of regular, public monitoring, the participating community groups can acknowledge and applaud initial small changes, while recommitting publicly to the more challenging and transformative changes. The process of regular public dialogue about the social norms in turn creates another entry point and mechanism for reevaluating and thus transforming those norms. Whatever the tool, regular monitoring by skilled gender staff is an essential do-no-harm practice that allows for quick identification and appropriate resolution of any negative or unforeseen outcomes of social change.

Retaining a Political Commitment to Gender Justice

Finally, as with all gender interventions, it is important to note that sophisticated technical approaches, including application of social norms theory, cannot replace or bypass the political nature of gender relations. In their review of a 14-year self-help group program in Bihar, Sanyal et al. (2015) provide salient evidence (qualitative and quantitative) that development interventions can catalyze significant and lasting shifts in gender norms, with liberating outcomes for women in terms of mobility, access to resources, and household economic improvements. However, while they assert that social norms can transform rapidly, they conclude with an emphasis on the political nature of shifting gender relations, cautioning that "shifting culture is not just a matter of nudging individuals to move towards new forms of behavior. Simply tricking the brain into behaving differently cannot result in long-term change, without a fundamental reconfiguration in the relationships of power at the household and community levels" (53). Their study concludes that there are certain guidelines for the process of "undoing gender" through development interventions—specifically, "promoting non-conventional ways in which women and men act and interact; declining salience of sex categorization; diminishing male privilege; enhancing women's (as a sex category) status by creating interactional settings around socially valued tasks which privilege women's participation and where women are acknowledged as equally competent to similar men; and also by changing the subjective and objective resources women have access to" (18–19). All of these actions, however, require deliberate political commitment to the project and principles of gender equality, and may not necessarily respond to the pressures of scaling up.

CASE STUDY 1

Cultural Institutions and Gender Norms in Matrilineal and Patrilineal Kinships of Malawi

Edward Bikketi and Esther Njuguna-Mungai

Kinships are networks connecting individuals as relatives; they constitute descent and lineage. Descent constitutes the social institutions that identify individuals with a selected category of their kin, while lineage traces descent from a common ancestor, male or female (Kaarhus 2010). There are two types of kinship structures, matrilineal and patrilineal—the former is when descent is traced through women, and the latter is when it is traced through men (Meijer et al. 2015). Most ethnic groups in Africa are governed by these two kinship structures, organizing social systems, cultural institutions, and gender norms within households (Berge et al. 2014). They determine context-specific layered rights of access to and management, ownership, and inheritance of productive resources and assets within households, along lineages (Rao 2016). Most African ethnic groups are patrilineal in structure, a biased worldview reinforced by colonialism that exacerbates gender inequality and inequity with regard to women's access to, control of, and ownership of productive resources. Thus, it is crucial to compare matrilineal and patrilineal structures to understand normative influences on women's empowerment in agricultural development as an important pathway to gender equality and equity, besides addressing material deprivation and building stable livelihoods (Rao 2017). Malawi is one of the countries with ethnic native communities practicing matrilineal and patrilineal kinship, allowing us to compare how matrilineal and patrilineal kinship structures influence gender norms and cultural institutions among smallholders producing groundnuts in Malawi.

Methodology

This case study is drawn from a larger project that used mixed methods to analyze gender yield gaps in groundnut productivity in Malawi. Sex-disaggregated data were collected using mixed methods. The qualitative sample consisted of a total of 40 farmers interviewed from five focus group discussions (FGDs) (eight farmers per group; two groups of male farmers and three groups of female farmers), four case histories (two each for the matrilineal and patrilineal), and five key informant interviews (two extension staff and three managers of the National Smallholder Farmers' Association of Malawi). The qualitative exercise informed the development of a quantitative survey instrument that was administered to a sample of 285 smallholder respondents in three districts in Malawi (Table C1.1).

Research Sites

Fieldwork was conducted from February to March 2017 in Mchinji, Mzimba, and Mangochi districts, purposively sampled for groundnut production and different kinship structures (Figure C1.1). Mchinji and Mangochi districts are matrilineal, while Mzimba district is patrilineal. Matrilineal structures have prevailed in 20 districts of the central and southern regions of the country, while patrilineal structures prevail in all five districts of the northern region (Mwambene 2005).

Livelihoods, Cultural Institutions, and Kinship Structures in Rural Malawi

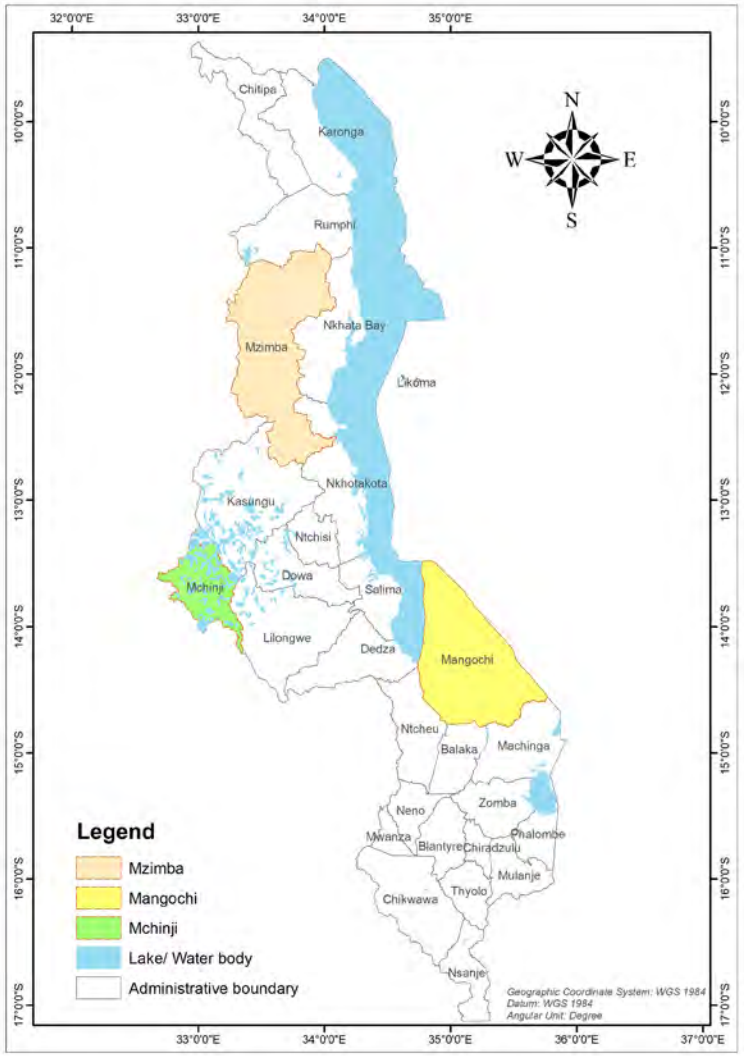
Matrilineal descent and devolution of land rights are the cultural institutions of the majority of the population in the central and southern regions of Malawi, whereas the formal landholding system is modeled on patrilineal English legislation (Berge et al. 2014). The Chewa in Mchinji district are the largest matrilineal ethnic group, according to the female FGD and mini-ethnography respondents:

TABLE C1.1—RESPONDENTS' PROFILE

Districts	Mangochi	Mchinji	Mzimba
Extension planning area	Mtiya and Namwera	Kalulu, Mikundi	Emfeni, Embegueni, Mbawa, Kapalankwali
Number of villages	25	31	40
Number of respondents	72	100	113
Kinship structure	Matrilineal	Matrilineal	Patrilineal
Household headships	Female managed	Female headed	Male headed
Gender	Male: 0% Female: 100%	Male: 51% Female: 49%	Male: 52% Female: 48%
Households	72	51	57
Ethnic tribe	Yao	Chewa	Tumbuka
Average age	37.1 years	45.5 years	47.2 years
Average household size	4 people	5 people	5 people
Education attainment			
Average number of years of schooling	5.97	13.31	9.52
Land size			
Average land size (hectares)	0.342	0.404	0.270

Source: Survey data.

FIGURE C1.1—RESEARCH DISTRICTS: MCHINJI, MZIMBA, AND MANGOCHI



Source: Authors' design.

A Chewa village consists of related families locally known as "fuko," with blood relations and marriage tracing descent through a female ancestress. Under the authority of the eldest living female matrilineal relative generally in charge of the group of families. Within the fuko are family units known as the "mbumba"—matrilineally related. The matrilineally related men in the mbumba—brothers and uncles related to these women—are known as the "Nkhoswe." The mbumba is under the control of the eldest Nkhoswe, the guardian of the lineage and specific family units of his sisters known as the "Banja."

In Chewa, the postmarital residence is uxorilocal, and locally known as "Chikamwini." Landholding and inheritance are determined by the wife's family with guidance from the "Nkhoswe," as confirmed by the respondents of the male and female FGD:

In Chewa culture land is transferred through our kinship structure and it determines the residence of the couple. For example, as customs dictate, it is women who inherit land; men can only borrow and use our land.

Chewa women are empowered by the kinship structure to inherit land; however, the Nkhoswe controls allocation of land to the mbumba as confirmed by the female FGD respondents and mini-ethnography:

The Nkhoswe oversees the homes, and even participates in decision making on farming enterprises and land allocation among other important activities within our homes.

The Yao in Mangochi district also practice matrilineal kinship and are socioculturally organized like the Chewa, although they predominantly practice Islam dating back to the I8th century after assimilating Islam during the slave trade (Mwambene 2005). Yao marriages are also matrilineal and transacted through bride service.[1] Divorce is common given the out-migration of men to South Africa, who sometimes never return due to their low status accorded by marriage. However, the out-migration seems to empower Yao women as the divorces and separations lead to two types of households: female-headed households and female-managed households. This is confirmed by the respondents of the FGD and mini-ethnography:

Most men have left for work in South Africa; this gives us increased freedom in comparison to our mothers, to make decisions without much consultations from men.

In contrast, the Tumbuka in patrilineal Mzimba were previously matrilineal but as a result of incursion and occupation by the Ngoni, took up Ngoni culture and patrilineal kinship, which altered their social organization, including the centralized chieftainship, descent, and bride wealth (Mushibwe 2009). The Tumbuka assumed Ngoni patrilineal marriage as a means of identifying themselves with new rulers including paying bride wealth. The residence after marriage is virilocal, also known as "Chitengwa" in Chichewa. Arrival of Scottish missionaries reinforced the notion of bride wealth and substituted for it the term "dowry." A respondent in a case history confirmed this:

The Tumbuka took up [the] culture and practices of [the] Ngoni tribe including wife inheritance, currently still accepted by the Tumbuka. They call themselves Tumbuka-Ngoni, a mixture of the two tribes.

In the current Tumbuka culture, inheritance and succession are patrilineal, and according to the female FGD respondents, the sociocultural gendered norms institutionalized by the kinship structure tend to limit equality and compel women to accept male dominance at the expense of their own status:

In our daily lives, we emphasize [the] importance of respecting men's authority and keeping our distance from them as heads of the households; this is what we teach our girls as they grow up.

Agricultural Productivity Differences in Groundnut Enterprises

Table C1.2 compares the productivity of male-managed, female-managed, and jointly managed plots in matrilineal and patrilineal households. On average, farmers in patrilineal Mzimba had the lowest yields (570.78 kilograms per hectare) compared with farmers in matrilineal contexts (814.02 kilograms per hectare in Mchinji and 726.48 kilograms per hectare in Mangochi). Groundnut production carries the stereotype of being a women's crop in Mzimba, as confirmed by the extension staff and respondents of the female FGD:

Groundnut is generally considered as [a] woman's crop even though men also participate mainly because of incomes derived. Most farmers will say they manage groundnut plots jointly; however, the bulk of groundnut work

1 In matrilineal-matrilocal societies, the husband pays "bride service" by working for a negotiated duration and taking care of his family and has no control over land rights. In event of divorce or death of the wife, the husband loses the user rights over the land and is expected to return to his original village, leaving the children with the wife or her family, as children belong to the matrilineal kin (Meijer et al. 2015).

is left to women except land preparation and sales of the produce. Most men have switched to soybean production from tobacco as soybean is now the most lucrative.

Jointly managed plots in Mchinji had the highest yields overall (1,122 kilograms per hectare), followed by male-managed plots also in Mchinji (784 kilograms per hectare) and female-managed plots in Mangochi (726 kilograms per hectare) respectively. In Mchinji, groundnuts are characterized as both a woman's crop and a cash crop. For men, growing groundnuts offers them some solace from the low status and meddling within the uxorilocal context, as confirmed by the male FGD respondents and mini-ethnographies:

Groundnuts here are associated with women. Therefore to avoid conflicts that always arise with the Nkhoswe's interference, we produce groundnuts with our wives. Some men have managed to save incomes from groundnuts and purchased land to settle elsewhere, leaving their marriages.

In Mangochi the absence of men owing to out-migration generally gives the women agency to produce groundnuts as a cash crop. On further inquiry, it was revealed that out-migration sometimes lasts for periods of two to five years, although most men opt never to return.

The comparisons in Table C1.2, however, do not account for other factors that could potentially affect productivity. Thus, Table C1.3 presents the results of a regression analysis of groundnut productivity including controls for gender and kinship structure as well as other covariates. The first column presents the gendered differentials for matrilineal Mchinji and patrilineal Mzimba only, because the sample in Mangochi consisted only of women, which would not permit a comparison by gender. Mchinji is the reference category. The second column presents differentials based on all three districts—based on a women-only sample and including controls for covariates of productivity; the reference category is Mangochi. Yield per hectare is the dependent variable.

The results reveal that the age of a farmer, a proxy for experience in farming, is positively and significantly associated with yield. Farm size is inversely associated with yield, suggesting higher efficiency on smaller plots, while higher fertility and shorter distance from the plot to the homestead are associated with higher yields. Matrilineal kinship is associated with higher groundnut yields.

TABLE C1.2—PRODUCTIVITY COMPARISONS BY KINSHIP STRUCTURE AND GENDER OF PLOT MANAGER

District of residence	Kinship structure	Mean kilograms per hectare by gender of plot manager (number of observations in parentheses)			
		Female managed	Male managed	Jointly managed	Total
Mangochi	Matrilineal	726.48 (71)	n.a.	n.a.	726.48 (71)
Mchinji	Matrilineal	643.22 (39)	748.37 (35)	1,121.98 (25)	814.02 (99)
Mzimba	Patrilineal	645.66 (42)	478.81 (39)	585.51 (30)	570.78 (111)
All sites		682.79 (152)	623.33 (74)	829.36 (55)	695.82 (281)

Source: Survey data.
Note: n.a. = not applicable.

Although jointly managed plots had higher yields than male-managed plots in matrilineal Mchinji in bivariate regressions (not reported here), no significant difference in productivity is seen depending on the gender of the plot manager. Lastly, specific experience in farming groundnuts is associated with higher yields among women.

Discussion

Matrilineal and patrilineal structures in Malawi shape cultural institutions and gender norms in groundnut-producing contexts. Both structures have institutionalized customary landholding systems with differential access to and control over land among women and men determined by descent, inheritance, and postmarital residence. The two structures mirror each other in terms of strong beliefs in the rights of the lineage to landholding; however, they exacerbate gender inequality and inequity.

Unsurprisingly, in patrilineal areas, the prevailing gender norms and cultural institutions do not favor women with regard to ownership and control of productive resources, translating to their limited agency and the stereotyping of groundnuts as a women's crop. Women's weak land rights and lack of control over productive resources may underlie the generally lower yields in patrilineal

TABLE C1.3—CORRELATES OF GROUNDNUT PRODUCTIVITY FROM MULTIVARIATE REGRESSIONS

Dependent variable: yield/hectare (groundnut productivity)		
	Gender differentials (Mzimba and Mchinji, only)—Set 1	District differentials (women only)—Set 2
Variable		
Age	8.052*** (3.305)	3.414 (3.077)
Plot size (hectare)	-831.50*** (212.4)	-1,097.3*** (217.8)
District		
Mangochi/matrilineal (yes = 1)	n.a.	Reference
Mchinji/matrilineal (yes = 1)	Reference	20.74 (115.8)
Mzimba/patrilineal (yes = 1)	-332.4*** (86.92)	-320.7*** (122.08)
Number of years of schooling	(14.21) (12.48)	(35.126) (16.849)
Plot soil fertility (fertile = 1; 0 otherwise)	296.7*** (83.12)	285.9*** (80.63)
Challenges in accessing inputs (yes = 1)	-75.46 (74.95)	-63.88 (72.58)
Accessed extension (yes = 1)	48.16 (83.26)	-23.97 (82.62)
Accessed training (yes = 1)	-135.3 (96.74)	-66.51 (91.94)
Plot distance from homestead (meters)	-0.082** (0.038)	-0.043 (0.033)
Male managed plot (= base)		
Female-managed plot	21.42 (86.21)	0.035 (95.50)
Joint plot management	134.5 (97.33)	126.3 (107.4)
Years in groundnut farming	2.258 (3.898)	8.855** (3.99)
Constant	658.0 (229.2)	-320.7 (214.4)
R-squared	0.215	0.186
Number of observations	212	284

Source: Survey data.
Note: n.a. = not applicable. Robust standard errors in parentheses. ** and *** indicate significance at the 5% and 1% levels, respectively.

versus matrilineal areas. However, despite women's stronger rights to inherit land in matrilineal contexts, the gender norms and cultural institutions there do not empower women. These women have limited agency, as primary control and authority over households, agricultural enterprises, and labor arrangements are under the Nkhoswe. The uxorilocal residence offers men very limited agency, relegating them to either produce groundnuts jointly with their wives or solely on small plots allocated to them; others opt to out-migrate to escape the low status accorded.

We conclude that kinship structures have a significant influence on the organization of social systems among smallholders and result in an unequal layering of rights to assets and resources based on gender. It is crucial for development interventions to understand how context-specific structures can influence gender norms and cultural institutions and affect production systems.

CASE STUDY 2

Engaging Men in Creating New Gender Norms and Practices: Lessons from CARE

Emily Hillenbrand and Maureen Miruka

"Engaging men and boys" is an important component of gender-focused agriculture programs (Marcus 2018), both from a do-no-harm perspective and as a strategy to divest men's identities from harmful or limiting social norms of masculinity. There is growing demand for evidence-based guidelines on how best to engage men in gender-transformative agriculture-sector programming. This case study presents some of the promising models that CARE has been applying in its economic empowerment programs, which offer some general reflections for practitioners working toward gender equality in the agriculture sector.

From a do-no-harm perspective, involving men in women's economic empowerment programs is important to prevent potential risks associated with shifts in the balance of power and changing gender roles. Men's economic displacement from their gendered breadwinning role can be associated with an uptick in gender-based violence, which can serve as an alternative outlet for men to assert their masculinity (Heise 2011). A review of the evidence from microfinance initiatives shows that when such programs for women are seen to question men's authority, they can also be associated with a temporary increase in violence, even where the long-term impact for women is positive. Another critical masculinity-related risk in the agriculture sector speaks to the resilience of gender inequality, even as it demonstrates the fluidity of gender roles: when typically low-valued, "women's" crops become profitable or find a market (through women's economic empowerment or agriculture development programs), men often move into that sector, crowding out the women and taking over land and resources that had previously been in their control (Baden 2013; Doss 1999). Beyond the do-no-harm perspective, however, the social-norms-change literature from the gender-based violence prevention and HIV prevention sectors clearly demonstrates that women on their own cannot transform harmful and inequitable social norms; it requires the equal and active participation of men in the process of deconstructing and recreating more equitable norms and relationship dynamics.

Evidence-based social change communication interventions that change gender social norms include the SASA! approach developed by Raising Voices, Tostan's Community Empowerment Program, CARE's Social Analysis and Action approach, Save the Children's Community Conversations, and the International Center for Research on Women's work addressing gender norms with boys in the school system in India. These approaches generally work by mobilizing groups of men and women at the community level (typically with strong engagement of recognized community leaders) in a series of conversations or action-research exercises that entail analyzing specific gender norms and practices, building new understandings around positive behaviors, and realization of rights. Such dialogues are then followed up with a plan of action that is spearheaded by community leaders. The case studies that follow describe how CARE has modified and drawn on these good-practice community dialogue models to engage men in gender social norm change in the context of women's economic empowerment and agriculture programming.

Journeys of Transformation: Men as Allies in Women's Economic Empowerment

CARE Rwanda's Journeys of Transformation (JoT) curriculum was designed in 2011 together with Promundo, drawing heavily from the International Men and Gender Equality Survey (IMAGES) study results, which showed that women's economic empowerment programs can exacerbate intracouple conflict, and that

even as women's earnings increase, they are still fully responsible for the majority of household work (Slegh, Pawlak, and Barker 2012). Noting the associated negative risks of women's economic empowerment programs discussed earlier, the objective of the JoT curriculum was to engage men as allies in such programs and to prevent backlash and couples' conflict in response to such programs. The JoT curriculum targets male partners of women involved in CARE's microfinance or cash transfer programs. The program was designed based on formative research into key questions related to male partners of women village savings and loan association members. On the basis of this formative research, the group education curriculum was designed around 17 sessions, with topics such as business and negotiation skills, couples' decision-making processes, individual health and well-being, and laws and policies related to gender-based violence. Throughout the sessions, couples are encouraged to reflect on rigid gender norms, examine their personal attitudes and beliefs, and question traditional ideas about household decision making and division of labor, caring for children, and sharing household tasks. The JoT curriculum was later adopted (in combination with elements of SASA!) in the CARE Rwanda Indashikirwa program. In 2015–2016, a qualitative evaluation was conducted with couples who took part in the curriculum training. Three rounds of interviews with 14 couples (in single-sex groups) were organized before, during, and after the curriculum. The evaluation found that initially, some topics (particularly sharing financial resources, consent around sex, alcohol use, and men's sharing in domestic tasks) were considered taboo or difficult, but communication became easier over the course of the curriculum. It was important that the curriculum was rolled out over months, allowing the participants to build confidence and comfort in discussing norms. The couples appreciated the skill-building focus, including take-home exercises around decision making, communication, and spending time together. The evaluation also found that the multidimensional concept of power—including positive types (power with, power within)—avoided a reductive view of men as perpetrators and women as victims and helped couples to work together economically and to prevent partner violence (Stern and Nyiratunga 2017).

Abatangamuco: Leveraging a Men's Social Movement for Change

CARE Burundi has leveraged an informal rural men's movement to support its women's empowerment programming and transform gender social norms, particularly around men's use of violence. The Abatangamuco (which means "we who have seen the light") are a social movement of men who have made a personal decision to renounce the use of violence in their personal lives. Through engagement with CARE Burundi, this originally spontaneous social movement of men has now developed into a formalized network whose members engage in both public testimonials and private counseling activities, to persuade other men about the benefits they have seen to giving up gender-based violence. In their public activities, Abantangamuco members travel to other villages and use the entry point of an existing meeting (sometimes working with religious leaders, local authorities, or nongovernmental organization program activities) to speak to the community about their own personal experiences of both using and renouncing violence. They speak to gender norms about income control, men's alcohol use, and various forms of violence and then focus on how making changes to their own personal behaviors has changed their family life (including their economic well-being) for the better. They may make individual counseling visits to households where conflict is prevalent; men talk to other men and may counsel them on conflict-resolution techniques or offer advice. The power of the approach depends on the credible personal conviction and role-modeling of the men who share their testimonies. Some men who listen to the testimonials adjust their behavior incrementally. Others are moved to join the Abatangamuco network, becoming leaders and activists themselves. In this case, there is a formal induction and vetting process to ensure that models are credible and authentic. Men commit not only to nonviolence but also to treating their wives as equals—they commit to including their wives in decision-making processes, such as about income, and sharing all household and caregiving work equally. The Abatangamuco present an unusual movement, but CARE Burundi has integrated this grassroots approach into its gender-transformative programming. Part of the success of the approach seems to be that it is not a rejection of traditional masculinity, but rather a reframing of new behaviors to meet existing Rwandan cultural values: "They are promoting a new perspective on old ideals, urging men to see how particular aspects of traditional ideals of masculinity are counterproductive for efforts to achieve other ideals—such as prosperity, status and harmony. Building on existing and recognizable ideals rather than trying to introduce new ones has made it much easier for men to relate to the organization" (Wallacher 2012, 4).

CARE Pathways: Mapping Men's Behavioral Pathways to Change

In CARE's Pathways to Empowerment program—implemented in Bangladesh, India, Malawi, Mali, Ghana, and Tanzania from 2013 to 2017—the Farmer Field and Business School (FFBS) curriculum integrated dialogues with men and women into a farmer field school approach that follows the agriculture seasonal calendar. These dialogues (using role-playing, participatory rural appraisal tools, and communications exercises) invite men and women to analyze community norms related to the division of labor, asset ownership and landownership, income decision making, and communication. A qualitative midterm evaluation from across the five-country program found that men's attitudes (if not behaviors) were influenced fairly quickly by the program and both men and women attributed positive changes in their households to the "gender dialogues." While the economic incentive of women's access to agricultural training did serve to bring men on board initially, they ultimately valued not only the economic benefits but also the expressions of greater intimacy, harmony, and respect that began to result from the dialogues. This intimacy factor was in fact a draw for men to continue participating in the dialogues. Women participants also urged CARE to continue the dialogues with men, noting that in households were men did participate, there was less friction and violence (CARE 2015).

One important modification of this standard dialogue approach was the application of Outcome Mapping methodology to define a culturally relevant behavioral pathway to equitable relationships for men as well as for women. Rather than putting the onus on women to empower themselves, this process worked with men and women in the target communities to identify the visible and incremental "progress markers" that would show the behavioral actions that represent shifting social norms. For men, for instance, some of the early and visible behavior changes included fetching firewood or water to support their partners or sitting down to share meals together. More transformative changes related to men taking on more childcare tasks, making a budget together with their spouses, and resolving conflicts without violence. Developing incremental progress maps (with men's involvement) was a tool that both celebrated initial efforts and could be used to continue pushing men and women to pursue more aspirational changes. CARE facilitators of these participatory monitoring sessions observed significant changes in the interactions between men and women in the process, noting that they were able to discuss ever-more sensitive topics, and that women interacted more confidently and freely. Male participants often expressed appreciation for this structured opportunity to share feelings, grievances, and intimate problems that they otherwise were rarely able to bring up, and for the improvements in their family relations that they saw as a result.

Implications and Precautions for Engaging Men in Social Norms Change

A World Health Organization (WHO) review of interventions that engage men found that well-designed interventions can catalyze significant changes in men's attitudes and behaviors (Peacock and Barker 2014). Programs that are "gender transformative" were found to be more effective than those that are "gender sensitive" or take a more accommodative approach. Box C2.1 cites the key features of successful approaches to working with men.

CARE's internal review of its own engaging men and boys approaches echoes many of the principles we have discussed but also identifies some programmatic challenges that must be considered in designing ethical and gender-transformative programs. For example, while recognizing that role models are important for behavior change and that formal recognition ceremonies can be encouraging to male "positive deviants," it should also be recognized that these individuals are fallible and that their own process of change may not be linear. Further, when a public status is accorded to the title of "male champion," it may attract men who are not as personally passionate about gender equality or whose personal behaviors are not in alignment with their stated commitments. CARE does not discount the use of role models but cautions that continued support and establishing a process to deal with behavioral "regression" should be anticipated and built into the approach.

Creating safe spaces by separating into single-sex groups at first is generally important to build trust, allowing men and women to share their true experiences before exchanging with the broader community (Save the Children 2017). However, the question of mixed-sex versus single-sex groups has other implications in agriculture markets systems. In some cases, having some men in the collectives appears to strengthen women's bargaining power and entry into market spaces. At the same time, there is a risk that such an arrangement perpetuates men's dominance over the value chain or household income, or both (Baden 2013). CARE Pathways negotiated this tension by setting gender

BOX C2.1—WHO REVIEW: EFFECTIVE APPROACHES TO WORKING WITH MEN AND BOYS

- Use positive and affirmative messages.
- Encourage men to reflect on the costs of hegemonic masculinity to men and women.
- Ensure that approaches are evidence based and theoretically informed—use formative research, begin with or develop a theory of change, and carry out ongoing monitoring and evaluation.
- Recognize that men are not homogenous and develop interventions that reflect men's different life experiences.
- Use an ecological approach that recognizes the range of factors shaping gender roles and relations.
- Use a range of social change strategies—community education, community
- mobilization, media, policy development, and advocacy for implementation.

Source: Peacock and Barker (2014).

quotas for the market research committees (three out of five members should be women), which directly provided the information to groups of (mainly women) farmers. Over time, women gained experience, skills, and confidence. In an external review of CARE Ethiopia's work, it was found that targeting women as beneficiaries but working with husband–wife teams to address gender norms (through a facilitated Social Analysis and Action dialogue process) was an important success factor for the program (Springer and Drucza 2018).

Using an entry point that appeals to men's self-interest can be effective in bringing men on board in gender discussions. The appeal of positive fatherhood or touting the economic benefits to men of women's economic engagement may be seen as nonthreatening "hooks" to incentivize men's initial participation in programs. Many organizations shy away from controversial conversations and the potential tensions and resentment that come from exposing the negative or problematic aspects of prevailing norms. On the other hand, practitioners must be aware that when programs start by building on the practical economic interests of men (and women), the inherently political question of power relations and women's social status may become subsumed, and "conflating poverty alleviation and gender equality objectives may also hurt gender transformative efforts long-term when these two ends no longer align" (CARE 2016, 7, citing Jackson 1996). CARE's self-evaluation concludes that programs must firmly ground practical (economic) incentives in a broader and explicit strategy for gender equality and gender justice (CARE 2016).

For practitioners in the agriculture sector, the challenge is to find a balance between preventing negative reactions, making it easier for men to be allies, and still advocating clearly for women's rights and gender justice. Reflections from Save the Children on their Community Conversation approach have emphasized the importance of working with skilled, passionate, and voluntary facilitators, who advocate from their own personal conviction and are permanently invested in the community (Save the Children 2017). Notes from Raising Voices on their successful SASA! model show that fostering a spirit of community activism is a key feature of successful violence prevention models that "stick." They also note that the intensity, frequency, and coordination of interventions are important for bringing systemic change (Heilman and Stich 2016). In fact, a common feature of all of the best-practices curricula is that they take place over weeks and months, not days and refresher training days. When challenging deeply held social norm and entrenched power dynamics, it is critical to allow sufficient time for careful adaptation of approaches to the particular context, and for couples and communities to follow through the process, build dialogue skills, and experience perspective shifts. For practitioners, this may mean educating donors and advocating for intensity and long-term engagement over scalability, and continually monitoring the processes of the engagement to better understand the incentives and the messages about gender equality that appeal to both men and women. Formal, external evaluations of the promising engaging-men models that include outcome data, process documentation, and cost data can provide evidence for investing in and responsibly scaling effective models for social norm change.

CHAPTER 3

Gender and Leadership in Africa: Exploring the Nexus, Trends, and Opportunities

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The topic of leadership, as a process and a complex set of interactions to motivate and inspire others, has been, in the context of Africa, a matter of interest and research over the past six decades. A study by Fourie, van der Merwe, and van der Merwe (2017) documented some 114 peer-reviewed research articles on leadership in Africa. The articles outline and discuss issues of individual and institutional leadership in the context of politics, gender, traditions and values, religion, education, ideology, and socioeconomic and development dynamics. While the nexus between gender and leadership features as a topical issue in the region, we have known and seen very little evidence about how those topics could be analyzed and addressed beyond the mere application of theories and leadership approaches pertaining to gender (Alimo-Metcalfe 2010; Ayman and Korabik 2010), and particularly to gender equality in Africa.

According to the International Labour Organization (2000, 48), "Gender equality, or equality between men and women, entails the concept that all human beings, both men and women, are free to develop their personal abilities and make choices without the limitations set by stereotypes, rigid gender roles and prejudices. Gender equality means that the different behaviour, aspirations and needs of women and men are considered, valued and favoured equally. It does not mean that women and men have to become the same, but that their rights, responsibilities and opportunities will not depend on whether they are born male or female." Furthermore, gender equality—including in relation to leadership—is not just a fundamental value but, more importantly, constitutes a driving force for a more inclusive approach to transformative change. Effective leadership is not possible without full consideration of how gender dynamics can (1) shape perceptions, personal expectations, and those expectations expressed by others, and (2) induce—desired, permitted, or prohibited—behavioral rules and norms that are reflected in diverse spheres of influence and spans of power and control (for example, character, competence and skills, context, and communication) and at different—community, organizational, and national—levels of interaction (Eklund, Barry, and Grunberg 2017). Gender equality and effective leadership, as concepts, are inextricably intertwined (Eklund, Barry, and Grunberg 2017; Kark and Eagly 2010). Understanding this interrelation and the associated ripple effects in various domains is critical if Africa is to follow a path to achieve the Sustainable Development Goals (SDGs) and particularly gender equality across the continent's different regions.

Various actors (such as governments, the private sector, society, and individuals) at different levels have made and continue to make concerted efforts to ensure that African people—including women, girls, and youth—can effectively contribute to shaping and implementing the aspirations of the 2030 development agenda for the benefit of all. While we see some encouraging signs toward creating mutually reinforcing mechanisms for improved gender equality and inclusive leadership in line with the SDGs implementation process, the overall picture remains rather complex and varies considerably from one country to the other. Advancing the cause for gender equality so that we may fully achieve the goals and targets of sustainable development is not only the right thing to do but an imperative for Africa. In this context, we can identify at least two ways various actors have approached the relationship between gender equality and leadership effectiveness.

On the one hand, the most popular approach has been to optimize leadership effectiveness by increasing the participation of women in management and leadership positions as a response to their very noticeable absence in several sectors. Studies have shown that leaving some stakeholders—in this case, women with their various realities, and other groups (such as the youth, disabled, and elderly) at the margins—out of the leadership equation may lead to mixed results in terms of advancing gender equality and building strong commitment toward achieving sustainable development (Waldman et al. 2018; Hunt, Layton, and Prince 2015; UN Women et al. 2015; Nkomo and Ngambi 2013; Hoyt 2010; African Union 2009). Various reports[2] have documented economic losses directly or indirectly caused by the lack of a systematic and participatory approach of all actors to catalyze process and development efforts. This is also evidenced through the persistent disparities in accessing and receiving benefits from productive

2 A recent World Bank report projected a global loss of about US$160 trillion in wealth due to differences in lifetime earnings between women and men (Wodon and de la Brière 2018). Similarly, a report by UN Women et al. (2015) had estimated the costs of gender inequality in Africa south of the Sahara (SSA) to be an average of US$95 billion per year. The same report also mentioned that for countries such as Malawi, Tanzania, and Uganda, the gender gap regarding notably agricultural productivity could amount to as much as US$100 million, US$105 million, and US$67 million per year, respectively.

At the same time, it was also projected that a significant reduction of gender gaps in different sectors would increase social and economic gains (WEF 2018; FAO 2011) and generate trillions of dollars in global growth. Thus, most regions could achieve a gain of approximately 8 percent annually in incremental gross domestic product and SSA in particular could register an increase of 12 percent annually in GDP by 2025 over a business-as-usual scenario (McKinsey Global Institute 2015).

resources illustrated by, among other factors, the low female and youth participation in existing and new markets. Differences in access to employment have equally played to the disadvantage of women owing to multiple socially defined roles and responsibilities that often constrain their mobility, time, and full engagement. Furthermore, significant differences according to gender in access to formal and informal education, and in the impacts of development interventions and threats such as climate change, high prevalence of disease, and poor health conditions, have contributed to a high level of inequality across Africa's regions and between different groups of African men and women.

On the other hand, it is now generally recognized that addressing such problems involves more than just fixing the issue of women's representation. In line with the literature on social (gender) role theory that suggests different patterns of socialization for men and women and gender stereotypes resulting from the division of labor in different social spheres; some research has also found that men are likely to be more effective than women in management and leadership positions (Koenig et al. 2011; Wood and Eagly 2009; Eagly and Karau 1991). A growing body of literature is currently revisiting the perceptions and stereotypes about leadership effectiveness and finding new evidence that both men and women can be equally effective leaders using different styles and operating in different contexts (Badura et al. 2018; Saint-Michel 2018; Paustian-Underdahl, Walker, and Woehr 2014; Cooper and Nirenberg 2012; Appelbaum, Audet, and Miller 2003). Therefore, in addition to increasing women's numbers in positions of leadership, another strategy is to support and nurture a pipeline of African leaders—male and female—who can change the many stereotypical views about gender and leadership, who can act and effectively influence the realization of gender equality in all spheres of society. For that to happen, current and emerging leaders, regardless of their gender, have a significant role to play in fostering opportunities for people to come together and maximize the potential for positive outcomes. To catalyze the transformative process, it is also imperative to tackle, at different leadership levels, capacity limitations on how to embrace a gender-responsive and inclusive approach to sustainable development; it is imperative to substantially shift attitudes, gender norms, and practices while also encouraging relevant actors to take concrete actions and promote viable solutions to influence social and policy change.

In Africa, and particularly in Africa south of the Sahara (SSA), where it has been projected that significant progress toward gender equality could add up to US$0.3 trillion to the region's annual output by 2025 (McKinsey Global Institute 2015), how has the process of leadership development unfolded? What has hindered the process? What are the possible pathways to progress? How can we scale up those pathways? This chapter explores these questions in the context of the SDGs and, particularly, with regard to how the nexus between leadership effectiveness and gender equality relates to achieving sustainable development in the region.

Sustainable Development in SSA: Assessing Progress in Catalyzing the Relationship between Gender Equality and Leadership

With the adoption of the 2030 Agenda for Sustainable Development in 2015, it became clear that moving forward decisively on the 17 SDGs and related targets will demand commitment and action, but above all, we will need a holistic approach to gender equality and effective leadership if we are to integrate the SDGs into strategic plans, policies, and processes.

What has been done? In addition to the several ongoing efforts at national and regional levels, a number of initiatives have taken place at the continental level:

- Adopted in 2004, the **African Union Solemn Declaration on Gender Equality in Africa** (SDGEA) saw African heads of state and government reinforce their commitment to parity and gender mainstreaming in the political and development agenda while committing themselves to actual implementation in their countries at all levels of decision making. Following the 2010 evaluation of the SDGEA, the African Union in 2016 commissioned another evaluative study to document progress and lessons learned in regard to the SDGEA's implementation (African Union 2016). Overall, 28 out of the 54 countries in Africa (about 52 percent) had officially reported on the 13 SDGEA commitments on women, HIV/AIDS, and related health issues; peace and security; gender-based violence; gender parity; women's human rights; rights to land, property, and inheritance; education for women and girls; the Protocol to the African Charter on Human and Peoples' Rights on the Rights of Women in Africa (better known as the Maputo Protocol); the strategic framework for the AIDS Watch Africa initiative; the African Trust Fund for women; and annual reporting on achievements. For the majority of these commitments, it was apparent that the little progress made toward gender equality since 2004 was very much concentrated in a handful of countries and for some specific sectors.

- **Agenda 2063**, established in 2013, was designed to strategically guide inclusive growth and sustainable development for Africa over the next 50 years. The plan's framework promotes the attainment of full gender parity and thus emphasizes a set of priority actions and review processes for gender equality and youth and women's empowerment at all economic levels, including access to health, education, science, and technology and access to and control of productive resources (for example, land, credit, inputs, and financial services). Although, in theory, the framework was carefully and inclusively articulated around different priority intervention areas, the strategy for implementing the Agenda 2063 commitments has been unclear about the innovative leadership and management required to achieve gender equality, and thus the overall process to date has yielded uneven results. For that reason, the **African Union Gender Strategy (2018–2028)** was formulated to ensure that gender-related concerns will be clearly reflected and systematically integrated as part of the implementation process (including the development of measures and benchmarks such as gender scorecards, targets, and indicators) of the Agenda 2063 framework.
- Introduced in 2003, the **Comprehensive Africa Agriculture Development Programme** (CAADP) framework has been at the center of efforts by African heads of state and government to accelerate economic growth through agriculture-led development and thus contribute directly and indirectly to the achievement of all of the SDGs. In June 2014, taking stock of lessons learned in the first 10 years of CAADP implementation, the heads of state and government of the AU endorsed the *Malabo Declaration on Accelerated Agricultural Growth and Transformation for Shared Prosperity and Improved Livelihoods* as a renewed commitment to design and align national and regional policy documents with the implementation of the SDGs, including the transversal theme of gender equality in Africa. Beyond the adoption of several gender-specific commitments, AU member states have also renewed their call for action by all African countries to show tangible results in different socioeconomic and related sectors. Despite the political will expressed in the recent past, the implementation framework still is beset by several flaws regarding adequate mechanisms within CAADP to champion effective leadership to achieve gender equality goals in Africa. Evidently, the gender gaps in the framework have been mirrored at the country level and especially in the National Agriculture and Food Security Investment Plans formulated within countries' CAADP compacts to direct agricultural investments to actual beneficiaries (Botreau and Cohen 2019; FAO and African Union 2018).

What are the current trends? Over the past decade, many African policy frameworks have been identified as possible entry points for Africa's development. As described above, some laid a foundation for promoting and strengthening effective leadership toward achieving the SDGs and, particularly, gender equality in Africa. However, the results are far from impressive. A recent report introducing the SDG Gender Index found that the SSA region, with an average regional index score of 51.1, is lagging behind many world regions in meeting most of the SDGs, gender equality included (Equal Measures 2030 2019). For many SSA countries featured in the report, this can partly be explained by the influence of cultural and historical factors as well as different situations of conflict escalation and economic and political instability that, in turn, have affected the establishment of a consistent enabling environment for gender equality. Beyond this report, critical challenges exist in terms of insufficient data coverage and quasi-nonexistent gender-sensitive data collection systems that would support sound performance evaluation and adjustment of country interventions to meet the 2030 development agenda.

Current Status of Gender and Political Leadership in SSA

Women continue to be underrepresented at the top levels of organizational and political processes in different African regions (Barnes and Burchard 2013). According to McKinsey & Company's *Women Matter Africa*, in 2016 women still made up less than 6 percent of the chief executive officers in different sectors and represented only 22 percent of cabinet members in Africa (Moodley et al. 2016). A further analysis of the current trends uses the Gender Parity Index (GPI),[3] a socioeconomic measure that, in this case, was adapted to compute the female-to-male ratio of representation in political structures with available data from different African countries. If a given country or region were to make strides in achieving gender parity in parliamentary and ministerial positions, the GPI value would get closer to 1.

3 See the UNESCO Institute of Statistics' definition of the GPI at http://uis.unesco.org/en/glossary-term/gender-parity-index-gpi (accessed June 11, 2019).

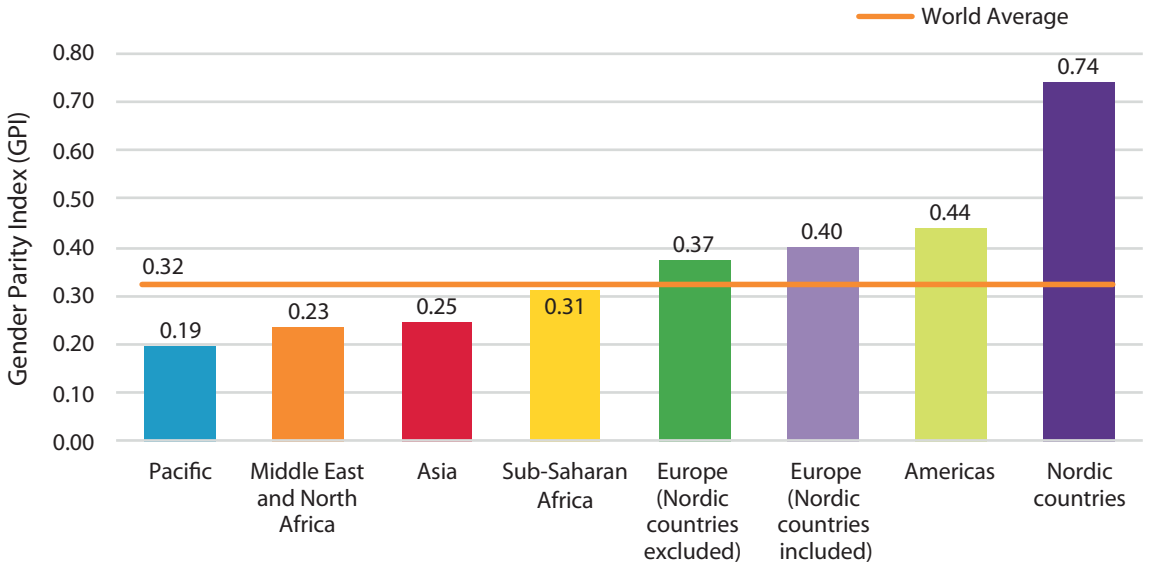
The gender parity in the national governance structures (and particularly in parliament, single or lower house) in SSA has seen relative improvement in recent years. The region's GPI stood almost at the same level as the global average (a GPI of 0.32) in January 2019 (Figure 3.1).

Figure 3.1 also shows that the SSA region has recorded a higher GPI value than the Pacific, MENA, and Asian regions and that its GPI does not lag far behind Europe when Nordic countries are excluded. As Figure 3.2 shows, the region has demonstrated an upward trend with respect to GPI, although the pace has slowed in the last five years, 2013 through 2018.

Similarly, several SSA countries have increased the proportion of women in government considerably (Figure 3.3). With women occupying 24 percent of seats in national parliaments in 2013, SSA mirrors the global average, and it also had the only country (Rwanda) with the highest percentage of women in parliament worldwide (about 61.3 percent of seats in the lower house; data from Inter-Parliamentary Union). Rwanda continues to lead globally with a GPI value of 1.58 in 2018.

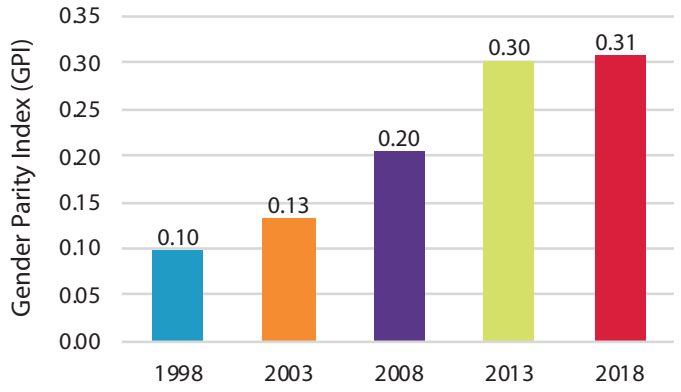
In addition to Rwanda, other countries such as Ethiopia, Namibia, Senegal, and South Africa also registered a net improvement in gender parity in political participation over the last two decades, and all ranked in the top 10 in the 2019 SDG Gender Index. This has translated into an increased female-to-male ratio of representation in national parliamentary positions. We can partly attribute this evolution to the adoption and implementation of legislation on gender quotas for political participation in several African countries since the 1990s. South Africa, Rwanda, Kenya, and Uganda are among the leading countries in the region to implement gender quotas in their legal systems (Hills 2015; Bauer 2008). For most of these African countries, a similar set of factors—including the political transition processes (such as adoption of new constitutional laws) and pressure from gender activists and other advocacy groups—has, by and large, contributed to the relatively successful implementation of gender quotas in the political realm.

FIGURE 3.1—GENDER PARITY INDEX (DIFFERENT REGIONS OF THE WORLD) IN PARLIAMENT IN 2019



Source: Authors' computation using Inter-Parliamentary Union data.

FIGURE 3.2—GENDER PARITY INDEX (GPI) IN PARLIAMENT, SSA REGION, FOR THE PERIOD 1998–2018



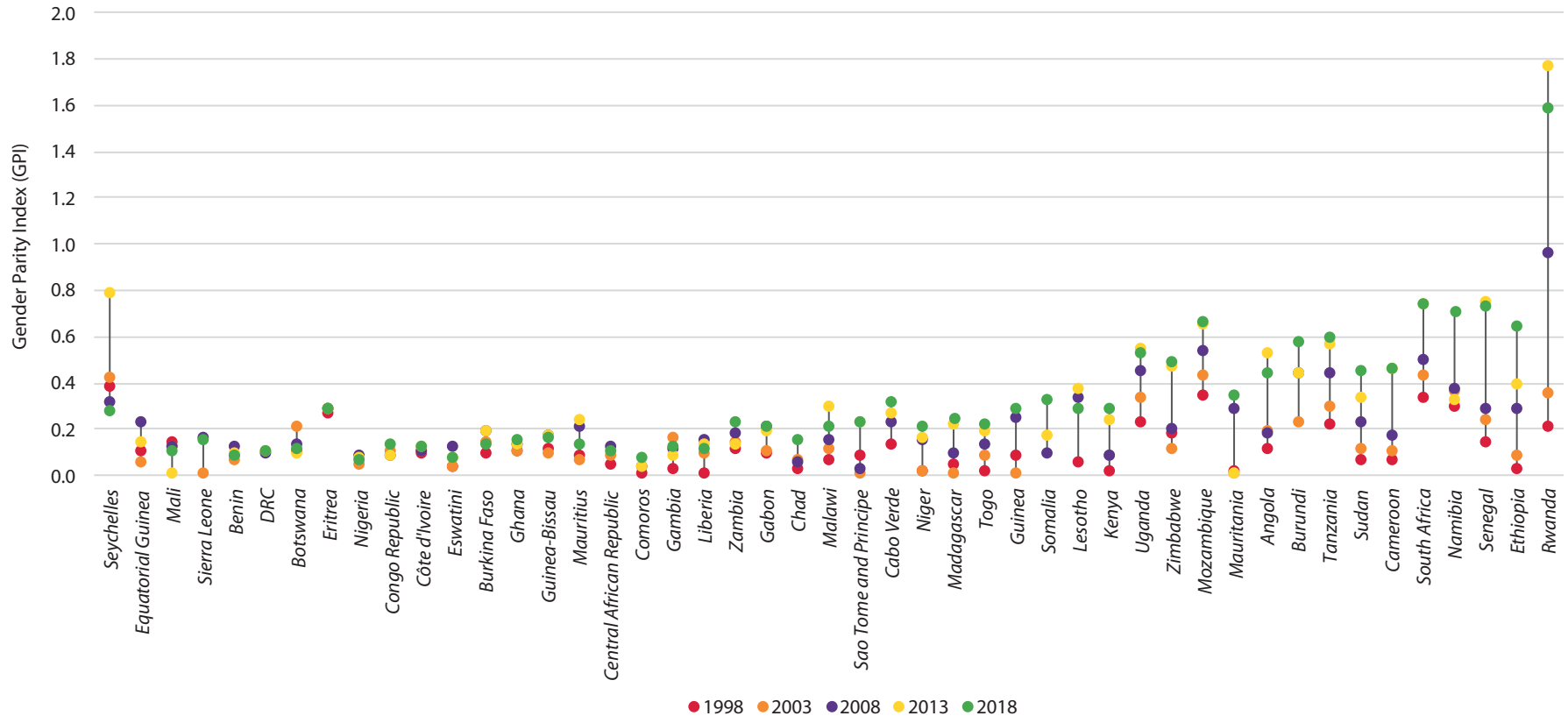
Source: Authors' computation using Inter-Parliamentary Union data.

Whereas some SSA countries stand out with higher GPI values, Figure 3.3 also shows wide variation across the continent as more than half of the countries have less than 10 percent of women parliamentarians and even less when other parameters are considered.

With regard to gender parity in ministerial positions, South Africa led the way in 2017 followed by Rwanda, Swaziland (Eswatini), and Seychelles, where the female-to-male ratio of representation in political leadership positions has seen a steady increase (UNECA 2018). However, as of early 2017, only 18.3 percent of government ministers in SSA were led by women in different ministerial portfolios (data from Inter-Parliamentary Union, 2019). Over time, the distribution of portfolios has become more diversified with women increasingly taking on cabinet positions (including for economy and finance, environment and management of natural resources, and energy, among others) in addition to the ministerial positions (for example, social and family affairs, education, gender and youth, and so forth) traditionally led by women (UNECA 2018).

In other domains of government and particularly with regard to female participation at the community or local government level and in other nongovernmental implementing agencies supporting sectors such as agriculture and rural development, data on recent trends are not always available or consistent and do not provide a complete picture of the situation and allow for reliable

FIGURE 3.3—GENDER PARITY INDEX IN PARLIAMENT IN SSA, COUNTRY DISTRIBUTION, 1998–2018



Source: Authors' computation using Inter-Parliamentary Union data.

comparisons between and within SSA countries (African Union 2018; UN Statistics Division 2015).

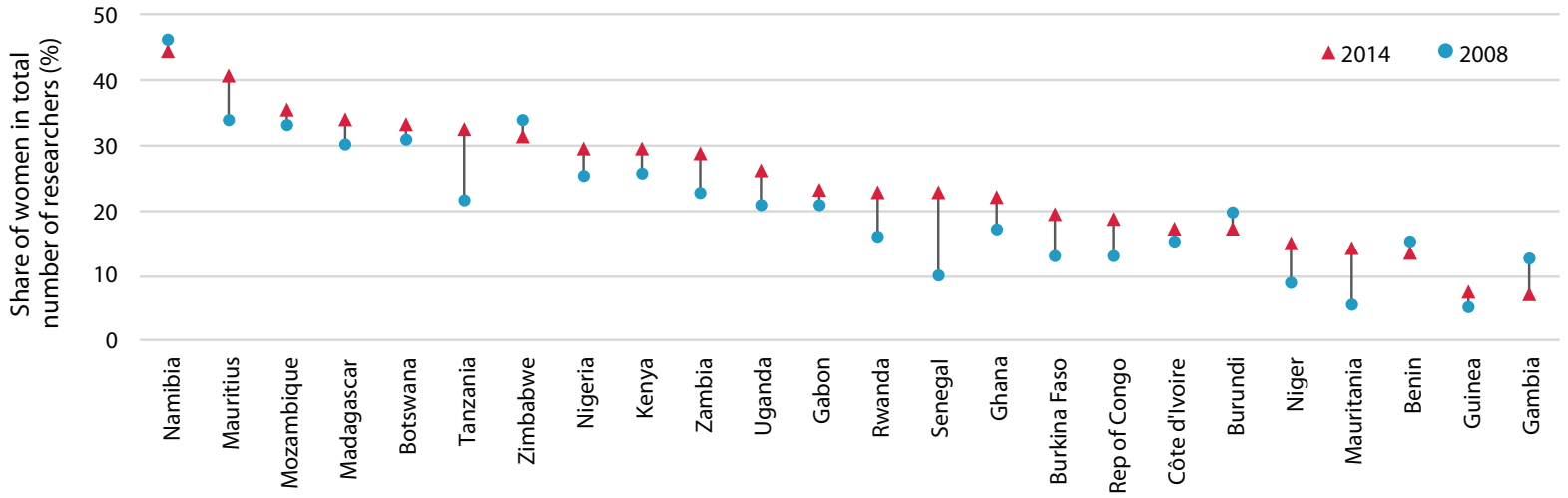
Status of Gender and Leadership in Agricultural Research and Related Activities

A critical issue in the context of gender and leadership in African agriculture has been the leaky pipeline of female African agricultural scientists, particularly women researchers capable of leading and influencing the sector, and their representation in leadership positions in agricultural institutions so that they might substantially contribute to increased economic returns and policy and social change across the continent. Using data from Agricultural Science and Technology Indicators (ASTI), a recent report on research capacity in the African agricultural sector highlighted current trends with regard to existing technical and human capacity for agricultural research in SSA (Beintema 2017). Looking at scientific disciplines in general, the data show a significant increase in the participation of female scientists in many African countries over the 2008–2014 period, but it has been unevenly distributed across the subregions (Figure 3.4).

The assessment report also articulated the need to combine an increased share of female researchers in agriculture with strong female participation in mid- and senior-level management. The evidence, however, shows a decreasing trend in the female-to-male ratio of representation in agricultural and related research, with women being significantly underrepresented in senior and leadership positions in several agricultural research institutions (Beintema 2017). In 2014, only about 24 percent of all senior level agricultural scientists were women (ASTI data, based on a sample of 19 SSA countries, Beintema 2017).

Generally, the female share of agricultural researchers has remained low in many African countries except for Lesotho, Namibia, Mauritius, and South Africa, where that share has steadily increased, reaching 48 percent, 44 percent, 42 percent, and 40 percent, respectively, in 2014 (Figure 3.5). However, when considering the seniority level, only a handful of countries (Lesotho, Swaziland, and Mauritius) have made strides toward increasing the number of women holding mid- and senior-level positions in agricultural research institutions. For Ethiopia, the Republic of Gambia, and many other SSA countries, there is still a long way to go in increasing the participation of women in senior management and leadership of various institutions and bodies.

FIGURE 3.4—GROWTH IN THE SHARE OF WOMEN RESEARCHERS, 2008–2014



Source: Beintema (2017).
Note: Based on a sample of 24 African countries with available data.

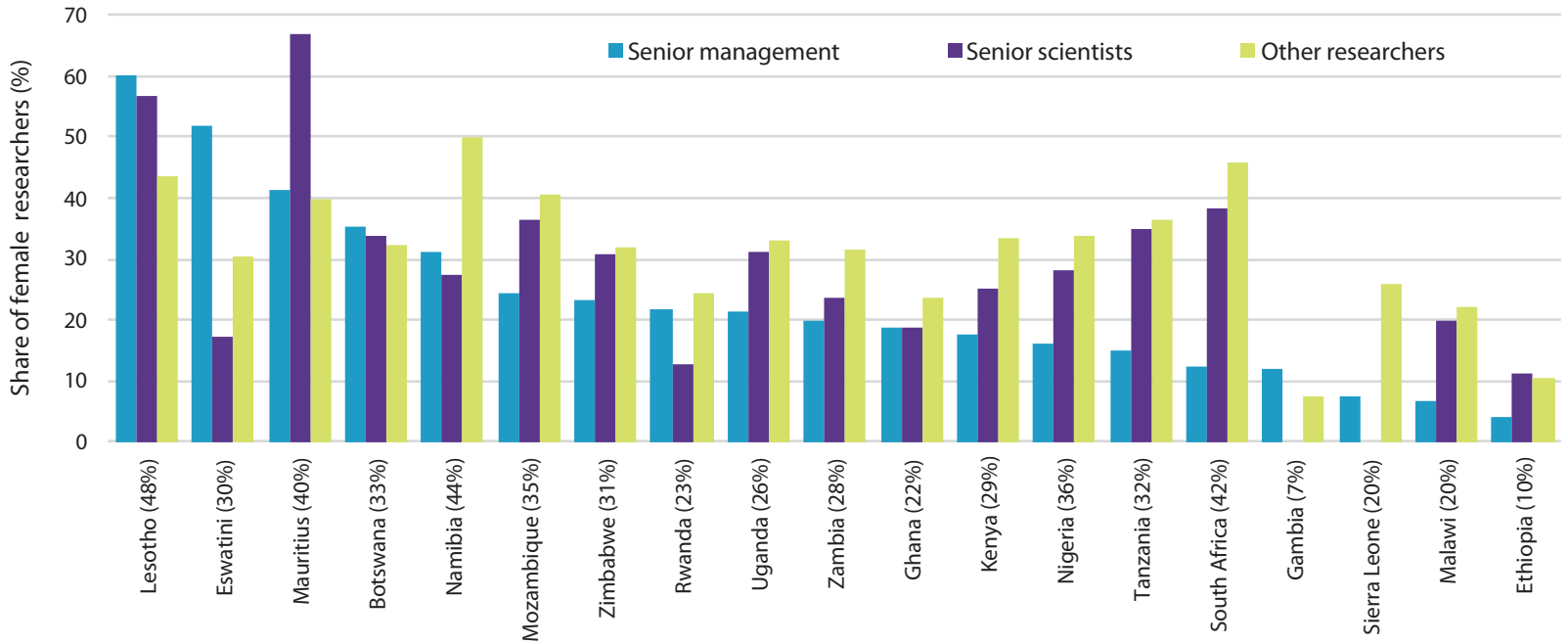
As for the institutions themselves, the data show a similar trend in selected African agricultural research institutions and academia (Figure 3.6). For most such institutions, as of 2014, only a few had taken steps to attract and maintain qualified and competent women in strategic positions in the agricultural sector. Hence, there is a need for more capacity-building initiatives targeting women in agricultural science (Bomett and Wangalachi 2017).

In the case of Ethiopia, the data show some slight improvement for female participation in general at the Ethiopian Institute of Agricultural Research (EIAR) from 2007/08 to 2014, but overall, there is still a scarcity of senior management and leadership positions open to women. It is in this context that EIAR recently commissioned a participatory gender audit (Drucza et al. 2017) to estimate the extent of the extant gender gaps in the institution's various research centers and to take concrete action to increase the number of female researchers and, more importantly, invest in women's capacity development in science and leadership. Many other African institutions are currently taking similar steps to address the gender gap and open up opportunities for increased and equitable representation of men and women at the highest levels.

Gender and Leadership in Action: What Are the Critical Impediments for Africa?

From the preceding trend analysis, it appears that a lot more still needs to happen at different levels and this will require commitment of all driving forces including capable African women ready to take leadership in and influence various segments of society (Ogunsanya 2007). Considering gender equality in the quest toward attaining sustainable development outcomes in Africa remains critically important. However, it is also paramount to consider who the effective

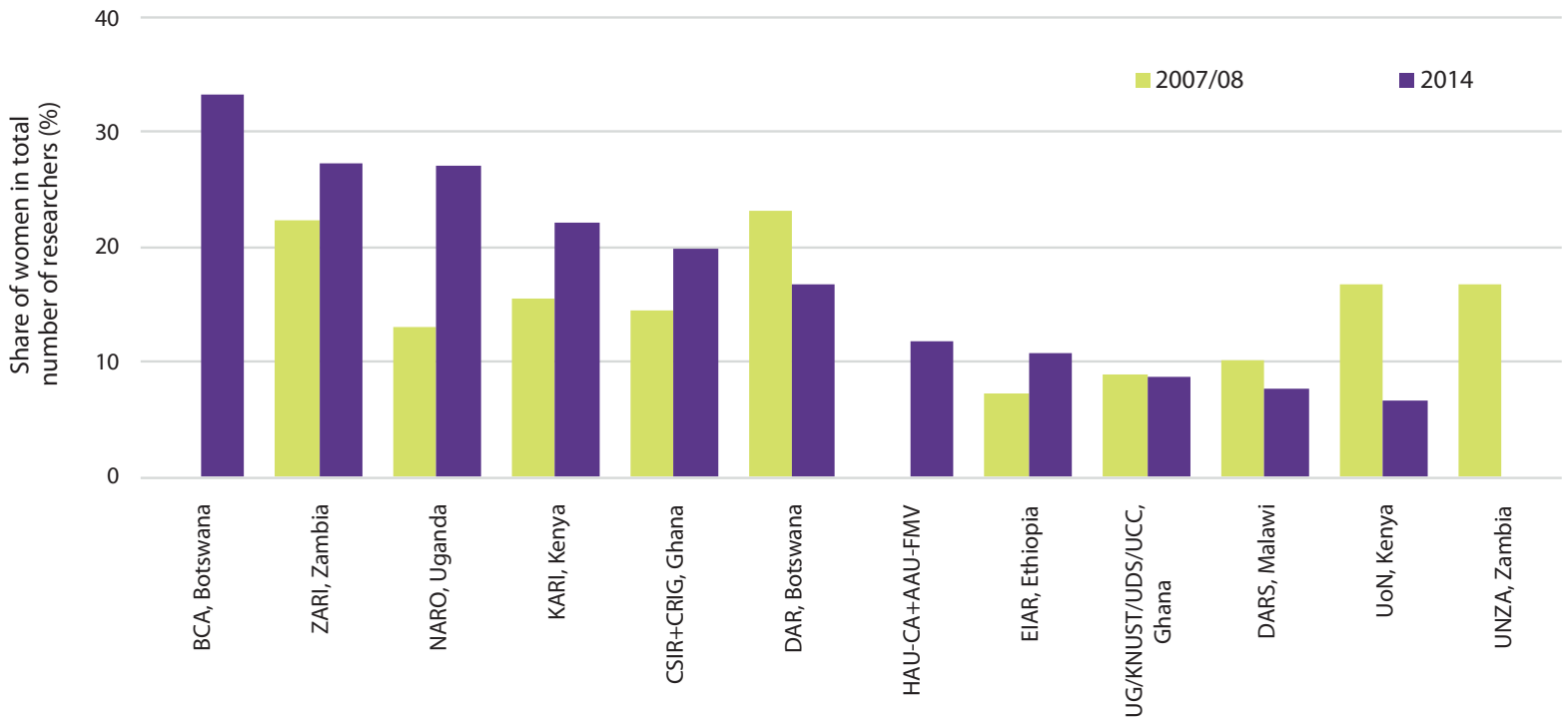
FIGURE 3.5—SHARE OF WOMEN IN MANAGERIAL AND LEADERSHIP POSITIONS AT SELECTED INSTITUTES AND UNIVERSITIES, 2014



Source: Beintema (2017).

Note: Percentages within brackets are the average share of women in the country's total agricultural researchers.

FIGURE 3.6—SHARE OF WOMEN IN TOTAL NUMBER OF AGRICULTURAL RESEARCHERS BY SENIORITY LEVEL FOR SELECTED INSTITUTES AND UNIVERSITIES, 2007/08 AND 2014



Source: Beintema (2017), ASTI datasets and ASTI-AWARD 2007/08.

leaders are and under what circumstances they become leaders and can make a significant impact on the continent. In this light, it is essential to rearticulate what Sen (1999)'s framework termed individual and group "entitlements and capabilities" in the context of social and economic empowerment so as to shed light on what building a strong leadership culture would mean for the African continent to achieve the SDGs and gender equality in particular.

- *Economic empowerment* refers to "the capacity of women and men to participate in, contribute to and benefit from growth processes in ways that recognise the value of their contributions, respect their dignity and make it possible to negotiate a fairer distribution of the benefits of growth" (OECD 2011, 6). This definition is summarized in Eyben, Kabeer, and Cornwall as the situation when people can be "thinking beyond immediate survival needs and thus able to recognize and exercise agency and choice" (2008, 10). This dimension of empowerment as it relates to effective leadership is also directly linked to the concept of *entitlements*. These can be defined as the resources that proponents of the next-generation leadership and people themselves need as individual assets (such as land, livestock, savings, housing, technology, labor, and so on) or should have access to and control over for the purpose of more informed decision-making processes and appropriate plans of action.
- *Social empowerment* may be understood as a "process of developing a sense of autonomy and self-confidence, and acting individually and collectively

to change social relations and the institutions and discourses" that, in many instances, may exclude people at the margins (Combaz and McLoughlin 2014). This other dimension of empowerment has a lot to do with how to approach effective leadership for sustainable development. In this context, the notion of individual and collective *capabilities* becomes very relevant as one thinks of human conditions (for example, education, health, and other basic needs), social dimensions (for example, interaction/socialization, representation, identity, and so on), and psychological aspects (for example, agency, self-esteem and confidence, voice, and so on). All of these dimensions refer to people's abilities to deploy and use available resources, control their own lives, make their own choices, and exercise bargaining power while also organizing and influencing the direction of social change and creating more equitable societies.

Both social and economic empowerment are therefore prerequisites for sustainable development. However, the process of achieving this socioeconomic empowerment for all is not straightforward; it is, however, directly related to the specific obstacles that different people and especially women in Africa face to become leaders. Nkomo and Ngambi (2009) and Hoyt (2007, 2010) summarize some of the barriers in three broad categories as follows:

- *Differences in human capital.* Differences exist in the combination of hard (teachable and quantifiable) and soft (interpersonal) skills people need to unlock and nurture their potential to aspire to positions of leadership. In SSA, several factors (access to information, education, research and other technical knowledge, career development and growth, mentoring, and informal and formal networking opportunities, among others) are still at work in limiting the self-realization of many Africans, and in particular women and youth—as their participation in and contribution to different spheres is often conditional upon the socially constructed (productive versus unproductive) roles and responsibilities defined for men and women in different contextual settings in African regions.
- *Institutional factors.* Ideally institutions provide a conducive environment wherein people can develop a practice of effective leadership and together figure out steps forward on the road to gender equality beyond the status quo male-female representation (Rao and Kelleher 2003). In this process, a host of structural factors (for example, existing structures, policies, and support systems including staff appointment, advancement plans and promotion processes, work–life balance, and flexibility mechanisms) and individual factors (such as amount of experience, position held, individual circumstances, and the various intersecting identities that are comprised by gender, age, race, class, and ethnicity) can drastically affect the overall organizational culture, which, if not well articulated in the context of a fully inclusive and equitable system, can prevent key players, including women, from having opportunities to move into higher ranks. In addition, in many African institutions, discrimination, prejudice, and stereotypes (beliefs and perceptions) take precedence over the real issues at stake, and this is often at the expense of women's chances of emerging as competent and charismatic leaders.
- *Sociocultural factors.* In most of Africa, public systems (institutions) and private structures (families) have evolved in a dynamic, multicultural environment (Aycan 2008; Jackson 2004). That environment has, in turn, shaped people's thinking (through unconscious bias) about leadership and their approach to it. In many African countries, that thinking and approach often takes place through a gender lens. In such a context, traditional values and practices, including religion, more often than not have been in competition with the inclusive and transformative leadership process that is hoped for on the African continent. Cultural barriers and their manifestation on the ground still make it hard for African women—more so than men—to fit into and to advance in leadership positions (Kiamba 2008). Cultural shifts—inclusive, collaborative, and reflective processes—in local and national systems and structures have the potential to affect the practice of leadership. But this would necessitate an inner process whereby leaders understand themselves and the world so that they can effectively work with a variety of stakeholder groups to make effective change. Ultimately, this would open doors for those engaged in the long and difficult journey toward attaining gender equality goals through transformative leadership.

A Renewed Approach to Leadership to Achieve Gender Equality in Africa

Despite the current trends and challenges, younger and older generations should pursue an agenda for Africa's socioeconomic transformation through effective leadership to realize gender equality at all levels. What are the possible pathways to success and how can we scale them up? One way to answer those questions is

to explore a renewed approach to leadership that builds on *transformational* and *transformative* theories (Hewitt, Davis, and Lashley 2014; Shields 2010) in the context of a culturally diverse Africa.

In recent years, African institutions and bodies have embraced a more transformational approach to leadership that focuses on preparing individuals and organizations for socioeconomic change. *Transformational leadership theory* presents leaders' personal traits and characters as the key components for their own transformation into better leaders who will, in turn, inspire their followers to effect positive change as they themselves also develop into leaders (Burns 2004). To that end, it is important that we facilitate more capacity-building initiatives and leadership development for individuals, organizations, and structures on issues such as allocation of duties, distribution of resources, and existing cultural (gender) roles, traditions, and norms.

Promoting formal education has been a key lever for this process given the growing population of youth across the continent. Over time, the need to combine cognitive and noncognitive capacities for leadership development has become increasingly relevant, and thus that method has been encouraged at different levels. Consequently, the past two decades have seen the launch of a number of leadership preparation programs and initiatives, with many still being rolled out, with a common objective of unleashing and nurturing the potential of the next generation of African leaders (see Appendix Table A.1[4] for a description of some of the notable leadership initiatives in Africa).

Whereas some differences exist in the capacity-building models (for example, residential and nonresidential programs) and the target audience (programs for women only versus those for men and women, age criterion, and so on), most programs center on the individual and focus on such things as sharpening technical skills, fostering peer learning, mentorship and role modeling, and developing interpersonal skills as well as promoting a networking culture. To date, most of these programs have made tremendous achievements in terms of bringing together an increasing number of Africans from across different regions, working on similar or different topics, equipping them with the skills necessary for their personal development, and encouraging the establishment of strong alumni networks across the continent. Beyond the positive achievements, we must ask how and to what extent in this process of cultivating aspiring leaders for effectiveness the necessary goals of gender equality, social justice, and ethics are safeguarded so as to maximize outcomes and policy change in African societies. Moreover, how do we leverage the success stories generated by the programs and initiatives; how do we critically assess program outcomes and impacts beyond the individuals; and, finally, how do we envision the sustainability of most of the donor-funded programs?

The many challenges to making gender equality a reality in African societies are too complex to be dealt with in isolation, by putting them exclusively in the hands of existing and prospective African leaders. A profound understanding of leadership as an inclusive and shared process is very much needed. Africa as a continent should be envisaging the traditional *transformational leadership* approach alongside a transformative leadership process that "offers the promise not only of greater individual achievement but of a better life lived in common with others. Transformative leadership, therefore, inextricably links education and educational leadership with the wider social context within which it is embedded" (Shields 2010, 559). As such, positive individual change should reflect on other people and groups, processes, and systems and, ultimately, lead to transforming the entire society. A good mix of transformational and transformative approaches to leadership would be necessary to achieve gender equality, but this will happen only if specific conditions are met to create an improved enabling environment and develop a sound framework for collecting and documenting evidence while also strengthening accountability mechanisms for sustainable and equitable outcomes.

Conclusion and Way Forward

Africa faces complex challenges in promoting and implementing development approaches that champion equity and diversity in the various sectors of its economy. As a result, the progress made in developing excellent policy frameworks at the regional and continental levels has still not satisfied the continent's growing needs and priorities. Our analysis of current trends in two key components of the continent's economy (political governance and agriculture) reveals that in many African countries gender gaps persist not only in political representation, agricultural research, and innovation systems but also in other positions of influence. We locate the reasons for this situation in the failures (1)

4 See Chapter 3 Appendix Table A.1 (https://www.resakss.org/node/6748?region=aw).

to systematically integrate a gender perspective in national systems and sector policies; (2) to promote strong and accountable leadership at all levels to address disparities in human capital and sociocultural constraints; and (3) to tackle institutional deficiencies.

If African leaders, organizations, and other stakeholders are going to leverage the potential for leadership to have the most impact, then it is imperative to define specific conditions for success and sustainability including setting a new paradigm for collective and concerted action. Our review of gender and leadership in the African context leads to the following recommendations:

- *Create an improved enabling environment that will provide a solid foundation for a level playing field for all stakeholders while also striking the right balance among the interventions and approaches for building successful pathways to gender equality*. This requires, in particular, putting greater emphasis on multistakeholder processes that will help develop platforms for social and policy dialogue and define adequate intergovernmental frameworks for capacity building and strengthening at the individual, institutional, and system levels. In the policy sphere, decision makers should provide national leadership in the formulation and effective implementation of sound evidence-based gender policies supplemented by targeted participatory programming at local, national, and regional levels. At the institutional and organizational level, interventions should ensure that the perspectives of various target and nontarget groups are fully considered and the relationships between and among them taken into account. In addition, different community actors need to take the lead in promoting an environment for social cohesion and economic and political empowerment of the local populations.
- *Develop a sound framework for collecting and documenting evidence on the manifestation of collective action toward transformational and transformative leadership for societal change*. This calls for effective and reliable data systems, mixed qualitative and quantitative methods, and targets and benchmarks against which progress and change can be monitored and evaluated. Additionally, it is essential to define (1) what would constitute sound evidence, bearing in mind that not all concepts can be easily measurable and adequately analyzed from a gendered perspective (for example, contribution to gross domestic product by men versus women; male versus female empowerment; social status influenced by power dynamics; level of resilience; capacity to face risks; and others); (2) how much evidence and analysis are necessary to reflect new learnings and challenges, including evidence from interventions, knowledge shared among partners, and analysis of coherence between different stakeholders; and (3) how to ensure that the compiled evidence will influence the policy debate around gender equality and, ultimately, advance the cause of those who live at the margins of Africa's economy, especially women and youth.
- *Create an adequate framework for accountability for all relevant actors.* Transformative leadership comes with the responsibility to make the case for the less advantaged actors; voice and let others voice their views, ideas, and recommendations for gender equality results; and facilitate consensus-building exercises to bring about change and, ultimately, to take visible steps to move from commitments to effective execution and delivery to accountability processes. While accountability defines the nature and scope of people's, organizations', and institutions' responsibilities and achievements, mechanisms to ensure its full implementation are often flawed when they do exist (Waldman, Theobald, and Morgan2018). As Goetz (2003, 53) aptly argues, accountability institutions "are designed to support the rights of less powerful actors . . . to demand answers of and enforce punishments on more powerful actors (for instance the executive). However, they do so unevenly. They may selectively amplify the 'voice' of particular groups, making authorities answer only to powerful social actors, or making a developing country government more accountable to foreign corporations and international financial institutions than to its own citizens. In this sense, the real-life workings of accountability institutions (who answers to whom, who is able to punish authorities?) provide us with a key to uncovering power relations in any polity." This is particularly relevant in the African context, where the imperative is to rethink the accountability mechanisms by establishing common evaluation criteria that can also be adapted to different country-specific circumstances and by systematically integrating gender equality concerns into Africa's peer-review processes and other monitoring mechanisms.

CHAPTER 4

Women's Land Rights in Africa

Hosaena Ghebru[1]

1 This work was undertaken as part of, and funded by, the CGIAR Research Program on Policies, Institutions, and Markets (PIM) led by the International Food Policy Research Institute (IFPRI).

A new wave of land reforms has swept across a large number of developing countries since the millennium. Prior to the millennium, land tenure reform toward an individual freehold system was seen as a prerequisite for development in Africa south of the Sahara (SSA) by governments, development partners, and practitioners (Feder and Noronha 1987; Migot-Adholla et al. 1994). The arguments in favor of reforming the customary African land tenure system were mainly based on the neoclassical economic theory of property rights (Demsetz 1967; Barzel 1997) that predicts greater productivity as land tenure becomes more secure and individualized. Reflecting neoliberal thinking about private property rights, Besley (1995) identified three channels through which secure property rights can, in principle, bring about positive economic outcomes, namely (1) tenure security and higher land investment incentives; (2) smooth functioning of the land markets (tradability) that smooths farm input adjustment; and (3) facilitating access to institutional credit by allowing land to be used as collateral. These hypothesized effects of tenure security rely heavily on the neoclassical framework that presupposes markets for all goods and services (including credit and insurance markets) exist and, therefore, market clearing prices determine demand and supply choices of households (Bardhan 1989; Hoff, Braverman, and Stiglitz 1993).

However, in areas where risk, information asymmetry, and moral hazard (social distrust) are pervasive and transaction costs (mainly information and enforcement costs) are prohibitively high (as is the case in rural areas of SSA), such hypothesized effects of individualized property rights may not hold empirically. Regardless of the security of tenure, such absences or imperfections in the market can undermine farm households' incentive to undertake profitable investments (Holden, Shiferaw, and Pender 2001) and participate in any form of exchange process (Kranton 1996). In areas with no or few off-farm employment opportunities or other safety nets (as in rural areas of SSA), vulnerable groups (such as women and poor smallholders) internalize such imperfections in the market by using land not only as a productive asset but as a social safety net (Deininger and Feder 1998; Holden 2007). Hence, with such imperfections in the markets and limited institutions to support the functioning of markets in developing countries, liberalization, in the form of individualization of property rights, has failed to achieve the promised benefits of reducing the investment disincentives associated with the customary tenure system (Deininger and Feder 1998; Barrows and Roth 1990; Roth 1993; Platteau 1996; Benjaminsen et al. 2009; Cotula, Toulmin, and Hesse 2004). The beneficial aspects of secure land tenure apply not only at the household level but also specifically to women's land rights within the household, which are shown to contribute to investment in sustainable agricultural practices, as well as women's bargaining power and decision making on consumption and human capital investment (Meinzen-Dick et al. 2018).

A body of literature on land property rights (Larson and Bromley 1990; Bromley 1991; Schlager and Ostrom 1992; de Janvry et al. 2001) acknowledges that privatization and individualization is not a priori the most efficient means of achieving tenure security. This was the basis for the revision of the 1975 World Bank land policy, which called for the introduction of private land rights in Africa, acknowledging the fact that the customary tenure system can increase tenure security and provide a basis for land transactions that are more cost effective than freehold titles (Deininger and Binswanger 1999).

With this recognition, recent land governance reforms in Africa focus on a more pragmatic approach (rather than a narrow focus on individual land titling) where the range of possible forms of tenure is considered as a continuum from informal toward more formal land rights recognition and where each step in the process of securing the tenure can be formalized (UN-Habitat 2008). The recognition of customary tenure and customary authorities and, thereby, formalization/documentation of customary rights both on a collective and on an individual basis has been central to the newfound approach (the continuum of tenure). Alongside the increasing attention given to customary land tenure, attention has also been drawn to women's land rights.

Thus, many of the recent land governance reforms have been hailed as a key element in efforts to ensure gender equality with respect to land rights, especially in the process of formalization of land rights both collectively and individually. More importantly, the ongoing social, economic, and agroclimatic dynamics in Africa make the scrutiny of the suitability of the status quo land governance system (customary tenure system) not only valid but also timely—especially in safeguarding land rights of vulnerable and marginalized groups such as women. This has led to various global-, regional-, and national-level initiatives and commitments to ensure gender parity in safeguarding land rights.

This chapter provides a cross-country overview focusing on (1) synthesis of recent legislative/regulatory and administrative/institutional land governance reforms on the continent with explicit provisions for women and promoting gender parity; (2) analysis of existing challenges (regulatory, institutional,

administrative, and budgetary) in the design and implementation of gender-responsive land tenure programs and policies; and (3) the implications for the status quo land tenure system (customary tenure system) in protecting women's land rights due to the changing landscape in the land sector, taking into account social, demographic, and economic dynamics on the continent.

Discourse on the Recent Wave of Legislative/ Regulatory Land Reforms and Gender in Africa

In the land reforms after the 1990s, countries in Africa incorporated gender aspects in legal provisions to protect women's land rights. The reforms followed innovative approaches to land administration, including protection of women's land rights, and aimed to minimize gender inequalities concerning land, housing, and property rights. For instance, the African Union adopted the Protocol on the Rights of Women in Africa in 2003, focusing on various human, social, economic, and political rights of women. In 2015 the African Union Specialized Technical Committee on Agriculture and Rural Development, Water, and Environment adopted a recommendation that member states move toward allocation of 30 percent of land to women through legislative and other mechanisms, in order to facilitate their economic empowerment. Countries also took measures such as the explicit recognition of women's equal rights with men and the prohibition of gender-based discrimination; promotion of joint ownership and registration of land; affirmative action policies on land allocation to female-headed households and credit access to develop land; and laws on inheritance and property rights for widows and children (Augustinus and Deininger 2005). In the following paragraphs, we discuss the recent wave of land reforms focusing on women's land rights and gender parity with examples from selected African countries.

After the land redistributive reforms dominating the land tenure debate during the last decade of the 20th century, there is now a renewed global interest in land policy and legal reforms in part due to rapidly increasing population pressure and high food and fuel prices (IFAD 2001; Bonfiglioli 2003; Deininger 2003). Against this backdrop, there is now a growing consensus that, even in rural African contexts where individual titling of land may not be desirable or feasible from a gender-parity perspective, simple recognition of the different breadth of rights individuals and communities have under the existing customary tenure system (by providing vulnerable landholders or land users with options to have their rights documented) can yield significant benefits (Deininger et al. 2008).

With this recognition, the continuum-of-land-rights paradigm offers an innovative alternative to a narrow focus on individual land titling where the range of possible forms of tenure (including perceived tenure, customary, occupancy, adverse possession, group tenure, leases, freehold) is considered as a continuum from informal toward more formal land rights and where each step in the process of securing the tenure can be formalized (UN-Habitat 2008). This approach has gained momentum in the last two decades due to the recognition of the limitations of past land titling programs and the argument that, given low population density and relatively abundant land, the usufructuary rights given under the customary tenure rights system do not impose large losses as long as markets for output, capital, and insurance are poorly developed, which ultimately is the case in the SSA context. Compared to a narrow focus on titling, the continuum-of-land-rights approach is better suited to protecting land rights of vulnerable groups such as women because it involves localized recording and documentation of rights (including secondary or derived rights to land normally held by women in rural Africa), adapting and expanding existing tenure and land administration systems where possible, and introducing new ones selectively (Augustinus and Deininger 2005).

Since the turn of the new millennium, initiatives to implement the continuum-of-land-rights approach have moved ahead in several African countries, including Uganda, Tanzania, Rwanda, Mozambique, Ethiopia, Benin, Côte d'Ivoire, and Burkina Faso. In a number of countries, land policies and laws have been passed that aim to integrate customary and formal land rights and tenure systems.

Proponents of the approach (including the World Bank) argue that, given the prevalence of high transaction costs and market imperfections, costs associated with communal land rights are low. However, although customary systems can meet social and economic needs and can be very secure, population pressure, urbanization, commercial pressures, and the monetization of customary land transactions are eroding the social cohesion that gives customary tenure its legitimacy (Augustinus and Deininger 2005). No single form of tenure can meet the different needs of all social groups. Hence, the progressive, incremental approach

whereby tenure rights are gradually formalized or upgraded over time is widely accepted as an alternative to costly or difficult land titling programs. (See Box 4.1 for a few examples of countries that have adopted this new approach.)

Although the customary land tenure arrangements across SSA may have served women relatively well in circumstances where land is deemed abundant, land is less commodified, and farming is subsistent and less commercial (Ghebru and Lambrecht 2017; Ghebru and Girmachew 2017, 2019), they need to be adjusted to the new demands being put on land by population increases, urban migration, and a global rush for commercial farming land. The challenge facing governments in the region, and the aid agencies assisting them, is to find a "development model" that will facilitate economic growth without causing widespread dispossession and the poverty and social dislocation that would result, especially for women.

Under the continuum paradigm, many options exist for adjusting customary land tenures from which governments can choose that avoid a blanket solution to the land problems. The most sensible approach is to proceed step by step—without trying to do too much—focusing on the priority areas, adapting existing tenures rather than abolishing them, and implementing reforms in pilot projects before introducing them more generally (UN-Habitat 2008). Along this range of incremental tenure options, the first and basic reform option is the recognition of customary tenure rights, under which the landownership of groups, including women, is protected, while individuals are given the security they need to invest in land development.

If the objective is to formalize rights as they exist on the ground, this will generally require the formal codification of customary institutions. Possible ways to do this are diverse (Kanji et al. 2005) and have met with varied results. One possible method of formalizing customary institutions (as outlined by Fitzpatrick, 2005) is known as the "minimalist approach." The essence of the "minimalist approach" is captured by the statement that for certain areas, "customary rights to land are recognized" without any further interference. According to Fitzpatrick, this approach allows customary rights to evolve over time in response to population changes and economic needs, without undue restrictions or impositions by a formal legal regime. Such a basic intervention could act as a targeted answer to the problem of encroachment by outsiders,

BOX 4.1—EXAMPLES OF INNOVATIVE PRO-WOMEN LAND TENURE REFORMS

Nature of intervention	Countries
1. Recognition of customary land rights of women	• Mozambique, Uganda, Ghana
2. Legal protection of individual use/occupancy rights (issuance of certificates of occupancy) of women	• Tanzania, Ethiopia, Malawi, Nigeria
3. Community land demarcation and collective titles	• Uganda, Mozambique, Ghana
4. Decentralized land administration system • Establish land boards • Village-level land administration council/ committee • Promote women's participation in decentralized land administration	• Mozambique, Uganda, Ghana • Tanzania, Ethiopia • Ethiopia, Rwanda, Uganda, Zambia
5. Land registration/documentation • Sporadic (demand-driven) land registration • Systematic (supply-driven) joint land registration	• Tanzania, Uganda, Mozambique • Rwanda, Ethiopia
6. Forms of decentralized dispute resolution mechanisms	• Uganda (tribunals, local government mediators • Tanzania (village land administration council) • Ethiopia (local conflict mediators) • Malawi (land tribunals—proposed)

Source: Authors' compilation.

particularly in circumstances where this constitutes the primary cause of local tenure insecurity (Ghebru 2015). This approach, for example, informs the 1997 Land Law in Mozambique, which broadly demarcated customary areas while leaving land issues within those areas subject to unregulated customary processes (Toulmin and Quan 2000). Uganda and Ghana provide other examples of this type of approach (Hvalkof and Plant 2000).

Simply recognizing customary rights would not be appropriate where tenure insecurity arises from matters internal to the group. Pressures from an ever-growing population and urbanization in many SSA countries call for enhancement of occupancy rights, which can take the form of proclamations against forced evictions and relocations. New tenure types to address such issues include issuance of occupancy right certificates (generally critical for customary tenure rights, particularly secondary rights of women) that protect against eviction and expropriation without fair compensation. Only in the event of considerable tenure insecurity within a group, particularly as a result of individualization tensions (mainly caused by the pressures of population and urbanization) and/or the emergence of land dealings with foreigners, would the benefits of recording individual interests potentially outweigh the considerable costs and risks of the recording process. That said, a number of African countries do allow for the issue of certificates of individual customary rights to land, including Rwanda, Tanzania, Malawi, Mozambique, and Uganda (see Alden Wily 2003; Toulmin and Quan 2000).

Governance Constraints in Maintaining Gender Parity in Land Rights

Despite many SSA countries embarking on major changes toward the recognition of customary land rights (especially those of women), the potential positive social and economic outcomes of these land rights laws and policies hinge on proper enforcement mechanisms. Any ambiguity in the enforcement mechanisms of such laws and policies leads to an increase in transaction costs and ultimately results in "elite capture," where the wealthier and powerful groups acquire the land rights at the expense of the poor and other vulnerable groups, such as women. Potential impediments to proper enforcement include (but are not limited to) lack of capacity, corruption, and social practices in customary laws that favor men. This is especially so in rural SSA as implementation and enforcement of the legal and institutional reforms often do not follow suit, and women still face discrimination at various stages of the implementation process. No matter how comprehensive the legal and institutional framework, partial or incomplete implementation and enforcement often mean that, in practice, women remain discriminated against.

This section draws on the results from the Land Governance Assessment Framework (LGAF),[2] a diagnostic land governance tool developed by the World Bank to examine challenges in the implementation and enforcement of a legal and institutional framework focusing on 10 case study countries (selected to represent a broad range of land tenure types and diverse modalities for reinforcing land rights). The LGAF assessments use a similar set of indicators with consistent implementation modalities across countries, providing comparison on three significant aspects (necessary though not sufficient conditions) for gender parity in land rights: recognition of women's land rights; implementation of land policies and programs; and issues associated with accessibility and sustainability of programs/interventions.

Tables 4.1 through 4.3 present results from key LGAF indicators that show the performance of each country in maintaining gender parity in land governance matters by visually displaying color-coded validated rankings for each indicator in the 10 selected African countries.

Land Rights Recognition

Overall, we find that land rights (including those of groups such as women, migrants, and pastoralists) are well recognized in general terms by relevant laws, partly as a result of a series of legal and regulatory reforms by many African countries in the late 20th century. Customary practice, however, often discriminates against women by allowing them to access land only through spouses or men in their lineage. In many countries strong gender bias in land access persists. Of the five countries with indicators about the existence of legal provisions about gender parity in property rights, only Tanzania has such legal provision clearly stated. The results in Table 4.1 reveal that only in Ethiopia and Rwanda are more than 20 percent of registered land rights in the name of females, individually or jointly.[3]

2 See Deininger, Selod, and Burns (2011) for more on the LGAF methodology and process.

3 In the LGAF methodology, a score of A means that at least 20 percent of registered land is registered in the name of a female (individually or jointly) and scores B through D reveal percentages lower than 20 percent (Deininger, Selod, and Burns 2011).

This shows the enormity of the challenge in achieving the African Union Commission's (AUC's) commitment to achieving the 30 percent target of allocated documented landownership for women.[4] Women are not only disadvantaged and marginalized in their access to land individually but also suffer from lack of property rights recognition in groups. To show the extent of such discrimination, we assessed three other LGAF indicators, namely, whether rural group land rights, long-term unchallenged possessions, and nondocumentary land rights are formally recognized. As women rely heavily on traditional/customary modes of land acquisition (such as inheritance, gift, or allocation by traditional authorities), legal recognition of such rights matters in protecting women's land rights. In this case, although countries like Ethiopia, Mozambique, Rwanda, and Uganda have made good progress in recognition of undocumented rights and rights due to long-term possession, in other countries (like Nigeria and Zambia) even long use of a plot does not lead to its eventual ownership.

TABLE 4.1—SELECTED LGAF SCORECARD FROM 10 AFRICAN COUNTRIES FOCUSING ON RECOGNITION OF LAND RIGHTS OF WOMEN AND OTHER VULNERABLE GROUPS

	Ethiopia	Ghana	Madagascar	Malawi	Mozambique	Nigeria	Rwanda	Tanzania	Uganda	Zambia
Women's property rights in lands as recognized by relevant laws are recorded.	A	D	C	C	D	D	A	D	C	D
Women's property rights to land are equal to those of men.	C	NA	NA	NA	D	NA	NA	B	C	C
Land policies address equity and poverty reduction goals.	B	C	B	C	C	C	A	C	B	C
Rural group rights are formally recognized and can be enforced.	B	B	B	C	D	C	NA	C	B	A
Nondocumentary evidence is effectively used to help establish rights (Customary).	A	C	C	B	B	C	A	C	A	A
Long-term unchallenged possession is formally recognized.	A	C	A	B	A	D	A	B	A	D

Source: www.worldbank.org/en/programs/land-governance-assessment-framework#2.

Note: NA = data/scoring not available. Under the LGAF methodology: "A" represents that the indicator description is the best option toward a good land governance scenario; "B" represents that the indicator description is generally the second-best set of options to make progress toward good land governance; "C" represents that the indicator description generally struggles to meet the criteria for good land governance but that some attempts are being made; and "D" represents that there are no attempts in this area that indicate the operation of good land governance.

Implementation Issues

Beyond mere recognition of land rights, where many African countries have made progress, it is important to examine gender parity in the implementation of land governance interventions and their affordability. More often, the formalizing and individualizing of customary land rights have accompanied many of the regulatory and legislative land reforms the continent has seen since the turn of the millennium.

Formal and Informal Costs of Land Rights Formalization

Even the most prominent advocates of formalization of customary land rights have shown some skepticism about formal registration of customary land rights. In addition to social resistance to reforms and lack of political will (Isaakson 2015; Kumar and Quisumbing 2012), potential legal illiteracy (ignorance of land laws) and the high cost of land registration are often mentioned as two main reasons women might be excluded or discriminated against with regard to their land rights, especially in the era of growing commercial interest in land (Behnke 1994; Gray

4 The African Union Specialized Technical Committee on Agriculture, Rural Development, Water and Environment recommended that member states allocate 30 percent of documented land rights to women and improve land rights of women through legislative and other mechanisms.

and Kevane 1999; Lastarria-Cornhiel 1997; Ostrom 1990). Such legal illiteracy and/or the prohibitive cost of formally registering land rights may expose marginalized groups (such as women) to elite capture. Hence, for any formal land registration reform to be considered as gender-sensitive reform, formal costs and fees associated with such reforms should be affordable and informal costs (bribes) should be eliminated or discouraged.

Cross-country comparisons of five LGAF indicators show that despite encouraging efforts by countries to recognize land rights of women, immense gaps remain when it comes to the implementation of reform interventions. Table 4.2 shows that protecting land rights via registration/documentation is not only subject to prohibitively high costs in most of the countries under study, it is often subject to high informal payments or bribes (as in Ethiopia, Ghana, Madagascar, and Nigeria)—supporting the elite capture narrative. For example, seven out of the 10 countries selected are reported to have a very costly land rights registrations process. In addition, women may face similar challenges if they litigate or appeal land disputes, indicating that there is a long way to go in ensuring that land dispute resolution mechanisms are inclusive and accessible to marginalized groups like women.

TABLE 4.2—SELECTED LGAF SCORECARD FROM 10 AFRICAN COUNTRIES FOCUSING ON ENFORCEMENT AND IMPLEMENTATION OF LAND RIGHTS PROTECTION INTERVENTIONS AND THEIR AFFORDABILITY

	Ethiopia	Ghana	Madagascar	Malawi	Mozambique	Nigeria	Rwanda	Tanzania	Uganda	Zambia
First-time recording of rights on demand includes proper safeguards and access is not restricted by high fees.	A	C	D	B	B	D	D	B	D	D
Total cost of recording a property transfer is low.	A	C	D	D	D	D	D	D	B	D
Informal payments are discouraged.	D	D	D	B	C	C	A	B	B	B
Mutually accepted agreements reached through informal dispute resolution systems are encouraged.	C	A	C	C	B	A	A	A	C	B
There is an accessible, affordable, and timely process for appealing disputed rulings.	C	B	C	C	C	C	B	C	C	C

Source: www.worldbank.org/en/programs/land-governance-assessment-framework#2.

Accessibility and Decentralization of Land Services Delivery

Among the recent wave of national-level initiatives aimed at improving land governance is the push toward political and administrative decentralization in the land sector, driven by the aim to enhance the efficiency and effectiveness of the land services delivery systems. Devolution of land administrative systems and locally empowered land services delivery systems are found to be more successful in maintaining equitability and enhancing access to land services by women and other marginalized groups (Hilhorst 2010). Two land governance dimensions from the LGAF provide indicators of devolution: formal recognition of traditional/local land dispute resolutions and accessibility, affordability, and timely appeal process of disputed rulings. As shown in Table 4.2, only two of the 10 countries (Ghana and Rwanda) have a decentralized and accessible land services delivery system, showing formidable gaps to be overcome to provide equitable and affordable land services to women.

Accessibility and Sustainability of Interventions and Monitoring and Evaluation Systems

Public Participation

Another aspect of the land governance challenge associated with maintaining gender parity in land rights is the issue of equitable accessibility to land governance services and sustainability of such programs. A lack of participatory processes in the development of land policies and regulations is more pronounced in countries such as Nigeria, Zambia, and Madagascar. This is

particularly problematic because these countries have received large-scale land-based investments, which can directly threaten or curtail access to land for women and other marginalized groups.

Local Financing (Public Budget) and Sustainability Issues

Even though a number of African countries have been rightly commended for the strides they have made in introducing and implementing equitable and gender-responsive land governance programs (for example, joint land certification programs in Ethiopia and Rwanda; legal literacy programs in Tanzania and Uganda), the implementation and operationalization of such programs often comes under scrutiny due to the heavy dependency on donor funding. Such challenges affect the sustainability of such innovative programs. As Table 4.3 shows, in assessing "whether the implementation of land policy is costed, matched with benefits, and adequately resourced nationally," only two of the 10 countries (Madagascar and Rwanda) have mobilized domestic financial resources to implement their land reforms. Again, this is indicative of the enormity of the task many African nations and the AUC face in fulfilling the African Union's commitment on documenting landownership in trying to have such programs sufficiently funded from national budgets instead of heavily relying on donor support.

Monitoring and Evaluation

Following the recent wave of gender-friendly regulatory and administrative reforms in Africa, the replicability of such reforms hinges on effective monitoring and reporting mechanisms. However, data on land administration, governance, and use in Africa are generally fragmented and there is a paucity of data on land reform experiences. There have been few national examples of systematic tracking of progress in land policy development and implementation on the continent. This is the case, for example, for the challenge of tracking progress toward achieving the AUC commitment to allocate 30 percent of documented land to women.

Such a gap in monitoring and evaluation (M&E) of land governance reform programs is revealed by the LGAF results that eight of the 10 countries under study are reported to have no or weak regular monitoring and reporting systems in land governance. The presence of systematic efforts to collect land information in two of the 10 countries under study (Rwanda and Ethiopia) demonstrates that regular monitoring and reporting is doable. The recent initiative of the African Land Policy Center together with the International Food Policy Research Institute to develop an M&E framework for tracking progress in land reforms in Africa is one step toward addressing such challenges in M&E of land governance on the continent.

TABLE 4.3—SELECTED LGAF SCORECARD FROM 10 AFRICAN COUNTRIES FOCUSING ON ACCESSIBILITY AND SUSTAINABILITY OF LAND RIGHTS PROTECTION INTERVENTIONS AND MONITORING AND EVALUATION SYSTEMS

	Ethiopia	Ghana	Madagascar	Malawi	Mozambique	Nigeria	Rwanda	Tanzania	Uganda	Zambia
Land policies and regulations are developed in a participatory manner involving all relevant stakeholders.	B	B	C	B	B	C	A	C	A	C
The implementation of land policy is costed, matched with benefits, and adequately resourced.	C	C	B	C	D	D	B	C	C	C
Regular monitoring and reporting system is in place.	B	C	D	D	D	D	B	C	D	C
Land policies help to improve land use by low-income groups and those who have experienced injustice.	B				B		B	B	B	B

Source: www.worldbank.org/en/programs/land-governance-assessment-framework#2.

Roles of Social, Demographic, and Economic Dynamics

In this section we discuss the disjuncture in Africa between men's and women's parity in land rights (comparing women's land rights to the general domain—including men) taking into account (1) the changing social dynamics (demographic

shift, migration, population pressure); (2) the changing economic dynamics (urbanization, agricultural commercialization, development of land markets, infrastructural development, changing land values) on the continent; and (3) the changing environmental dynamics (land degradation, for example). Such dynamics affect women's access to, ownership of, and control over land depending on how women acquired those rights: (1) through social institutions (inheritance/gift); (2) from customary institutions (allocation by traditional authorities); (3) through state allocation (allocation by formal authorities); or (4) through the market (rental/purchase).

TABLE 4.4—STATUS OF WOMEN'S LAND RIGHTS IN FOUR AFRICAN COUNTRIES BY MODES OF LAND ACQUISITION

	Nigeria		Ethiopia		Mozambique		Malawi	
	Total	% of parcels with women as rights holders	Total	% of parcels with women as rights holders	Total	% of parcels with women as rights holders	Total	% of parcels with women as rights holders
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
PANEL (A)								
Aggregate	29.74		56.08		34.41		39.18	
PANEL (B)								
Mode of land acquisition								
Purchase	4.59	7.69***	4.22	4.1	13.62	13.3	3.58	4.59***
Sharecrop/rent in	9.41	13.43***	12.26	13.33	0.56	0.37	7.52	10.01***
Inherit/gift	11.88	9.51**	42.64	42.64	32.18	41.5***	21.56	18.45***
Allocation (customary/formal)	74.12	69.37**	37.96	38.06	21.38	21.28	65.94	65.66
Other		0	2.91	1.86	32.26	24.55***	1.4	1.29
Aggregate		100	100	100	100	100	100	100

Source: Authors' computation.
Note: ** is 5% and *** is <=1%level of significance.

To explore this quantitatively, we rely on existing data from Ethiopia, Malawi, Mozambique, and Nigeria, which also represent a broad range of land tenure types and diverse modalities for reinforcing land rights.[5] To maintain comparison across countries, we define women's land rights as women's access to and/or control over land. Note, however, that "access" to land does not necessarily provide secure tenure, especially for women (see Doss, Kieran, and Kilic, forthcoming; Doss and Meinzen-Dick 2018; Slavchevska et al. 2017).

Panel A of Table 4.4 shows the prevalence of women's land rights in aggregate. Women have land rights in as many as 39 percent of the parcels in Malawi and as little as 29.74 percent in Nigeria. Ethiopia stands out, as women there are reported to have joint or sole management and/or decision-making rights over 56.08 percent of the parcels.

Panel B examines how these figures change depending on how land was acquired. For each country, the numbers reported in the first column indicate the aggregate (men and women included) prevalence of each mode of acquisition, and the numbers in the second column indicate the relative prevalence of each mode of acquisition over which at least one female is reported to have land rights. In general, in a case where there is complete gender equality, the results would yield columns that are equal to each other. Any deviation from that indicates that women are more likely (or less likely) than the sample as a whole to access land through that modality if the number on the second column is larger (or smaller).

As can be seen from Panel B, for Ethiopia there is no statistically significant difference between the total sample mode of land acquisition and the mode of

5 See Chapter 4 Appendix Table A.1 for details. (https://www.resakss.org/node/6744?region=aw).

land acquisition of parcels over which women were reported to have land rights. This is an indication of little or no discrimination against women's land rights regardless of how the land was acquired by the family/household.

In the other three countries (Nigeria, Mozambique, and Malawi), discrimination against women's land rights varies depending on how the parcel was acquired. In Mozambique (a relatively land-abundant country compared with Nigeria and Malawi), women have proportionally greater land rights over parcels acquired via customary sources (family inheritance or gift) than the total sample, while no statistically significant difference is registered for women's land rights for land acquired via market-based sources (purchased or rented parcels). However, in Nigeria and Malawi (countries in which land is subject to more constraints or is more scarce compared with Mozambique), the results show that women's land rights are more constrained on parcels acquired via customary or traditional sources (such as through inheritance or gift or through allocations by traditional authorities) compared with parcels acquired via market-based sources. In Nigeria, for example, the overall sample averages for parcels acquired via traditional or customary sources (11.88 percent for inheritance/gift and 74.12 percent for allocation by traditional authorities) are significantly larger than the proportions of parcels with women having land rights that are also acquired through similar means (9.51 percent and 69.37 percent, respectively). The story is similar in Malawi, where the proportion of parcels with land rights by women acquired via purchase and rentals (4.59 percent via purchase and 10.01 percent via rentals) is significantly larger than the total sample average of parcels acquired via similar sources (only 3.58 percent and 7.52 percent, respectively).[6]

The findings in Nigeria and Malawi contradict the narrative that women's land rights are protected under customary or traditional systems, whereas the results from Mozambique support that narrative. To investigate whether the ongoing social, demographic, and economic transitions on the continent have anything to do with eroding the protection of women's land rights by the customary/traditional land tenure system, Tables 4.5 through 4.7 present the results by comparing the proportions of households reporting at least one female having land rights using community-level indicators for social, demographic, and economic dynamics.

TABLE 4.5—WOMEN'S LAND RIGHTS, DEMOGRAPHIC CHANGE, AND SOCIAL DYNAMICS IN FOUR AFRICAN COUNTRIES

Community-level indicators	% of parcels with women reported to have land rights			
	Nigeria	Ethiopia	Mozambique	Malawi
Homogeneity of a community (I)				
More homogeneous	56.87	55.31	56.88	NA
Less homogeneous	43.13	44.69	43.12	NA
Youth bulge (II)				
More youth population	36.86	40.81	46.69	34.18
Less youth population	63.14	59.19	53.31	65.82
Population density (III)				
More dense	34.65	48.69	NA	40.81
Less dense	65.35	51.31	NA	59.19
Land abundance (IV)				
More abundant	57.41	77.77	53.77	58.74
Less abundant	42.59	22.23	46.23	41.26

Source: Authors' computation.

Note: Homogeneity of community: Dummy variable equals 1 if the village-level proportion of households whose head and/or spouse is nonindigenous is greater than the sample median proportion, and zero otherwise. Youth bulge: Dummy variable equals 1 if the village-level proportion of youth (within the age bracket of 15–35) is greater than the sample median proportion, and zero otherwise. Population density: Dummy variable equals 1 if the population density of a given village is greater than the sample median, and zero otherwise. Land abundance: Dummy variable equals 1 if the village-level per capita landholding is greater than the sample median, and zero otherwise.

6 See Chapter 4 Appendix Table A.2. (https://www.resakss.org/node/6744?region=aw). As shown in Appendix Table A.2., the results remain robust/consistent. For example, in the case of Nigeria, the proportion of parcels over which at least one female is a land right holder is relatively larger for parcels acquired via market-based sources (33 percent for purchased parcels and 48 percent for rented or sharecropped- in parcels) than for parcels acquired via customary/traditional-based sources (that is, only 27 percent and 30 percent for parcels acquired through inheritance/gift and allocation by government/traditional authorities, respectively). The story is the same for Malawi.

Social and Demographic Changes (Dynamics)

The results reported in Panels I and II of Table 4.5 suggest that a lack of social harmony or homogeneity in a community (indicated by a larger proportion of immigrant household heads or spouses in the community) and a higher concentration of youth in a community are threats to women's land rights, as the proportion of parcels over which at least one female is reported to have land rights is significantly lower in communities characterized by relatively less homogeneity and a higher concentration of youth. The latter is probably due to high competition for land by youth. Such findings are robust across the four countries under study. Consistent with the findings reported in Table 4.4, population density also seems to erode women's land rights under the customary tenure system, especially in Nigeria and Malawi, as the figures in Panel III of Table 4.5 demonstrate. Similarly, the results reported in Panel IV suggest that a relative abundance of land in a community seems to matter the most for women to enjoy rights over land. This result is consistent with similar findings from Ghana (Ghebru and Lambrecht 2017), Nigeria (Ghebru and Girmachew 2017), and Mozambique (Ghebru and Girmachew 2019) showing the vulnerability of women (especially female heads) in areas with relative land scarcity, given that they are most likely to be residual claimants as their ownership and/or control over land is often targeted by in-laws in land-constrained areas.

TABLE 4.6—WOMEN'S LAND RIGHTS AND THE ROLES OF ECONOMIC VIBRANCY AND PREVALENCE OF LAND MARKETS IN FOUR AFRICAN COUNTRIES

Community-level indicators	% of parcels over which women are reported to have land rights			
	Nigeria	Ethiopia	Mozambique	Malawi
Land market vibrancy (I)				
More vibrant community	48.2	41.51	47.59	NA
Less vibrant community	51.8	58.49	52.41	NA
Agricultural commercialization (II)				
More commercial	31.95	19.78	31.77	NA
Less commercial	68.05	80.22	68.23	NA
Agricultural modernization (III)				
Modern	36.55	15.88	43.04	NA
Traditional	63.45	84.12	56.96	NA

Source: Authors' computation.

Note: Land market vibrancy: Dummy variable equals 1 (more vibrant) if the village-level proportion of households that have at least one parcel acquired via market (rental/purchase) is greater than the sample median proportion, and zero otherwise. Agricultural modernization: Dummy variable equals 1 (modern) if the village-level proportion of households that utilize modern agricultural practices (such as use of irrigation, use of fertilizers, participation in an extension program, and so forth) is greater than the sample median proportion, and zero otherwise. Agricultural commercialization: Dummy variable equals 1 (more commercial) if the village-level proportion of households that report selling at least one agricultural output (crop, fruit tree, livestock products, and so on) is greater than the sample median proportion, and zero otherwise.

Economic Vibrancy and Land Market Vibrancy (Dynamics)

To investigate the notion that increasing land values and the commodification of land may further marginalize women as competition for land intensifies, we conduct further differential analyses (shown in Table 4.6). We assess for possible variation in women's land rights by comparing areas/communities depending on the levels of agricultural modernization, agricultural commercialization, and land market development or vibrancy. Directly or indirectly, we expect these factors to help explain how economic and market dynamics influence women's land rights under the customary/traditional land tenure system.

The results reported in Panel I of Table 4.6 show that communities with less vibrant land rental markets have higher proportions of women who hold land rights. The data show that in areas with high levels of land rental market activity (above the sample community median level), the status quo tenure system (customary tenure system) may not be doing enough to protect women's land rights compared with areas where the land market is less developed. In support of the notion that women are more marginalized in areas with relatively higher shadow values for land, the figures in Panels II and III of Table 4.6 further reveal that women living in areas marked by a high level of agricultural commercialization and modernization face more constraints to their land rights than women residing in less commercialized areas.

Overall, the results suggest that as land commodification (due to urban expansion and emerging land markets) increases, women will become more vulnerable and marginalized if control over resources (the decision to sell or rent property, including land) remains mainly in the hands of the husband (principal

male). Such findings support the notion that traditional institutions and the protection they can provide matter more for women than for men (Ghebru and Lambrecht 2017; Deininger et al. 2018).

Role of Land Tenure and Land Tenure Security

We also attempted to investigate the differential effects of the recent wave of land governance reforms in Africa over the past two decades on women's land rights by conducting a differential analysis considering three community-level parameters on land tenure and security issues, namely, intensity of land registration/documentation, legal literacy, and prevalence of tenure insecurity. As Table 4.7 shows, the effect on women's land rights of the intensity of land registration appears to vary by country. In Ethiopia, we see a higher proportion of women with land rights in areas with more intense land registration, but the opposite holds true in Mozambique.

Such contrasting evidence could be due to the highly participatory process and systematic nature of land registration (Holden et al. 2009; Deininger et al. 2008) as well as to the complementary legal provisions for joint land certification in Ethiopia, especially when compared with Mozambique, where the registration process is of an ad hoc and sporadic nature (which is, often, less transparent and participatory compared with systematic registration).

Community-level legal literacy seems to boost women's land rights (in Mozambique), as the results show that a higher prevalence of land-related legal knowledge is associated with a higher proportion of parcels where at least one female is reported to have rights to manage or control the land. Such empirical evidence reinforces the belief that the Sustainable Development Goal indicators for land tenure security that incorporate legal literacy on land matters are effective measures of enhancing tenure security, especially for women.

When we compare communities based on the perceived level of land tenure insecurity (Panel III in Table 4.7), we find that, in all four countries, communities with lower levels of perceived tenure insecurity have significantly higher proportions of parcels where at least one female holds land rights. Empirical studies have shown that the prevalence of land market transactions in a given community is associated with erosion of perceived tenure security of households. In customary areas with potentially lucrative land markets, a noticeable shift has been seen in the attitude of chiefs away from perceiving themselves to be custodians on behalf of their communities to being essentially private owners of the land (Cotula 2007). This has negative implications for the land rights of their constituency, especially women and nonindigenous groups. Hence, in areas where lucrative land deals abound, the customary tenure system (normally headed by a traditional chief who would be trusted as the custodian of the communal land) may not always act in the interests of groups (especially women).

TABLE 4.7—WOMEN'S LAND RIGHTS, LAND TENURE, AND TENURE SECURITY

Community-level indicators	% of parcels with women reported to have land rights			
	Nigeria	Ethiopia	Mozambique	Malawi
Prevalence of land registration (I)				
More registration	NA	61.25	44.81	NA
Less registration	NA	38.75	55.19	NA
Legal literacy (II)				
More literate	NA	NA	58.09	NA
Less literate	NA	NA	41.91	NA
Collective perceived tenure security (II)				
More secure	65.56	63.8	51.33	54.85
Less Secure	34.44	36.2	48.67	45.15

Source: Authors' computation.

Note: Prevalence of land registration: Dummy variable equals 1 if the village-level proportion of households reporting that at least one parcel is registered/documented is greater than the sample median proportion, and zero otherwise. Legal literacy: Dummy variable equals 1 if the village-level proportion of households reporting that they are aware of existing land-related legal and administrative procedures is greater than the sample median proportion, and zero otherwise. Collective perceived tenure security: Dummy variable equals 1 (more secure) if the village-level proportion of households reporting a fear of land loss due to expropriation is lower the sample median proportion, and zero otherwise.

Conclusion and Policy Implications

Since the turn of the millennium, the African continent has seen a series of legislative, administrative, and institutional land governance reforms in the advancement of gender parity in land governance. However, despite encouraging efforts by countries toward recognition of land rights of women (individually and/or collectively), a summary of findings from the LGAF assessments in selected African countries shows immense gaps remain when it comes to the

implementation of various land governance interventions with direct implications for women's land rights on the continent. Shortfalls in proper enforcement and implementation of the reform process, mainly due to a lack of capacity (financial and technical) and rent-seeking/corruption under the customary system, continue to undermine the position of women in SSA vis-à-vis land. The active participation of women in the land law drafting process and on land dispute resolution local committees is an important factor in the proper implementation of gender-equitable land laws (Meinzen-Dick et al. 1997; FAO 2013).

Empirical findings from four African countries show that the main factors associated with worsening positions of women vis-à-vis land include population pressure, commodification of land, and commercialization of agriculture, which ultimately result in increases in the value of land. With the increasing trends of land commodification and agricultural commercialization in Africa (due to urban expansion and emerging land markets), women's land rights appear to have eroded, mainly due to women having subsidiary and undocumented land rights under the customary tenure system. Such findings from this study support the notion that the status quo (customary tenure system) can be deemed insufficient and that if governments fail to counteract such damaging effects (on women's land rights), the social, demographic, and economic changes engulfing the continent will worsen women's position on the ground.

The four-country empirical case study also shows that factors contributing to the poor state of women's land rights vary not only across countries but also across several social, demographic, and economic conditioning factors within countries. Such results underscore the need for more pragmatic and more endogenous policy reform processes that consider the local administrative capacities to ensure the sustainability of interventions, programs, and reforms. Hence, the recent wave of systematic land tenure regularization programs on the continent (including in Rwanda, Ethiopia, and Nigeria, among others) should be carried on complemented by or packaged with explicit provisions for women's land rights (such as joint land registration and documentation) at least in areas with higher land values, while a more pragmatic approach that leaves a functional status quo (customary tenure systems) alone should be considered in areas with lower land values such as land-abundant settings lacking an active land market. Moreover, a solid understanding of the drivers of the perceived tenure security of individuals (especially women), households, and communities may not only help maximize the potential gender parity outcomes of such programs and reforms but also address potential low program uptake—a challenge most SSA countries encounter as they try to implement programs that aim to enhance tenure security and safeguard land rights of vulnerable groups such as women (Atilola 2010; Byamugisha 2013; Ghebru et al. 2014; Javelle 2013).

CHAPTER 5

Beyond Access: Gender-Transformative Financial Inclusion in Agriculture and Entrepreneurship

Jemimah Njuki, Martha Melesse, Amolo Ng'weno, Anne Rappoldt, Comfort Phelane, Jesse d'Anjou, Michelle Hassan, Richard Ketley, and Saskia Vossenberg

A core tenet underpinning financial inclusion is the notion that everyone has access to and usage of affordable financial products and services that meet their needs—whether those are savings, credit, insurance, or transactions or any combination of such services. Fulfilling this aspiration rests on a number of assumptions: that people need a range of financial products and services to fulfill their diverse daily activities; that such services will be worth using only if they are delivered with sufficient quality, including convenience and affordability, that everyone can safely use them; and that a well-functioning marketplace exists within which multiple competing providers operate in an enabling framework set through effective regulation. An increasingly central aspect of the financial inclusion vision involves the financial literacy and capability of the customers, who must have the knowledge, skills, and behaviors that enable them to make sound financial decisions.

Individuals and households need affordable and effective tools with which to borrow money, save and invest, make and receive payments, and manage risk. Access to financial products and services can help individuals and households make day-to-day transactions, plan for and pay recurring expenses, finance small businesses and grow assets, safeguard savings against theft, manage irregular cash flow to smooth consumption, and mitigate shocks from unforeseen expenses (CGAP 2017). Financial inclusion can also be a key enabler for achieving important life goals such as schooling, better health, asset building, or productivity-enhancing investments for microbusinesses and small businesses.

New Global Findex data reveal that globally the share of adults owning an account is 69 percent, an increase of seven percentage points since 2014. These numbers translate into 515 million adults who have gained access to financial tools (Demirgüç-Kunt et al. 2018). Despite this progress, about 1.7 billion adults remain unbanked—without an account at a financial institution or through a mobile money provider.

The growth in account ownership since 2011 has not benefited all groups equally and gender gaps persist. Women still are less likely than men to have an account. Globally, 72 percent of men and 65 percent of women have an account, a gender gap of seven percentage points that has remained relatively unchanged since 2011 (Demirgüç-Kunt et al. 2018). For women, financial inclusion can enhance their economic prospects and allow them to better manage their lives. Women, however, often face gender-based supply-and-demand-side-related barriers that limit their access to financial services and products or the benefits from their use. Gender inequality is perpetuated by regulatory frameworks and sociocultural norms that structure what goes on at home, in communities, in relations, and in markets. One can have access to finance but be prevented from converting that access into business growth or enhanced productivity by domestic inequalities in financial decision making. Similarly, having a bank account does not mean that one can enjoy the social and economic benefits of that asset. On the other hand, women's underuse of some financial products does not always mean they lack access (Demirgüç-Kunt and Klapper 2014). Women can have access but choose not to use it. For example, women can be reluctant to use formal savings or credit despite having access at affordable rates, and instead prefer to use informal financial services such as savings groups.

This chapter focuses on financial inclusion for women as entrepreneurs in two sectors, agriculture and small and medium-sized enterprises, with a focus on Africa. These two sectors potentially offer women the opportunity to increase their own productivity and self-determination. Agriculture is a major source of livelihood for women in the developing world. Similarly, most women who are in the labor market are self-employed, operating small enterprises or microenterprises.

In this chapter we present a new gender-transformative approach to financial inclusion. A gender-transformative financial inclusion is defined as a way of doing financial inclusion explicitly directed toward creating gender-equal financial systems that enable all entrepreneurs, regardless of gender, to overcome supply- and demand-side constraints and improve their livelihoods on equal terms. Gender-transformative finance aspires toward three key outcomes. The first is enhanced women's empowerment—defined in terms of greater opportunities, choices, and decision-making power. The second is strengthened relationships and improved negotiation dynamics between people at home, in the workplace, and in markets, and between financial institutions and clients. The third is enabling policies and regulatory frameworks and sociocultural norms. As a study by Vossenberg et. al (2018: pg16) concluded, "gender-transformative financial inclusion is about making financial systems 'women-able' rather than making women 'bankable.'" The chapter makes recommendations for policy makers and financial inclusion practitioners on how to make women's financial inclusion more transformative.

The next section examines the status of women's financial inclusion in Africa, the current barriers women face, both on the demand and supply side, and the implications of this for their livelihoods. The third section explores innovations

aimed at increasing women's financial inclusion and evidence of their effectiveness. Given the growing importance of digital tools for financial inclusion, the fourth section focuses on specific fintech (financial technology) innovations in the agriculture sector. The fifth section discusses how financial inclusion could be more gender transformative. The chapter concludes with recommendations for how actors on several levels, from financial institutions to policy makers, can act to make women's financial inclusion more transformative.

Women and Financial Inclusion

For women, access to financial products and services can be a key enabler to improve their lives. Overall, there is evidence that women's financial inclusion can contribute to the growth of their businesses and to their own empowerment. A review by Gammage et al. (2017) found that meaningful financial inclusion for women can reduce gender inequality and that women with access to bank accounts and saving mechanisms as well as other financial services have more control over their earnings, make more choices about how they use their time (whether for employment, leisure, income-generating activities, or education), and have more substantive autonomy over their lives in decisions ranging from employment and marriage to whether to use contraception. The review also found that they may be better able to grow their businesses, raise their productivity and earnings, and reduce their chances of being poor. They are also better able to choose where and how to work and whether to leave abusive relationships (Gammage et al. 2017). At the macro level, an International Monetary Fund paper (Sahay et al. 2015) indicates positive effects of financial inclusion on gross domestic product growth, equality levels, and women's economic participation, as well as macro-level financial stability.

Improved access to financial services, even in the absence of other interventions, can challenge gendered social norms and intrahousehold dynamics, and this could have both positive and negative effects. For benefits of women's financial inclusion to be realized, however, we must recognize that men and women experience livelihood strategies differently, with different limitations and opportunities. A range of factors shapes such experiences, including the following:

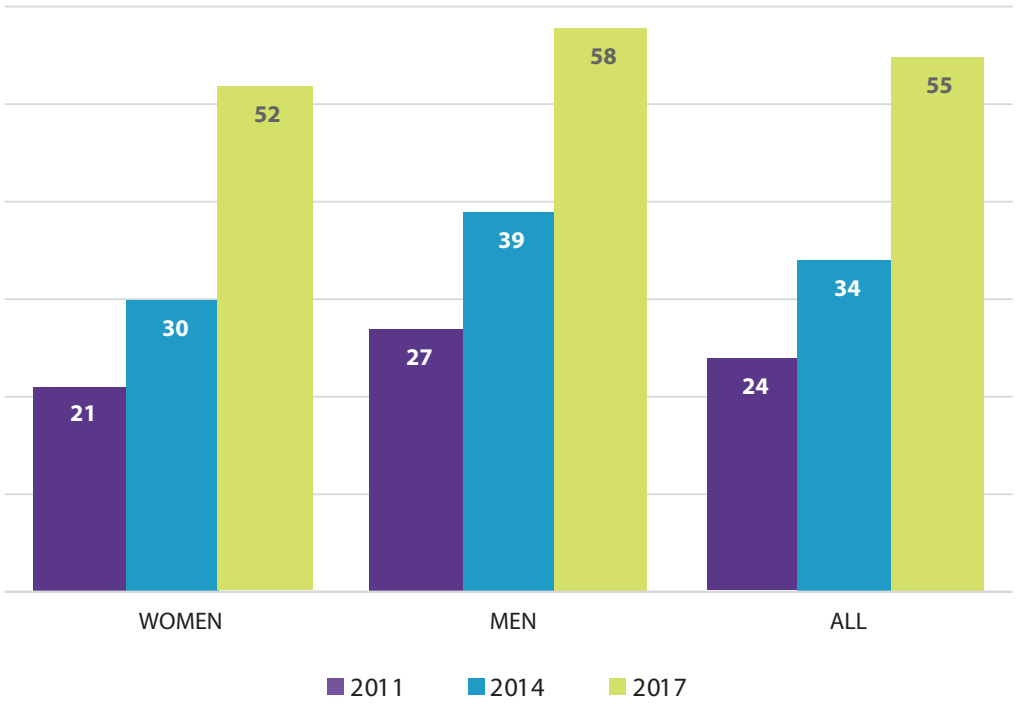
- ***Time poverty and family care responsibilities.*** Childbirth, childcare, and care for other family members impose limitations on women's ability to work outside or far from home, and reduce the hours they have available for paid work or self-employment.
- ***Legal rights.*** While laws in most countries no longer discriminate against women in financial services, there are still legal and traditional limitations on landownership and ownership of other assets that limit women's ability to access finance.
- ***Security concerns.*** Physical security is a concern to many women, especially when carrying cash or valuables.
- ***Lower human capability.*** Compared with their male counterparts, women in Africa are less financially literate, have less experience with formal banks, have less access to information, and have lower ownership of mobile phones.

These factors can limit women's uptake and use of financial services, affecting their investments and returns to investments. For example, an IPA study in Uganda found that loans, grants, and training provided to participants raised men's profits by 58 percent but women's not at all (Fiala 2015). In addition to these differences, or because of them, there are persistent gaps in financial inclusion between men and women (Figure 5.1), and between women based on variables such as whether they are rural or urban, the different sectors they are in, and how socially connected they are, among others.

And while digitization and use of mobile technology increase access to financial services, this trend is a dual-edged sword—it makes reaching women easier, but it can also raise the barriers to access because women's access and use of technology lags behind that of men. In almost all the countries included in the Findex data for 2017, there is a gender gap in both bank account and mobile money account ownership (Demirgüç-Kunt et al. 2018).

Financial account ownership, and the gender gap therein, varies significantly across countries as shown in Table 5.1, but that gap also varies across sectors. For example, across six African countries for which data were available, the proportion of women smallholder farmers who had formal bank accounts ranged from 6 to 19 percent, while for women entrepreneurs, the range was 14 to 34 percent (see Figure 5.2). In Kenya, whereas 53 percent of male entrepreneurs had a bank account, only 34 percent of female entrepreneurs did. And for women smallholder farmers, 19 percent had a bank account compared with 34 percent of men who held bank accounts. What is clear is that across all countries, fewer female smallholder farmers and female entrepreneurs had bank accounts than did male smallholder farmers and entrepreneurs (from Anderson 2016, 2017; Anderson

FIGURE 5.1—TRENDS IN OWNERSHIP OF A FORMAL ACCOUNT (NOT INCLUDING MOBILE ACCOUNTS) BY MEN AND WOMEN IN AFRICA SOUTH OF THE SAHARA (%), 2011-2017



Source: World Bank Findex data for the years 2011, 2014, and 2017.

et al. 2016; National Bureau of Statistics, FSD Zambia and Bank of Zambia 2015; FinMark Trust 2014).

Access to credit also remains a big constraint. From Table 5.2, data from four countries—Uganda, Tanzania, Cote d'Ivoire and Mozambique—show that in both rural and urban areas, more men than women had a loan. What is however interesting is that when asked whether they had access to a loan though groups or associations, more women in rural areas than men indicated they had access.

Women often cite lack of money or regular income as the most important reason for not having an account. In fact, more women than men cite this as the primary reason for not having a bank account (FinMark Trust 2016). This is a function of their restricted position in the household, where the proceeds from activities such as agriculture are often controlled by the male household head. Women farmers also tend to earn less from agriculture since they work on small plots and are less productive in terms of output per unit of land, and as many of the outputs are consumed in the home, they do not generate a cash income that passes through the women's hands.

Legal and societal restrictions on women's ability to inherit property and restrictions that limit their ability to engage in economic activity have a direct impact on women's ability to access finance because they prevent them from acquiring assets that can be used as collateral to obtain loans from financial institutions. Iqbal (2018) in the World Bank's Women, Business, and the Law reports that 42 percent of economies score 0 on the building credit indicator and four regions—East Asia and the Pacific, the Middle East and North Africa, South Asia, and Sub-Saharan Africa—each have an average score of 20 or below out of a maximum score of 100. The report, however, does contain indicators of significant progress with countries instituting several measures to increase women's access to institutions, including financial institutions. For example, in the Democratic Republic of the Congo, the reformed family code allows married women to sign contracts, get jobs, open bank accounts, and register businesses in the same way as married men. And in Zambia, the Gender Equity and Equality Act prohibits discrimination based on gender and marital status in access to credit.

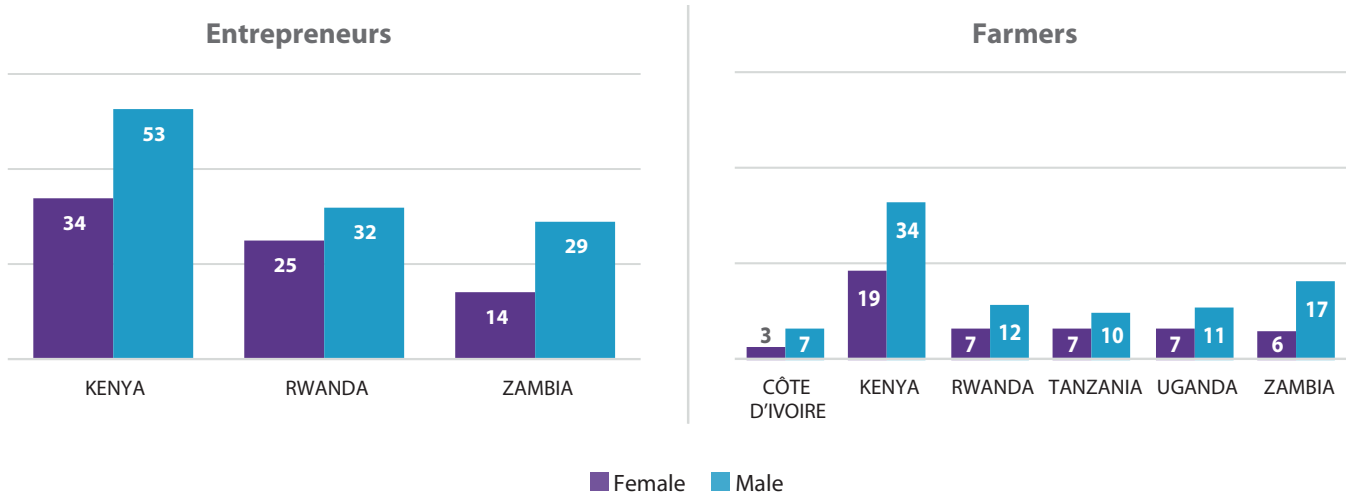
Social norms are a far more complex barrier to women's entrepreneurship. They can force women into socially acceptable sectors and can shape their perceptions about what they are capable of achieving (Cirera and Qasim 2014; Oxfam 2017). In many cases, women rank lower than men in their perceptions of opportunity and self-confidence and higher on fear of failure (Koellinger et al. 2007). For example, data from the Global Entrepreneurship Monitor (GEM) project show that across countries, early-stage female entrepreneurs tend to exhibit significantly greater fear of failure than male entrepreneurs (Minniti 2010). The GEM dataset also estimates that subjective perceptions about one's own skills, likelihood of failure, and opportunities explain a significant proportion of the gender gap in entrepreneurial activity (Global Entrepreneurship Monitor 2016).

TABLE 5.1—GENDER GAPS IN BANK AND MOBILE MONEY ACCOUNT OWNERSHIP FOR SELECTED COUNTRIES, 2017

Country	Men's account ownership (%)	Women's account ownership (%)	Gender gap in all accounts (% points)	Gender gap in bank accounts (% points)	Gender gap in mobile money (% points)
Cameroon	39	30	9	8	4
Chad	29	15	14	7	9
DR Congo	27	24	3	1	5
Côte d'Ivoire	47	36	11	10	8
Gabon	64	54	10	9	5
Ghana	62	54	8	8	10
Kenya	86	78	8	19	8
Liberia	44	28	15.5	15	5
Mali	45	26	19.7	17	9
Mozambique	51	33	18	14	10
Uganda	66	53	13	12	16
Zimbabwe	59	52	7.6	10	5

Source: Mayanda (2018).

FIGURE 5.2—PROPORTION OF FEMALE SMALLHOLDER ENTREPRENEURS AND FARMERS WITH BANK ACCOUNTS IN SELECTED COUNTRIES



Source: Anderson (2016, 2017); Anderson et al. (2016); National Bureau of Statistics, FSD Zambia and Bank of Zambia (2015); FinMark Trust (2014).

Social norms dictate women's ability to negotiate within households and communities. They set boundaries for what can be bargained and how. As Agarwal (1997) effectively argues, the focus on intrahousehold dynamics without understanding how such dynamics are shaped by social norms is myopic. She points out that gender relations beyond the household matter and that extra household and intrahousehold gender relations are intricately intertwined to shape women's bargaining power both within and outside the household. Similarly, recent evidence from the Growth and Economic Opportunities for Women (GrOW) program covering 50 countries across Africa and Asia suggests that tackling adverse gendered social norms that hold women back is critical to achieving gender equality and women's economic empowerment (Marcus 2018). GrOW program research finds that social norms largely account for the stagnation in women's labor force participation in some contexts, the frequent concentration of women in relatively less lucrative sectors and occupations than those occupied by men, and gendered barriers and challenges that disproportionately affect women. Field et al.'s (2016) work in India demonstrates how gender norms internalized by men have played an important role in keeping women out of the labor force. Deeply rooted and restrictive social norms and women's dual roles as caregivers and breadwinners also limit their choices and access to opportunities.

Women across Africa south of the Sahara (SSA) also tend to have lower levels of education, and while that is not the only factor

TABLE 5.2—SELF-REPORTED CREDIT AVAILABILITY AND UPTAKE AMONG SMALLHOLDER FARMERS (%)

	Currently has a loan (any type, including informal)				Reports having access to loans through groups or associations			
	Rural		Urban		Rural		Urban	
	Female	Male	Female	Male	Female	Male	Female	Male
Uganda	18	21	18	21	49	43	40	47
Tanzania	11	14	8	10	36	20	31	19
Côte d'Ivoire	8	4	3	4	14	12	16	16
Mozambique	5	6	9	12	19	12	9	0

Source: Anderson (2016), Anderson, Collins, and Musiime (2016), Anderson (2017b), Anderson, Moler, and Kretchun (2016).

that might influence whether they use financial services, it can influence their financial literacy. On average, there are still only 92 girls per 100 boys in primary school in the region (UNESCO 2015). Awareness-related barriers include women's lack of understanding about the benefits of having a financial product, how financial products work, the financial language used, and where and how to apply for a product. Attitude-related problems, such as women's feeling that formal financial services are not made for them, also play a role.

Equally important is the gap in asset ownership. This includes lower levels of phone ownership among women, which acts as a first-step barrier to accessing digital financial services. GSMA (2019) reports a 10 percent gap in mobile phone ownership with some countries having a gap as high as 58 percent. GSMA (2019) and Perlman (2017) recommend several actions to address the lack of phone ownership. Those include leveraging alternative financing mechanisms and channels; promoting the mobile phone as an effective development tool that creates education, health, and business opportunities; and helping to identify culturally relevant and acceptable ways of promoting mobile phone ownership among women and youth.

The design of products that do not suit the needs and priorities of women is another key barrier to women using financial services. Gender-blind marketing of products can also result in women not accessing information on products, including how to apply for them and how to use them. Other supply-side barriers include inappropriate distribution channels, restrictive and often tedious account-opening requirements, and staff that are not trained on gender issues and how to address them. Table 5.3 summarizes many of the constraints women face in accessing finance.

These differences have implications for women's financial needs and their financial behavior. A review of gender dynamics in the financial diaries undertaken by Bankable Frontier Associates in "A Buck Short" (Zollmann and Sanford 2016) examined the financial behavior of households in Kenya, Mexico, and India. Although each country had its own unique experiences, the study identified some commonalities. Whereas women prioritized household responsibilities such as children's education and housing, men prioritized business expenses and large investments such as land. The study indicated that women are much less likely to take risks than men. Their role tends to be that of defending and protecting the household from outside shocks. Women also face interruptions in their business or farming enterprise to give birth and to look after family members. Women have more horizontal than vertical

TABLE 5.3—A SUMMARY OF GENDER-RELATED CONSTRAINTS IN FINANCING

Demand side	Supply side
• Unequal bargaining power in the household and market • Concentration in informal and micro activities • Limited time and mobility due to care work • Lack of assets for collateral • No formal identification • No cell phone ownership • Limited financial and digital literacy • No trust in banks • Limited access to (business) education • No role models • Powerless networks	• Inappropriate product and service offerings • Gender-blind marketing • Inappropriate distribution channels • Restrictive account-opening requirements • Inaccessible locations • Limited or disrespectful client engagement • Limited trust and belief in women's business success

Source: Adapted and modified from Holloway et al. (2017).

networks—they are more likely to know other women in situations similar to theirs, while men are likely to know other men from a range of social and economic groups—enhancing their ability to expand their networks. Women are less likely to travel away from home; most of their transactions and income-generating activities are close to home. This is also reflected in their lower phone ownership and lesser ability to interact with people further away. Women are also more likely to conform to gender roles given stronger societal pressure to conform to gender norms, facing judgment from family members, when compared with men, who are less likely to conform to norms because the social penalties for men are lower.

Further, preferences and willingness to take risks are gendered, which may explain women's preference for savings and liquidity. Using data from a field experiment in Kenya, Dupas and Robinson (2013) documented how low-income women place importance on financial liquidity in savings to be able to meet unexpected expenditures as opposed to earmarked money to mitigate future risk. Simply providing a safe place to keep money was sufficient to increase health savings; earmarking for preventative health reduced savings. Delavallade et al. (2015) also found that female farm managers were less likely to purchase agricultural insurance and more likely to invest in savings for emergencies, even when controlling for access to informal insurance and differences in crop choice.

Although having savings plays an important enabling role for women, women's trust in institutions factors into this. An experimental study by Bachas et al. (2016) of conditional cash grant transfer recipients in Mexico found that lack of trust in formal financial institutions is a key barrier to formal savings among poor women. Building trust in financial institutions through a rollout of debit cards that enabled clients to monitor their transactions resulted in a notable increase in savings over time as women gained more trust and confidence in the institutions by regularly observing their accounts. Akter et al. (2016) also found that gendered differences in farmers' level of trust in insurance institutions was key in shaping gender-differentiated preferences for weather-indexed insurance.

Financial-Sector Innovations Focused on Women

Many initiatives over several decades have offered women financial services to improve their productivity in agriculture and informal business. In this section, we describe a few examples in low-income contexts.

Microfinance Institutions

Microfinance institutions (MFIs) constitute one of the oldest initiatives to ensure that women have access to financial services and especially credit. With roots in Bangladesh and other countries of the developing world, such as Bolivia, MFIs such as Grameen and BRAC have reached tens of millions of women. Their innovations in the group-lending methodology have spread around the world. Table 5.4 provides some examples of MFIs in Asia and Africa that are mostly focused on women.

The effectiveness of MFIs to economically empower women has been mixed. Until recently, there was limited rigorous evaluation, but a recent meta-analysis (Gopalaswamy et al. 2016) showed positive effects on asset accumulation and

TABLE 5.4—SOME LARGE MFIs THAT ARE MOSTLY FOCUSED ON WOMEN

Country	Institution name	Share of female membership	Approximate number of members (as of date)
Bangladesh	Grameen	97%	8.9 million (2017)
	BRAC	87%	5.4 million (2015)
	ASA (Association for Social Advancement)	93%	5 million (2013)
India	SKS (Bharat Financial Inclusion)	100%	6 million (2014)
	SEWA (Self Employed Women's Association)	100%	1.4 million (2015)
Pakistan	Kashf Foundation	100%	230,810 (2013)
Uganda	BRAC	98%	176,624 (2015)
	Finance Trust	Not available	200,000 (2017)
Mexico	Compartamos	90%	2.5 million (2014)
Kenya	Kenya Women Microfinance Bank	100%	800,000 (2018)
Morocco	Foundation Albaraka	52%	145,870 (2017)

Source: Ng'weno et al. (2018).

income, as well as women's empowerment. However, the size of the effect is too low to move households out of poverty and cannot be considered transformational, except perhaps over the very long term (Duvendack et al. 2011).

In a review of 15 studies of evaluations of MFIs in Africa (in Ethiopia, Ghana, Kenya, Madagascar, Malawi, Rwanda, South Africa, Tanzania (Zanzibar), Uganda, and Zimbabwe), van Rooyen, Stewart, and de Wet (2012) found only one study on the impact of a rural microcredit program in Uganda that demonstrated greater empowerment among women taking part in the program, measured in terms of women's capability to have greater control over matters that affect their lives and livelihoods. Gaining financial management skills, owning bank accounts, greater mobility outside their homes, and contributing to household income were some of the contributing factors. There was also evidence of women's increased ownership of household assets microenterprises.

Village Savings and Loan Associations

Another widespread intervention is the village savings and loan association (VSLA) approach, which is an improvement on the rotating savings and credit associations used by women in many traditional societies. VSLAs reach tens of millions of women in Asia and Africa. The approach is founded on the premise that small loans arising from savings within groups—not from a financial institution—can improve women's productivity. Rigorous evaluation of VSLA programs is relatively recent. Karlan et al. (2017) looked at VSLA programs run by CARE in Ghana, Malawi, and Uganda over three years and found positive effects on business income and women's empowerment but not on consumption. The impacts were described as positive but did not lead to substantive changes in agricultural production, livestock holdings, or the accumulation of household assets—at least not in the short term. Financial diaries of VSLA members compiled by Catholic Relief Services in Zambia from 2014 to 2016 showed an increase in business activity but no increase in income (Chang 2017). Nonetheless, the evidence is growing that women's collectives and savings groups can play important roles in enhancing women's economic empowerment and agency (Brody et al. 2015; Rickard and Johnsson 2019).

Fintech Solutions to Women's Financial Inclusion

The spread of mobile money accounts has created new opportunities to better serve women, poor people, and other groups traditionally excluded from the formal financial system. But as we indicated earlier, whereas mobile and digital services do increase access to financial services, their presence can in some instances widen the gender gap.

Low-cost digital financial services such as mobile money address several barriers to financial inclusion for women, including proximity, affordability, and know-your-client requirements. However, women's lower rate of mobile phone ownership compared with men hinders their taking full advantage of such services. Although cell phone penetration in Africa is high (about 70 percent), women lag behind men in cell phone usage and access to cell phones in general. In Uganda, a country with one of the widest gender gaps in phone ownership in Africa, 77 percent of men own a mobile phone, while only 54 percent of women do (Pew Research Center 2015). According to GSMA (2015a), about 64 percent of women in SSA are unconnected.[1] Recent data from GSMA (2019) show that approximately 80 percent of women globally own mobile phones. And in Africa, one sees on average a 15 percent gap in phone ownership between men and women.

Having a phone, however, is only one of the issues. First, the type of phone matters, and the growth in use of smartphones, which most fintech solutions require, is unequal across populations. Whereas the average rate of smartphone ownership in the developed economies is 76 percent, in Africa it is much lower. In Kenya, for example, 41 percent of the population own smartphones, 45 percent own other types of phones, while 14 percent have no phones (Pew Research Center 2019).

Second, there is a big difference between mobile phone ownership and use for digital services. GSMA (2019) analyzed some of the barriers women face in using their mobile phones for Internet-enabled services, including demographic barriers such as literacy rates and labor force participation, social norms that limit women's mobility and financial decision making, unawareness of services, and security concerns. In Kenya, for example, 62 percent of women, versus 78 percent of men, are aware of the mobile Internet, and in Tanzania only 12 percent of women download or use any apps compared with 27 percent of men.

1 Unconnected females include those who do not own a mobile phone but may borrow one.

Notwithstanding the gaps described above, mobile banking and other financial-sector innovations that can accelerate the pace of financial inclusion are proliferating, especially in SSA, a region that has pioneered the use of mobile banking. According to the 2014 Global Findex database, 12 percent of adults in the region use mobile money, versus just 2 percent worldwide (Demirgüç-Kunt et al. 2015). This innovation has been instrumental in reaching those excluded from traditional banking services. So while bank access remains low, mobile money has been growing rapidly, especially in East Africa. There remain substantial gaps in banking access between men and women, but that gap is much smaller in mobile money and shrinking (Table 5.5).

TABLE 5.5—RATES OF OWNERSHIP OF AND ACCESS TO MOBILE PHONES AMONG SMALLHOLDERS AND ENTREPRENEURS

	Has his or her own mobile phone (%)				Has access to a mobile phone (%)			
	Smallholders		Entrepreneurs		Smallholders		Entrepreneurs	
	Female	Male	Female	Male	Female	Male	Female	Male
Côte d'Ivoire	80	89	-	-	89	95	-	-
Kenya	69	75	84	90	-	-	-	-
Rwanda	55	65	81	88	83	87	95	95
Tanzania	76	83	-	-	95	97	-	-
Uganda	53	71	-	-	92	94	-	-
Zambia	40	61	67	75	71	80	83	85

Source: Anderson (2017b), Anderson, Collins, and Musiime (2016), Anderson (2016)

Mobile money and mobile banking offer an opportunity to close the financial inclusion gap between men and women in the medium-term future. This has been a key driver of financial inclusion in East Africa, particularly among entrepreneurs. Table 5.6 shows the uptake of mobile accounts compared to traditional bank accounts.

TABLE 5.6—UPTAKE OF MOBILE MONEY ACCOUNTS VERSUS TRADITIONAL BANK ACCOUNTS AMONG SMALLHOLDERS AND ENTREPRENEURS

	Currently has a mobile money account (%)			
	Smallholders		Entrepreneurs	
	Female	Male	Female	Male
Côte d'Ivoire	16	34	-	-
Kenya	59	67	77	84
Rwanda	23	37	50	66
Tanzania	43	51	-	-
Uganda	15	25	-	-
Zambia	26	49	51	69

Source: Anderson (2017b), Anderson, Collins, and Musiime (2016), Anderson (2016)

A recent study by Genesis Analytics (2017) sought to understand the impact of fintech solutions on women. The study distinguishes between (1) innovations that transform the market—the "lift-all-boats" solutions; (2) fintech innovations that specifically target women; and (3) digitized institutions and services that serve women.

Innovations That Lift All Boats

Some fintech solutions serve and benefit the market in general without having a specific gender focus. Given the huge impact on financial inclusion of M-Pesa-style *mobile money products* in an increasing number of markets, M-Pesa can be included in this classification. Equally important would be the emergence of M-Shwari and competing products in an increasing number of markets. Evidence shows that mobile services such as M-Pesa have an impact on women. For example, a study by Ndiaye (2014) found that women were much less likely to use their money when they saved it in M-Pesa versus saving in their homes. The study found that the e-savings platform allowed women to safeguard their money. Women who participated in the study reported that in the past, their husbands often used their money for personal items and left them with no money for income-generating activities the following day. With their money saved in M-Pesa, their husbands no longer had easy access to it.

Genesis Analytics has confirmed these benefits with midterm evaluations of such interventions as UNCDF's Mobile Money for the Poor, Mercy Corps' AgriFin Accelerate, AGRA's Financial Inclusion for Smallholder Farmers in Africa Project, and Microcred's Mass Market Financial Inclusion project. In each of these

evaluations, women participants in focus group discussions and individual interviews highlighted the value of having increased financial independence, which has enabled them to invest in their businesses and also save for the future.

Another innovation in this category is *insurance delivered through mobile services*. According to GSMA, by 2015 insurance delivered through mobile phones was available in 33 emerging markets, predominantly in SSA (58 percent), South Asia (19 percent), and East Asia and the Pacific (18 percent). This has increased with new services launched since then. These products show signs of positive impact, especially in the lives of women. For example, Orange launched a mobile insurance product (Tin Nogoya) in Mali that activates automatically when a savings balance reaches about US$66. It provides a payout in the event of death or permanent disability of about US$260. Early results show that 97 percent of its female users had never been insured and 98 percent of surveyed users wish to continue saving to reach the insurance activation threshold (GSMA 2015b).

Low-income women in rural areas often face barriers to accessing a safe place to save due to mobility and time constraints. Thus, the innovation of *agency banking* using handheld, mobile, point-of-sale devices or roaming staff to link clients directly to the financial institution can reduce the risk, distance, and indirect cost of women's financial participation.

Gender-Targeted Fintech Solutions

An alternative lens is to consider how fintech is having an impact on areas of economic activity that are dominated by women or of particular concern to them. This could include education and health, given women's disproportionate caregiving role in the household, or social transfers, given women's greater eligibility for social grants due to their income levels. There have been very few fintech innovations targeting women specifically (Modato 2017).

Most such innovations are in the health and education sectors or in social transfer schemes. For example, Access Bank's Better Mama, Better Pikin in Nigeria is a mobile wallet that offers microsavings along with health and life insurance services for expectant mothers. A woman is required to save only a minimum of about US$3 per month. The "premium" gives her medical insurance coverage of up to about US$125 per annum and life insurance coverage of up to about US$312 in case of death or permanent disability.

Institutions Serving Women

Fintech innovations have also been used to improve the efficiency and ease of use of financial services from institutions traditionally serving women such as microfinance institutions (MFIs) and VSLAs. Most MFIs have small balance sheets and can hardly afford, maintain, or develop their information technology and management information systems. This means they end up having poor operational capabilities. To address these challenges, Musoni, a cloud-based banking system, developed a low-cost, cloud-based core banking system to help microfinance providers improve efficiency, reduce costs, and expand outreach. Musoni pioneered the use of new technology in microfinance, and it is integrated with multiple mobile money transfer services, including M-Pesa. It includes an SMS module for sending automated payment reminders, a tablet app that loan officers can use for offline data capture, a mobile banking app for clients, and credit scoring to improve lending decisions. Musoni helps MFIs to leverage technology at a fraction of the cost associated with traditional banking systems. The benefits of integrating with Musoni have been reported by multiple MFIs. The Mama Bahati Foundation (MBF), a Tanzanian institution providing microfinance to women entrepreneurs, is a good example. Within less than two years after integrating with Musoni, MBF expanded by more than 100 percent, with portfolio quality improving at the same time. MBF saw a significant reduction in cash handling, alongside the introduction of more efficient processes. These improvements have freed staff to concentrate on recruiting and helping clients rather than on administrative tasks, enabling the business to scale up its operations.

Another example is the digitization of savings groups, which has often proved difficult given both the engagement model and the location of many of the groups. When linked to formal banking institutions, these savings groups often require bespoke savings products that have reduced or no fees and at interest that can offset the cost of traveling to the bank. In addition, given their lack of experience with banking and low levels of literacy, groups often need additional help from bank staff to complete the account-opening process, and busy staff may lack the required time and incentive to help (Plan, Barclays, and CARE 2015).

In Kenya, Financial Sector Deepening Kenya (FSD Kenya) attempted to improve the quality of recordkeeping at groups by developing an electronic-recording app for a low-cost smartphone. FSD Kenya partnered with Software Group to develop an Android-based app called e-Recording to improve the quality and speed of data capture while enhancing transparency and security of the data. This convenient and reliable app is used to record all the transactions of a savings group. It also captures some sections of the group constitution, especially those that relate to financial transactions, as well as recording group and

member details. The application also does all the calculations—including share-out—reducing the time spent and errors associated with manual calculation.

Toward a Gender-Transformative Financial Inclusion Approach

Notably, most of the innovations described in the previous sections have been largely introduced within business and social contexts characterized by significant gender bias. As a result, low-income rural women continue to face barriers in accessing financial services and achieving full financial inclusion. Some of the evidence presented also underscores the fact that financial services alone are not enough to transform livelihoods. Increasingly, we recognize that ensuring the impact of financial inclusion on women's livelihoods cannot be done without addressing multiple gender inequalities embedded in the entrepreneurial ecosystem—including sociocultural norms and the gendered division of labor.

As Kabeer (2017) notes, improved access to new financial offerings provides possibilities, rather than a predetermined set of outcomes, and which of those possibilities are realized in practice depends on levels of gender equality across the ecosystem in which the new products are introduced. Other financial services available and the extent to which women can shape decisions around financial product consumption and patterns of use also determine these outcomes (Stamp 1989). This calls for a gender-transformative approach to financial inclusion defined as a way of doing financial inclusion explicitly directed toward creating gender-equal financial systems that enable all entrepreneurs, regardless of gender, to overcome supply-side and demand-side constraints and improve their livelihoods on equal terms.

Gender-transformative approaches depart from the notion that gender defines what women and men can have (resources, assets), do (actions, decisions), or be (roles, positions) and challenge the inequalities embedded in society (Cole et al. 2014; Risman 2004; Martin 2004). They are distinguished from more mainstream approaches to development by a strong commitment to alter and transform existing inequalities by challenging unequal power relations that are enforced by regulatory frameworks and adverse norms. Gender-transformative approaches are thus more political than mainstream development approaches because they deliberately urge a shift beyond "business as usual" and challenge systemic inequalities that underpin and shape social and economic systems.

In essence, gender-transformative approaches go beyond treating "symptoms" of women's marginalization and gender inequality at the individual level to challenge power dynamics at institutional levels that systematically reinforce gendered inequalities (Rao and Kelleher 2005; Rottach, Schuler, and Hardee 2009; Hillenbrand et al. 2015). According to Martinez and Wu (2009) and Morgan (2014), outcomes of gender-transformative approaches can be examined across three key dimensions of change: (1) changes in individual or collective empowerment of women (for example, changes in their choices, skills, knowledge, self-identity, and access to and control over resources); (2) changes in intrahousehold and external relationships (for example, changing the expectations and dynamics embedded within relationships between people in the home, market, community, institutions, and organizations); and (3) changes in formal and informal rules and practices (such as regulatory systems and social norms).

Adopting a gender-transformative approach to financial inclusion automatically implies a shift in emphasis from how financial products and services enable access to financial offerings to how financial inclusion affects women's lives in terms of empowerment and social justice. The central question is therefore simply how financial inclusion can serve as a means to realizing women's empowerment and gender equality. Having a bank account or receiving digital transfers and payments are important, but they are means to an end. The ability to deploy these assets to mitigate shocks, leverage resources, and make financial decisions that respond to women's needs, preferences, and aspirations is key. Table 5.7 shows some characteristics and outcomes of a gender transformative financial system.

TABLE 5.7—CHARACTERISTICS AND OUTCOMES OF GENDER-TRANSFORMATIVE FINANCIAL INCLUSION

Characteristics	Outcomes
• Gender analysis of the entrepreneurial ecosystem • Capacity building on supply and demand sides • Diverse strategies and interventions, targeted toward multiple levels • Innovative partnerships and multistakeholder commitments to meaningful change • Action-learning integrated into strategies and interventions	• Enhanced women's empowerment • Strengthened relationships and negotiation dynamics • Enabling formal institutions (policies and regulations) • Enabling informal institutions (sociocultural norms)

Source: Vossenberg et al. (2018).

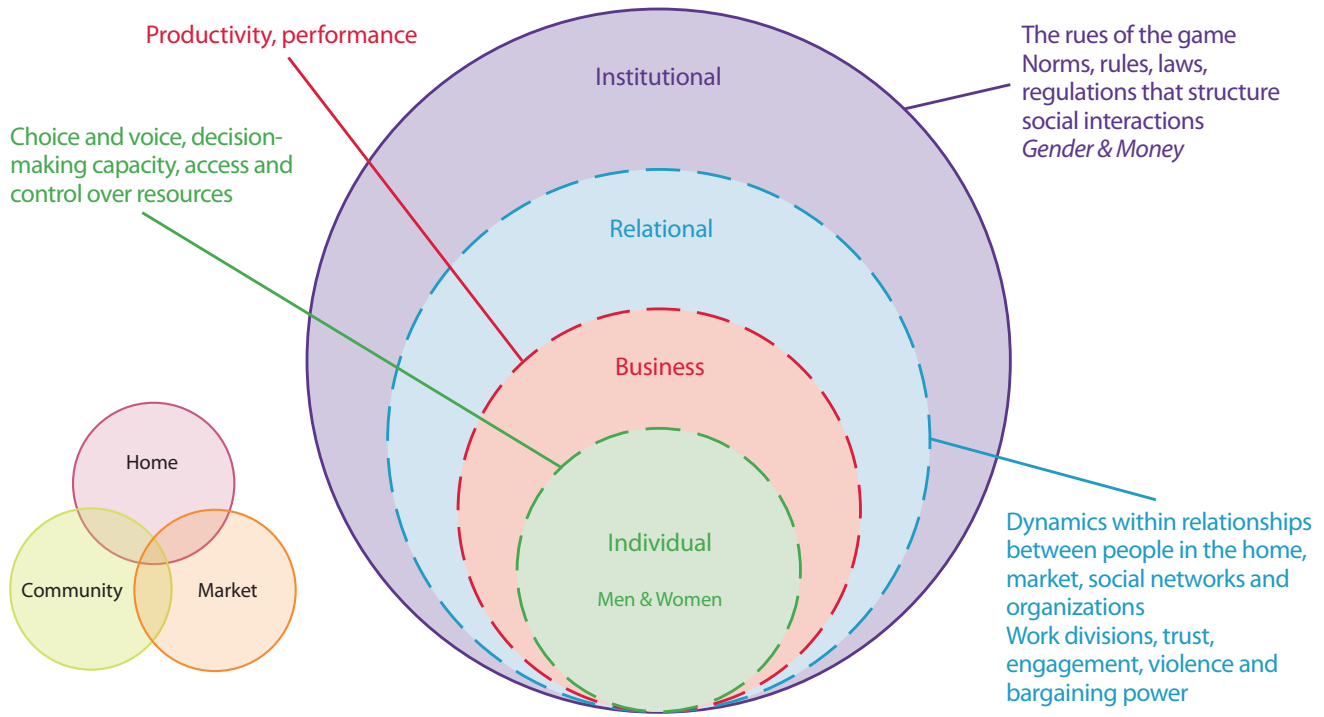
To implement a gender-transformative financial inclusion model requires an analysis of how gender works in the entrepreneurial ecosystem and how that ecosystem may systematically reinforce gender inequalities by constraining the ability of women entrepreneurs to access and benefit from financial offerings. The term entrepreneurial ecosystem refers to the specific social, political, and economic systems in which entrepreneurs operate their lives and businesses. This ecosystem, sometimes also referred to as the business environment, offers the necessary means to build a viable business and influences entrepreneurial behavior, strategies, and outcomes (Brush et al. 2009).

Figure 5.3 visualizes the entrepreneurial ecosystem. It shows that it consists of different and interconnected levels that can produce constraints on women entrepreneurs' ability to operate their businesses. At the macro level, it encompasses regulatory frameworks such as policies, laws, and bank regulations. At the meso level, sociocultural norms are at play, both in shaping the regulatory frameworks and what women and men can have (resources, assets), do (actions, decisions), or be (roles, positions) in markets, networks, or finance. But as in the home, at the heart of the ecosystem sits the household context, wherein women and men can have different roles and tasks in terms of care work, cleaning and cooking, and financial decision-making power.

Vossenberg et al. (2018) apply this gender-transformative paradigm to the financial inclusion life cycle. The financial inclusion cycle describes the processes that financial institutions go through when offering financial products or services to their clients. It encompasses (1) ***strategic decisions*** (including all decisions for market segmentation and specific investments, market analysis, and product and service development); (2) ***processing and delivery*** (including due diligence, structuring of the product, product and service delivery, and technical assistance); and (3) ***monitoring and evaluation*** (including all indicators and evaluation of results and impacts). The cycle is presented in Figure 5.4. At each stage, we depict what a gender-transformative approach would look like in the process.

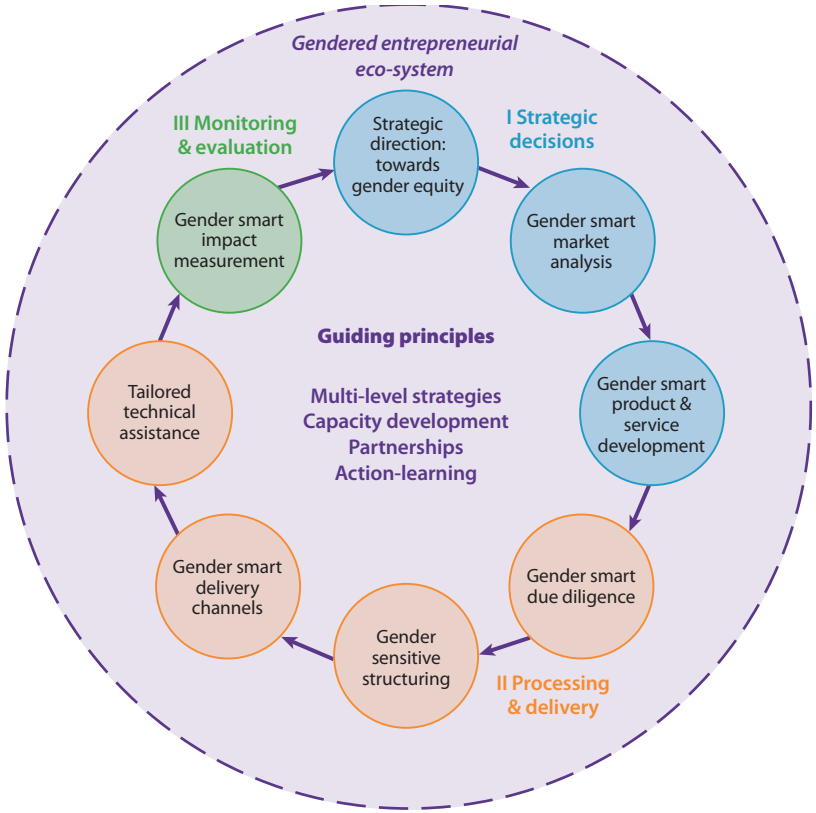
Strategic decisions. In the first phase of the financial inclusion life cycle, research and development of financial offerings is carried out. This encompasses all the *strategic decisions* financial institutions make for identifying and

FIGURE 5.3—DIMENSIONS OF GENDER-TRANSFORMATIVE CHANGE IN FINANCIAL INCLUSION



Source: Vossenberg et al. (2018).

FIGURE 5.4—GENDER-TRANSFORMATIVE APPROACH IN THE FINANCIAL INCLUSION LIFE CYCLE



Source: Vossenberg et al. (2018).

developing specific investments, products, services, and markets, and for understanding customers and their needs and risks and so on. This phase includes activities such as market analysis and product and service development, which entails translating broad ideas into new products or services, through prototyping, pilot executing, and final execution (Mastercard Innovation Lab 2017).

When a gender-transformative approach is applied, the strategic direction gets framed and directed toward gender-equality achievements and creating a meaningful impact on the lives of women. A holistic gender analysis of the entrepreneurial ecosystem would be part and parcel of the R&D process. This entails more than making a statistical breakdown by gender when doing market research. It means analyzing how gender works at home, in markets, and in cultural and regulatory systems that shape the lives of men and women, and the power relations between them. Such an endeavor would reveal new business and commercial insights (IFC 2017). Since women entrepreneurs are not a homogeneous group, a gender-smart market segmentation study would reveal that there are different—and completely underserved—segments within the "women entrepreneurs market," with distinct constraints, needs, and aspirations. The subsequent product design and service delivery would also reflect gender analysis, integrating so-called "gender-smart design features." These include the use of women-centered design approaches such as, for example, the use of group formation or combining financial products with nonfinancial services such as leadership training for women.

One example that demonstrates elements of a gender-transformative approach to financial inclusion is a new partnership between CARE International, PostBank, and two local partners (CARE and DoubleXEconomy 2017). Together, they are implementing a project that aims to support women microentrepreneurs in rural areas of Western Uganda, organized in VSLAs. The project is introducing a "digital sub-wallet"—a mobile banking product specifically designed to meet women's priority needs, such as saving for school fees or health care—and providing household financial counseling sessions to reduce inequalities and conflicts between men and women over financial decision making. In addition, capacity development is offered both on the demand and on the supply side, to create a deeper understanding and interaction between different actors. A study is also integrated into the approach to closely monitor uptake rates and to better understand factors that influence adoption of the practices and the experience of VSLA members. By means of mixed methods, the project-planning process is informed by factors such as community attitudes toward finance, relationships between men and women and institutions, household decisions, privacy, control over savings, and permission to leave home. Psychometrics such as the perception of control over one's destiny, mental health risks, and self-esteem are also monitored. The study identified a number of constraints to uptake and usage of the new financial product, which allows the partners to improve their capacity building and outreach to achieve

greater impact in the lives of participating women entrepreneurs (CARE and DoubleXEconomy 2017).

Processing and delivery. Using a gender-transformative approach, one would do gender-smart due diligence to better understand the clients' context, at the home, business, and community levels. Gender-smart due diligence delves into what goes on in the business, what the entrepreneur aspires to achieve, and how this is interconnected with what goes on at home, in the market, and in the community. It goes beyond assessing risks at the businesses level to also assessing needs and opportunities at these three levels, collecting information from multiple actors, including from women's groups and business networks, and civil society organizations. It focuses on identifying what technical assistance, product and service structuring, pricing, marketing, and delivery channels best match the client ecosystem and preferences, so that products and services can be designed and delivered more responsively.

Another initiative that recognizes elements of a gender-transformative approach to financial inclusion is that of the Nawiri DaDa ("Sisters Achieve" in Swahili) campaign in Kenya, launched by Women's World Banking in 2013. This campaign was specifically designed to trigger positive change in sociocultural norms toward women and finance, using television as the delivery channel (IFC 2017). A soap opera called Makutano Junction was produced, consisting of six episodes with banking-related story lines (Women's World Banking 2013). The show tackles social issues that keep women from banking and conveys practical knowledge, such as the importance of a solid credit history and the considerations to weigh when opening a bank account. The story follows a female cabbage-shredder and shows how banking becomes an important part of her life. An evaluation of the campaign indicated a 9 percent increase in account ownership among low-income women in Kenya. Unfortunately, no impact assessment was made in terms of changes in behaviors, attitudes, and relations.

Monitoring and evaluation. Evaluation of the performance of financial inclusion against empowerment and gender-transformative outcomes must be gender-sensitive, careful, and deliberate. Gender and development studies and practitioners have a long history of measuring and operationalizing both tangible and intangible aspects of women's empowerment and exploring gender-transformative change. In the financial inclusion evaluation/literature, where randomized control trials are the gold standard, there is valuable knowledge and expertise on measuring outcomes and longer-term impact. It is very worthwhile to further explore how an interchange of concepts of gender-transformative change and financial inclusion can be operationalized in quantitative methods, particularly in the randomized control trials used as the main methodology for impact measurement.

Beyond these barriers, however, there is a broader need for the financial inclusion industry to give greater recognition to the role of women in the economy. This is based on the limited evidence of how women's specific needs and contexts are factored into design and outreach. One of the ways to better reflect women's needs is by increasing the number of women involved in the industry, including the fintech industry, who can provide insight on ways to improve access for women. According to a report facilitated by Innotribe, only 5 percent of leadership positions in fintech are filled by women, compared with 15 percent in the tech industry as a whole (Maule and Duhaime 2015). Addressing diversity within the industry can in turn generate diversity across the entire playing field, as well as drive success (Hunt et al. 2018).

Conclusions

Key barriers to women's financial inclusion remain with a persistent gender gap in financial inclusion. Despite advances in financial inclusion of a digital nature, some technological approaches, such as mobile phones, do not necessarily close the financial inclusion gender gap for several reasons, including women's lower access to phones, lower literacy rates, and low awareness of these digital tools, and social norms that limit women's economic activity, mobility, and decision making.

Whereas most advances in improving women's financial inclusion have largely focused on women themselves, this chapter has focused on how institutions can in themselves make financial inclusion transformative. This will require actions at different levels.

Financial institutions, including those that provide fintech such as mobile solutions to financial inclusion, need to understand the needs and constraints of women and the nature of their businesses and to develop financial products that address those needs and constraints. This could include coupling financial services with literacy and norm change programs, mobile money solutions that integrate gender messaging to influence how decisions on use of credit are made, training their staff on how to engage with women clients, using delivery

approaches that are empowering to women and partnering with civil society organizations working with women to engage on changing norms, and building women's agency to seek and utilize financial services.

Donors and multilateral organizations, and especially those providing commercial banks with guarantee schemes for women-focused lending such as the African Development Bank, should incentivize commercial and mobile financial inclusion providers to be more gender transformative—for example, by requiring them to have some basic requirements of the gender-transformative financial inclusion agenda.

For researchers, there is more research to be done to determine and test an appropriate set of activities that commercial financial inclusion operators can effectively and efficiently combine with the traditional financial inclusion activities to achieve gender-transformative change and what the impact of these sets of interventions are in achieving change. For example, how would including gender messaging during mobile money transactions influence decisions on expenditures?

Finally, policy makers need to push for policies that are inclusive, provide incentives for multilevel stakeholder engagement, and act as conveners of dialogue and bring together multiple actors in the ecosystem to address gender barriers and make the financial system more inclusive.

CASE STUDY 3

Why Gender Matters for Agricultural Productivity in Africa

Cheryl Doss and Agnes Quisumbing[1]

Women are important to agriculture in Africa because of both the extent of their participation in agriculture and the size of the agricultural sector. Estimates of the proportion of economically active women working in the agricultural sector in Africa south of the Sahara range from 30 to 80 percent (FAO 2011). In addition, in the six African countries for which there are data, women provide 40 percent of the labor for crop agriculture (Palacios-Lopez, Christiaensen, and Kilic 2017). However, we are only beginning to understand the extent to which gender—the socially constructed relationships, norms, roles, and identities among women and men—underlies gender gaps in agricultural productivity.

Although measurement issues remain to be resolved, it is well documented that gender gaps exist in African agriculture (Kilic, Winters, and Carletto 2015; Oseni et al. 2015; Aguilar et al. 2015; Slavchevska 2015; Karamba and Winters 2015; de Brauw 2015; Kondylis et al. 2015; Doss et al. 2015) and that such gaps have consequences for agricultural productivity. Recent estimates of agricultural productivity gaps identify areas where gaps in access to and control of resources underlie productivity gaps (Kilic, Winters, and Carletto 2015; Oseni et al. 2015; Aguilar et al. 2015; Slavchevska 2015; Karamba and Winters 2015) and areas where the same resources held by men and women result in different returns—a signal of possible gender discrimination.

Recent policy documents have emphasized the missed opportunities created by gender gaps in agriculture. The FAO's *State of Food and Agriculture 2010–11*, for example, reports that "if women had the same access to productive resources as men, they could increase yields on their farms by 20–30 percent. This could raise total agricultural output in developing countries by 2.5–4 percent, which could, in turn, reduce the number of hungry people in the world by 12–17 percent" (FAO 2011, 5). The potential gains would vary by region, depending on how many women are currently engaged in agriculture, how much production or land they control, and how wide a gender gap they face. A 2015 UN Women report, *The Cost of the Gender Gap in Agricultural Productivity in Malawi, Tanzania, and Uganda*, used World Bank Living Standards Measurement Study–Integrated Surveys on Agriculture (LSMS-ISA) data from Malawi, Tanzania, and Uganda to analyze the consequences of gender gaps for crop production, agricultural GDP (gross domestic product), total GDP, poverty reduction, and adequate nutrition (UN Women et al. 2015).

This case study reviews the evidence on gender and agricultural productivity, identifying what we have learned as well as the limitations of studies that focus only on land productivity. It also queries the evidence base of most of this work, in which plots are classified into two mutually exclusive categories, depending on whether a man or a woman is the plot manager, even if many African agricultural households have both individually and jointly farmed plots.

Gender Gaps in Agricultural Productivity: Evidence and Options for Closing the Gap

Measurement Challenges[2]

In her review of the literature on women and agricultural productivity, Doss (2018) addresses the challenges involved in measuring agricultural productivity. These can broadly be classified into issues related to (1) measuring inputs; (2) measuring outputs; and (3) distinguishing women's agricultural productivity from that of men. Whereas the first two challenges are common to all studies of agricultural productivity, the last challenge is particularly relevant when

1 Cheryl Doss was supported by the CGIAR Research Program on Policies, Institutions, and Markets (PIM) and Agnes Quisumbing by the Gender, Agriculture, and Assets Project, Phase 2, funded by the Bill & Melinda Gates Foundation, USAID, and A4NH

2 This section draws heavily from Doss (2018).

we consider gender in agriculture. Although the literature typically compares productivity on plots managed by women with those managed by men, men and women are both involved in production and management in the majority of agricultural households worldwide.

Approaches to measuring productivity have generally taken a piecemeal view of inputs, focusing on one factor of production at a time. For example, the papers based on the World Bank's LSMS-ISA surveys that estimate productivity gaps all focus on land productivity, measuring the gross value of output per hectare (for example, Oseni et al. 2015; Aguilar et al. 2015; Karamba and Winters 2015). Estimating gender differences in land productivity requires disaggregating by the gender of the plot manager.[3]

Estimates of labor productivity do not require the assignment of output to individuals and instead measure how labor inputs of men and women affect total farm productivity. The challenge is to effectively measure labor inputs; this is a challenge for any analysis of labor productivity in agriculture, but even more so when considering gendered agricultural tasks. Low labor productivity of women relative to men points to women's lower access to nonlabor inputs that may enhance labor productivity or could imply that these are low-return activities for women, and that women may be better off allocating their labor elsewhere. However, most measures do not take into account the other, uncompensated tasks that women do. When labor inputs are measured in time units, women who are taking care of children while engaging in agricultural labor may show a lower level of output per unit of time of labor input. One reason is that the value of the childcare is not measured. While the "gold standard" for productivity measurement would be total factor productivity—comparing aggregate outputs to aggregate inputs—such an approach is very data intensive, requiring multiple observations over many seasons to address weather and other factors that may affect productivity.

Approaches to measuring outputs have similarly been piecemeal. The shift from comparisons of estimates of crop yield for only one crop to gross value of output allows comparisons across crops (such as maize and leafy vegetables) and acknowledges the importance of intercropping in African farming systems. Yet aggregation of different types of outputs using prices introduces different biases. A household decision to maximize household outputs that has men specialize in high-value cash crops and women specialize in lower-value food crops primarily for household consumption will suggest that women are less productive. Aggregating by price also implicitly assumes that men and women have the same opportunities to choose what to grow on their plots and that they face the same market prices. But women may obtain lower market prices for the same crop if they lack transportation to bring goods to market (Hill and Vigneri 2014).

All these computations analyze the productivity of land, based on yield per hectare or gross value of output per hectare. Plots must then be assigned as either men's plots or women's plots. Three out of four papers that compute productivity differentials (Oseni et al. 2015; Aguilar et al. 2015; Karamba and Winters 2015) do so based on the gender of the reported plot manager (it is not clear how they handle jointly managed plots); Slavchevska 2015 compares plots managed solely by men, solely by women, and multiple managers. In order to decompose the productivity gap into one portion arising from unequal resources and the other portion owing to differences in returns to resources, known as the Oaxaca–Blinder decomposition, she combines sole male and multiple managers to compare them with sole female managers. Thus, none of the analyses considers any jointness in management or labor inputs, despite the sizable proportion of jointly managed plots in African agriculture (Slavchevska et al. 2017).

Almost all of the analyses of gender gaps in agricultural productivity consider only crops. Measuring the gender gaps in livestock production faces even greater challenges. Should we assign the output of specific animals to men and women based on the owner of the animal or the person who is responsible for the day-to-day care of the animal? How do we think about this in situations where there are competing objectives when women control the milk from cows but men have the right to sell or slaughter the animal? Yet livestock are an important part of smallholder farming systems, and production decisions

3 Four of the countries in the LSMS-ISA surveys (Ethiopia, Malawi, Niger, and Nigeria) have data only on male and female plot managers; in the remaining two countries (Tanzania and Uganda), the data include whether the plot is managed by men, women, or jointly by both (World Bank and ONE 2014), but approaches to using these classifications in decomposing the gender productivity gap differ. Slavchevska (2015) combines male-managed plots with those with multiple managers (regardless of gender), coming up with two categories for the decomposition analysis (male/multiple versus female-only). De la O Campos, Covarrubias, and Patron (2016) maintain the three separate categories in their regression analysis but do pairwise comparisons (male holder, joint holder, male-only manager, joint manager versus only female, respectively) for the Oaxaca–Blinder decompositions.

will include potential trade-offs between maximizing the value of crop outputs and obtaining value from livestock. In addition, women's home gardens often do not count in the computation of agricultural productivity because home gardens are not considered "field crops," although they are an important source of in-kind and cash income for the household.

Agricultural Productivity Gaps: What Do We Know?[4]

The FAO's 2011 estimates, cited earlier, of the potential increases in yields and agricultural output that would result if women had the same access to productive resources as men have been widely publicized. These estimates are plausible and have played an important role in highlighting the potential costs of the gender gap in agriculture. However, it is useful to note that these are simulations, based on increasing women's use of inputs to the level that men use, which would be a substantial increase in the total amount used. There is substantial scope for increases in crop productivity in Africa from increased use of inputs by both men and women farmers. The predicted increases are not based on the evaluation of programs that provide men and women with equal levels of input, such as a randomized controlled trial (Doss 2018).

More recently, estimates of the costs of gender gaps in access to resources have been further refined using data from the World Bank's LSMS-ISA and Oaxaca–Blinder decomposition analysis in six African countries south of the Sahara and are summarized in O'Sullivan et al. (2014). The value of total crop output per hectare is compared across plots managed by men and women. Analyses from Ethiopia, Malawi, Niger, Nigeria (analyzed separately for Northern and Southern Nigeria), Tanzania, and Uganda find statistically significant gender gaps in productivity for all but Northern Nigeria and Tanzania when simply comparing the differences in value of output per unit of land. According to O'Sullivan et al. (2014), a simple comparison of average male and female productivity shows gaps ranging from a low of 13 percent in Uganda to a high of 25 percent in Malawi. This suggests that in Malawi, for instance, male-managed plots produce on average 25 percent more per hectare than female-managed plots.

Many previous analyses have found that the gender gaps in productivity per unit of land decrease or disappear when the use of inputs is considered (see Quisumbing 1996 for a review), suggesting that it is women's lack of access to improved seed, fertilizer, and extension information that is the cause of the gender productivity gaps. Most recent studies also estimate women's productivity if they used the same resources as men. For Niger, Northern Nigeria, Tanzania, and Uganda, after accounting for the differences in farm size, the gender gap widens, ranging from 23 percent in Tanzania to 66 percent in Niger (O'Sullivan et al. 2014). Doss (2018) points out that one reason for these dramatic differences is that women, on average, have smaller holdings than men. Given the inverse relationship typically found between farm size and productivity, we would expect that, all else equal, women, who typically have smaller farms, should have higher productivity per unit of land than men.

Similarly, the UN Women report uses the same World Bank LSMS-ISA data to estimate the costs of gender gaps in agricultural productivity in Malawi, Tanzania, and Uganda (UN Women et al. 2015). The authors first compute the differences in value of output per hectare obtained on male- and female-managed plots; this simple difference, which does not account for differences in plot sizes controlled by men and women, is called the unconditional gender gap in agricultural productivity. Based on the identified gender gap in agricultural productivity and the estimate of the share of land under women's control, the authors estimate the monetary equivalent of the gender gap in terms of potential gains in agricultural production and total economic output. According to their estimates, if these gaps were closed, annual crop output could increase by 2.1 percent in Tanzania, 2.8 percent in Uganda, and 7.3 percent in Malawi. The authors then use the contribution of crops to total agricultural output, the size of the agricultural sector in the overall economy, and spillover effects of higher agricultural output to other sectors of the economy to estimate the potential gross gains to GDP to be $100 million in Malawi (or 1.85 percent of GDP), $105 million in Tanzania (0.46 percent of GDP), and $67 million in Uganda (0.42 percent of GDP).[5] The authors then use poverty–growth elasticities derived from an economywide general equilibrium approach (Dorosh and Thurlow 2014) to calculate the potential benefits of closing the gender gap in terms of poverty reduction. The gross gains from closing the unconditional gender gap in agricultural productivity translate into an annual 0.41 percent reduction in the poverty headcount,

4 This section draws from Doss and Quisumbing (2018).

5 Spillover effects are estimated using an estimated multiplier between the agricultural sector and the rest of the economy drawn from economywide models for each country.

which is equivalent to lifting nearly 80,000 people out of poverty every year (UN Women et al. 2015).

O'Sullivan et al. (2014) and the UN Women et al. (2015) report apply the Oaxaca–Blinder decomposition to the same data to identify key sources of the gender gaps: inequalities in the quantity of male labor per household; differences in men's and women's ability to grow high-value crops; differences in the use of agricultural implements, pesticides, and inorganic fertilizer; and differences in wealth, captured using a wealth index. The UN Women et al. (2015) report used the O'Sullivan et al. (2014) recommendations as a starting point for prioritizing programmatic and policy solutions to close these gaps.

Options for Reducing Gender Gaps in Agricultural Productivity

A range of policy recommendations have been proposed to close the gender productivity gap. These include increasing women's access to labor (particularly male labor), enabling women farmers to move into cultivation of high-value cash crops, and improving women farmers' access to and use of nonlabor inputs in agricultural production.

Recommendations for closing the gender gap in labor inputs fall into two general categories: (1) enhancing women's use of technologies that save their time on and off the farm, and (2) improving access to hired labor, particularly men's labor. In much of Africa, the work that women do, both on and off the farm, is difficult and time-consuming. Labor-saving devices for women, such as stoves that use less fuel (recommended in the UN Women report), or providing access to water near the home would both reduce women's labor burdens. These would both have a positive impact on women's well-being and their ability to engage in other productive activities. However, it is not necessarily clear that these would result in women shifting time into agriculture. They could shift the time into home production activities, resulting in better health and nutrition for themselves and their children, or into nonfarm income-generating activities.

As with any proposed innovation, recommendations for labor-saving technology need to be carefully evaluated. In particular, their impacts on women must be considered. Many examples abound of technologies that were planned for women but were not widely adopted, either because they were difficult for women to use, were too expensive, or were not considered culturally appropriate for women to use (see Quisumbing and Pandolfelli 2010 for a review and Johnson et al. 2016 for a synthesis of project experience).

A second priority area is to increase the value of crops grown by women. Typically this involves supporting women in growing higher-value cash crops, increasing women's participation in agricultural producer groups, and improving access to markets.

Often a gender division exists in terms of which crops are seen as appropriate for women to grow. Within the existing gender norms, focusing agricultural research and extension on crops that women tend to grow could have impacts on productivity. Women often grow the food crops for household consumption, which means that they are concerned with both the production and consumption characteristics (Doss and Morris 2001). Crops grown for market may have different characteristics, since some characteristics, such as increased micronutrient content, may not be visible to buyers in the market and thus not have a higher market value. Thus, growing crops with higher nutrient content may have an important impact on household health and nutrition, without directly increasing the measured value of women's productivity. As discussed extensively in the chapter on women's control over income (see Chapter 11), women may choose to grow crops for the market for which they have greater control over the income. These are often crops that are sold in small quantities throughout the season in local markets. Changing gender norms to support women growing a broader range of crops, including more high-value crops, would require a different set of programs and policies, such as more agricultural extension targeted directly to women, better support for marketing women farmers' output, increasing women's control over income, and addressing the gender-based constraints women farmers face more generally.

Women participate much less than men in farmer producer groups. This is both because the groups are often not welcoming to women and because women face time and labor constraints that limit their ability to participate. The formation of women's producer groups and the promotion of women's participation in producer groups with men have been advanced as ways to increase women's agricultural productivity. Such approaches may be useful, but groups require time and resources to form and are not always effective unless they provide the critical resources women cannot obtain on their own, such as transportation, access to up-to-date price information, and fair prices. Groups

may be able to negotiate for better contractual terms, but one cannot assume that will happen automatically once a group is formed. It may also be useful to address other barriers to women participating in markets, such as assumptions that only men engage in the markets,

Finally, much of the gender productivity gap literature demonstrates that women are less likely to use other inputs, particularly fertilizer and machinery. Recommendations for increasing fertilizer and pesticide use by women include packaging fertilizer in small amounts, innovative delivery mechanisms such as free delivery, information-and-communication-based nudges using mobile phones, cash and in-kind transfers for input purchases, and reducing risk through social protection schemes and crop insurance. Many programs are being developed to increase input use generally, but often they do not specifically address the needs of women farmers. Women farmers typically face multiple constraints, and it is useful to address them simultaneously. For example, although small packages and lower up-front costs of purchasing inputs may relieve the burden for women farmers, they may not address the reluctance to invest in these inputs given the inherently risky nature of agriculture. Social protection schemes and crop insurance may need to be part of efforts to increase input use, because transfer programs by themselves to encourage take-up of these inputs are costly and unlikely to be financially sustainable.

Expanding the use of machinery for women requires ensuring that the machinery is seen as culturally appropriate for women to use and that women have the means to purchase or hire such machinery. Women's voices that include discussion of both the opportunities and constraints for women's access to machinery need to be incorporated from the beginning of the design of such policies. Machinery that is appropriate for women must be developed. Women need access to the markets to buy machinery and the cash or credit to purchase it. Some types of machinery, such as tractors, are often hired in rather than purchased. It is often not simply the machinery itself that is hired but also the machine operator. Thus, the programs need to be designed in such a way that women have access to the financial capital to hire in the machinery and that it is socially appropriate for women to do so.

Gender and Agricultural Productivity: What Are We Missing?

The foregoing discussion and summary of recent policy reports highlights the importance of closing gender gaps in agricultural productivity. Yet, in focusing on a land-based measure of productivity and on gaps that are calculated based on plots that men and women control, we may be missing key insights into agricultural households.

Most of the analyses on which productivity decompositions are based assume that men and women are the sole managers of some plots of land and are making the decisions independent of what else is going on in their household. While it may be the case that some women heads of household solely manage all household plots, in many households both men and women are engaged in farming and their farming decisions reflect the intrahousehold relations. For example, in a study of the adoption of maize technologies in Ghana, Doss and Morris (2001) found that there were no significant differences in technology adoption between men and women farmers living in male-headed households. However, women living in female-headed households were less likely to adopt the technologies, even after controlling for other characteristics. This suggests that women living in male-headed households had access to information or other resources through their households that women in female-headed households were not able to access.

Considering women's contributions to agricultural productivity only if they are the plot managers ignores the inputs of women who do not manage their own plots but contribute to the production on plots managed by men. Similarly, neglecting the jointness of household production and targeting inputs and trainings to women exclusively without taking into account the households in which the women live may lead us to miss out on potential gains from cooperation.[6]

6 Interestingly, emerging evidence on gains from cooperation comes from studies on risk sharing. A recent study in Malawi by Josephson (2016) tests the assumption that all household income is pooled, accounting for joint income as well as income earned individually by men and women. Exploiting the variation in expenditure by different income earners resulting from exogenous variation in rainfall, she finds that household members partially insure one another for expenditure on essential goods (such as food, clothing, education, and healthcare) but do not insure one another for luxury goods, including cigarettes and alcohol, recreation, and housing and utilities. Her finding that households partially insure is contrary to the findings of previous studies, which fail to find even partial insurance within households.

Research is beginning to explore the circumstances under which households cooperate and the circumstances under which there are gains to cooperation. Some such research is inspired by work on collective action and natural resource management (see an extensive review in Doss and Meinzen-Dick 2015), by more detailed data that are better able to identify sole and joint asset ownership, and by findings from impact evaluations.

Failing to recognize jointness in decision making and control of productive resources may neglect gains from cooperation and gains from involving men as well as women. For example, most agricultural programs target extension advice about agriculture to men, and nutrition messages, as relevant, to women. A HarvestPlus project (the Reaching End Users Orange Sweet Potato Project) that disseminated biofortified orange sweet potato (OSP) vines to farmers' groups gave nutrition messages about vitamin A to women but not to their husbands. In examining adoption decisions within households, Gilligan et al. (2014) found that plots of land exclusively controlled by women are not more likely to contain OSP, but plots under joint control of men and women, in which a woman has primary control over decision making, are significantly more likely to contain OSP. Plots that men control exclusively are the least likely to contain OSP. This evidence indicates that women play an important role, and often a leading role, in the decision to adopt OSP, but that this decision is often jointly made with their husbands. Because of the jointness of these decisions, the current strategy of targeting only women with nutritional training may be missing an opportunity to create an awareness of the benefits of OSP among men.

Numerous studies have shown that providing information to one spouse, typically the husband, does not result in the other spouse receiving the information. A study in Kenya by Bernier et al. (2015) found that extension services, farmer organizations, and agriservice providers (the most commonly used channels in development projects) do not raise awareness of most climate-smart agricultural practices, especially for women. By contrast, access to information from religious groups and radio did significantly increase awareness of climate-smart practices such as terracing, composting, water harvesting, and improved livestock management practices. In another example, a dairy development project in Mozambique initially targeted training to men but later found that training two people within the household, instead of only the male household head, resulted in higher levels of milk production (Johnson et al. 2015).

A recent study of social networks and the adoption of agricultural technologies in India is also relevant (Magnan et al. 2013). This study found that men and women in the same households have very distinct networks of agricultural contacts. Although women's networks are as large as men's or, in the case of poor households, substantially larger, women's connections are more likely to be with poorer households that are less likely to adopt new technology. In contrast, poor men with smaller agricultural networks tend to be connected to wealthier and more progressive farmers who are more likely to be early technology adopters—either because being wealthy or progressive has a direct positive influence on adoption or because these factors attract extension assistance. Because of their wider reach, public extension services and private service providers could use women's social networks, particularly among poor households, to facilitate inclusive technology dissemination.

Beyond Agricultural Productivity

While increasing women's productivity on the plots that they manage is an important policy goal, it is important to look beyond this single measure of agricultural productivity. If the policy goal is simply to increase the value of crop production, then this may be an important focus. But policy may have other goals within the agricultural sector as well.

Because many of Africa's farmers are poor and live in marginalized areas, one focus may also be to use agricultural interventions to reduce poverty. In this case, it is important to consider not only the value of output per unit of land but also the value of output per unit of labor. It suggests considerations not only of the on-farm but also of the off-farm sectors. On poor-quality land, poverty reduction may involve farmers becoming engaged in off-farm activities with higher returns.

Agricultural interventions may also have a negative impact on women's productivity and well-being. There is a long history of policies and projects that did not take gender issues into consideration and thus worsened the situation for women. For example, if women's access to land is insecure, then increased land productivity may result in the land being taken away from women to be farmed by men (Goldstein and Udry 2008). Thus, ensuring women's tenure security before such programs begin may be necessary. Projects that require women's labor but do not involve women in either the decision making or the benefits may either fail if women choose not to participate or disempower the women if social norms require that they participate.

Improving health and nutrition is another goal that goes beyond increasing agricultural productivity. Women can be encouraged to grow crops that can contribute to a diverse and nutrient-rich diet, but their decisions to grow those crops as well as their ability to control the fruits of their labor need to be considered. While increasing agricultural production and income may mean more food that can potentially be consumed or output that can be sold to purchase food, the potential impacts on workload must be recognized. Women's time use is a factor that links efforts to increase agricultural productivity and their impacts on health and nutrition. By producing higher-value crops women may increase their ability to influence household decisions, but it is also possible that their husbands may capture the increased benefits.

Finally, we need to ask whether efforts to increase agricultural productivity are consistent with the goal of gender equality and women's empowerment. Simply increasing the output on women's fields without considering their access to markets and control over the income will not necessarily make them better off. Substantial increases to women's already heavy work burdens may be disempowering. Efforts to increase agricultural productivity must ensure that the approaches empower women with additional access to information, resources, and the control over outputs. Programs to increase agricultural productivity have the opportunity to publicly recognize women's contributions by including them in their programming and ensuring that women benefit from the increased productivity.

CASE STUDY 4

Developing Gender-Inclusive Products and Programs: The Role of Gender in Adoption and Consumption of Biofortified Crops

Dorene Asare-Marfo, Johanna Bergman Lodin, Ekin Birol, and Bho Mudyahoto[1]

Micronutrient malnutrition, also known as "hidden hunger," affects one in three people globally. Women, adolescent girls, and children are most at risk of hidden hunger due to their higher biological needs for key micronutrients, such as iron, zinc, and vitamin A (see, for example, Black et al. 2013; Branca et al. 2015; Ruel-Bergeron et al. 2015; and De-Regil, Harding, and Roche 2016), coupled with their limited access to micronutrient-rich foods, such as animal-source foods, which are often allocated to men or adolescent boys in the household (see, for example, Gittelsohn and Vastine 2003; Herrador et al. 2015). In the absence of diverse, equitable, year-round nutritious diets, there are several strategies for alleviating hidden hunger, such as fortification, supplementation, and biofortification.

Biofortification: A Nutrition-Smart Agricultural Innovation on the Brink of Scale-Up

Biofortification is the process of increasing the micronutrient content of staple crops through breeding, in order to improve the micronutrient intake, and hence the micronutrient deficiency status, of populations. Biofortification is especially relevant for people in rural areas whose diets comprise mainly home-grown staple crops. The impact, scalability, and sustainability of biofortification depends on whether (1) conventional crop breeding can increase nutrient levels without compromising yield, (2) extra nutrients in crops can measurably improve micronutrient status, (3) farmers are willing to grow biofortified crops and consumers are willing to eat them, and (4) the entire process is cost-effective. Several recent papers have summarized the evidence supporting success on all four points (see, for example, Birol and Bouis 2019; Oparinde and Birol 2019; Lividini et al. 2018; Saltzman et al. 2017; and Bouis and Saltzman 2017), as well as proposed a road map for scaling up biofortified crops to benefit 1 billion people by 2030 (see Bouis et al. 2019). This case study focuses on understanding the importance of gender in the scaling up of an agricultural technology that delivers nutrition outcomes such as biofortification. It presents the experience of HarvestPlus, the global leader in biofortification technology and policy, in accounting for gender considerations when developing, delivering, and promoting biofortified crops to farming households, so as to ensure maximum adoption and consumption outcomes.

Gender and Biofortification

The role that gender plays in agriculture-nutrition interventions has been well established in the literature (for example, Quisumbing et al. 2014; Meinzen-Dick et al. 2012; FAO 2011). Differences in the roles that men and women farmers play may affect the overall impact of an intervention. Understanding and addressing these differences along the impact pathway from production to marketing to processing and consumption for an intervention such as biofortification is critical to the success of the intervention.

To increase production, it is important to know how men and women farmers' preferences affect adoption of a new technology. When an intervention

1 Thanks to Edward Chibwe, Jen Foley, Lister Katsvairo, Jean Pierre Mbagurire, Lilian Mutesi and Eliab Simpungwe for their input to and work on the qualitative assessments; Kristy Cook, Cheryl Doss, Yvonne Pinto, and Deborah Rubin for their advice and guidance on implementation of HarvestPlus's country programs with a gender lens, and last but not least all the farmers who participated in the focus group discussions and key informant interviews.

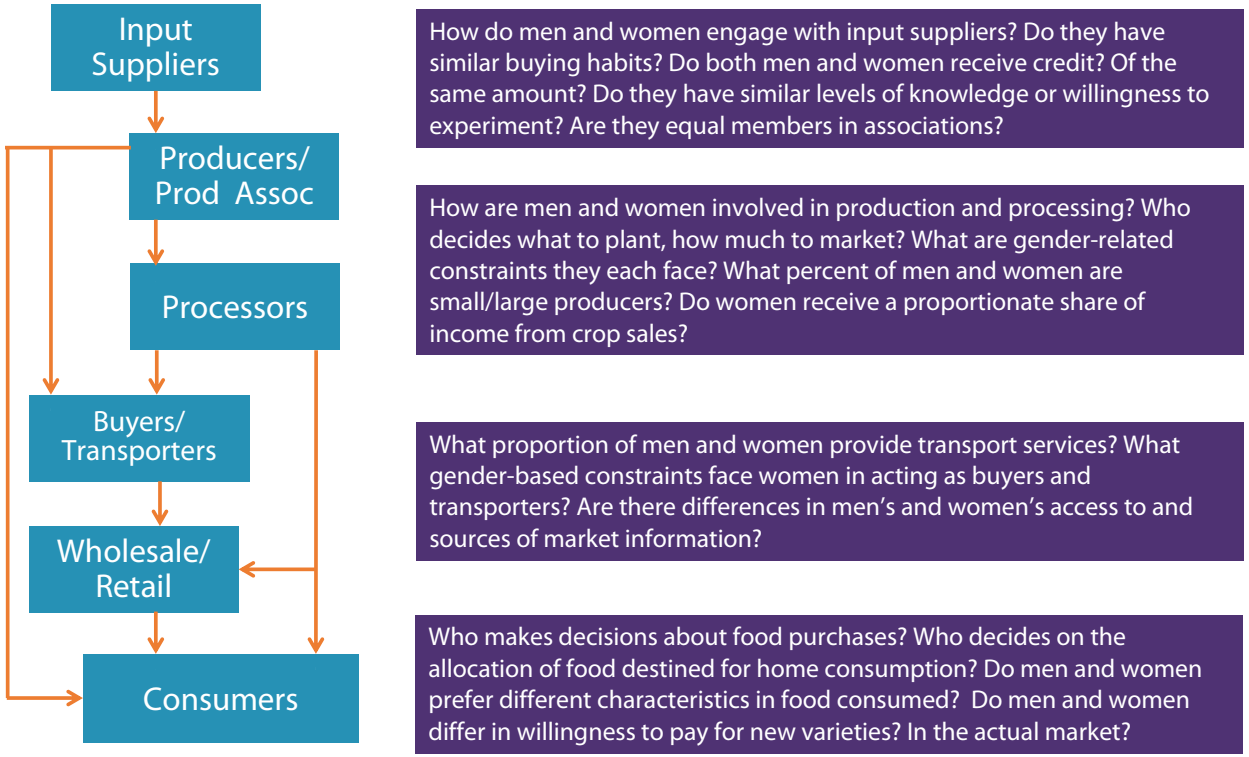
such as a biofortified crop is promoted to farmers, women and men may respond differently. For example, women, who are often the main decision-makers in feeding their families, may be more inclined to adopt the new crop based on nutritional messaging as well as consumption and cooking qualities, while men might be drawn to biofortified crops for their superior agronomic traits. The nature, depth, and frequency of information flows between and among men and women tend to differ as well, which may additionally affect the extent and intensity of adoption by men and women farmers differently. Sources of information also tend to vary for men and women (see, for example, Smale and Mason 2012). At the household level, it is important to understand who typically has access to inputs, such as planting material, and how these are obtained. Women may be more likely to obtain planting material through their social networks, especially when it comes to vegetatively propagated crops (such as cassava or sweet potato) (see, for example, Smale and Mason 2012; Low et al. 2017). It is also important to know who in the household makes decisions on production, and what the power dynamics are between the production and consumption decision-makers. Proximity to markets, membership in farmers' groups, and access to extension services are additional constraints and facilitating factors that may affect men and women's adoption decisions differentially.

Patterns, preferences, and decision-making around consumption are important to consider as well. Men and women may have different preferences and levels of influence within the family regarding home consumption and storage versus sale of biofortified crops. For example, perceptions of biofortified crops, especially those that differ from traditional crops in an attribute such as color (for instance, Vitamin A maize, which is orange), may be gender specific. If biofortified crops are seen to be more profitable, men (and possibly women) may be more inclined to sell their biofortified output for income, rather than feed it to the family. Moreover, men, women, and children may have different consumption preferences, affecting the intake of micronutrients through biofortified foods and, ultimately, the overall impact of the intervention. In most developing countries, women are responsible for domestic tasks, particularly providing infant care, which includes feeding and food preparation tasks that directly affect the nutrition outcomes of children. Time and energy spent on domestic and agricultural activities affect the mother's health status and her own nutritional outcomes as well. All of these factors ultimately impact nutritional status. Figure C4.1 depicts various gender considerations along the biofortified crop value chain.

To assess the adoption and utilization of biofortified crops, once there is significant uptake, HarvestPlus and partners conduct outcome monitoring surveys in sentinel sites, as well as nationally representative adoption surveys. These evaluative, gender-sensitive surveys have three components: (1) a listing of all crop-producing households in the sentinel site or representative primary sampling unit to assess adoption and diffusion; (2) a representative (quantitative) survey to understand adoption history, production, and consumption; and often (3) a qualitative investigation for a deeper dive into the (gendered) factors that facilitate or hinder adoption and intrahousehold production, consumption, and sales decision-making. These outcome-monitoring and adoption surveys are designed to generate results that inform further development and improvement of biofortified varieties of crops; improve delivery programs; and shape context-specific behavior change communication and promotional messages that promote access to and utilization of biofortified crops by rural households, in particular among women, adolescent girls, and children.

The gender-sensitive qualitative studies are complementary to the quantitative survey component. They provide a deeper understanding of the results from the quantitative studies by shedding light on the factors that influence men's and women's decisions, as well as their perceptions, preferences, and experiences pertaining to biofortified crops and foods. For these qualitative studies, men and women beneficiaries (or nonbeneficiaries in beneficiary locations) of different ages are sampled using a mixed random and purposive sampling strategy, and allocated to either key informant interviews or focus group discussions. Four key research questions are used to guide qualitative assessments: (1) what factors influence the choice of crop varieties to grow at the household level; (2) what factors motivate farmers to consume, share, or sell their crops, or to recycle grain as seed, or not to do these things; (3) the gendered roles and decision-making patterns related to growing, consuming, and selling biofortified crops (that is, the intrahousehold decision-making process); and (4) how knowledge, attitudes, and perceptions of, and experiences with biofortified crops differ among or within gender groups. The next section presents some results originating from two qualitative investigations, one in Zambia for vitamin A maize, and one in Rwanda for iron beans.

FIGURE C4.1—GENDERED BIOFORTIFICATION VALUE CHAIN ILLUSTRATION



Source: Cook et al. (2014).

Reflections from Zambia and Rwanda

HarvestPlus and partners have been delivering vitamin A–biofortified orange maize in Zambia since 2012. A monitoring survey was conducted in 2017/2018 to assess the adoption and utilization of vitamin A maize. The qualitative survey revealed that women and men have different roles and responsibilities with regard to maize production, and that they receive information about new varieties through different channels. Survey respondents were in agreement that decisions on which variety of maize to eat are mainly made by women, who are also usually the ones who go to the market to purchase food, including maize when a household's own stocks are depleted. Both women and men reported appreciating the orange color (the majority of maize consumed in Zambia is white) and the taste of the vitamin A maize, describing it as "attractive," "very tasty," "sweeter compared with local and hybrid," and "having a nice aroma." These findings corroborate those by Meenakshi and others (2012). Women said they found vitamin A maize to be more labor intensive to process, one saying, "orange maize is difficult to shell compared with white maize," and more time-consuming to cook than white maize. Researchers communicated these findings to breeders and product developers for consideration in ongoing breeding activities for the next generation of vitamin A maize varieties.

Women farmers said they consider nutrition to be an important characteristic of food, particularly food they feed to their children; however, their awareness of the vitamin A content of orange maize was low. Instead, they considered all maize to be nutritious. These findings highlight the importance of reaching women with nutrition messages through the specific information channels they use, which often tend to be informal (for example, neighbors, friends, women's groups), though ultimately sourced from formal channels (for example, clinics during child health weeks, radio).

There was less consensus on who makes production decisions, with this factor appearing to vary across households. There was also no consensus on

how vitamin A maize performed agronomically. Because few of the respondents had firsthand experience in growing it, their opinions were mainly based on what they had heard. Interestingly, at one of the study sites, men reported that it performed very well but women said the opposite. Similarly, men ranked vitamin A maize higher, in general, compared with other varieties than did women. Here, it is worth recalling that men usually have better access to information than women (see, for example, Smale and Mason 2012), a fact confirmed by survey respondents; for example, a woman in one of the focus groups stated, "Men are more informed about agriculture practices because they move around a lot and attend many meetings and trainings, unlike women, who are home keepers, taking care of their families." The fact that men usually have better access to information than women calls for gender-sensitive information dissemination on vitamin A maize to reach women as well as men.

A 2015 study in Rwanda assessed the adoption of iron-rich bean varieties following eight seasons of seed delivery efforts. In addition to the listing and the quantitative surveys as mentioned above (Asare-Marfo et al. 2016; Vaiknoras et al. 2019), a qualitative study was conducted to shed light on intrahousehold decision-making processes with regard to iron bean production and consumption, and men's and women's preferences for iron bean varieties (Mutesi 2016). The results of the qualitative study confirmed that women were responsible for growing food crops, such as beans, whereas men were responsible for growing cash crops. Women were reported to control the storage of all crops (including beans): those for household consumption and those to be used as planting material for the next cropping season. This finding confirms that women should be included in agronomic trainings on seed selection and storage for iron beans. Men, respondents said, controlled the income from the sales of both cash crops and food crops, given their role as "breadwinners." This is an important finding—if iron beans fetch higher prices in the markets (as reported below), men may be more likely to sell them rather than keep them for consumption at home. Whether or not this increased income translates to the purchase of more nutritious food is uncertain, because women, who do not have access to the income from bean sales, decide what to feed their families. This finding also supports the idea that both men and women should be made aware of the nutritional value of iron beans, so that men don't sell all of the household's iron bean output.

Most Rwandan farmers interviewed said that intrahousehold decision-making in general and selection of bean varieties in particular were men's domain, though the spouses consulted with each other. Studies from one to two decades ago, when women-headed households were in the majority following the genocide, and even previously, labeled beans as a "women's crop." The findings of the qualitative study allude to the changing demographic structure, with the proportion of male-headed households increasing over time. It is also possible that as beans become more marketed, men will have greater decision-making power over the disposition of the crop, a hypothesis to be investigated in the coming years. A significant proportion of farmers—men and women—were aware of the iron beans; were enthusiastic about growing them; and thought them to be nutritious, early maturing, high yielding, and fast cooking compared with other varieties. They said, however, that these varieties require more inputs (for example, organic fertilizer and labor—the majority of the latter by women) to attain high yields, though they also pointed out that these varieties fetch higher prices in the market. Many women farmers said iron beans cook faster than other beans, thereby requiring less cooking time, less fuelwood, and less time spent fetching fuelwood. A more detailed investigation of women's time costs and savings resulting from iron bean adoption is needed.

Conclusions

Biofortification of staple crops widely grown and consumed by rural populations is now proven to be an efficacious and cost-effective strategy for improving micronutrient intake and hence reducing micronutrient deficiencies. At the end of 2018, 7.6 million farming households globally (5.3 million in Africa) were growing and consuming biofortified crops (including vitamin A maize, vitamin A sweet potatoes, iron beans, and vitamin A cassava), according to monitoring and evaluation data from HarvestPlus country programs (HarvestPlus 2019). The targeted micronutrient content in these biofortified crops is based on the biophysical requirements of women, children, and adolescent girls in rural areas of developing countries—because these groups are most in need of such micronutrients but have the least access to them. In addition to this biological consideration, HarvestPlus also takes gender considerations into account when developing, delivering, and promoting biofortified crops, and when evaluating the success of these interventions. Gender differences can influence production, marketing, and consumption decisions for rural households, thereby affecting who gains nutritional and economic benefits from the biofortified crop. This case study has presented examples of two qualitative studies conducted to help provide information to ensure that biofortified crops are accessible to and acceptable by both men and women farmers.

CHAPTER 6

Building an Inclusive Agriculture: Strengthening Gender Equality in Agricultural Value Chains

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1 The authors would like to thank the two anonymous reviewers who pointed to critical gaps in the formulation of the original paper that, we hope, are more fully addressed in this version. The paper also reflects discussions with many colleagues on IFPRI's Gender, Assets, and Agriculture Project (GAAP) and the Women's Empowerment in Agriculture for Value Chains (WEAI4VC) activities over the past several years, including Hazel Malapit, Ruth Meinzen-Dick, and Agnes Quisumbing.

Much of the earliest work on "women in development" focused on agriculture. The baseline was set by the pioneering work of Ester Boserup in *Woman's Role in Economic Development* (1970), who compiled then-current knowledge to make women's contributions to rural economies visible. She used those data to argue for recognizing women's work in agriculture. Research quickly followed that raised the profile of women's work not only in production and processing for home consumption but also in growing, processing, and trading different market-oriented crops. In Africa south of the Sahara, the focus of this chapter, studies looked at women's engagement in "agricultural commercialization" across different production and marketing pathways, among them contract farming (Carney 1994; Sørensen 1990; von Bulow and Sørensen 1993; Wilson 2000);[2] formal and informal wage labor (Mbilinyi and Semakafu 1995; Dolan and Sorby 2003); women traders (Clark 1994; Morris and Saul 2000; Saul 1981); and cash cropping by smallholder farmers (Guyer 1980, 1988; Sorensen 1996). While much of this work focused on intrahousehold gender relations, other studies explored how households and local markets were being shaped by larger forces, whether colonial or postcolonial policies, development interventions, international trade, or a combination thereof. Researchers increasingly sought to discover whether and how intrahousehold gender relations were affected by agricultural commercialization, and whether the engagement with markets expanded or inhibited women's access to land, income, and other aspects of well-being (Spring 2000). This chapter reviews some of the now extensive and still-expanding body of research and practitioner materials on gender relations in African agriculture, with a focus on research and projects that use a value chain approach in their analysis. The literature is loosely bookended by work published between 2009 and 2019. The discussion builds on global value chain research and is situated in the broader context of current donor support for "inclusive agriculture," which seeks to "include and substantially benefit large numbers of poor people….often smallholders, but also artisans or small-scale retailers or customers" (Harper, Belt, and Roy 2015, 1).

The chapter focuses on gender and value chain studies of crops that have been of significant interest to agricultural development programming, such as high-value fruits, vegetables, and flowers, in addition to livestock (dairying and small ruminants as well as poultry) and fish, as well as recent work on the staple crops (grains, roots, tubers, and bananas) that are a growing component of subnational value chains. It only briefly touches on the value chains of beverage crops (for example, cocoa, coffee, or tea) and does not address the commodity crops of sugarcane, cotton, or palm oil.

The emergence of value chain analyses (see Porter 1985, 2001) built on research about global commodity chains to understand subnational, regional, and international trade.[3] Value chains can be defined as "the linked set of activities and enterprises that bring a product from conception to its consumers through to its disposal" (Kaplinsky and Morris 2000, 4). As globalization intensified, sales operations became better organized and more controlled, with procurement processes shifting from wholesale markets where multiple sellers competed to gain access to multiple buyers to a well-coordinated "chain" of known suppliers selling to a single purchaser. Scholars recognized that these new forms of connectivity between producers, buyers, and consumers called for new analytic tools (for example, see the history and application of value chain approaches to African economies [Gibbon and Ponte 2005]). Global value chain studies often focused on understanding how chains were organized, particularly the ability of lead firms to structure activities along a chain and their ability to control the distribution of labor and resources within it (Gereffi 2001).

A key focus of global agricultural value chain analysis initially was the growth of fruit, vegetable, and flower value chains, often directed by supermarket companies in Britain and Europe that invested in smallholder production and packing plants, increasingly defining production and quality standards for crops such as strawberries, green beans, snow peas, and cut flowers. Women were often producers of these high-value crops as laborers and smallholder farmers supplying rapidly expanding and globalizing markets (see, for example, Arizpe

2 A review by K. Schneider and M. K. Gugerty (2010) notes that while firms typically (though not always) established formal contracts with the heads of households who were men, women provided unpaid labor for production. Changes in the distribution of resources and in decision making among men and women within the household often resulted.

3 This work included a wide variety of approaches and labels developed by different scholars in different countries (for example, the initiating work of Immanuel Wallerstein [1974] and Hopkins and Wallerstein [1986]; the work on agricultural chains by French scholars investigating agricultural chains (filière) in French colonies and postcolonial nations; and many others). Kaplinsky and Morris note that the label of value chain can be used to describe both a method for learning or heuristic device and an analytical tool, and that, as a consequence, this has led to a proliferation of terms (2000, 25). (For a broader review, see Gibbon and Ponte 2005, 74–94, and Donovan, Stoian, and Lundy 2016.)

and Aranda 1981; Hamilton, Asturias de Barrios, and Tevalan 2001; Barrientos 1997; Dolan and Sorby 2003; Dolan and Sutherland 2006; Tallontire et al. 2005). This research provided important insights into how these value chains depended on but did not necessarily reward women's labor.

Value chain development (VCD) remains a key element in agricultural programming. It offers donors and partners a lens through which to understand the competitiveness of key sectors within a national economy:

> "The [value chain] approach challenges governments and civil society to look beyond individual actors, such as smallholders or cooperatives, when consid¬ering how to achieve development goals. It is argued that by focusing on the value chain and the links between the actors spread along it, development interventions can better identify common problems among actors in the chain and solutions that generate win–win outcomes." (Donovan et al. 2016, 47)

Ideally, VCD can be employed to enhance the operations of value chains for pro-poor, inclusive growth in its ability to analyze the positions of actors operating at a disadvantage at different nodes of the chain (Coles and Mitchell 2011). Individual firms seeking to understand how their businesses can improve their competitiveness in national and international commodity chains also use VCD. Finally, a participatory form of value chain analysis (for example, Mayoux and Mackie 2008; Mayanga et al. 2016) is sometimes carried out with smallholder farmers and other agri-entrepreneurs in developing countries, primarily those who provide the labor, in production and processing and sometimes marketing, to gain a better understanding of their roles in global market networks, with the goal of improving the benefits they gain from their participation in them.

The application of value chain analysis to understand gender inequalities and opportunities, however, emerged as a significant focus in the early 2000s and was accompanied by the publication of specific guidance on conducting gender analysis in VCD and operations, much of which was aimed at practitioners. Several manuals were published over the next few years (Chan 2010; KIT, Agri-ProFocus, and IIRR 2012; Mayoux and Mackie 2008; Rubin, Manfre, and Nichols Barrett 2009) compiling findings from research studies and project examples from different countries into guidance materials for understanding both the barriers and opportunities women face in their various agricultural enterprises.

These first handbooks marked a starting point for what has become in the ensuing decade a strong body of new research and implementation strategies about women's participation in market-oriented agriculture. They have been joined by guides and other reviews on key agricultural subsectors and subtopics that encompass a broad understanding of contemporary food systems. New guides address the understanding of gender-sensitive value chains more broadly (FAO 2016; IFC 2016; IDH, n.d.; Mutua, Njuki, and Waithanji 2014). Many now focus on gender integration in specific types of value chains, such as livestock (Njuki et al. 2013) and fisheries (Biswas 2017); forest products (Nang'ole, Mithöfer, and Franzel 2011); and roots, tubers, and bananas (Terrillon et al. 2015). Also important is guidance on topics that helped to bring more depth to gender and value chain analysis, even if not specifically oriented toward such analysis—for example, the collection of sex-disaggregated data (Doss and Keiran 2013) and understanding gender and assets (Quisumbing et al. 2014). The work has shifted away from a narrow view of women's involvement in production, often depending on their own and other family members' unpaid labor, especially in high-value crops and livestock. It has now begun to encompass a much broader understanding of women's engagement relative to men at each node of the value chain for a wide diversity of agricultural products including staple food crops and in increasingly more formal enterprises.

The tools have helped researchers and practitioners to systematically analyze the relationships between gender roles, social norms, and value chain development and operations, each with slightly different emphases.[4] The guides help to structure the collection of data on both men's and women's participation, performance, benefits, and empowerment from their engagement with agricultural value chains. Some of the earliest were written to help small producers, processors, and traders understand and better manage their engagement with other value chain actors, while others speak to researchers, implementers, or firms.

4 Selected guides to other gender-oriented value chain guides are KIT, Agri-ProFocus, and IIRR (2012); Mutua, Njuki, and Waithanji (2014); and Stoian et al. (2018). Donovan et al. (2016) is a broader review of VCD guides, but it includes a small section on gender issues.

Other topics of increasing interest that are relevant to VCD and value chain operations include addressing the gendered dimensions of seed systems, crop breeding and trait preferences, and agricultural extension and advisory services, nutrition, and the role of gender issues in digital financial services. These cannot all be covered in depth here but are recognized as critical aspects that can either support or impede women's engagement in and benefit from agricultural activities.

In the next section, we outline the benefits of building inclusive market systems, of which gender-equitable agricultural value chains (Box 6.1) are an important component. The characteristics of such agricultural value chains reflect the objectives of gender-equitable inclusive growth more broadly: "improving the quality of employment, supporting wage growth, and reducing occupational segregation" (Seth 2019, 14). We then provide a frame for thinking about the heterogeneity of gendered work along each node of a value chain, with attention to the current emphasis on entrepreneurship as a primary entry point for women in agricultural value chains. The chapter then reports on the evidence about the gender dynamics in different types of agricultural value chains, highlighting cases that appear to demonstrate promising intervention practices. The next section summarizes recommendations for the design of gender-equitable value chains drawn from contemporary studies. The chapter concludes with suggestions of topics for further research.

Supporting Inclusive Agriculture

Research on making the "business case" for gender equality has increasingly found that reducing inequality can improve competitiveness and that greater gender equity in economic participation boosts economic growth (Aguirre et al. 2012; Elborgh-Woytek et al. 2013; Kochhar et al. 2016). In the agricultural sector, women and youth provide both paid and unpaid labor but may not benefit accordingly.

Definitions used by different donors all focus on the importance of building an inclusive agricultural sector—that is, one that both includes participants that have been historically excluded from receiving full benefits from agriculturally oriented economic growth and ensures that their current or future participation will provide opportunities to do so (Markel and Jones 2015; Stoian et al. 2018). The Bill & Melinda Gates Foundation's inclusive agricultural strategy, for example, lists not only goals for gains in men and women smallholder farmers' productivity and incomes but also goals for nutrition and women's empowerment.[5] And USAID's current Global Food Security Strategy states, "Inclusive agricultural growth seeks to emphasize the benefits of investment and productivity gains in ways that target low-income people in particular, thus leading to gains in terms of reductions in poverty and undernutrition and gains in resilience" (2017, 1).

In Africa south of the Sahara, many governments have reprioritized investments in agriculture as an avenue of growth, joined by increased investment by the private sector in agricultural value chains. Yet high levels of rural poverty and high levels of gender inequality persist (AGRA 2016). As elsewhere in the world, women contribute significantly to the production, processing, and marketing of crops

BOX 6.1—CHARACTERISTICS OF A GENDER-EQUITABLE AND COMPETITIVE AGRICULTURAL VALUE CHAIN

- Fosters equitable participation of men and women as youth and adults across all nodes of the chain
- Addresses specific needs of women to reduce barriers to their participation
- Supports women's economic advancement through, for example, upgrading and entrepreneurship
- Promotes gender-equitable market-driven solutions
- Includes equitable benefit-sharing mechanisms to ensure that women benefit financially and can control those benefits
- Includes both men and women in identifying gender-based constraints to productivity and efficiency and identifying new opportunities

Source: Rubin, Manfre, and Nichols Barrett (2009, 12, 115).

5 https://www.gatesfoundation.org/What-We-Do/Global-Growth-and-Opportunity/Agricultural-Development#OurStrategy.

and livestock as farmers, traders, and wage workers, but they typically receive low returns and can sustain only small enterprises. Only a small minority are entrepreneurs in transportation, marketing, and exporting, where more value is added and returns are higher (Rubin and Manfre 2014).

Building a more inclusive market system must therefore engage women, both as adults and youth. The potential is high and particularly important for Africa, where in 2010 women made up 50 percent of the agricultural labor force, although that proportion varies across countries—for example, from more than 75 percent in Cameroon to less than 35 percent in Gambia, Niger, and Togo (FAO 2011). Women's involvement in agriculture is strong despite facing discriminatory social beliefs and practices that inhibit access to productive resources, mobility, and education, as well as other legal barriers. In Africa south of the Sahara, South Africa is the only national economy that did not have at least one law that restricted economic opportunities for women, such as rights to property ownership (IFC 2016).

Agricultural value chains operate within social contexts and systems of gender relations that affect the distribution of resources, benefits, and opportunities (Rubin, Manfre, and Nichols Barrett 2009). As Stoian et al. have noted, "Due to deep-seated gender inequalities in informal and formal institutions, women and men commonly engage under different terms in value chains, with regard to different activities in the same value chain or across different value chains altogether" (2018, 496). For example, women may not be able to control the income that they earn when buyers pay in cash that can be stolen or deposit funds into joint accounts to which spouses or other relatives have access. Women growing chilies in Kenya withdrew from production for a time after their spouses appropriated their cash payments. The buyer responded by offering payments in household supplies that women wanted (Rubin and Manfre 2014). Value chain development and operations that are not intentionally designed to reduce gender-based constraints may reinforce existing inequalities and serve to exclude women.

Achieving Gender-Equitable and Women's Empowerment Outcomes from Value Chain Development

Approaches that incorporate attention to gender issues over the past 10 years have broadened our knowledge about women's participation in, performance in, and benefits derived from working in agriculture (Rubin and Manfre 2014) and to what extent that engagement helps strengthen women's empowerment (Johnson et al. 2018). Empowerment here is defined as "the process by which those who have been denied the ability to make strategic life choices acquire such an ability" (Kabeer 1999, 435) (Box 6.2).

Sex-disaggregated data collected (quantitative and qualitative) for a gender analysis of agricultural value chains clarify the type of participation by men and women (adult and youth) at each node, from production to consumption. Analysis of such data helps to differentiate between barriers or inequalities that many value chain actors may face at one time or another—such as lack of access to credit or availability of inputs or equipment—and barriers that are linked to gender difference. For example, a discriminatory law that requires a woman to get her husband's signature to access credit is a gender-based constraint, while the general lack of microfinance institutions in a community limits both men's

BOX 6.2—PARTICIPATION, PERFORMANCE, ACCESS TO BENEFITS, AND EMPOWERMENT IN AGRICULTURAL VALUE CHAINS

Gender analysis can be used to explore the gender-based constraints and opportunities that influence the following dimensions of women's engagement in agricultural value chains:

1. **Participation:** identification of barriers to entry and/or requirements for men's and women's active engagement at any node of the value chain
2. **Performance:** understanding the disparities in men's and women's ability to maintain or improve their position in the value chain
3. **Benefits:** exploring differences in men's and women's ability to access and control income, assets, or other facets of well-being derived from value chain participation
4. **Empowerment:** the desired outcome when women can control the benefits of their participation in agricultural value chains to make and carry out strategic decisions about their own lives

Source: Adapted from Rubin, Manfre, and Nichols Barrett (2009), Johnson et al. (2018), and Theis and Meinzen-Dick (2016).

and women's credit options. A further step in the analysis seeks to hypothesize or confirm the factors that contribute to those inequalities, whether they are social norms, restrictive practices, or formal laws.

Gender analysis of the value chain can also reflect gender disparities or gender equality in the outcomes achieved (Johnson et al. 2018). It is helpful to distinguish between stated objectives and actual results, given the still too prevalent experience of "evaporation" where strong initial plans to reduce gender equality simply "fade away" as implementation progresses, as a result of inadequate support from management, lack of skills among practitioners, insufficient funding, and poor accountability systems (see Pinto [2010] on this process in gender-mainstreaming policy work).

VCD projects and private-sector efforts both may explicitly strive to increase women's *participation*, ideally as actors at many different nodes of the chain. They often include activities that support women's attendance at various trainings, the formation of producer groups, and the formation of marketing associations. This also involves improving the quality of women's participation, such as, for example, taking steps to give women greater opportunities to hold leadership positions or to have a voice in meetings and business councils where critical decisions are made. Similarly, "reach" for private agribusinesses can involve recruiting and hiring women for a range of jobs in their firms or developing marketing strategies and designing products that better meet the needs of women consumers. All these efforts are critical first steps toward building a more inclusive agriculture, but without supplementary support, whether public or private, they are rarely enough to effect sustainable impacts in women's lives. Cooperatives without strong leadership, technical support, and stable market links often fail. The type of value chain participation that is available to women also matters: for example, increasing the number of women through seasonal employment in a strawberry packing house may provide short-term income but is itself a form of exploitation when the women are paid less than men and are kept out of higher-paying, more skilled work.[6]

The dimension of *performance* refers to upgrading women's positions in the chain. Social upgrading is understood as achieving greater well-being, not only with increases in wages or other income and work conditions but also with the reduction of gender disparities and the impact of shocks. Economic upgrading involves improving productivity or adding value or differentiation through better, more efficient, or unique products (Barrientos 2014; Rubin and Manfre 2014). Barrientos (2014,20) clarifies that social and economic upgrading do not necessarily occur together, although social upgrading can be promoted "where economic upgrading is reinforced by gender-sensitive interventions."

Translating the participation of women in value chain activities into real returns for them reflects their achievement of *benefits*. Such benefits might include increases in income and other assets, such as land or animals, and improved livelihood outcomes for themselves and their families in terms of nutrition, health, and education. In value chains, the ability to upgrade one's skills could also be considered a benefit—for example, when seasonal workers such as those described above are able to gain skills and join the permanent labor force, or when small-scale processors can hire their own workers and expand their product lines or enter new markets.

Empowerment is the desired result when women can control the benefits of their participation in agricultural value chains to make and carry out strategic decisions about their own lives. It is here that we see most clearly how strengthening women's capacities and their control over income and assets can lead to changes in the social norms around gender relations.

Entrepreneurship in the agriculture sector involves different characteristics than in other sectors: many businesses are not only family based but also tied to specific geographies; smallholder farming may operate on business principles but is also influenced by social and consumption needs; and women play key roles but are not necessarily recognized. As Table 6.1 shows, women agri-entrepreneurs span the agricultural value chain, from input and service providers to producers to processors, traders, transporters, and exporters. Women are also employed, formally and casually, at each node of the chain (IFC 2016).

Entrepreneurship is only one part of inclusive value chain development. Table 6.1 is a reminder of the many roles available as value chain actors, with attention to those often filled by women and youth. Reading from left to right, the chart columns describe positions of greater formalization and scope: informal or small-scale entrepreneurial efforts are listed in column 1; formal and larger-scale activities are listed in column 4. Wage work is shown in the last column to the right but can be associated with any cell in columns 1 through 4.

6 This was one of the first issues raised in the study of global agricultural value chains and the role of women. Arizpe and Arenda (1981) described this for strawberry workers in Mexico and El-Messiri (1999) noted the same situation among strawberry workers in Egypt.

Although women's entrepreneurship has in recent years become the primary pathway for supporting women's value chain participation and access to benefits, women's employment opportunities are an avenue for income earning for many others. Women's wage employment in agriculture was originally a strong focus of value chain studies (for example, Dolan and Sorby 2003), but it has become less so with the current focus on entrepreneurship.

Relatively few studies, however, have compared outcomes on women's empowerment or other benefits, such as children's nutrition, between women who are agri-entrepreneurs and agricultural workers. McCulloch and Ota (2002) studied incomes in households engaged in horticulture in Kenya and compared them to households of women working in horticultural packhouses. The data conclusively found that the workers' households had higher incomes but did not answer questions about the causality of the relationship or women's control of the income (Rubin and Manfre 2014). This is an area that needs additional research, as wage work is an important component of inclusive value chains:

The main benefits of VCD for the poorest rural groups—those with very small parcels or no land at all—come from expanded employment in

TABLE 6.1—TYPES OF VALUE CHAIN ACTORS

Value chain actors	Entrepreneurial activities carried out by individuals, cooperatives, and firms				Women's wage employment
	1	2	3	4	
Input suppliers	**Service providers:** artificial inseminators, veterinarians, extensionists, equipment and insurance providers	**Input producers:** seed and seedling producers, animal or fish feed producers, compost or inoculants preparers	**Input retailers:** general and specialized agro-input shops and distributors	**Agro-dealers and wholesalers**	**Employees:** laborers, technicians, packers, stockists, clerks, call center workers, private-sector extensionists
Producers: field and tree crops	**Smallholder farmers** of grains, fruits, and vegetables; roots, tubers, and bananas; fodder; selling to local markets	**Smallholder farmers** of commodity crops (for example, tea, coffee, specialty organic or niche market)	**Contract farmers** of commodity crops (for example, sugarcane)	**Large farmers** of grains, fruits, and vegetables selling to national, regional, and international markets	**Casual labor** on small farms to meet labor-intensive points in the crop cycle; **seasonal labor** for larger farms
Producers: livestock	**Small-scale dairy, fish, and poultry producers; beekeeping**	**Calf- and goat-fattening; fishing boat ownership**	**Franchises**	**Ranchers; large-scale poultry producers**	**Casual labor** for tending small flocks or herds; employees in larger-scale enterprises
Traders	**Low-quantity sales at farmgate**; local wet markets; processed food and beer brewing	**Local buyers and marketers; petty traders**	**Cross-border traders:** larger quantities and more diverse products	**Wholesaler and retailers**	**Employees** in product packaging, warehouses, storage, and clerical posts
Processors, manufacturers, and postharvest service providers	**Small-scale primary and secondary processors** of fruits and vegetables, nuts, honey, spices, cheese and yogurt **Packaging**	**Grain, root, and tuber processors**	**Meat processing;** **Industrial production of inputs:** animal feeds; fertilizer	**Industrial food processing** (bakeries, cereal production, large-scale milling plants; food packaging) **Warehouse owners**	**Employees** on assembly lines; managers; clerical work; sales; warehouse work **Casual labor** for threshing and transporting harvested crops
Transporters	**Head-loading and hand-carrying:** small loads on foot or by bus, auto, and train	**Women-owned transport:** bicycles, motorbikes, autos, and pickup trucks	**Women-owned or managed transport firms**		**Employees** (drivers, office workers)
Other	**Providers** of specialized agriculture-related support **information and financial services**, including women-owned banks				**Government employees** such as customs agents and researchers

Source: Compiled by authors.

Note: Columns 1 to 4 indicate increasing levels of formality and scale, with 1 being the smallest and least formal and 4 being the largest and most formal.

production, processing, and marketing activities and in reduced prices of agricultural products. (Horton et al. 2016)

Gender Issues in Diverse Value Chains

The gender and agricultural value chain literature is expanding beyond its earlier focus on participation in the production and sometimes marketing of high-value export crops. Increasingly, studies include both qualitative and quantitative approaches. In addition to covering different crops and animals, topics now include investigation of value chains for nutrition (for example, Hawkes and Ruel 2011; Gelli, Hawkes, and Donovan 2016) and for elements that might help in adaptation to or mitigation of climate change (Mwongera et al. 2018).

There remain limitations in the literature. First, most studies continue to focus on smallholder farmers and the barriers and opportunities they face in entering the value chain. Most do not investigate the wide variety of value chain actors listed in Table 6.1. The emphasis on women's entrepreneurship is a valuable addition to earlier research, but it should not crowd out other research on agricultural wage workers and other categories. Second, there are multiple streams within the value literature—by country, institution, and profession, among others—and cross-fertilization can be weak. In the subsections that follow, we draw from a range of studies, including both scholarly and practitioner literature, to encourage more links between the research and its application in the field. Third, some of the literature we cite in the paragraphs that follow refers to ongoing or recently started projects for which no formal evaluation (performance or impact) has been completed but that may reflect an innovative or promising approach.

High-Value Horticultural Crops

The participation of women in the export-oriented horticultural value chains in the late 1990s and early 2000s represents an iconic case of both the pros and cons of the gender dynamics of global value chains. In a global review, Dolan and Sorby found that women made up 75 to 85 percent of workers employed in the flower industry in Kenya, Uganda, and Zimbabwe (2003). They concluded that women supplied much of the temporary or seasonal labor, with little security and lower wages than men who obtained permanent or management-level positions. They observed that the sex-segregated labor patterns in the horticultural packhouses reflected broader social norms around appropriate tasks for men and women and established a central principle of agricultural value chain studies: value chains are embedded in a social context as well as an economic one.

Export-oriented vegetable production had by contrast started as the domain of smallholder farmers, many of whom were women in the 1980s; however, by the late 1990s the number of smallholder farmers in Kenya growing vegetables for export had dropped significantly and by 2002 was only about 2 percent of all smallholders (Dolan and Sorby 2003). Dolan's earlier research in Kenya found that although men were the recognized signers for these contracts women in the household performed the labor, receiving only 38 percent of the income generated (2003).

In recent years, export-oriented horticultural production from Africa has remained a significant income earner for women, both as wage laborers (for example, Senegal) and as smallholder farmers (for example, Tanzania). However, increasing urbanization has also increased demand for vegetables in local and regional markets (Devaux et al. 2016).

Staple Crops: Cereals, Roots, Tubers, and Bananas

Increasing attention to the marketing of staple crops, in alignment with an inclusive markets approach, is evident. The economics of maize production and its value in rural–urban trade has long been the subject of research in Africa, but interest has been growing in understanding value chain operations around roots, tubers, and bananas, especially cassava and potatoes, which involve numerous women producers, processors, and traders.

Across the continent, cassava is second only to maize as a staple food crop and has long been associated with women's work. Local and improved varieties of cassava are drought tolerant and can retain quality in the field for months before harvesting, and some, like the recent vitamin A–rich improved varieties developed by the HarvestPlus program,[7] contain more micronutrients. Value chain studies have documented the variation in women's roles in cassava production, processing, and marketing. However, studies such as that of Forsythe, Posthumus, and Martin (2016, 110) find that while "narratives often equate commercialization of cassava to benefits for women," the reality is that women's involvement does not automatically result in greater benefits for them. Cassava processing by hand requires significant labor, but mechanical options for smallholders are often too expensive, unavailable, or not able to produce a product of desirable quality

7 www.harvestplus.org.

(FAO 2016; Curran and Cook 2009), and thus farmers' capacity to increase the quantity they can supply to local and larger markets is limited.

Working in Nigeria and Malawi, Forsythe, Posthumus, and Martin (2016) document the importance of context in influencing women's abilities to expand production and take advantage of the growing cassava markets, such as different land tenure systems, patterns of labor access in patrilineal and matrilineal areas, and financial infrastructure. Masamha et al. (2017) found similar constraints and opportunities for women in western Tanzania. More broadly, commercialization of cassava flour and other consumer products, such as *garri, attiéké, eba*, and *fufu* in West Africa and cassava chips in East Africa, as well as the growing market for industrial use of cassava in baking, brewing, and animal feed, among many other products, lends urgency to the need for greater understanding of women's opportunities in this chain.

Livestock

Poultry, like cassava, has long been associated with women's productive roles and has been considered an opportunity for raising women's incomes and contributing to gender equality for 40 years (Dolberg and Petersen 1999). The last decade, however, has witnessed significant new investments in both homestead and more formal poultry projects for women as well as for youth (typically unmarried young men and women). Women who successfully raise and sell poultry (at all stages of the life cycle), as well as inputs and by-products, generate income for the purchase of a more diverse diet and increase the availability of animal-source protein for themselves and their families (Alemayehu et al. 2018). The Bill & Melinda Gates Foundation has made very large investments in women and poultry, for example, in its Soutenir l'Exploitation Familiale pour Lancer l'Élevage des Volailles et Valoriser l'Économie Rurale (SELEVER) project in Burkina Faso and in the African Poultry Multiplication Initiative in Tanzania and Nigeria, the latter of which provides approximately 61 million day-old chicks annually. These projects establish women-managed breeding units, from which rural women can obtain chicks for raising at home until ready for the market.

Results from formative research on the SELEVER activity note that poultry wastes, exposure to which could increase with greater production, can exacerbate health risks for young children in an environment where clean water, sanitation facilities, and good hygiene practices are problematical. The project will be using a community-based approach to encourage behavior change around this issue so that the intensification of poultry raising will provide health as well as income benefits (Gelli et al. 2017). An evaluation of the Bill & Melinda Gates Foundation's co-investment with EthioChick in Ethiopia found that although household incomes increased as a result of sales of both eggs and chickens, the nutritional impact on children was less than anticipated over the short term.[8]

Other livestock value chains, particularly those involving goats and sheep as well as calf fattening and dairy, have also shown promise for achieving the mutual goals of income generation and improved household nutrition. Kristjanson et al. (2010) note that much research on gender and livestock chains has focused on sales of milk and animals but that there are many other nodes in the chain that can afford women similar benefits of increased income, such as providing services supporting animal health. The actors in livestock value chains include not only livestock producers but also input suppliers as well as traders and processors.

Tea, Coffee, and Cocoa

Women's involvement in global beverage commodity chains—such as tea, coffee, and cocoa chains—differs not only according to which chain they are part of but also according to whether they are smallholder producers growing for larger buyers or working for daily wages or as permanent employees. Manfre and Laytham (2017) provide a good review of gender issues in the coffee value chain. Some coffee value chain actors have put in place several innovative mechanisms to improve benefits for women producers. For example, the Gender Action Learning System (GALS) has become a common tool used by coffee value chain actors. Developed under Oxfam Novib's Women's Empowerment Mainstreaming and Networking program, GALS is a participatory, community-based methodology designed to address identified gender issues. Coffee cooperatives and companies in Tanzania, Uganda and the Democratic Republic of the Congo have used it. Users have reported positive gains not only in production quality and levels but, importantly, in "individual life and livelihood planning skills for women and men as a basis for mutual empowerment, joint decision-making and joint land agreements" (Mayoux and Oxfam Novib 2014).

In another innovative effort, Sustainable Harvest Coffee Importers partnered with Bloomberg Philanthropies to institute the Sustainable Harvest Premium Sharing Rewards™ program in Rwanda in 2015. Along with providing training

8 www.idinsight.org/projects/ethiochicken.

on coffee growing, the program encourages women growers to earn points for following specific agricultural practices, from maintaining a home garden to selling high-quality coffee or joining a cooperative. The points are redeemable for such items as farm implements, solar lamps, and cell phones. Rewards are funded from coffee sales to roasters and consumers (Griswold 2015). The initiative reports good adoption rates and gains in productivity of up to 86 percent on enrolled farms and income increases of 137 percent, and it is scaling the program in Rwanda and expanding to the Congo.[9]

Nutrition-Sensitive Value Chains

Hawkes and Ruel (2011) introduced the concept of nutrition-focused value chains, elaborated on by Gelli, Hawkes, and Donovan (2016), using markets to link producers to consumers in the supply of more nutritious foods. The principle is behind the expansion of value chains in poultry, described above, and in other biofortified crops such as high-iron beans and vitamin A–fortified maize, sweet potatoes, and cassava, among other foods, which can be grown both for home consumption as well as the market. Although women's ability to access and control resources is now well recognized as critical to improving household nutrition, the connections between gender disparities outside the home and women's roles in nutrition-oriented value chains are less well researched, especially as nutrition-rich crops and livestock become higher income earners for the household.

Lessons Learned

The many contemporary value chain studies provide us with in-depth descriptions across a wide range of value chains and geographic locations. Sources point to the importance of context in shaping the dynamics of women's engagement in value chains and opportunities for accessing increased income. Several authors speak to the detrimental ways in which simple dichotomies about men's and women's different areas of responsibilities or control can obfuscate critical complexities in actual practice. Here are several recommendations drawn from recent studies:

- **Be deliberate.** To reduce risks to women and their families and to maximize their benefits, it is critical to be clear about gender equality goals and desired outcomes when designing value chain strategies, whether for private firms or publicly funded interventions implemented by nongovernmental organizations or in public–private partnerships (Barrientos 2014; Gates 2014).
- **Look closely at the context.** Perhaps the most important overarching finding is recognizing that men's and women's roles in agricultural value chains are not fixed, and that their responsibilities are often overlapping and intersecting. It is simply not acceptable to dichotomize "men's crops" and "women's crops" or to assume that men or women are involved only in production or in processing or in trading. Even where broad patterns are identifiable, and men are primarily responsible for one task and women another, it is important to investigate the exceptions, as they can contain new opportunities. For example, Campos et al. (2014) have found that in Uganda women who start businesses in areas dominated by men, such as construction and metalwork, on average are more profitable compared with women who remain in enterprises more typically associated with women, and their businesses can be equally as profitable as enterprises owned by men. Women in such cross-over businesses reported having had a male role model when they were young.
- **Support the creation of village savings and loans groups for women.** Building village savings and loans (VSLs) and using them to educate rural women (and sometimes men) about successful business development strategies and money management as well as to provide credit and increase savings can reduce barriers to women's entry into agricultural value chains. In a systematic review of whether economic self-help groups improved women's empowerment, Brody et al. (2016) found that participating in women's self-help groups had a statistically significant positive effect on economic, political, and social dimensions of empowerment. That study, however, included only one African example among the 23 cases reviewed. In another, multicountry report, a rigorous evaluation of a CARE VSL program in Ghana, Malawi, and Uganda, Karlan et al. (2017) found that the VSLs increased women's saving and access to credit but did not improve the financial well-being of their household or have effects on women's empowerment.
- **Supply integrated support services to reinforce and advance capacity building and sustainability of women entrepreneurs.** VSLs as well as other types of associations are an important mechanism for building skills not

9 https://bthechange.com/from-crop-to-cup-how-cooperatives-training-and-a-unique-partnership-is-changing-coffee-and-the-f0de623d8f09.

only in financial management but also in nutrition, health, environmental management, and climate adaptation. There is now ample evidence of the success of this model of "bundled" services in agriculture (see Buvinic and O'Donnell 2016).

- **Pay more attention to public–private partnerships.** A growing number of public–private partnerships (PPPs) explicitly incorporate gender equity goals (and sometime youth engagement) in the design of value chain programming. For example, a consortium consisting of Heifer International, the Swedish International Development Cooperation Agency (Sida), the private firm Tetra Laval, and the government-run New Kenya Co-operative Creameries is participating in the Kenya Market-led Dairy Supply Chain Project, an initiative designed to improve the quality and quantity of milk and at the same time bring more women and young people into the dairy value chain.[10]

  PPPs that support the development of infrastructure—such as energy and transportation infrastructure—are another way to support gender equality outcomes in agriculture. The World Bank has identified five ways in which PPPs can do a better job of meeting women's needs:
  (1) clearly identify what both women and men need from infrastructure services; (2) ensure that the legal frameworks governing PPPs do not reproduce gender discrimination; (3) consult with stakeholders and use the resulting information; (4) include a gender-specific affordability analysis; and (5) embed gender considerations in the output specifications for the private sector (Shepard 2016).

- **Realize that good guidance is available, though not perfect.** Many frameworks and strategies now exist to guide the process of integrating gender into agricultural value chains. No one guide, however, speaks to all implementers' needs, and specialists are needed. Stoian et al. (2018, 507) point out the need to refine and integrate guidance with emerging research findings to better address "context-specific options for negotiating change in household and business relations, the critical factors behind the change, and resulting implications for promoting gender equality through VCD."

- **Improve data quality.** The quality of the now large literature on gender and agricultural value chains remains uneven. Evaluations on the impact of VCD projects on various dimensions of gender equality and empowerment—such as the studies emerging from the different adaptations of the Women's Empowerment in Agriculture Index (WEAI) and other impact evaluations conducted by CGIAR and other research institutions—are welcome additions (for example, de Brauw et al. 2018).

- **Fill data gaps on key topics.** Although lending institutions, national governments, and researchers maintain an increasing number of databases, some dimensions of value chain operations and gender relations remain understudied:
  - We need to better understand the *capacities and characteristics of all women (adult and youth) in agriculture*, whether smallholders, women agri-entrepreneurs, or women wage workers in agribusiness. The expanding literature on women entrepreneurs does not always include those working in agriculture. Data gaps are evident in basic demographics (age, sex, geographical location) as well as in other areas such as volume of sales, type of business, type of value chain actor, and stage of business growth (incipient, established, expanding).
  - We need more data on *women's motivations* for entering into business, such as whether it is a result of their own choice or their need to survive (Scott et al. 2016) or it stems from their understanding and desire for the empowerment that is at the center of current agricultural programming (Meinzen-Dick et al. 2017). The use of quantitative, qualitative, and participatory approaches in various combinations of *mixed methods* is growing and offers important new findings that promise better design and greater sustainability for women's engagement and empowerment.
  - *Systematic measurement* of results remains uneven. Which node of the chain can offer women the greatest benefits and strengthen empowerment? Many studies continue to focus on women's involvement in only one node, such as producers, as processors, or as traders. But there is an increasing need to understand which node within a single chain holds the greatest opportunities for women, and what barriers exist to engaging in that chain. At the same time, are there some chains that will provide greater benefits for women than others? That is, should West

10 https://www.heifer.org/about-heifer/press/press-releases/2017/us126m-project-to-increase-kenyan-milk-quality-production.html.

African women turn to expanding shea or hibiscus or vegetables? In East Africa, is poultry really a better choice than small ruminants for maximizing income and nutrition? The market inclusion module of the WEAI[11] now under development is one avenue for collecting and analyzing data on this topic, but more analysis across chains and across countries is greatly needed.

– We need more *comparative studies* and broader compilations. Although many excellent localized studies on specific value chains exist, it can be difficult to compile and/or analyze existing data from multiple sources. This complicates efforts to determine what interventions, whether public or private, are most effective for women working at different nodes of the chain.

What's Next?

Based on our review of research and materials in this chapter, we highlight some areas that can be further investigated to boost our understanding of the changing dynamics of gender relations in agricultural value chains.

Gender-Equitable, Climate-Smart Value Chains

Today we need a broader view of gender and climate change that also encompasses resilient agricultural practices for crops and livestock. Shifting climate patterns are typically seen as creating additional burdens for women farmers, such as increasing the labor associated with fuel and water collection or increasing the costs of energy for processors and transporters. But climate change may also hold potential for developing new enterprises or expanding existing ones when farmers can access the weather data and the information they need on adaptive management of crops and livestock. In Tanzania, CARE (2018) has worked with women farmers using its Farmer Field and Business School model to promote drought-tolerant crops for sale, thus adapting to climate variability in production and increasing resilience through farm diversification in market sales. The program has achieved good results in raising the productivity of cassava and sesame with associated increases in income of US$165 to US$215 per year (CARE 2018). Taking the next step to upgrade women's skills in these value chains by identifying possible value-added products could further strengthen resilience.

In addition, research should continue to identify stress-tolerant crops or new crop mixes and sequences with greater climate resilience that do not add to women's labor and time burdens. Introducing new crops can be advantageous to women when they are either integrated into existing gendered responsibilities or create new opportunities (Rubin and Manfre 2014).

The Gender Dimensions of Value Chains for Previously Neglected Crops

The proliferation of studies has covered many new value chains, but there is room for considerably more investigation in the following areas: seed system value chains (especially crops that are propagated by vegetative means); expanding the work of the World Vegetable Center on indigenous African vegetables; roots, tubers, and bananas value chains, as well as chains for sorghum, millet, and fonio; value chains for biofortified crops, such as high-iron beans and vitamin A maize, originally intended for home consumption but now increasingly marketed. These value chains would benefit from both basic descriptive research as well as more in-depth analysis of shifts in gender roles and responsibilities in the chain and control over earnings, given the increasing commercialization.

The Role of the Private Sector for Most Effectively Promoting Women's Economic Empowerment

The private sector has a critical role to play in closing gender gaps by supporting women's agri-entrepreneurship through diversifying its supply chains, meeting gender-equality standards, and providing equitable opportunities and safe environments in workplaces. As seen earlier in the discussion, private businesses and PPPs are expanding into developing countries and into agricultural value chains. Closing gender gaps through "gender-smart solutions" would benefit the private sector by creating new markets for inputs, raising productivity, and reducing losses (IFC 2016).

Corporations have in recent years made large strides in creating programs and partnerships with women at many points in agricultural value chains. The United Nations Global Compact and the International Finance Corporation

11 See http://weai.ifpri.info.

established the Women's Empowerment Principles in 2010; as of 2019 they have been agreed to by more than 12,000 companies in more than 160 countries. Agreement involves not only acceptance of the principles but also commitments to develop action plans to implement the principles, report on their performance, raise awareness, share good practices, and engage with other businesses.

Voluntary sustainability standards are another potential tool for increasing women's participation, performance, and benefits in agricultural commodity value chains as women agri-entrepreneurs (including smallholder farmers) and wage workers. It would be helpful to understand in greater detail how much impact these types of principles or other voluntary standards for the private sector have on sustaining women's economic empowerment (Sexsmith 2017; Smith et al. 2018).

Women and Agri-entrepreneurship

Supporting women agri-entrepreneurs makes economic and social sense. Yet data on entrepreneurship in the agriculture sector generally are not as abundant as the type of statistics available for manufacturing and services in other sectors, and the need for comparative, quantitative data on women agri-entrepreneurs is still great, especially in developing countries (de Haan 2016).[12] Agriculture remains the focus of the large population of rural women in developing countries and a key source of their employment. Compared with men-owned businesses, women's businesses tend to provide greater employment for other women, so supporting such businesses can bring stronger benefits of employment to rural women, who have been found to experience greater disadvantage than either rural men or women and men in urban areas (Murray 2015).

There are, however, disconnects in the literature on gender, value chains, and women's entrepreneurship. Few value chain studies distinguish between different types of agri-entrepreneurs, and many use frameworks for categorizing them that are similar to those used in the broader entrepreneurship literature. What are the factors that help women in micro-agribusiness make the transition to small businesses and from there grow into medium and large ones? Value chain studies have focused largely on the small producers and processors and informal traders, neglecting the larger and more successful women agri-entrepreneurs. Similarly, the literature on networking among African businesswomen has not specifically addressed the needs of women agri-entrepreneurs among their members.

Programs such as Value4Her help to strengthen women's agribusiness enterprises. Operating in Africa, the Caribbean, and the Pacific, Value4Her helps women agribusiness owners increase their incomes and create jobs for women in agriculture. Launched in 2018, the program offers women agri-entrepreneurs access to knowledge, skills, and capacity to grow their agribusinesses; links them with high-value regional and global markets; and improves women business leaders' technical and managerial skills. It is notable as one of the few efforts to provide Africa-wide networking and market linkage facilitation to help women scale their agribusinesses. The project also facilitates innovative business linkages to other women-led agribusinesses and helps agri-entrepreneurs link with suppliers and buyers through an African women's agribusiness intelligence portal, a digital business-networking platform jointly operated by CTA and partners African Women Agribusiness Network and African Women Innovation and Entrepreneurship Forum. Value4Her has already reached 350 women agribusiness owners.[13]

Gender-Based Violence in Agribusiness

There is increasing awareness of the existence of gender-based violence (GBV) in the agriculture sector. Fear of GBV, whether it is violence from intimate partners or from those with whom they work affects women along the value chain, restricting their mobility. Both the fear of violence or harassment and the experience of it can influence women's choices about work and workspaces as they try to avoid exposure to perpetrators (Nordehn 2018; Theis, Martinez, and Myers 2018).

Despite the apparently high prevalence of GBV in agribusiness, comparable data on incidences are scarce. In Kenya, out of 40 female cut flower industry workers, 90 percent perceived sexual violence and harassment as the biggest challenge they face (Jacobs, Brahic, Olaiya 2015). In Ethiopia, of 160 women sampled, 137 said they had experienced some form of sexual violence and harassment themselves, while in Tanzania, 89 percent of women workers across 20 farms had personally witnessed one or more incidents, mainly perpetrated by managers (Mlynska, Wass, and Amoding 2015). Henry and Adams (2018) reviewed four cases of commercial agriculture. The one African case draws primarily on the

12 The Global Entrepreneurship Monitor 2018/2019 Global Report [Bosma and Kelley 2019], for example, combines data on agriculture with extractive and construction industries, without identifying gender differences in this category.

13 https://www.cta.int/en/project/value4her-strengthening-women-s-agribusiness-enterprises-in-acp-countries-sid003907918-80bb-406a-a8f5-d83a175d029a.

horticultural sector of Kenya, with additional information on Ethiopia, Tanzania, and Uganda. They found that across all cases—in Africa, Latin America, and Asia—the combination of social norms that tolerate harassment and little accountability from supervisors and other staff led to conditions where sexual violence and harassment frequently occurred in commercial agriculture.

The probability that GBV against women occurs in some agricultural value chains urgently requires more rigorous data collection about its prevalence as well as the factors that contribute to its persistence. Other recommendations to address GBV in agribusiness situations include:

- upgrading women's contracts to provide opportunities for advancement similar to those of men,
- providing legal protection for temporary workers,
- improving working conditions for all workers, and
- requiring trainings on awareness of GBV to change attitudes and behaviors (Henry and Adams 2018, 43).

Youth, and Especially Young Women, in Agricultural Value Chains

Young women face a triple challenge in becoming agri-entrepreneurs: gender, age, and the limitations of the informal sector. Furthermore, young married women often fall between programming cracks: they are no longer in school, have the heavy burden of caring for young children and other family members, and often lack the resources needed to succeed in agribusiness.

To better develop interventions to help younger women succeed in agribusiness, we need

- data on the age as well as the sex of entrepreneurs so that we can distinguish the impacts of interventions on young as well as older women;
- to identify factors that contribute to agri-entrepreneurial success among younger women;
- communication channels that can effectively provide young women with market information, especially using technologies such as mobile phones; and
- financial mechanisms (in-kind transfers, savings, cash grants, and micro-lending) that are accessible to and manageable by young women.

Research studies and implementation experiences over the last decade have deepened our understanding of the ways that participation in agricultural value chains both builds on existing patterns of gender relationships and also changes them. When researchers provide background on gender relationships that is specific to different agricultural value chains, and to particular countries, it provides practitioners the information they need to design their agribusiness interventions both to earn the profits needed for growth and sustainability and to deliberately achieve not only increased participation of women but also greater benefits accruing to women and their families, as well as to contribute to women's empowerment.

Across the African continent, inclusive agricultural value chains can simultaneously benefit women, their families, and the larger economy. The challenge for the future is to use our growing knowledge about the gender dimensions of agricultural growth to ensure that we make changes in the direction of promoting gender equality and women's empowerment.

CHAPTER 7

Building Livelihoods for Rural Youth: A Gendered Perspective

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Young women and men in rural Africa are coming of age in rapidly changing local and global environments (National Research Council and Institute of Medicine 2005). Across the continent, countries are experiencing structural transformation (ST) as economies shift from labor-intensive and low-productivity activities, such as agriculture, to more productive and skill-intensive ones, such as manufacturing and services. Rural transformation (RT) is also under way in many countries, as rural economies, communities, and social institutions diversify (de Vries, Timmer, and de Vries 2015). Some countries are experiencing the demographic transition, as lags between declines in mortality and fertility rates have led to large youth cohorts (Bloom, Canning, and Sevilla 2003). Against this backdrop, the transition to adulthood has also changed. Compared with their parents, young people are staying in school longer, marrying later, and building their livelihoods from a broader range of economic sectors (Behrman and Sengupta 2005).

There is increased interest in enhancing livelihood opportunities for rural African youth,[2] partly motivated by the desire to harness the increased supply of labor from relatively large youth cohorts (that is, the youth bulge) to fulfill the promise of the "demographic dividend" and contribute to economic growth (Bloom, Canning, and Sevilla 2003). However, these efforts seldom consider how gender affects transitions to adulthood. For many boys becoming men, windows of opportunity begin to open. Meanwhile, as girls become women, many opportunities fail to emerge (Hallman et al. 2015). As young people begin pursuing their own livelihood strategies, they may inherit productive assets (such as land), seek employment, or develop a small business—all of which are experienced differently by gender (Elias et al. 2018). As young people marry and have children, they may experience increased responsibilities, whether domestic responsibilities or the expectation to earn an income.

In this chapter, we examine how rural African young women and men are building their livelihoods. We present a conceptual framework on the gendered development of livelihood strategies during the transition to adulthood in developing countries. We review existing evidence on youth livelihoods in rural Africa and present empirical evidence from our analysis of Demographic and Health Surveys (DHS) data in 25 African countries. We then consider these findings with a synthesis of the current evidence on interventions for rural youth to highlight future directions for gender-sensitive interventions for rural African youth. Such interventions have the largest potential for impact if they integrate needs in the productive and reproductive spheres.

Conceptual Framework

Our approach to examining how gender roles affect livelihood strategies, resources, constraints, and opportunities that young women and men face is based on two complementary conceptual frameworks: the transitions-to-adulthood framework and the Gender, Agriculture, and Assets Project (GAAP) framework. Our exposition of these frameworks draws heavily from Heckert et al. (n.d.) and Doss et al. (2019).

Multilayered Contexts

A fundamental aspect of our conceptual framework is that young people's lives are embedded in interconnected and rapidly transforming contexts influenced by household, local community, regional, national, and global factors. These diverse contexts influence whether and how rural youth study, work, marry, and live. Whether youth live in nuclear or extended or in polygynous or monogamous families is important, as is whether youth are spouses, direct offspring, or in-laws of the household head or household heads themselves.

The effects of structural and rural transformation and the demographic transition are national characteristics that are experienced at the local and household level and affect young men and women differently. For example, RT may not fully benefit women, because social norms and legal frameworks may preclude women from landownership or decision making around production. Gender both determines and is an outcome of these macro-level characteristics. Economies with relatively egalitarian gender norms and a high level of ST may have experienced the demographic transition more rapidly, provided more education and training opportunities for young women, and absorbed more young women into the wage sector compared with a similar economy that started with more restrictive gender norms.

The demographic transition often goes hand and hand with ST (Galor and Weil 2000). Where infant mortality rates have recently declined and fertility remains high, these demographic patterns have led to large youth cohorts relative to the size of the population, often referred to as the youth bulge (Bloom, Canning, and Sevilla 2003). Members of large cohorts experience competition for scarce resources both within their families and with age-mates (Lam and

2 We classify areas as rural according to the definition of each country's national statistics office. We refer to youth as the period between childhood and adulthood. For statistical purposes, the United Nations defines youth as 15 to 24 years old, although many African governments use a higher upper bound (commonly 35). We use the 15-to-24-years-old definition in our empirical analysis.

Marteleto 2008). Although research has examined competition throughout the demographic transition, it has not focused on differential consequences by gender. Girls with many brothers may be less likely to inherit land. Similarly, when competing for limited jobs across a large cohort, more lucrative job opportunities may favor young men.

Transitions-to-Adulthood Framework

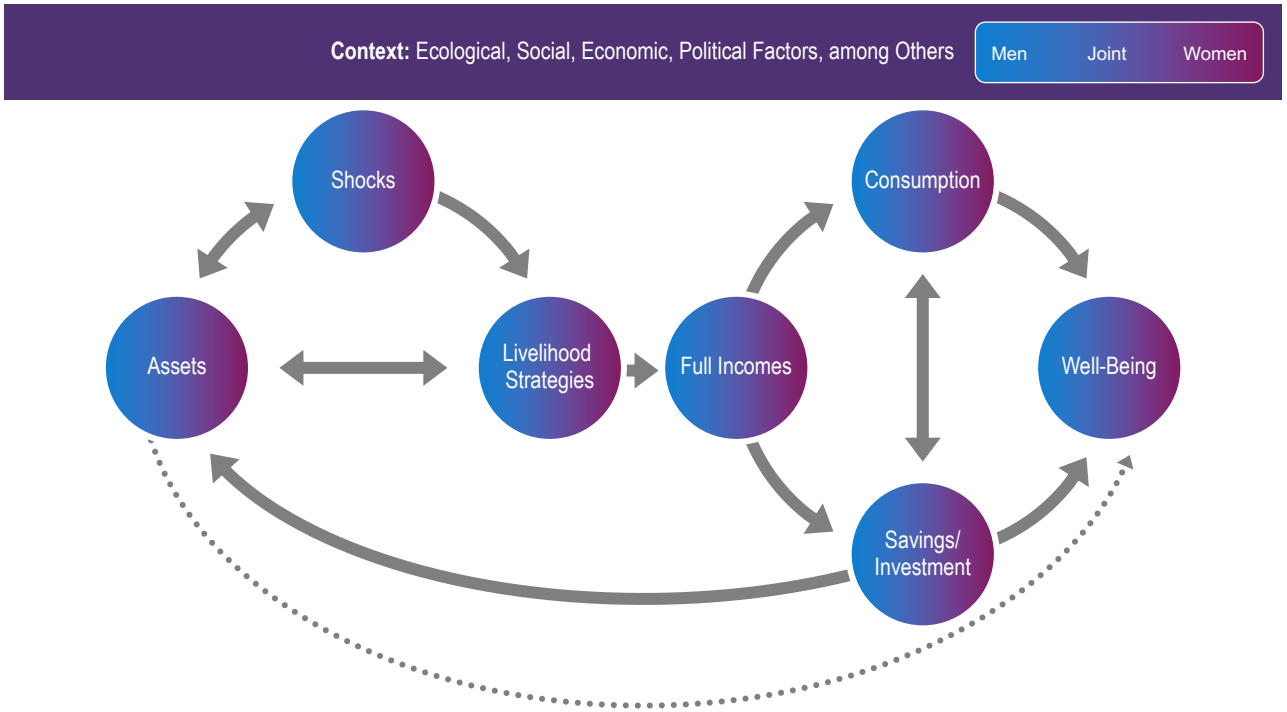
The transitions-to-adulthood framework, developed by the National Research Council (US) Panel on Transitions to Adulthood in Developing Countries, focuses on young people's entry into adult roles in the interrelated areas of work, citizenship, and family (marriage and parenthood). It emphasizes "changes in the acquisition of various kinds of attributes or capabilities and in orientation toward the changing structure of opportunity" (National Research Council and Institute of Medicine 2005, 35). This framework considers the changing contexts at the global, national, and community levels and recognizes the gendered implications at each level.

Three aspects of the transitions-to-adulthood framework are relevant here: (1) it emphasizes change—in the global and immediate environments, in young people themselves, and how the transition to adulthood changes over time; (2) it acknowledges that transitions are shaped by the context of young people's daily lives; (3) it highlights the links between context and individual behavior and considers changes in individual resources (for example, landownership), attributes during the transition (for example, education, employment), and in the timing, sequencing, duration, and nature of the transition to adult roles. The framework recognizes that these transitions occur at different ages depending on culture and context. Context is especially important for rural African youth, given the cultural, tribal, and ethnic diversity of the continent and within countries.

The Gender, Agriculture, and Assets Project Framework

The GAAP conceptual framework, inspired by the Sustainable Livelihoods Framework (Bebbington 1999; DFID 2001) and discussed in the introduction to this report, takes the gendered nature of use, ownership, and control of assets as a starting point (Meinzen-Dick et al. 2011), and links assets, livelihoods, and well-being outcomes (Figure 7.1). Households and individuals—including young men and women—hold a range of tangible and intangible assets. The GAAP framework demonstrates the link between assets and well-being and how gender relations influence rural young men's and women's constraints and opportunities. Each component is shaded, indicating that assets and activities may be individual or joint,

FIGURE 7.1—THE GENDER, AGRICULTURE, AND ASSETS PROJECT CONCEPTUAL FRAMEWORK



Source: Adapted from Meinzen-Dick et al. (2011).

involving spouses, a parent and child, siblings, or others. The GAAP framework (1) accounts for gendered transitions to adulthood; (2) reveals the linkages among domains needed to participate in adult livelihood roles; and (3) captures broad, economic contextual changes that shape youth outcomes. This framework informs our questions on how the contextual characteristics of structural and rural transformation and individual and household attributes are related to landownership, labor force participation, and sector of employment during the transition to adulthood, and how those associations differ for young women and young men. Below, we elaborate on key components relevant to the gendered transition to adulthood.

Assets

Access to and control over assets are key determinants of individual agency that have age and gender dimensions. Within a household, assets are owned or used by women, by men, or jointly (Doss et al. 2014). Although most natural, physical, and financial assets are held by men, young men frequently acquire assets only when they marry and form a separate household (Fafchamps and Quisumbing 2007). In other cases, asset accumulation demonstrates marriage eligibility. Although young women typically own fewer assets than men (Quisumbing and Maluccio 2003), where marriage confers property rights to both spouses, women who marry young may acquire joint assets earlier than men.

Land is the physical asset most relevant in rural areas. Only recently has landownership data been collected at the individual rather than the household level and used to analyze patterns by gender (Doss et al. 2015). In many cultures, marriage signals the beginning of a new family unit, and parents may transfer land to their children. While youth may not yet own land, their expectations of inheritance differ by gender (Berckmoes and White 2014). Gendered social norms also govern access to productive assets. In Ethiopia, young men are expected to farm their own plot (if they have one), work their parents' plots, or work as hired labor while accumulating some assets (Gella and Tadele 2015). Young, unmarried women, however, cannot work independently and can acquire productive assets only jointly upon marriage (Gella and Tadele 2015). Practices of farm labor and land acquisition vary widely across Africa, but often they are gendered.

Education is key for rural youth to capitalize on potential opportunities. Although girls typically have lower educational attainment, gender gaps in education are closing in many places (Behrman and Sengupta 2005). Expectations about girls' contributions to household work, however, may still limit their educational potential (Porter et al. 2011). Education influences livelihood choices, and we account for its effect on livelihood outcomes, but we do not analyze it as an outcome in itself (see instead Glewwe and Muralidharan 2016).

Full Incomes

Full income is the total value of goods and services produced by household members, whether consumed within the household, traded, or sold. It includes the value of time spent on domestic responsibilities and childcare, even if unpaid. Although difficult to measure, it is conceptually important. Labor remunerated in cash is often more visible than labor producing goods for home consumption. The invisibility of women's work, especially that of young women, could affect their bargaining power within their natal and marital households and their livelihood choices.

Livelihood Strategies

Stocks of assets, available strategies to use them, and access to additional inputs or assets belonging to others, in turn, affect livelihood strategies, in ways that differ for young men and women. Such strategies include seeking employment, whether in agriculture or elsewhere, becoming entrepreneurs, or engaging solely in home production. Below we elaborate on gendered aspects of livelihood strategies.

Employment. Both farm and nonfarm work offer rural youth important opportunities. Regardless of sector or country, young men are much more likely to be employed than young women; among unemployed youth, young men tend to become discouraged and cease their job search without initiating additional activities, whereas unemployed young women typically engage in nonmarket activities, such as uncompensated household work (Fares, Montenegro, and Orazem 2006). Education may develop skills required in off-farm activities and transform preferences about desirable types of work. Similarly, gendered social norms affect the acceptability of and preferences for different types and locations of work (Chapter 2 in this report). Additionally, workplace safety is a greater concern for young women, and sexual assault is a common reason for leaving jobs (Hajdu et al. 2013).

Self-employment or entrepreneurship, generally off-farm, is another common youth livelihood strategy that generates employment, increases resilience, and utilizes innovation (White and Kenyon 2007). In Nigeria, young women prefer off-farm entrepreneurship to working on the family farm, because it typically

allows them to control cash earnings (Bryceson 2002). Although women's entrepreneurship is increasing, men remain more likely to be involved in entrepreneurial activities (Vossenberg 2013), and men's businesses are typically larger (Doss et al. 2014). These patterns vary across countries and may not account for age-related differences in entrepreneurship. Our data do not permit the analysis of self-employment by sex and age, but we note this as important.

Migration. When the demand for education or employment is unmet in rural areas, perceived opportunities elsewhere may encourage both young women and men to migrate. Migration offers youth the opportunity to earn and manage income and make decisions independently from their natal households, which may alter transitions related to family formation (Heckert 2015). For example, in Mali, where the early marriage of girls is common, migration allows young women to accumulate more resources prior to marriage and helps delay marriage (Hertrich and Lesclingand 2012).

Not in Employment, Education, or Training. Many youth are currently not in employment, education, or training (NEET).[3] The literature on NEET youth rarely applies a gender lens. A study of eight countries in Africa found that 23.6 percent of rural young women, but only 11.8 percent of rural young men, were NEET (Elder et al. 2015). Notably, studies of NEET youth do not typically account for the contribution of domestic labor, misclassifying those doing unpaid care work as not working. Considering the productive and reproductive roles of young women and men may enhance our understanding of NEET dynamics. For instance, most NEET young women are full-time caregivers and young men are unemployed across North Africa (Abbott and Teti 2017).

Data

To complement the literature on rural youth's gendered resources, constraints, and opportunities, we use DHS data collected between 2010 and 2016 from 25 African countries to describe factors associated with five outcomes related to the development of livelihood strategies for rural youth: any sole landownership, joint landownership only, current employment, NEET status, and on-farm employment. DHS data are nationally representative and include a range of demographic, health, and socioeconomic indicators. In addition to a household survey, individual interviews are generally conducted with all woman of reproductive age (15 to 49 years) in each household and men of similar age in a randomly selected subset of households. We limit our sample to 15-to-24-year-olds in rural areas. Table 7.1 describes the surveys we include. All estimates

TABLE 7.1—COUNTRIES INCLUDED IN ANALYSIS

East Africa		Southern Africa		West and central Africa			
Country	*n* = female/male	Country	*n* = female/male	Country	*n* = female/male	Country	*n* = female/male
Burundi (2010)	3,195/ 1,166	Lesotho (2014)	1,948/ 876	Benin (2011–12)	3,105/ 960	Guinea (2012)	1,958/ 702
Ethiopia (2016)	4,061/ 3,137	Malawi (2015–16)	8,129/ 2,511	Burkina Faso (2010)	4,173/ 1,624	Mali (2012–13)	2,392/ 786
Kenya (2014)	3,441/ 3,126	Mozambique (2011)	3,015/ 773	Cameroon (2015)	3,117/ 1,238	Niger (2012)	2,517/ 629
Rwanda (2014–15)	3,802/ 1,689	Namibia (2013)	1,749/ 895	Chad (2014–15)	4,961/ 1,284	Nigeria (2013)	8,788/ 3,829
Tanzania (2015–16)	3,648/ 1,095	Zambia (2013–14)	3,278/ 2,866	Côte d'Ivoire (2011–12)	1,881/ 871	Senegal (2016)	2,401/ 944
Uganda (2016)	518/ 160			Gambia (2013)	2,490/ 869	Sierra Leone (2013)	3,550/ 1,304
				Ghana (2014)	1,761/ 832	Togo (2013–14)	1,963/ 1,079

Source: Demographic and Health Surveys data, rural youth, 15–24 years

3 Includes youth who may be searching or intending to search for such opportunities or be engaged in unpaid household work.

account for multistage sample selection, and weights are adjusted to account for each country's sample size relative to its population size.

We use the World Development Indicators to construct country-level indicators of ST—the nonagricultural value-added share of gross domestic product—and RT—the agricultural value-added per worker (both in constant 2010 US dollars) (Stecklov and Menashe-Oren 2018). The ratio of youth to working age adults is the ratio of 15-to-24-year-olds to 25-to-64-year-olds from national population estimates at the year of the survey. Although many aspects of the population distribution change during the demographic transition, this ratio reflects the competition for resources (for example, land, jobs) as youth start to develop their livelihood strategies.

Descriptive Analysis

We first describe the country-level characteristics that create the macro-level context of young people's lives. Figure 7.2 is a scatterplot of ST by RT for countries in the sample. Lesotho, Namibia, and Zambia have the highest ST, and Sierra Leone has the lowest; Nigeria has exceptionally high RT. Figure 7.3 depicts the ratio of youth to working-age adults. Smaller values occur for countries, such as Rwanda and Ghana, that experienced an earlier fertility transition, whereas Burundi and Sahel countries have large values. Values are also large where prime-age adult mortality is high (for example, from HIV/AIDS), such as in Malawi and Uganda.

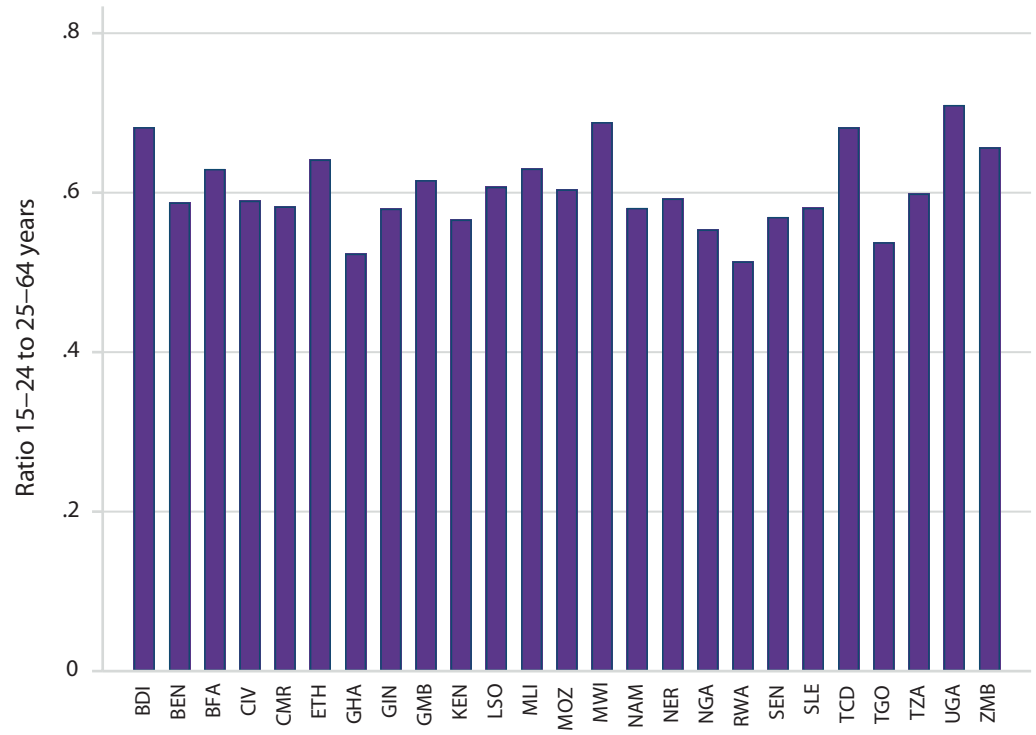
We examine individual and household characteristics by region (Table 7.2). Young men more often own land solely, compared with young women, in all three regions, although the gender gap is small in southern Africa. Joint landownership was higher for young women than for young men in East Africa and southern Africa, whereas it was similar across gender in West and central Africa. These patterns are consistent with land inheritance and transfer practices in which women marry earlier and may gain shared property rights through marriage.

FIGURE 7.2—SCATTERPLOT OF THE LEVEL OF STRUCTURAL TRANSFORMATION BY RURAL TRANSFORMATION

Source: Calculated from the World Development Indicators.

In terms of current activities, in all three regions more young men currently attend school than young women (counting those who are simultaneously employed). Young men are also more often currently employed than young women. Among the employed, in East Africa and West and central Africa, more young men than young women work in on-farm activities. In southern Africa, among employed young men and women, a similar proportion perform on-farm jobs. Overall, young women are more likely to be NEET than young men, but many of them are married or have children, or both, which may mask the large amount of domestic labor that they undertake.

FIGURE 7.3—RATIO OF YOUTH (AGES 15–24) TO WORKING-AGE ADULTS (AGES 25–64), BY COUNTRY



Source: World Development Indicators from the year of DHS data collection in each country.

Although many youth are still attending school, 15 is above-age for primary school progression, and primary school completion is low. In southern Africa and West and central Africa, young men are more likely than young women to have completed primary school, with larger gender gaps in West and central Africa. In East Africa, young women's primary school completion outperforms young men's by a small margin. Both young women and men experience obstacles to educational attainment, which may be related to demands for their labor or fulfillment of domestic responsibilities (Glewwe and Muralidharan 2016).

In all three regions, more young women than young men have ever been married. Early marriage for girls is closely linked to other important livelihood outcomes, such as early exit from school and time to gain labor force experience. Union formation patterns are also reflected in household structure: young women are more likely to be spouses of the household head, and young men are more likely to be household heads themselves or a child of the household head.

Regression Analysis

To strengthen the evidence on youth's gendered transitions to adulthood, we estimate the following set of multivariate probit regressions:

$$Y_{ik} = \alpha + X_i\beta + X_h\gamma + ST_c\delta + RT_c\mu + RY_c\lambda + \varepsilon_i, \qquad (1)$$

where Y_{ik} is the outcome of interest for individual i, with k indexing currently employed, NEET, and on-farm employment (among those currently employed). Using the same specification, we estimate multinomial probit models for our landownership outcomes: any sole ownership, and joint ownership only, with no ownership as the reference group. In all regressions, we control for vectors of individual (X_i) and household-level (X_h) characteristics: age group, educational attainment, ever married or in union, parenthood, presence of a child less than five years of age in the household, relationship to household head, log of household size, and wealth quintile. ST, RT, and the ratio of youth to working-age adults (RY) are defined above and measured at the country level (c); and ε_i is the error term. We estimate equation (1) separately for young women and young men and test whether the coefficients for each outcome differ significantly. All analyses account for stratification and clustering.

We pool the data from all countries because in some regions there was limited variability in the country-level characteristics. The descriptive characteristics of the pooled sample are found in Table 7.A.1.[4]

4 See Chapter 7 Table A.1 (https://www.resakss.org/node/6745?region=aw).

TABLE 7.2—CHARACTERISTICS OF RURAL YOUTH (AGES 15–24 YEARS), BY SUBREGION AND SEX

	East Africa		Southern Africa		West and central Africa	
	Female	Male	Female	Male	Female	Male
	Mean	Mean	Mean	Mean	Mean	Mean
Landownership						
None	0.76	0.82	0.68	0.81	0.85	0.81
Any sole	0.07	0.13	0.12	0.14	0.06	0.12
Joint	0.17	0.05	0.20	0.06	0.08	0.07
Activities						
School	0.24	0.19	0.23	0.28	0.15	0.24
Employed	0.32	0.51	0.31	0.38	0.39	0.49
School and employed	0.07	0.26	0.06	0.18	0.05	0.14
NEET (total)	0.37	0.05	0.40	0.15	0.41	0.14
Married; has children	0.17	0.00	0.19	0.02	0.21	0.00
Married; no children	0.05	0.00	0.05	0.01	0.08	0.00
Not married; has children	0.02	0.00	0.07	0.01	0.02	0.00
Not married; no children	0.12	0.05	0.09	0.12	0.10	0.13
On-farm employment†	0.63	0.77	0.76	0.76	0.32	0.60
Other characteristics						
Age 15–17	0.34	0.37	0.33	0.38	0.32	0.38
Age 18–21	0.42	0.39	0.41	0.42	0.43	0.42
Age 22–24	0.24	0.23	0.25	0.19	0.24	0.21
No education or incomplete primary	0.60	0.68	0.53	0.43	0.61	0.42
Completed primary	0.17	0.11	0.12	0.16	0.07	0.08
Some secondary or higher	0.23	0.21	0.34	0.41	0.32	0.50
Ever married	0.45	0.14	0.52	0.16	0.60	0.12
Relationship to household head						
Respondent is head	0.04	0.11	0.07	0.14	0.04	0.16
Spouse	0.29	0.03	0.32	0.03	0.46	0.01
Son/daughter	0.49	0.73	0.36	0.15	0.33	0.65
Son/daughter-in-law	0.05	0.00	0.05	0.40	0.05	0.00
Other	0.14	0.13	0.21	0.29	0.13	0.18
Not a parent, no children < 5 in HH	0.35	0.54	0.23	0.36	0.27	0.43
Not a parent, child < 5 in HH	0.27	0.38	0.25	0.49	0.25	0.49
Parent, no child < 5 in HH	0.02	0.01	0.02	0.02	0.02	0.01
Parent, child < 5 lives in HH	0.36	0.07	0.49	0.12	0.47	0.06
Household size	5.97	6.20	5.91	6.73	6.65	7.53

Source: Authors' calculations using pooled data from 25 Demographic and Health Surveys collected between 2010 and 2016.
Note: Sample is 15-to-24-year-olds. Weighted estimates are adjusted for country's sample size relative to population size. NEET = not in employment, education, or training; HH = household. † Among currently employed.

Regression Results

Among rural African youth, landownership (any sole or joint) is less common at higher levels of ST for both young women and men (Table 7.3), suggesting that ST may limit young people's ability to own land. These effects are significantly larger for young men than young women. Young women, who often own land jointly (for example, through older husbands), may be protected from the negative effects of ST on youth landownership. In contrast, higher levels of RT, when land is more productive, are associated with young men being slightly more likely to own land solely, whereas young women are less likely to own land at all. Macro-level processes that enhance agricultural productivity coupled with gender norms around individual-level productive and reproductive transitions may facilitate land acquisition for young men but prevent it for young women. A relatively larger youth population is also positively associated with joint and sole landownership for young women and men, with a significantly larger effect for young women compared with young men. A smaller working-age adult population, especially if due to adult mortality, may provide opportunities for youth to acquire land. In the case of sole ownership, this process favors young women.

Among individual and household characteristics associated with landownership, older youth more often own land. Relative to young women with less than a primary education, those with more education are more likely to own land jointly. Young men with secondary or higher levels of education were less likely to own land solely than those without primary education, perhaps because the former are still in school and have yet to accumulate physical assets or are concentrating their capital elsewhere. Meanwhile, early dropouts may have invested in farming. Or parents may allocate land to some children and invest in the education of others (Quisumbing, Estudillo, and Otsuka 2004).

Marriage is positively associated with landownership (both solely and jointly). The effects are larger for young men for sole ownership and larger for women for joint ownership. Both young men and women who are household heads, and young women married to the household head, are most likely to own land. These findings are consistent with inheritance and land acquisition patterns. Young mothers are more likely to own land solely, as are young fathers. Young women who live in larger households are less likely to be the sole owners of land, which is likely the result of living with extended kin or co-wives who have more claim to these resources. Among young men, those in larger households are also less likely to own land solely, but more likely to own land jointly, suggesting that living in extended families may provide some claim to productive resources.

In terms of current livelihood activities, young men and young women in rural African are less likely to be employed at higher levels of ST and RT (Table 7.4). The magnitude of these coefficients differs significantly by gender; young men are less likely than women to be employed at higher levels of ST. In contrast, rural young women are less likely than men to be employed at higher levels of RT. These patterns may occur because youth remain in school longer at higher levels of ST, or because ST creates employment opportunities in the nonfarm sector that require specific training or experience unavailable to rural youth. Young men may be less likely to be employed than young women in higher ST countries because they are less likely to settle for lower-status jobs in rural areas. During periods of rural transformation, rural youth may encounter limited employment opportunities as increased technology and efficiency affords fewer opportunities for unskilled workers and creates more competition for the few jobs available. Additionally, young women, if not given access to training or technology, may be further pushed out of employment opportunities.

The patterns by ST and RT are similarly reflected in NEET outcomes. Higher levels of ST and RT are positively associated with being NEET, especially for young men, suggesting that both young men and women are missing out on valuable education and work experience in countries at higher levels of structural and rural transformation. Among the employed, on-farm employment is more common at higher levels of ST for young women, but the association for young men did not vary by ST. At higher levels of ST, men may be better able to find work off-farm, while women replace men in on-farm work. At higher levels of RT, on-farm employment was less common for young women and men, suggesting that with increased efficiency, there is less demand for (less experienced) youth on-farm labor.

In countries with relatively large youth cohorts, young women are less likely to be employed, whereas young men are more likely to be employed. Meanwhile, both young women and men are more likely to be NEET. During periods when the youth cohort is relatively large, there may be fierce intracohort competition for employment opportunities (or other resources) that may be particularly detrimental to young women. Among the employed, large youth cohorts are positively associated with on-farm employment for both young men and women.

TABLE 7.3—MULTINOMIAL PROBIT RESULTS FOR RURAL YOUTH LANDOWNERSHIP OUTCOMES, BY SEX

	Any sole ownership			Joint ownership only		
	Female	Male	Difference in coefficients	Female	Male	Difference in coefficients
	(1)	(2)	(3)	(4)	(5)	(6)
ST: Share of nonagriculture in GDP (%)	-0.31** (0.13)	-1.20*** (0.16)	***	-0.76*** (0.15)	-1.06*** (0.14)	***
RT: Agricultural value-added per worker (millions, 2016 US dollars)	-0.00** (0.00)	0.00*** (0.00)	***	-0.02*** (0.00)	0.00 (0.00)	***
Ratio of working-age youth (15–24 years old) to adult (25–64 years old) population	0.64*** (0.03)	0.56*** (0.04)	***	0.23*** (0.03)	0.17*** (0.03)	
Age 15–17 (reference group)						
Age 18–21	0.01** (0.00)	0.06*** (0.00)	***	0.02*** (0.00)	0.01*** (0.00)	***
Age 22–24	0.01*** (0.00)	0.08*** (0.01)	***	0.03*** (0.00)	0.03*** (0.00)	***
No education or incomplete primary (reference group)						
Completed primary	-0.00 (0.00)	0.01** (0.01)		0.03*** (0.00)	-0.01* (0.00)	***
Some or completed secondary, or higher	0.00 (0.00)	-0.02*** (0.00)	***	0.01** (0.00)	-0.01 (0.00)	***
Ever married	0.04*** (0.00)	0.08*** (0.01)	**	0.10*** (0.01)	0.04*** (0.01)	**
Child of HoH (reference)						
Respondent is HoH	0.08*** (0.01)	0.10*** (0.01)		0.08*** (0.01)	0.04*** (0.01)	
Spouse	0.03*** (0.00)	0.02 (0.01)	***	0.12*** (0.01)	-0.02 (0.01)	***
Son/daughter-in-law	-0.01** (0.01)	0.03 (0.03)		0.06*** (0.01)	0.02 (0.02)	
Other relationship	-0.00 (0.00)	0.02*** (0.00)	**	0.03*** (0.01)	0.01 (0.00)	
Not a parent and no child < 5 years old lives in HH (reference group)						
Not a parent; child < 5 years old lives in HH	0.00 (0.00)	-0.01 (0.00)	*	0.01 (0.00)	0.01** (0.00)	
Parent; no child < 5 years old lives in HH	0.02*** (0.01)	0.02 (0.01)		0.00 (0.01)	-0.01 (0.01)	
Parent; child < 5 years old lives in HH	0.03*** (0.00)	0.03*** (0.01)		0.01*** (0.00)	0.01** (0.01)	
Log of HH size	-0.01** (0.00)	-0.01** (0.00)		-0.01*** (0.00)	0.01** (0.00)	***
Observations	78,774	34,022		78,774	34,022	

Source: Authors' calculations using pooled data from 25 Demographic and Health Surveys collected between 2010 and 2016.
Note: Sample is 15-24-year-olds. Coefficients are marginal effects from multinomial probit estimates with no ownership as the reference group. Regressions control for household wealth quintile. Standard errors account for multistage survey design. Any sole ownership represents sole ownership only, and sole and joint ownership. ST = structural transformation; RT = rural transformation; GDP = gross domestic product; HoH = head of household; HH = household. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

TABLE 7.4—PROBIT RESULTS FOR RURAL YOUTH EMPLOYMENT OUTCOMES, BY SEX

	Currently employed			NEET			On-farm employment‡		
	Female	Male	Difference in coefficients	Female	Male	Difference in coefficients	Female	Male	Difference in coefficients
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
ST: Share of nonagriculture in GDP (%)	-1.64*** -(0.23)	-2.80*** (0.30)	***	0.88*** (0.21)	1.65*** (0.20)	***	1.50*** (0.37)	0.32 (0.38)	**
RT: Agricultural value-added per worker (millions, 2016 US dollars)	-0.01*** (0.00)	-0.00*** (0.00)	**	0.01*** (0.00)	0.01*** (0.00)	***	-0.06*** (0.00)	-0.02*** (0.00)	***
Ratio of working-age youth (15–24 years old) to adult (25–64 years old) population	-0.46*** (0.06)	0.31*** (0.08)	***	0.52*** (0.05)	0.20*** (0.05)		0.52*** (0.07)	0.68*** (0.09)	*
Age 15–17 (reference group)									
Age 18–21	0.12*** (0.00)	0.16*** (0.01)	***	0.06*** (0.00)	0.03*** (0.00)		-0.02*** (0.01)	-0.04*** (0.01)	*
Age 22–24	0.19*** (0.01)	0.27*** (0.01)	***	0.01** (0.01)	0.05*** (0.01)	***	-0.04*** (0.01)	-0.08*** (0.01)	***
No education or incomplete primary (reference group)									
Completed primary	0.07*** (0.01)	0.01 (0.01)	***	-0.10*** (0.01)	-0.03*** (0.01)	***	0.03*** (0.01)	-0.06*** (0.01)	***
Some or completed secondary, or higher	-0.08*** (0.01)	-0.18*** (0.01)	***	-0.14*** (0.00)	-0.06*** (0.00)	***	-0.08*** (0.01)	-0.12*** (0.01)	***
Ever married	-0.03*** (0.01)	0.15*** (0.01)	***	0.19*** (0.01)	-0.05*** (0.01)	***	-0.01 (0.01)	0.05*** (0.01)	***
Child of HoH (reference)									
Respondent is HoH	0.01 (0.01)	0.09*** (0.01)	***	-0.01 (0.01)	-0.02** (0.01)		-0.06*** (0.02)	-0.01 (0.02)	**
Spouse	0.06*** (0.01)	0.02 (0.02)		-0.06*** (0.01)	-0.02 (0.02)		0.03** (0.01)	-0.07** (0.03)	***
Son/daughter-in-law	-0.00 (0.01)	0.14** (0.06)	**	0.05*** (0.01)	-0.07 (0.04)	**	0.07*** (0.02)	-0.03 (0.06)	
Other relationship	-0.01** (0.01)	-0.01 (0.01)		0.01 (0.01)	0.01* (0.00)		-0.02** (0.01)	-0.01 (0.01)	
Not a parent and no child < 5 years old lives in HH (reference group)									
Not a parent; child < 5 years old lives in HH	0.01* (0.01)	0.01 (0.01)		0.00 (0.01)	-0.00 (0.00)		-0.01 (0.01)	-0.01 (0.01)	
Parent; no child < 5 years old lives in HH	0.07*** (0.01)	0.07*** (0.02)		0.01 (0.01)	0.01 (0.01)		-0.08*** (0.02)	-0.05** (0.02)	
Parent; child < 5 years old lives in HH	0.04*** (0.01)	0.00 (0.02)	**	0.03*** (0.01)	0.02* (0.01)		0.00 (0.01)	-0.03* (0.02)	*
Log of HH size	-0.01*** (0.01)	-0.01 (0.01)		-0.00 (0.00)	0.01*** (0.00)	***	-0.03*** (0.01)	0.04*** (0.01)	***
Observations	81,826	35,233		83,365	35,212		31,253	19,613	

Source: Authors' calculations using pooled data from 25 Demographic and Health Surveys collected between 2010 and 2016.
Note: Sample is rural youth 15 to 24 years old. Coefficients are marginal effects from probit estimates. Standard errors account for the multistage survey design. Regressions control for household wealth quintile. ST = structural transformation; RT = rural transformation; NEET = not in employment, education, or training; GDP = gross domestic product; HoH = head of household; HH = household. † Burkina Faso, Mozambique, and Uganda were excluded because survey did not ask about on-farm employment. ‡ Among currently employed. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

With relatively fewer working-age adults and large demands for resources from the youngest cohorts (less than 15 years old), there may be a high demand for on-farm youth labor.

Older youth are more likely to work and more likely to be NEET. On-farm work, however, is more common at younger ages. Youth with a secondary education or more were less likely to be currently employed, less likely to be NEET, and less likely to work on-farm. Some may still be in school, and those who are working may opt out of farm work.

Ever-married young women (as well as those who were the spouse of the household head) were less likely to be working and more likely to be NEET, while the opposite was true for young men. This finding highlights that married NEET women, who may be occupied with domestic and caregiving activities, are missing out on key training and early labor force activities. Among employed young women, on-farm employment did not vary by marital status, but married young men were more likely to work on-farm than unmarried men, perhaps indicating the expectations placed on young men to earn an income in order to support or attract a partner. Young men who are household heads are more likely to be working, and less likely to be NEET, indicating that labor force and family transitions often go hand in hand.

Despite the role of marriage in young women being unemployed, parenthood may encourage employment. Young women who are parents or who live with a young child, or both, are more likely to be employed, but also more likely to be NEET, highlighting their absence from education/training, and possibly better remunerated labor. Young men who are parents but do not live with a child under five were more likely to be currently employed, which may reflect unmarried parents or suggest rural-to-rural migration employment to support their children. Young women in large households were less likely to be employed or work on-farm, and young men in larger households were more likely to be NEET or working on-farm.

Informing Gender-Sensitive Programming for Rural Youth in Africa

The empirical evidence presented in the previous section highlights how patterns of economic and demographic change create a challenging environment for rural youth as they come of age and seek their own livelihood strategies. Young women are typically transitioning to adulthood with fewer resources. Gender gaps in education are closing, but they still exist, and young men are more likely to remain in school longer. Young women are less likely to own land, especially as sole owners. Family responsibilities frequently limit women's opportunities either to continue schooling or find paid employment. Although the NEET label fails to consider the invisible domestic labor of many young women, NEET young women are missing opportunities in education, training, and early labor force participation, especially in countries with large youth cohorts. Moreover, patterns of global change are working against rural African youth. Both landownership and current employment are lower at higher levels of ST and RT, whereas NEET is higher.

Thus, gender-sensitive programming to build rural youth livelihoods should be a focus of interventions that aim to harness the potential of the demographic dividend (Bloom, Canning, and Sevilla 2003). To guide such programming, we draw on a review of youth-oriented interventions that we undertook for the International Fund for Agricultural Development's Rural Development Report 2019 (Doss et al. 2019). From two recently completed comprehensive reviews on impact evaluations of youth employment programs (Fox and Kaul 2018) and programs addressing the economic empowerment of adolescent girls (Baird and Özler 2016), we identified studies that measured gender-differentiated impacts (regardless of whether differences were found). Herein, we summarize, by program type, the key takeaways from Doss et al. (2019) and highlight select examples to provide insight into the development of gender-sensitive programs for rural African youth.

Vocational Skills Training

Most evaluations of vocational skills training programs occurred in urban or peri-urban areas (often destinations for rural youth migrants). These evaluations offer insights into how vocational training may fall short if it does not consider young people's productive and reproductive roles. For example, an apprenticeship training program in Malawi (Cho et al. 2013) had considerably better outcomes for young men than young women. In that program, young women's success was limited by having fewer economic and human resources upon entering the program, difficulty traveling to the trainings, and the burden of domestic chores, marriage, and family obligations. In contrast, BRAC's Empowerment and

Livelihoods for Adolescents program in Uganda, which integrated vocational and life skills and was delivered through "adolescent development clubs" in a mix of urban and rural communities, appears to have been successful as measured by both livelihoods and sexual and reproductive health outcomes (Bandiera et al. 2014). Programs addressing both productive and reproductive spheres of adolescent girls' lives may have greater impacts than "single-pronged" programs that have focused on economic or reproductive health constraints in isolation.

Credit and Cash Grants for Entrepreneurs

Given the size of the informal sector in rural areas and its potential for youth, programs that provide credit and cash grants to young rural entrepreneurs could help them overcome barriers to entering entrepreneurship. Microfinance programs are one approach, but recent studies, such as Banerjee et al. (2015), cast doubt on the microfinance model. Similar to our findings for vocational skills training programs, our review (Doss et al. 2019) found that failing to consider both productive and reproductive spheres limits the success of cash and credit programs for youth. For example, a study in Uganda (Fiala 2013) found that women entrepreneurs experienced difficulty keeping cash on hand because they were pressured to spend money on school, healthcare, and funerals, whereas men benefited from the labor of family members. Keeping cash on hand may be even harder for young women. The only program included in our previous review that successfully improved economic outcomes for women had limited impacts on social and empowerment outcomes. A program that gave cash grants and business training to women ages 14 to 30 in the war-affected region of northern Uganda led to relatively large increases in income and wealth but no effect on women's independence, status in the community, or freedom from intimate partner violence (Blattman, Fiala, and Martinez 2013). As a whole, these findings point to the limited potential for increasing wage employment and mixed results for making self-employment more profitable, particularly for young women who may start out with lower levels of human and physical capital and face other gender-based constraints, such as domestic responsibilities.

Transfer Programs

Many programs for adolescents and their families do not build livelihoods directly but aim to strengthen the asset base for future livelihoods or provide economic relief to families to delay girls' marriage. Most programming in this area has targeted adolescent girls (Baird and Özler 2016). These programs recognize that parents and other relatives may determine decisions related to human capital investments, preparing for livelihoods, and marriage. Examples of programs that have used cash and asset transfers to delay marriage, with varying degrees of success, include the Zomba Cash Transfer Program in Malawi and the Berhane Hewan program in Ethiopia (see Baird and Özler 2016).

Cash transfer programs may help improve youth livelihoods and are effective in improving food security, productive activities, and secondary school attendance rates (Davis and Handa 2014, cited in Watson and Palermo 2016). Conditional cash transfer (CCT) programs, which are more common in Latin America than Africa, link the cash transfer to the fulfillment of certain conditions, such as schooling attendance or health clinic visits. CCTs have increased schooling participation rates, with larger impacts on children in poorer households and on girls than boys (de Brauw et al. 2015). Unconditional cash transfers (UCTs) are not tied to such requirements, and a growing body of evidence, mostly from Africa, shows their effectiveness in supporting successful transitions to adulthood in multiple domains, including increased secondary school enrollment (Handa et al. 2018) and decreased adolescent pregnancy (Hindin et al. 2016). De Walque et al.'s (2017) review of cash transfer programs found that CCTs generally showed larger effects than UCTs, although it is difficult to generalize because there were far fewer UCTs than CCTs. Moreover, because UCTs are more common in Africa south of the Sahara and CCTs are more common in Latin America, it is difficult to disentangle conditionalities from regional differences.

Youth Groups

Youth groups are a potential platform for reaching rural young men and women. Many such group-based interventions have targeted adolescent girls with both livelihood- and reproductive health–focused interventions. Ishraq, one such program from Egypt, had positive impacts on literacy and reproductive health knowledge (Sieverding and Elbadawy 2016). In Ethiopia, an evaluation of Towards Economic and Sexual Reproductive Health Outcomes for Adolescent Girls (TESFA) found that girls who received only communication and reproductive health information showed larger positive effects on reproductive health knowledge, but girls who also received economic empowerment knowledge experienced greater positive effects on economic empowerment (Edmeades, Lantos,

and Mekuria 2016). These two examples show that youth groups can promote the development of youth livelihoods and facilitate healthier and better-timed transitions into reproductive roles for young women.

Information and Mass Media Programs

Information and mass media programs that emphasize employment opportunities for women have not yet been tested in Africa, but evidence from India provides useful insights. After three years of employment recruiting services in rural Indian villages for the business process outsourcing industry, young women in treatment villages were less likely to marry or have children, choosing instead to start jobs or obtain more training (Jensen 2012). They also wanted fewer children. These results suggest that structural transformation (increased off-farm employment opportunities) can improve schooling and employment outcomes by generating demand for and increasing female labor force participation. However, where structural transformation is lagging, relying on this process without deliberate policy intervention may be misguided.

Recommendations

Many interventions seek to improve youth livelihoods, often by increasing their resources or the opportunities to use them. However, such programs have mixed results because they fail to consider the dual productive and reproductive responsibilities of young women and men. Our empirical findings and reflections on gender-sensitive livelihoods programming for rural youth lead us to three key recommendations.

First, livelihoods-oriented interventions must consider the productive and reproductive responsibilities of young men and young women as they transform. For young women, these new family responsibilities often limit the amount of time available to initiate economic opportunities and the scope of what is deemed suitable work. And although fathers are expected to work, programs that incorporate reproductive perspectives could facilitate a healthier transition to adulthood and provide the opportunity for new fathers to fill caregiving roles. Livelihoods-focused programs that target productive and domestic roles have a greater potential for success.

Second, policies and programs need to be designed to mitigate the potential negative impacts of structural and rural transformation, and to recognize that those impacts may differ by gender. Structural and rural transformation both create challenging environments for youth livelihoods, and outcomes are less favorable for young rural women. Policies need to ensure that both young women and young men can benefit from these processes.

Finally, concerns about marriage, fertility, and parenthood are usually addressed to young women and tend to be ignored by programs focusing on young men. Yet these transitions to adulthood affect both young men and young women, albeit in quite different ways. Household and reproductive responsibilities may pressure young men to find employment, but little work has been done linking marriage and childrearing to men's employment, especially in the long term. Recognizing the importance of both productive and reproductive roles in both young women's and men's lives would be an important first step to developing youth programming that supports the creation of sustainable livelihood opportunities during the transition to adulthood and beyond.

CHAPTER 8

Gender and Trade in Africa: Case Study of Niger

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Trade is positively associated with economic growth as it expands market opportunities, increases income earnings, and improves livelihoods. However, there are prerequisites to fully seize the opportunities offered by trade—among others, less discriminatory practices. Countries with less discriminatory practices—such as fewer gender-based labor market disparities—enjoy higher benefits from trade openness. Trade can refer to the exchange of goods and services within a given country (that is, internal trade) as well as between two or more countries (that is, external trade). This study focuses on the latter; *trade* is used to refer to external trade hereon.

Trade policies are not always gender neutral, and the benefits of trade are likely to be unevenly distributed among men and women. Trade policies affect gender inequalities, but gender disparities, in turn, can affect the outcome of trade policies. Gender disparities in accessing and controlling resources limit women's ability to fully contribute to economic activities and lead to low capacity of the economy to respond to opportunities (Cagatay 2001). Thus, the impact of trade on men and women differs from one country to another based on the type of economy, the allocation of resources among individuals, and the employment structure in the economy.

This is particularly true in agriculture-based economies[2] where the opportunities trade creates are hindered by output constraints in the agricultural sector, which employs a large proportion of economically active women. Moreover, sectoral and occupational disparities between men and women are disincentives to an efficient allocation of resources across the economy.

Compared to men, women face different barriers to benefit from trade. These barriers fall into three categories: sociocultural norms, legal barriers, and socioeconomic disadvantages (Pozarny 2016). Norms and legal barriers are translated into gender disparities in human capital development and in economic activities, such as sectoral allocation of resources and rigidities in gender economic relationships. Context, initial conditions, and public policies matter in the gender outcomes of trade (Cagatay and Ozler 1995; Razavi 2012). This study tests the impact of those gender-based barriers on men's and women's benefits from trade as well as on the outcome of trade reforms. The study is applied to Niger, one of the 15 member countries in the Economic Community of West African States (ECOWAS).

In Niger, women account for nearly 50 percent of the population and 44 percent of the labor force.[3] The labor force participation rate is higher for men (91 percent) than for women (68 percent).[4] Data from the 2014 National Survey on Household Living Conditions and Agriculture (ECVMA)[5] show that 85 percent and 88 percent of all economically active women and men, respectively, were involved in agricultural activities. The female employment share of total employment in agriculture was estimated at 43 percent in 2014 (Niger, National Institute of Statistics 2016). Women were heavily involved in the informal trade sector in general, and the informal trade of agricultural and food products in particular, with 54 percent and 70 percent of total employment in 2014 (Niger, National Institute of Statistics 2016).

Cross-border trade is a vital economic activity in Niger due to the land-locked nature of the country. Many traders operate across the borders to connect the country with regional and international markets. Several entry and exit points spread along Niger's borders with Nigeria, Benin, Burkina Faso, and Mali.

Niger adopted the ECOWAS customs union scheme in 2013. The ECOWAS Common External Tariff (CET) aims to strengthen and accelerate regional integration among the ECOWAS member states. This trade agreement has guided Niger's trade policy since its implementation in 2015. Thus, this study essentially focuses on the implementation of the CET and its implications on gender inequalities in Niger.

The contribution of this study applied to Niger is twofold. First, it appraises evidence in the literature that greater trade openness may lead to an increase in gender disparities in an unskilled labor–abundant agricultural economy where women are heavily engaged in self-employed economic activities and small-holder farming. Second, the study contributes to the evidence on the impact of gender inequalities on trade policy outcomes.

2 Agriculture-based economies refer to economies with a relatively large contribution of agriculture to gross domestic product and employment.

3 Average value 2011–2018 using the World Development Indicators database (World Bank 2019).

4 Average value 2011–2018 using the World Development Indicators database (World Bank 2019).

5 "Enquête nationale sur les conditions de vie des ménages et agriculture."

Gender and Trade Liberalization in Africa: Theory and Evidence

Evidence on both the impact of trade liberalization on gender inequalities and the impact of gender inequalities on the trade policy outcomes is not fully established. A significant positive impact of trade on women's employment is documented in the literature, but the impact of trade on wage equality and women's well-being is not well understood.

Indeed, there is a broad consensus in the literature on the impact of trade openness and female employment in developing economies. Trade liberalization increases female employment but with a higher magnitude in semi-industrialized economies compared with agriculture-based economies. It is commonly agreed that trade would reduce gender inequalities in labor market participation in the developing economies as it expands women's job opportunities given the low wages paid to female workers compared with their male counterparts. Indeed, an increasing number of women are absorbed in export-oriented firms and industries as the latter take advantage of the high gender wage gap against their competing foreign firms and industries. Several studies find female employment has increased as the result of globalization, particularly in the textile industry and agriculture sector (Cagatay 2001; Ozler 2000).

Countries' endowments and economic structure explain their specialization patterns and the differentiated gender outcomes of trade openness. In semi-industrialized countries, mainly Asian countries, low-wage women are the preferred labor source of a relatively more developed manufacturing sector, leading to feminization of employment. In Africa south of the Sahara (SSA) countries, men and women are more engaged in unpaid self-employed and family work, and smallholder farming. In the African economies, gender disparities in access to and control over resources are likely to more adversely affect women than men, as they do in semi-industrialized economies. Since men have control over land and are disproportionally represented among medium- and large-scale holders, some studies (Cagatay 2001) conclude that men have benefited more than women have from trade liberalization in SSA countries.

Contrary to the studies focused on employment, the literature on the impact of trade openness on wage gaps has conflicting results. The theoretical framework here is the Heckscher-Ohlin-Samuelson trade model that suggests prices of goods equalize within and between trading partners, yielding an equalization of factor prices (Samuelson 1948; Lerner 1952). Thus, increased trade is expected to reduce wage gaps. Under another theoretical framework Becker (1971) suggests that gender-based discrimination will be reduced with increased competition because discrimination is costly to firms. Indeed firms engaged in gender discrimination would need to pay more to hire male workers who have the same level of productivity as women. This additional discriminatory-related cost, compared with nondiscriminatory firms, could lead them out of the market or push them to discriminate less.[6] Thus, many studies suggest that trade openness reduces the gender wage gap (Juhn, Ujhelyi, and Villegas-Sanchez 2014; Oostendorp 2004; Fontana and Wood 2000). Trade's differential impact on women and men is strongly driven by sociocultural norms, but trade openness is likely to erode gender-based discriminatory practices established by sociocultural norms and legal barriers. Trade reduces gender discrimination in regulations, institutions, and codes of conduct—for instance, company codes of conduct adopted in the nineties in the horticultural export sectors in Kenya, South Africa, and Zambia to European markets (Barrientos, Dolan, and Tallontire 2003) and pressure on countries to promote gender issues related to trade by Mercosur partners (Cagatay 2001).

On the other hand, export-oriented firms take advantage of the preexisting gender wage gap to compete on cost reduction in more opened economies (Black and Brainerd 2004). Thus, some studies find a positive association between gender wage gap and comparative advantage in labor-intensive and export-oriented industries. In other words, lower female wages reduce production costs and stimulate export-led growth. Using a sample of 92 developed and developing countries, Busse and Spielmann (2006) find that a 1 percent increase in the gender wage gap increases the share of labor-intensive exports in total exports by 0.3 to 0.4 percent. In a study investigating the empirical determinants of economic growth among semi-industrialized export-oriented economies in Asia, Seguino (2000) finds that a 10 percent increase in the gender wage gap yields a 16 percent increase in the growth rate of gross domestic product (GDP). Vijaya (2003) suggests that low-skilled female employment gains with trade may increase skill gaps between men and women and exacerbate gender wage

6 Firms will discriminate less when they have market power, although it is shown that trade liberalization reduces their market power.

gaps. The benefit of trade is unevenly distributed among women themselves. High-skilled female workers are likely to benefit from trade with a reduction in skilled workers' gender wage gap. On the contrary, the wage gap increases between low-skilled female workers and their male counterparts. As women are more likely to be low-skilled workers, the overall impact of trade is to widen the gender wage gap under the pressure of competition (Cagatay 2001).

The impact of trade on well-being is underexplored and ambiguous. Trade can improve child education and health by increasing women's employment and earnings (Schultz 2007; Heath and Mobarak 2015). Although trade creates opportunities for women's employment and earnings, they do not necessarily control the increased household income (Elson 1999), with implications for women's bargaining power and intrahousehold allocation. In agricultural economies, trade openness may mobilize women's labor in export-oriented cash crops production and decrease their production of food crops. Men's increased control of family income may jeopardize children's nutritional status (Cagatay 2001), while the expansion of women's economic activities may increase their overall work burdens if time spent in unpaid household work remains unchanged (Cagatay 2001; Cockburn et al. 2007).

While some export-oriented and semi-industrialized African economies have benefited from the gender wage gap, some studies suggest that gender-based inequalities have constrained the output response and the export capacity of African economies, especially the agriculture-based economies (Joekes 1999; Elson 1999; Cagatay 2001). Thus, there is a reverse causality between gender inequalities and trade outcomes. In the African economies, gender inequalities in access to productive resources—such as agricultural land, skills, and credit—hinder women's ability to take advantage of opportunities created by greater trade openness. This issue is further investigated in the next sections using Niger as a case study.

Gender and Trade in Niger

This section describes male and female participation in Niger cross-border trade. Because trade policies and reforms affect the entire economy as they offer opportunities to some industries to expand while others may contract because of increasing competition, we pay close attention to men's and women's exposure to both intra- and extraregional trade. Industries' trade openness and the gender distribution of employment is critical to understanding the gendered distributional impact of trade policy gains and losses.

Gender and Cross-Border Trade

This section is based on a survey of cross-border traders in the areas surrounding the border crossing posts of Birni-Konni, Gaya, and Makalondi, which are the major entry points for Niger's imports from or via its neighboring countries.[7] The three border posts represent almost 99 percent of official trade flows entering Niger. Given the informal nature of the cross-border trade business, there was no prespecified sampling frame. The nonproportional quota sampling technique was used to stratify a sample of 200 cross-border traders into six strata of male versus female traders equally distributed across the three border areas. This technique was chosen to ensure that each major border crossing point was adequately represented in the sample. The snowball sampling technique was then used to select the desired number of sample units (traders) from each stratum (gender category and survey area). Clearly, the selection procedure began with the identification of a cross-border trader in each stratum, who after being surveyed was asked to recommend other traders he or she knew from the same stratum. A second trader was randomly selected from the suggested traders and surveyed and in turn asked to recommend other traders from the same stratum. The process was repeated until the desired number of traders to be surveyed in that stratum was met. Nine additional traders, including seven men and two women, were surveyed as replacements in case of possible attrition, resulting in a final sample size of 102 women and 107 men.

Who Are the Women Active in Cross-Border Trade?

Along the corridors connecting Niger to neighboring regional ports in Nigeria, Benin, Togo, and Ghana (via Burkina Faso), female and male traders ensure Niger's participation in regional and world markets despite the disadvantages of the geography of this large landlocked country. Like their male counterparts, female cross-border traders are mostly found among the Hausa, Zarma, and Gurma ethnic groups, which are the first, second, and eighth largest groups in

7 Gaya is the major entry point between Niger and Benin; Makalondi is the most likely entry point for imports originating from Burkina Faso, Côte d'Ivoire, Ghana, and Togo; and Birni-Konni is the most important gateway between Niger and Nigeria (Odjo and Badiane, 2018).

Niger, respectively. The border zone between Niger and Nigeria is mostly inhabited by the Hausa, while the Niger–Benin and the Niger–Burkina Faso border zones are mostly populated by the Zarma and the Gurma, respectively.

Female traders tend to be older than their male colleagues with an average age of 42 years versus 39 years for men. On average, years of experience in cross-border trade is the same for male and female traders at 12 years.

Like their male counterparts, female cross-border traders are typically urban dwellers, but they tend to be less educated with up to 54 percent of them versus 36 percent of male cross-border traders having received no schooling at all.

A larger proportion of male traders are married than female traders. More specifically, 46 percent of male traders are married in monogamous relationships compared with 35 percent of female traders. The percentages of married male and female traders in polygamous relationships are 37 and 19, respectively. Unmarried people are more common among male traders, while divorced and widowed people are more common among female traders. Among the married female traders, up to 68 percent are the most senior among their co-wives. The duration of marriage is longer among female than among male traders, with average durations of 23 years and 17 years, respectively. The larger share of the married women (63 percent) indicated that it was either easy or very easy to obtain their husbands' consent to start a business in cross-border trade. In contrast, 14 percent and 15 percent of women said it was, respectively, difficult or very difficult to obtain their husbands' permission.

Participation in trade associations is generally poor among all surveyed traders with 16 percent of women and 24 percent of men belonging to trade associations.

What Do Women Trade along Cross-Border Corridors?

Agricultural products are equally common in female and male cross-border trading operations, accounting for 35 percent of trade items declared in each trader category. However, women tend to dominate the trade in processed crop products, which account for 19 percent of declarations of traded items among female traders compared with 9 percent among male traders. As well, declarations of trade in poultry products are more common among female traders compared with their male counterparts. By contrast, more men than women are found trading cereals, cattle, sheep and goats, oilseeds, tomatoes, onions, and other legumes. As well, men are generally more represented than women in the cross-border trade of industrial products. In contrast textiles are more common among women traders. They account for 26.2 percent of declarations among women compared with 14.5 percent among men. As another distinctive feature, a higher share of women operates along the corridors originating from Benin while the reverse holds along the corridors originating from Burkina Faso.

How Gender Sensitive Are Border-Crossing Operations and Facilities?

Cross-border operations are conducted in circumstances that expose both female and male traders to different forms of harassment, abuse, or violence. The most frequent forms of harassment witnessed or personally experienced by traders are intimidation and humiliation or verbal attacks. More than 40 percent of both female and male traders reported having experienced or knowing someone who has experienced intimidation and humiliation or verbal attacks. Interestingly, male traders reported experiencing many forms of harassment at higher rates than female traders. It may be that women are better bargainers or that religious beliefs and cultural habits forbid their harassment. But this result may also hide the fact that women underreport harassment cases they face fearing to lose their husbands' consent for their engagement in cross-border trading. It should also be noted that this result may reflect a sampling bias given the snowball sampling strategy used. The most obvious conclusion to draw from this finding is that harassment does affect both male and female cross-border traders, and likely to different extents for reasons that are less obvious.

Customs and police officers are most often cited by both men and women as the major perpetrators of harassment, abuse, or violence. Drivers and their apprentices, although to a lesser extent, are also seen by female traders as perpetrators of harassment, abuse, or violence. About 22 percent of cases of harassment or abuse among female traders versus 7 percent among their male colleagues are committed by drivers. Similarly, driver apprentices are cited as major perpetrators in 20 percent of women's harassment cases versus 3 percent of cases of men's harassment. These groups could be the target of sensitization, communication, and education efforts.

Gender Employment and Regional Trade

Niger's economy is largely based on smallholder subsistence farming, livestock rearing, informal trading, and uranium and petroleum oil mining. Niger's economy is one of the fastest growing in West Africa with an average annual growth rate of 6 percent over the last years (Fofana 2018). However, a volatile weather pattern has often had some direct bearing on the overall economic

growth of the economy. Fluctuations in world prices of uranium and crude oil, and changes in Nigeria's economy as well as security threats in the northern part of the country, are other factors affecting the economy (Odjo and Badiane 2018). Niger has one the faster-growing populations in the world with an average annual growth rate of 3.9 percent. The population was estimated at 19.9 million inhabitants in 2016, with 81 percent living in rural areas. Rural households are primarily involved in agriculture, which contributed 42 percent of GDP on average between 2012 and 2014 (Odjo and Badiane 2018).

Male participation in Niger's economy is twice that of female participation as measured in terms of hours worked (Table 8.1). Although men dominate the wholesale and retail trade sector, women are overrepresented in retail trade of agricultural products. Men are primarily engaged in the wholesale trade of raw agricultural products and live animals. It is worth noting that female employment in wholesale and retail trade activities as a share of total female employment in the economy represents 16 percent compared with 13 percent for their male counterparts in 2014. Therefore, trade activities constitute an important source of employment and income for women as compared with men.

Niger participates in international markets both as importer and exporter. The country runs a persistent trade deficit in both intra- and extraregional trade. Its exports to world markets consist of mining products, basically uranium ore and petroleum oil, with France and China as major destinations. Imports from world markets are more diversified, including, notably, cereals, machinery, vehicles and parts, cement, and petroleum. With respect to regional markets, Niger's exports essentially comprise raw foodstuffs, mainly livestock, onions, cowpeas, and hides and skins, Nigeria being their main destination. Its regional imports consist of raw foodstuffs mostly from Nigeria, Togo, and Benin. Figure 8.1 depicts Niger's trade position in intra-African agricultural markets over the period 2010–2014. The country has trade deficits for most of the products traded within the other ECOWAS countries (for example, maize, sorghum, millet, rice, wheat flour, palm oil, sugar, fruits, and food preparations). However, Niger is a net exporter of cattle, sheep, goats, and other live animals, as well as onions and other vegetables.

TABLE 8.1—MALE AND FEMALE EMPLOYMENT IN WHOLESALE AND RETAIL TRADE ACTIVITIES

	Male-to-female ratio	Male share (%)	Female share (%)
All economic activities	2.0	100.0	100.0
Wholesale and retail trade	1.6	13.2	16.0
Wholesale trade	12.7	1.6	0.2
Agricultural products	*8.8*	*0.7*	*0.2*
Nonagricultural products	*19.7*	*0.9*	*0.1*
Retail trade	1.5	11.6	15.7
Fruits and vegetables	*0.9*	*0.5*	*1.1*
Other agricultural products	*0.7*	*2.8*	*8.5*
Nonagricultural products	*2.7*	*8.4*	*6.1*
Other economic activities	2.1	86.8	84.0

Source: Niger, National Institute of Statistics (2016).

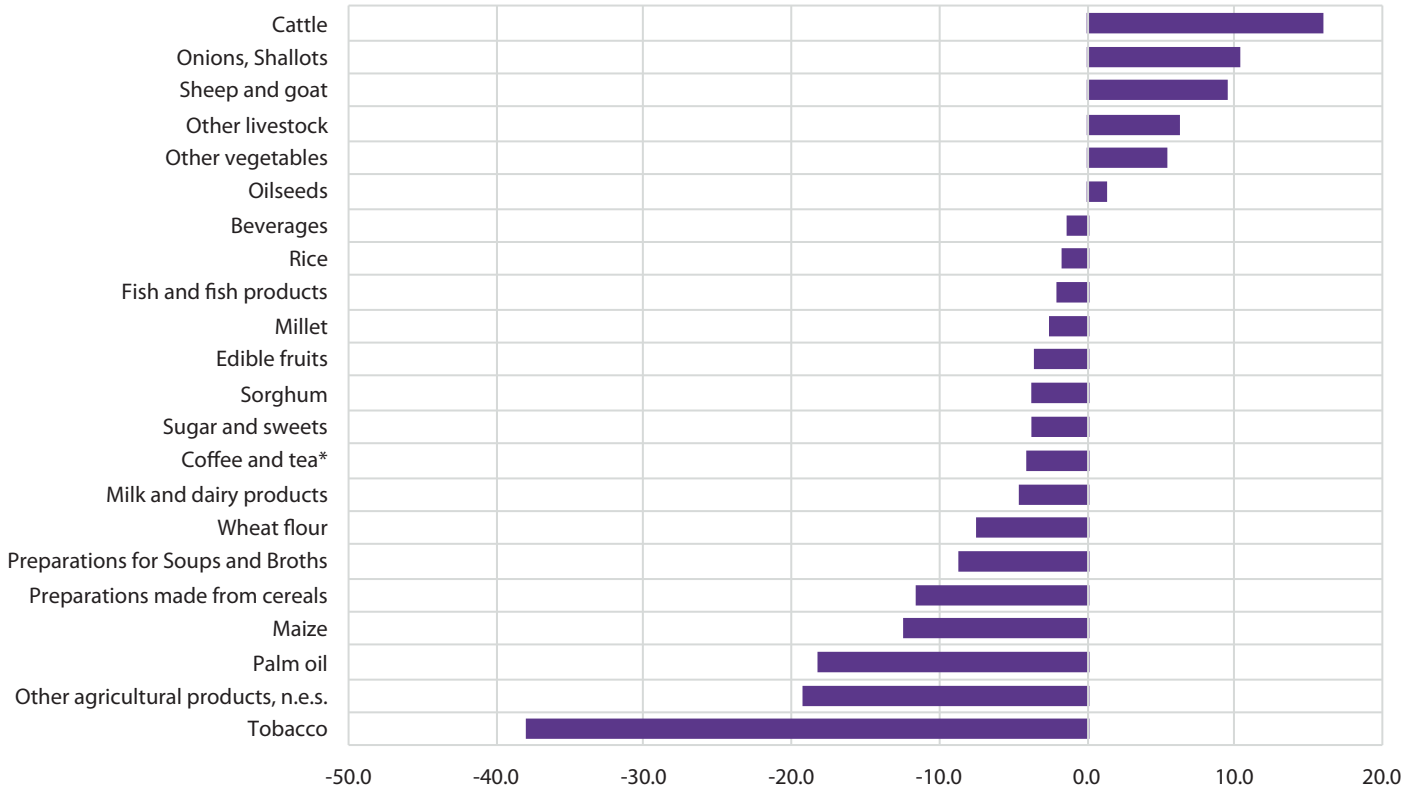
TABLE 8.2—MALE AND FEMALE EMPLOYMENT, FIVE MOST-OPEN INDUSTRIES IN TERMS OF INTRAREGIONAL TRADE

	Number of hours worked, ratio of men to women	Number of hours worked, male share (%)	Number of hours worked, female share (%)
Fruits and vegetables	0.9	1.4	3.2
Livestock products	1.7	5.8	6.8
Palm oil	0.1	0.4	6.6
Rice	3.8	1.0	0.5
Preparation mode from cereals	0.1	0.2	3.6
All five products	**0.8**	**8.8**	**20.7**

Source: Niger, National Institute of Statistics (2016, 2019).

Table 8.2 records male and female employment among the five most traded products between Niger and the rest of the ECOWAS countries. It sheds light on the large contribution of women in terms of employment—that is, number of hours

FIGURE 8.1—NIGER'S TRADE POSITION IN INTRA-AFRICAN AGRICULTURAL MARKETS, AVERAGE 2010–2014



Source: UN Comtrade (United Nations 2019).
Note: n.e.s. stands for not elsewhere specified. * Extracts, essences, and concentrates of coffee and tea.

worked—in the production of these commodities. Thus, female employment tends to be more exposed than male employment to intraregional trade.

Using national accounts data for 2014 combined with the survey data for 2014, Table 8.3 depicts the cumulative share of male and female employment time (in hours) across industries. Those industries are ranked according to how open they are to intra- and extraregional trade, from more open to less open. That the female employment cumulative share surpasses the male employment cumulative share indicates that women are more exposed to both intra- and extraregional trade than men are. Women have more exposure to intraregional than extraregional trade.

Women are more likely than men to be unsalaried (or self-employed/unpaid) workers (Table 8.4). On average, for every hour spent by women in wage employment, men spent seven hours. The ratio is less than 2 for self-employed and family workers. Women's salary and wage employment time represents

TABLE 8.3—MALE AND FEMALE EMPLOYMENT BY INDUSTRY OPENNESS TO INTRA- AND EXTRAREGIONAL TRADE, PERCENT CUMULATIVE SHARE

Industry	Intraregional		Extraregional	
	Male	Female	Male	Female
Manufacturing	5.8	17.7	5.8	17.7
Fishery	8.5	17.7	12.0	17.7
Utilities	9.5	18.2	16.2	18.5
Transport and communication	15.7	18.2	18.6	18.5
Lodging and restaurant	16.2	22.4	21.9	36.2
Livestock	24.9	32.7	25.9	36.5
Staple crops	49.6	51.9	50.7	55.7
Cash crops	52.9	69.5	51.1	56.5
Finances and insurance	53.4	70.3	53.8	56.5
Real estate and business	57.4	70.7	62.5	66.8
Forestry	58.7	73.8	74.6	79.5
Mining	63.0	74.6	75.9	82.7
Construction	65.3	74.6	79.9	84.5
Trade services	77.5	87.3	81.0	84.9
Public administration	92.0	92.6	81.4	89.2
Education	94.3	95.5	96.0	94.4
Health and social work	96.0	98.2	98.2	97.3
Personal and collective services	100.0	100.0	100.0	100.0

Source: Niger, National Institute of Statistics (2016, 2019).
Note: Industries are ranked according to their openness to intraregional trade, with the most open listed first.

TABLE 8.4—MALE AND FEMALE EMPLOYMENT STATUS

	Male-to-female ratio	Male share (%)	Female share (%)
Self-employment	1.9	48.8	51.8
Family labor	1.7	38.5	44.7
Salary and wage	7.1	12.6	3.5
All employment	**2.0**	**100.0**	**100.0**

Source: Niger, National Institute of Statistics (2016).

only 3.5 percent of their total employment time compared with 12.6 percent for men. Women are more likely to be self-employed workers (52 percent of their productive time) and unpaid family workers (45 percent of their productive time).[8]

Agriculture constitutes the main source of employment for women and men (Table 8.5). Female self-employment is predominant in the agricultural and food value chain[9] with those activities taking up 84 percent of their productive time compared with 69 percent for their male counterparts. Both self-employed women and self-employed men rely primarily on family members as the main source of labor in their economic activities.

Table 8.6 depicts women's and men's exposure to intra- and extraregional trade by employment status—that is, self-employment, family labor, and salary and wage employment. Female self-employed workers are more exposed to external trade than their male counterparts. To some extent, female family workers are also more exposed than male family workers to external trade. On the contrary, female salary and wage workers are less likely to be directly affected by external trade. They are overwhelmingly represented in personal and social services, including public administration, education, and health and social work—and therefore are less exposed to external trade.

Gender Inequality and ECOWAS CET Implementation in Niger

As a member state of ECOWAS, Niger adopted the ECOWAS Common External Tariff, or CET, in 2013. The CET aims at strengthening and accelerating integration among the 15 ECOWAS countries. Although Niger is committed to other trade agreements, this analysis focuses on the ECOWAS CET implemented in 2015. The study builds on the ex ante impact assessment conducted by Fofana (2018).

8 Productive time refers to the time women and men spend in economic activities.

9 The agricultural and food value chain includes the following industries and group of industries: staple crops, cash crops, livestock, forestry, fishery, food processing, trading of agri-food products, and lodging and restaurant.

TABLE 8.5—MALE AND FEMALE PRODUCTIVE TIME ALLOCATION ACROSS INDUSTRIES BY EMPLOYMENT STATUS (%)

Industry or activities	All employment		Self-employment		Family labor		Salary and wage employment	
	Male	Female	Male	Female	Male	Female	Male	Female
Staple crops	58.5	49.3	52.6	28.0	85.1	68.1	0.6	0.1
Cash crops	1.8	10.8	1.7	8.7	1.7	11.8	2.8	0.1
Livestock	5.8	0.0	3.7	4.1	10.0	10.5	1.2	0.0
Forestry	0.1	0.0	0.1	0.3	0.0	0.0	0.2	0.0
Fishery	0.1	0.0	0.1	0.0	0.0	0.0	0.1	0.0
Mining	0.5	0.1	0.3	0.1	0.0	0.0	3.2	0.9
Food manufacturing	1.3	9.4	1.7	14.7	0.7	2.0	1.4	1.0
Nonfood manufacturing	2.8	2.0	4.4	5.9	0.5	1.4	3.9	2.7
Utilities	0.1	0.1	0.2	0.0	0.0	0.0	0.4	1.5
Construction	1.6	0.0	1.0	0.0	0.1	0.0	8.1	0.0
Trading of agri-food products	6.0	13.5	8.9	20.1	0.2	4.0	12.5	2.8
Trading of other products	7.2	4.1	12.4	5.9	0.8	1.3	6.8	1.7
Maintenance & repairs	2.2	0.0	1.9	0.1	0.5	0.1	9.1	0.0
Lodging and restaurant	0.5	5.0	0.5	8.0	0.1	0.7	1.6	2.4
Transport and communication	2.9	0.0	2.2	0.0	0.1	0.0	14.0	0.1
Finances and insurance	0.1	0.1	0.0	0.0	0.0	0.0	0.5	3.8
Real estate and business	0.5	0.0	0.3	0.0	0.0	0.0	2.8	1.1
Public administration	1.1	0.6	0.0	0.0	0.0	0.0	8.8	13.7
Education	1.0	1.4	0.0	0.0	0.0	0.0	7.8	36.0
Health and social work	0.6	1.1	0.6	0.5	0.0	0.0	2.6	20.0
Personal and collective services	5.1	2.5	7.4	3.5	0.2	0.2	11.4	12.0
All industries or activities	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Source: Niger, National Institute of Statistics (2016, 2019).
Note: Industries are ranked according to their openness to intraregional trade, with the most open listed first.

TABLE 8.6—MALE AND FEMALE SELF-EMPLOYED, FAMILY, AND SALARY AND WAGE WORK BY INDUSTRY OPENNESS TO ALL EXTERNAL TRADE, PERCENTAGE CUMULATIVE SHARE

Industry	Self-employed work		Family work		Salary and wage work	
	Male	Female	Male	Female	Male	Female
Manufacturing	10.4	29.0	2.9	6.3	2.6	1.5
Transport and communication	16.2	29.0	3.3	6.3	12.8	1.6
Mining	18.7	30.0	3.3	6.3	21.6	3.6
Cash crops	22.3	45.3	8.4	34.1	23.3	3.6
Construction	24.2	45.3	8.7	34.1	27.5	3.7
Real estate and business	26.8	45.3	8.7	34.1	35.5	6.2
Fishery	30.6	45.3	11.2	34.1	36.9	6.2
Utilities	32.2	45.3	11.2	34.1	38.1	9.7
Livestock	38.9	51.3	36.6	54.8	38.7	9.7
Staple crops	65.9	63.0	97.4	92.7	38.8	9.7
Lodging and restaurant	66.6	70.3	97.6	93.5	39.3	10.3
Finances and insurance	66.6	70.3	97.6	93.5	40.4	16.9
Trade services	88.7	90.5	99.4	99.1	48.0	17.9
Forestry	90.8	95.9	99.7	99.8	49.3	17.9
Personal and collective services	97.8	98.6	100.0	100.0	52.3	20.5
Public administration	97.8	98.6	100.0	100.0	91.6	62.1
Education	97.9	98.6	100.0	100.0	97.5	84.4
Health and social work	100.0	100.0	100.0	100.0	100.0	100.0

Source: National Accounts (2013); Niger, National Institute of Statistics (2016).
Note: Industries are ranked according to their rate of openness to external trade—that is, with ECOWAS and non-ECOWAS countries—with the most open listed first.

Model and Data

The economic model developed for the 15 ECOWAS countries (Fofana 2018) is used to simulate the distributional impact of the customs union reform on men and women in Niger. The model follows the tradition of multicountry computable general equilibrium (CGE) modeling to assess regional integration policies.[10] The model incorporates 15 single-country CGE models customized to the 15 ECOWAS economies. Then, trading relationships are established among the ECOWAS economies (intraregional trade), and between the ECOWAS economies and the non-ECOWAS partners (extraregional trade). Fofana (2018) discusses the salient features of the ECOWAS simulation (ECOSIM) model.

The ECOSIM model offers the opportunity to incorporate specific features of the ECOWAS economies as provided by social accounting matrices (SAMs).

10 Hinojosa-Ojeda et al. (1995) used a multicountry CGE model to study the impact of the North American Free Trade Agreement. Lewis and Robinson (1996) developed a similar model for Indonesia to assess the impact of regional trade liberalization.

We take advantage of this compelling feature of the model to make the Niger single-country model gender focused. Thus, the Niger model breaks down the labor market for men and women to reflect the gender disparities highlighted in the previous section. Thus, workers are separated by sex and employment status (self-employed workers, family workers, and wage and salary workers). The model includes male- and female-led economic activities based on information from their employment status. The 2014 SAM built for Niger is relatively disaggregated in terms of industries and commodities.[11] Thus, we identify industries with a larger proportion of self-employed workers relative to salary and wage workers and split each of them into male- and female-led economic activities. This has been the case for most agricultural and food processing industries. Industries with fewer self-employed workers remain aggregated as they are more likely to be driven by firms rather than individual entrepreneurs.[12] To specify the production technology in male- and female-led industries, additional information on production and operating accounts of self-employed males and females is gathered by industry from the 2014 National Survey on Household Living Conditions and Agriculture conducted in Niger.

Salary and wage workers, self-employed workers, and family workers are divided by sex. An economically active man or woman can fall into one of the following four employment statuses: self-employed, family worker, wage and salary worker, and unemployed. An industry demand for labor specifies a fixed proportionality relationship among three categories of workers related to the first three employment statuses. Male and female labor supplies are constant within a period and set to increase at a fixed rate from one period to another. A wage curve is specified to capture the relationship between the excess labor supply (unemployment) and the real wage rates. Female self-employed work and family work are valued at the expected wage rate (that is, the shadow market wage), and so are male self-employed work and family work. Thus, the (implicit) employment earnings include changes in both employment levels and the real and implicit wage rates.

This gender-focused analysis of the ECOWAS CET differs from Fofana's (2018) study in two ways. First, the structural economic disparities between men and women are partially embedded in the gender-disaggregated SAM—that is, employment by category is disaggregated by sex and several industries are split up into male- or female-led economic activities. Second, the economic relationships between men and women are captured through the elasticity parameters. An inelastic substitution between male and female labor is assumed in the industries' production technology.[13] Moreover, male- and female-led economic activities have different values of investment demand elasticity. The latter measures the responsiveness of investment demand by an industry to a change in the net return on investment. A low elasticity value is given to female-led industries relative to male-led industries because of the existing gender inequalities in access to agricultural land, credit, and other physical capital.[14]

Scenarios and Results

According to Fofana (2018), implementation of the CET results in declining tariff rates in the ECOWAS countries with the exceptions of Ghana, Cabo Verde, and Togo. The average tariff rates decline by 2.5 percent in Niger. Increasing tariff rates are estimated for rice and cash crops, whereas tariff rates decrease for other staple products, forestry and silviculture products, and mining and quarrying products. A detailed discussion of the effects of the CET implementation on tariff rates in the ECOWAS countries, including Niger, is provided by Fofana (2018).

Niger's implementation of the CET is likely to be pro-growth and welfare improving according to Fofana (2018). Both intra- and extra-ECOWAS trade expand more rapidly under the CET implementation versus the baseline (the situation without the CET). Niger accelerates trade in agricultural goods much faster than the trade of nonagricultural products, particularly with non-ECOWAS

11 The National Statistical Institute built Niger's 2014 SAM. It has been adjusted to the needs of the study by disaggregating the industries and products, as well as the production factors.

12 We have not attempted to undertake a disaggregation by sex of the leadership or the ownership of firms by industry. This would have required addition information that may not have been available or accessible at the time the analysis was conducted. Moreover, this additional information and specificity is less of interest to the study and is not likely to affect its main conclusions.

13 Previous analyses also make the choice of inelastic substitution between male and female labor (Fontana and Wood 2000; Cockburn et al. 2007).

14 Previous studies (for example, Fofana 2018; Cockburn et al. 2007) set the value of the investment demand elasticity at 2; this is the value selected for male-led activities. Initially, an investment demand elasticity value of 0.2 is chosen for female-led activities to reflect gender inequalities in access to economic resources, that is, private investment in this case. Later, a sensitivity analysis on the value of the investment demand elasticity is conducted by increasing the value in the female-led activities.

partners. Its trade balance with ECOWAS countries deteriorates under the CET compared with the baseline. In contrast, the country's trade balance with non-ECOWAS partners improves as its exports accelerate faster than imports.

Fofana's (2018) ex ante impact assessment of the CET implementation implicitly assumes the absence of major discrimination preventing individuals from fully participating in economic activities. However, our discussion in the previous sections highlights gender inequalities in many socioeconomic aspects hindering women from fully participating in economic activities. Women's economic choices are driven not only by market forces but also by sociocultural norms and legal barriers.

First, gender disparities emerge in labor market participation and employment status. Compared with men, women tend to be more self-employed than wage and salary employed (Table 8.4). Women are also overrepresented among unpaid family workers compared with men.

Second, compared with men's employment, women's employment is concentrated among fewer economic activities (Table 8.5). In the agricultural sector, women are overrepresented in cash crops, livestock, and forestry activities, whereas men are more involved in staple crops and fishery activities. In nonagricultural sectors, women overwhelmingly participate in the transformation of agricultural products (that is, agricultural and food processing) and food services industries.

Third, women have less access to productive resources (among others, credit and agricultural inputs), hindering their participation in economic activities. According to an IMF report (IMF 2017), long-established sociocultural barriers are impeding Niger's social transformation and economic growth. Niger falls below the SSA averages on the gender empowerment indexes, and its imposition of legal barriers to gender-based discrimination has been slow according to the same report. Women and youth are progressively losing access to land under the traditional system with increasing demographic pressures, and women are progressively losing control over agricultural production (Wouterse 2016).

Given the existing gender disparities, the ECOWAS CET implemented by Niger is not likely to benefit men and women proportionally. Moreover, gender disparities are likely to have a negative impact on the outcome of the trade reform, resulting in a lost opportunity for the country to accelerate growth and improve the livelihoods of its people.

Gender Inequalities Are Likely to Increase under the CET Implementation

The simulation results confirm that Niger's CET implementation affects men and women differently. The gendered impact of the CET reform is measured by the changes in employment levels and employment earnings

TABLE 8.7—CHANGES IN MALE AND FEMALE EMPLOYMENT AND EMPLOYMENT EARNINGS UNDER THE CET, COMPARED WITH BAU BASELINE (%)

	Employment level		Employment earnings	
	Male	Female	Male	Female
All workers	1.0	0.5	3.8	1.9
Self-employed workers	1.3	0.2	5.2	1.1
Family workers	0.6	0.8	2.6	3.0
Wage and salary workers	0.8	0.6	3.0	2.4

Source: Simulation results.
Note: CET = Common External Tariff; BaU = business as usual.

TABLE 8.8—CHANGES IN VALUE-ADDED IN MALE- AND FEMALE-LED ACTIVITIES UNDER THE CET, COMPARED WITH BAU BASELINE (%)

	Male	Female	All
Staple crops	3.4	-0.1	2.7
Cash crops	10.2	1.5	3.8
Livestock	5.3	0.4	3.5
Silviculture and forestry	6.7	0.7	2.9
Manufacturing	9.3	1.5	4.3
Trade services	6.3	0.6	4.1
Lodging and restaurant	18.8	4.0	5.7
Health and social work	6.6	0.8	4.9
Personal and collective services	4.3	0.5	3.5

Source: Simulation results.
Note: CET = Common External Tariff; BaU = business as usual.

(Table 8.7). Under the CET, both male and female employment levels and earnings are expected to increase versus the baseline (that is, the scenario without the CET). However, the gender gap is likely to increase as male employment and employment earnings increase more than those of their female counterparts. Female self-employment and wage and salary employment are likely to reap fewer benefits than the respective male categories from the trade reform.

Women's self-employment increases less rapidly compared with that of men because of gender inequalities in access to productive factors, such as agricultural land and financial resources. Because of challenges women face in accessing productive resources compared with men, investments grow more slowly in women-led activities than in men-led activities. Compared with men, supplies in women-led activities increase at a slower pace, primarily in cash crops, silviculture and forestry, food manufacturing, and food services (that is, restaurants and bars) where female self-employment is predominant (Table 8.8).

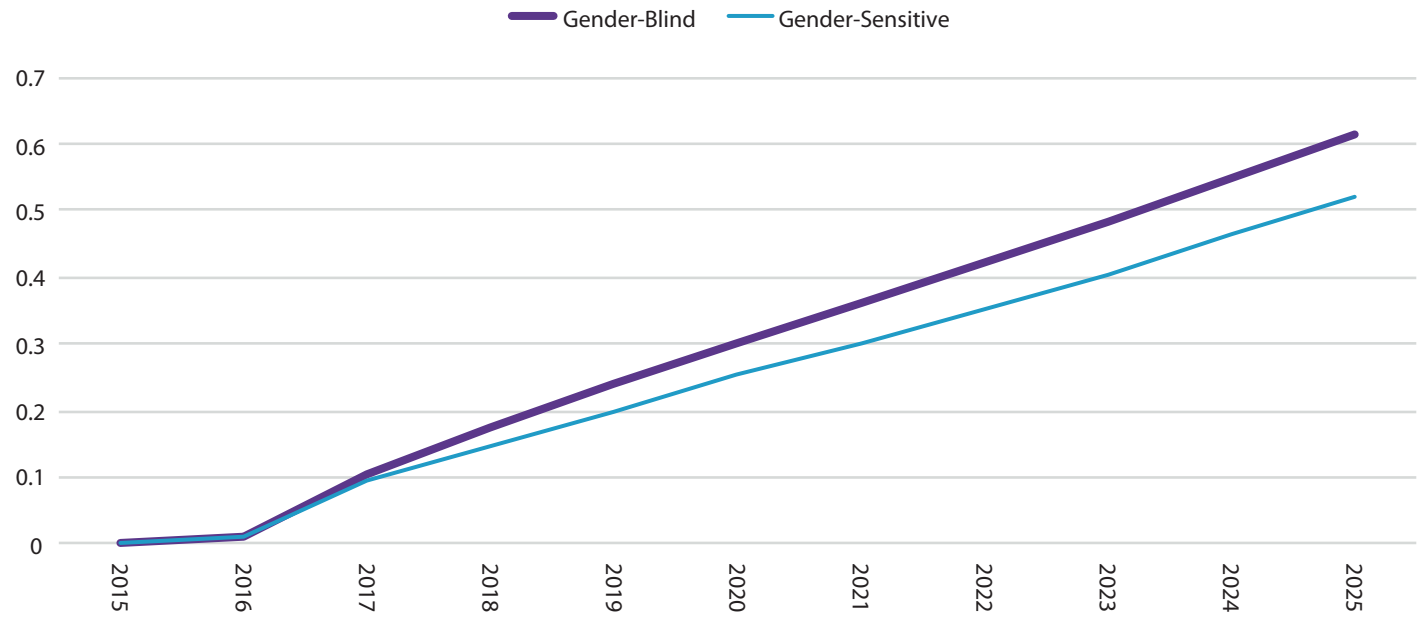
Moreover, the CET reform appears to widen gender employment and wage gaps among wage and salary workers. Female wage and salary workers are less exposed to external trade than their male counterparts (Table 8.6). Female wage and salary workers are concentrated in few numbers in industries that are less exposed to international trade. Nearly 80 percent of female wage and salary employment time is allocated to public administration, education, and health and social work, versus less than 50 percent for their male counterparts. Thus, female salary and wage earners are less positioned to benefit from greater regional trade integration.

Lost Economic Opportunity with CET Implementation because of Gender Inequalities

Fofana's (2018) assessment of Niger's CET implementation was conducted without considering gender-based disparities (that is, it was gender blind). We contrast the results of that assessment with those of a gender-sensitive assessment of the CET implementation.

The simulation results indicate that the positive outcome of the CET implementation is not as rosy when gender disparities are accounted for. In other words, the measure of GDP under the CET implementation compared to

FIGURE 8.2—CHANGE IN GDP UNDER THE CET, COMPARED WITH BAU BASELINE (%)



Source: Simulation results.
Note: GDP = gross domestic product; CET = Common External Tariff; BaU = business as usual.

the continuity is lower under the gender-sensitive assessment than it is in the gender-blind assessment (Figure 8.2). After 10 years of CET implementation, Niger's GDP is lower by 17 billion CFA francs in constant 2013 prices under the gender-focused analysis compared with the gender-blind analysis. Thus, if the current gender disparities persist in the future, the country's GDP is likely to lose 13 percent of its potential gain under the CET implementation. One should consider the estimate as a short-term lost economic opportunity of the customs union reform because of gender-based disparities. The loss is likely to be amplified over time (Figure 8.2) and pass through other socioeconomic dimensions, which in turn further damage the economic performance in the long run. Niger would likely enhance the outcome of the regional trade integration reform if it were to increase women's access to productive resources and reduce disparities in gender participation in economic activities and in sectoral distribution of employment.

Trade flows are lower under the gender-focused assessment compared with the gender-blind assessment because of women's difficulties in accessing physical capital and the slow growth of their economic activities. Trade for all partners, ECOWAS and non-ECOWAS, is lower under the gender-sensitive analysis than the gender-blind assessment. Gender disparities in access to economic resources lower Niger's exports under the CET reform, but, most important, they lower its cash crops and livestock exports to non-ECOWAS partners. Niger's imports of agricultural commodities from ECOWAS members are higher compared with the gender-blind assessment because of greater domestic supply constraints under the gender-sensitive assessment. Niger's imports of agricultural products from non-ECOWAS partners are relatively lower. Niger's low export capacity due to women's poor access to productive resources is translated into a smaller aggregate amount of imports, except for agricultural commodities facing greater supply constraints. Gender disparities' implications on GDP growth is depicted by Figure 8.2.

Closing the Gender Gap in Access to Productive Resources

Women's relatively greater exposure to external trade may offer them opportunities to benefit from greater trade openness, on the one hand; however, it can constitute a serious challenge to female economic empowerment with greater competition from imported products, on the other. In both situations, women's economic empowerment, including increasing their access to productive resources, is critical if they are to seize opportunities and mitigate the adverse impacts of greater regional trade integration.

Recently Niger's development strategy (the "Plan de Développement Economique et Social 2012–2015") has set gender equality as a national priority. Under the strategy, the government is hoping to increase women's access to productive resources, including equipment and credit. Moreover, several sectoral strategies and initiatives have been launched to improve women's access to credit. Among others are the National Financial Inclusion Strategy, which gives priorities to women in rural areas and female small business owners, and the World Bank initiative "The Sahel Women's Empowerment and Demographic Dividend Project."

We turn our analysis to assessing the impact of the CET implementation in Niger under the removal of gender-based barriers in access to productive resources. The scenario is implemented by assuming equal opportunities for women and men in accessing available economic resources, that is, agricultural land and financial resources (credit).

We find that more access for women to productive resources would likely accelerate women's participation in economic activities, particularly as self-employed workers (Table 8.9). Self-employed women's greater exposure to intra- and extraregional trade provides them a strategic advantage to seize the opportunities offered by the trade reform. Male self-employment work increases but at a slower pace because of the increase in competition from their female counterparts over the available productive resources. More women participate in economic activities as family workers because of the increase in female

TABLE 8.9—CHANGES IN MALE AND FEMALE EMPLOYMENT LEVELS UNDER THE CET, COMPARED WITH BAU BASELINE (%)

	Employment level		Employment earnings	
	Male	Female	Male	Female
All workers	1.0	0.5	0.9	1.0
Self-employed workers	1.3	0.2	1.0	1.1
Family workers	0.6	0.8	0.8	1.0
Wage and salary workers	0.8	0.6	0.9	0.7

Source: Simulation results.
Note: CET = Common External Tariff; BaU = business as usual.

self-employment. Both male and female salary and wage work accelerate when gender-based barriers in access to productive resources are removed, but the gap between men and women remains unchanged.

In our simulation, closing the gender gap in access to productive resources accelerates economic growth in Niger. The country's GDP increases by up to 17 billion CFA francs in 2013 prices over a 10-year period. A complete removal of gender-based barriers in access to productive resources almost compensates for the 10-year economic loss estimated earlier for the gender-sensitive assessment. Thus, access to productive resources constitutes a critical step in women's economic empowerment in Niger. The economic return of that access benefits both women and men through accelerated economic growth.

Conclusion

The evidence regarding the impact of trade liberalization on gender inequalities is not fully established yet, and neither is the evidence for the impact of gender inequalities on trade policy outcomes. Sociocultural norms, legal barriers, and socioeconomic disadvantages are the main gender-based barriers that affect the distribution of trade benefits between men and women, on the one hand, and the outcomes of trade policies and reforms, on the other. This study of Niger assesses the impact of gender-based barriers on whether men and women benefit from trade and the outcome of trade reforms. It focuses on ECOWAS's Common External Tariff, a customs union that has guided Niger's trade policy since its implementation in 2015.

Trade is vital to economic sectors in Niger due to the landlocked nature of the country. Male and female traders operate across borders to connect the country with regional and international markets. Female traders belong to the same ethnic groups as their male counterparts but are less educated, less involved in associations and business networks, and have less access to productive resources. Different forms of harassment are experienced by both female and male traders, with the most frequent cases consisting of intimidation and humiliation and verbal attacks. Law enforcement agents are among the major perpetrators of harassment. Women are, however, more subject to harassment than their male counterparts. Women specialize in products that do not always originate from the region, and so are not subject to duty-free trade. In addition to gender-specific harassment, the specialization pattern of female traders exposes them to more harassment.

Women are concentrated and overrepresented in a limited number of economic activities compared with men. Women's economic activities are more exposed to regional and international trade than men's activities. Focusing on employment levels and earnings, this study finds an increased gender gap under the CET implementation even though the reform leads to positive outcomes for both men and women when compared with the baseline—that is, employment levels and earnings increase more for men than for women. The widened gender gap is essentially due to a lower supply response of female-led activities compared with their male counterparts with the trade reform. Existing gender inequalities in access to productive resources, such as agricultural land and other physical capital, contribute to limiting women's ability to seize the opportunities offered by greater regional trade integration. In addition, female wage and salary employment is concentrated in sectors not exposed or less exposed to trade—that is, health and social work and education. Thus, women take less advantage in the labor market of the opportunities that regional trade expansion offers.

Gender disparities result in the misallocation of resources in the economy and lead to lost economic opportunities for Niger. The country's GDP level is 17 percent lower under the prevailing gender inequalities than its potential gain, that is, without gender-based barriers. Thus, closing the gender gap in access to productive resources is likely to generate positive outcomes for Niger. Thus, reducing gender inequalities in Niger is not only an ethical consideration, but it would have positive economic benefits for both women and men. That the Niger government has set gender equality as a national priority in its development strategy constitutes a critical step toward further empowerment of women and gender equality.

CHAPTER 9

Addressing Gender and Social Dynamics to Strengthen Resilience for All

Sophie Theis, Elizabeth Bryan, and Claudia Ringler

In the face of various social, economic, health, political, and environmental risks, resource-poor people and communities in rural Africa employ diverse livelihood strategies to avoid, cope with, and adapt to multiple shocks and stressors. The African continent faces severe challenges related to increasing temperatures, water stress, and environmental degradation (Niang et al. 2014), and climate change exacerbates the risks posed by other threats such as rapid population growth, haphazard urbanization, conflict, extreme poverty, food and nutrition insecurity, public health threats, and corruption. In recognition of this confluence of risks and the diverse strategies people use to manage risk, the concept of resilience has taken hold in humanitarian and development communities as a unifying framework for identifying and planning for multiple, simultaneous risks that threaten rural people's well-being. In addition, a resilience lens widens the time frame for considering risks. In so doing, it helps focus attention on the implications of humanitarian interventions on longer-term development and on safeguarding development gains against shocks, thereby helping to bridge the humanitarian and development sectors (Frankenberger et al. 2014; Béné et al. 2016).

Most definitions describe human resilience as the ability to draw upon a set of capacities to deal with disturbances (shocks and stressors) before, during, and after a disturbance, in a way that maintains or improves well-being outcomes (such as food security or adequate nutrition) (Frankenberger et al. 2014; Mercy Corps 2016; USAID 2017). The United States Agency for International Development (USAID), for example, defines resilience as "the ability of people, households, communities, countries, and systems to mitigate, adapt to, and recover from shocks and stresses in a manner that reduces chronic vulnerability and facilitates inclusive growth" (USAID 2012, 5). Key elements for measuring the process of resilience include information on initial and subsequent states (well-being outcomes), disturbances (shocks and stressors), and capacities (Constas et al. 2014; Frankenberger et al. 2014).

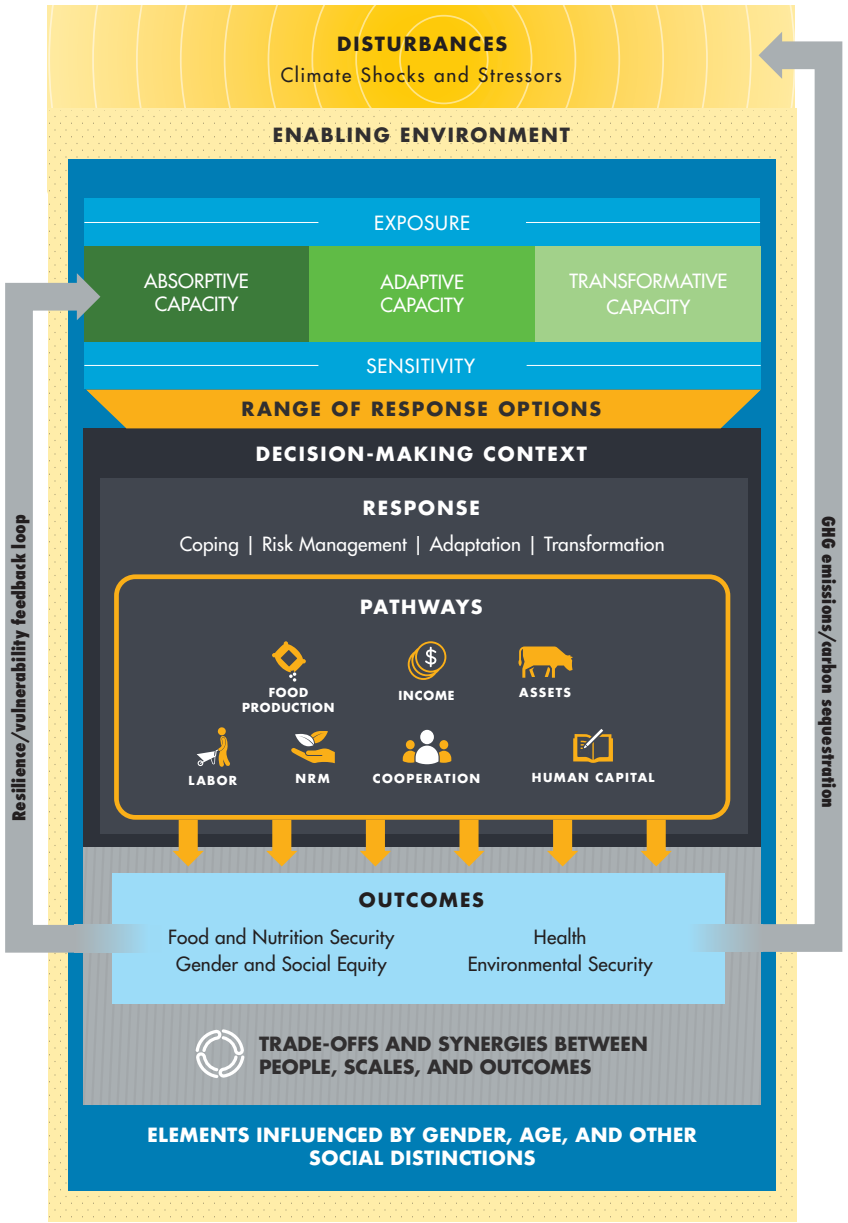
For interventions to build on existing capacities, avoid displacing functioning risk management institutions, and support people and institutions in pursuing their preferred strategies, an emphasis on studying and understanding the local context is fundamental to the resilience approach (Tschakert 2007; Agrawal et al. 2010; Vaughan and Henly-Shepard 2018). Attention to the specific context refers to not only a particular time and place, but also the many social differences of people living in a specific geography at a given time. In designing and evaluating resilience-oriented programs and policies, development actors consider questions such as which kinds of capacities are important for building resilience in a particular context for specific groups of people, and how best to support people in developing these capacities and responding to shocks and stressors in a way that protects well-being outcomes.

Preferences and needs related to resilience differ between groups of people (Adger 2009), especially along lines of gender and social difference (Frankenberger et al. 2013; Mercy Corps 2016; USAID 2017). An emerging body of practitioner guidance emphasizes that vulnerabilities and individual capacities differ by gender, pointing to the risks of gender-blind resilience programming (Mercy Corps 2014; Le Masson 2016; Tabaj et al. 2017; Anderson 2018). "One-size-fits-all" models risk inadvertently excluding vulnerable groups, or even increasing marginalization and vulnerability. In contrast, programs and policies that address gender-specific constraints and opportunities may be better able to build resilience by tapping into the skills and contributions of women and marginalized groups.

More research is needed to understand how the dynamics of resilience are shaped by gender and other social differences. Sex-disaggregated data are important, but they contribute to this research only to the extent that pertinent questions are asked. Because gender and resilience dynamics can be highly complex and context-specific, guidance is needed for how to investigate these issues in specific settings and, based on that information, take appropriate action for gender-responsive resilience programming.

The objective of this chapter is to synthesize evidence on how resilience is gendered, drawing on key approaches to assessing gender and social differences in resilience, and using a conceptual framework that has been developed for understanding the linkages between climate resilience, gender, and nutrition. This review is complemented with examples of the programmatic approaches of implementing organizations working in Africa. Based on this evidence and the elements of the conceptual framework, this chapter presents guidelines to support the integration of gender into resilience programming. These areas of inquiry can help guide the design, monitoring, evaluation, and improvement of resilience programs and policies that meet the diverse needs of the populations they are serving and contribute to processes of greater gender and social equity.

FIGURE 9.1—THE GENDER, CLIMATE CHANGE, AND NUTRITION INTEGRATION INITIATIVE (GCAN) FRAMEWORK



Source: Bryan et al. (2017).
Note: NRM = natural resource management.

Gender and Climate Resilience in the GCAN Framework

Drawing on a review of the academic literature, existing frameworks, stakeholder consultation, and feedback from USAID missions, we developed a conceptual framework to identify key relationships between gender, climate change, and nutrition (Bryan et al. 2017). The Gender, Climate Change, and Nutrition Integration Initiative (GCAN) framework (Figure 9.1) characterizes the relationships between climate resilience, gender, and nutrition by integrating gender and nutrition elements from other conceptual frameworks—including links between gender and climate change (Behrman, Bryan, and Goh 2014), links between climate change and nutrition (IFPRI 2015), and pathways from agriculture to nutrition (Kadiyala et al. 2014)—with the widely used resilience framework of Frankenberger and colleagues (2014).

This framework has been adapted for this chapter to reflect more broadly the interaction of gender and social dynamics with resilience. The framework and summary guiding questions provide a template to help policymakers and practitioners identify how groups of people experience key elements of resilience differently. The framework can be applied to different scales of analysis, including the intrahousehold level, to illustrate that members of the same household do not necessarily share the same capacities, vulnerabilities, preferences, and decision-making power. While introduced here briefly, the interactions between gender and resilience are discussed in more detail in relation to each element of the framework in the following sections of the chapter.

First, individuals are exposed to different disturbances (shocks and stressors), and they experience the same shocks and stressors differently. Second, people have different resilience capacities (absorptive, adaptive, transformative), subject to gender and other social distinctions as well as the intersection of these identities, including those related to age, class, caste, ethnicity, marital status, and sexual identity, among others (Carr and Thompson 2014; Djoudi et al. 2016; Ravera et al. 2016; USAID 2017; Tabaj et al. 2017; Anderson 2018) (Box 9.1). Not all women have the same set of resilience capacities, and men have important capacity constraints, too. Narratives that depict women as perpetually vulnerable and men as inevitably antagonistic ignore the ways in which women are agents of change and neglect the constraints faced by men as well as the available opportunities to mobilize men as allies for gender and social equity (Doss et al. 2018).

BOX 9.1—THE IMPORTANCE OF INTERSECTIONALITY: THE EXAMPLE OF GENDER AND MARITAL STATUS

One aspect of intersectionality that strongly differentiates women's options for adaptation is marital status. There is evidence that in many contexts, female heads of household face severe restrictions, including limited access to land, capital, social networks, and labor, which could affect their households' resilience outcomes (Van Aelst and Holvoet 2016; Mersha and Van Laerhoven 2018). Women in dual-headed households can in some cases benefit from access to these resources through male household members. However, these women may have less decision-making authority and often must negotiate with other household members over resource and labor allocation, and seek male approval to pursue opportunities such as initiating a small business, participating in training activities, accessing healthcare, or using contraception.

Source: Authors.

Third, within households, institutions, and communities, each response to a disturbance—even if that response is to do nothing—is the result of choice and negotiation, albeit among restricted options. Individuals within these social organizations do not all have the same preferences, knowledge, priorities, or power. The decision-making context, or an actor's ability to negotiate a preferred response option within a household or community, is a key element within the process of resilience that has strong differences by gender but is often overlooked (Behrman, Bryan, and Goh 2014).

Finally, responses to shocks and stressors can have differential impacts on the well-being outcomes of men, women, boys, and girls. Well-being outcomes measured at aggregated levels or in the short term may obscure the different ways in which responses to shocks and stressors affect individuals' well-being outcomes. Drawing attention to seven outcome pathways helps uncover some of the key mechanisms driving well-being outcomes and how these outcomes are distributed among different groups of people.

Gender Differences in Exposure and Sensitivity to Disturbances

Individuals are exposed to different shocks and stressors, and experience them differently given different levels of sensitivity (Figure 9.1). Individuals evaluate and prioritize risks differently according to their perceptions of the severity of the particular shock or stress and its likelihood of occurring. As a result, women and men often prepare for and manage different kinds of risks (Adger et al. 2009; Kristjanson et al. 2017).

As an example, due to social and biological factors, individuals' health risks vary over their lifetimes and by gender. Problems with growth generally occur during infancy and early childhood and are often gendered; during adolescence, girls face elevated risks of child marriage, early pregnancy, and sexually transmitted infections; and women of childbearing age face the risks of maternal morbidity and mortality.

Gender roles can influence risk prioritization and responses to shocks and stressors, such as the purchase of insurance (Msangi 2017). Gendered livelihood activities, including differences in cropping systems, livestock, and household responsibilities, are exposed to distinct risks. In a study in Senegal, women's perceptions of the threats from disease and poor infrastructure—such as the threat to survival during childbirth due to lack of medical equipment at health centers—were more severe than men's perceptions (Tschakert 2007). Perceptions of risk and experience with shocks and stressors, variant as they are between people, matter because they strongly influence choices of how to adapt (Bryan et al. 2013).

Finally, some people may be more sensitive to particular shocks and stressors than are other people. For example, the social and economic consequences of separation from or death of a partner are almost always more serious for women than they are for men because women risk losing access to land and other assets. These factors can provide strong incentives for women to conform to gender norms in efforts to secure relationships. Avoiding contentious negotiations, hiding or altogether forgoing personal investments or savings, and limiting one's mobility comprise what has been called the "patriarchal bargain" in exchange for security (Kandiyoti 1988). In addition, the threat of intimate partner violence at home or gender-based violence in the community can strongly discourage women from pursuing opportunities to build their own

resilience capacities (Le Masson et al. 2018). Other social distinctions, such as sexuality and gender identity, also affect sensitivity to shocks and stressors. LGBTQ people routinely face harassment, violence, and exclusion from services and institutions in many settings.

Resilience-informed policy and programming requires active investigation of how risk exposure differs within a population, how different groups of people perceive risks, and how secondary risks shape people's coping strategies. While a resilience lens promises a holistic approach to risk, ultimately those designing interventions need to select and prioritize certain risks. Ideally, priorities will be set through an inclusive process, as actors consider which groups of people are and are not represented by the selected risks.

Resilience Capacities

Subject to gender and other social constraints, individuals have varying abilities to develop and mobilize different resilience capacities: absorptive, adaptive, and transformative. These capacities "filter" the range of response options available to individuals for managing risk (Figure 9.1). Only a subset of all possible response options is available to individuals or communities, depending on their capacities and their ability to exercise these capacities (Béné, Frankenberger, and Nelson 2015; Bryan et al. 2017; Vaughan 2018). Individuals with greater resilience capacities have more choices of strategies to protect and improve their livelihoods and well-being over the long term.

Absorptive capacity (or coping capacity) is the ability to address, manage, or overcome

BOX 9.2—WHO HAS ACCESS TO CRITICAL INFORMATION FOR CLIMATE RESILIENCE?

Access to information is an essential determinant of resilience capacities and is especially important for resilience to climate shocks and stressors. However, information may not reach men and women equally, nor be equally comprehensible to them, relevant to their activities, and applicable. Resilience programs that provide information services need to consider gender differences in preferences for information content and channel of delivery, as well as in ability to use the information.

For both men and women, information must be relevant to recipients' livelihood activities and needs. A study in Senegal found that women preferred to receive weather forecasts on dry spells and rainfall cessation, rather than onset of rains, because they plant their millet and maize plots late in the season, only after the men have planted their fields and can help them plow—meaning that women's plots are vulnerable to the effects of early-season rain cessation (Tall et al. 2014). Combining climate with gender-specific information may attract more women and make it more acceptable for women to access this information (Crowley et al. 2017).

Information must also reach both men and women, through trusted and accessible sources that are likely to vary across contexts. Providing information on climate change and climate-smart agriculture practices to the husband does not mean that this information will necessarily be passed on to the wife (Tall et al. 2014; Twyman et al. 2014). Group membership may be an important avenue for increasing women's access to information about climate-smart agricultural practices in some contexts, such as Kenya (Bernier et al. 2015). In other contexts, community radio, church or mosque announcements, and extension agents are reliable sources of information (Jost et al. 2016). In contexts where women have less access to radio or cell phones, they may need to be reached through other channels, such as announcements posted in places where women gather or video messages shown to the entire community (Tall et al. 2014; Partey et al. 2018).

However, providing information to women may not suffice if women lack the bargaining power and resources to make desired changes. Ragasa, Aberman, and Alvarez Mingote (2017) found that in Malawi, despite participating in agricultural trainings, women were unable to apply what they learned because their husbands mistrusted their knowledge and did not allocate them resources for the new practices.

Communities can and should provide feedback on the accuracy and relevance of climate-related information they receive. Women's specific knowledge and needs should be considered in such dialogues.

Source: Authors.

shocks and stressors in the short to medium term. Adaptive capacity is the ability to make proactive and informed choices in livelihood strategies to avoid potential harm from shocks or stressors, seize opportunities to manage risk more effectively, or respond in ways that overcome the adverse impacts of shocks and stressors over the medium to long term. Transformative capacity is the ability to make changes at the system level to better manage risk and respond to shocks and stressors over the long term—for example, by removing discriminatory laws, improving infrastructure, changing harmful social norms, expanding basic service delivery, or strengthening social protection policies (Frankenberger et al. 2013).

Key constraints related to women's resilience capacities include limited access to information (Box 9.2) and financial services; more limited ability to hire labor; and lower levels of literacy, education, mobility, and available time.

Investing in resilience capacities can help people expand and improve their range of options for dealing with disturbances. When people have weak and limited resilience capacities, they may be forced to choose coping mechanisms that negatively influence their well-being or future adaptive capacity, such as reducing food consumption and consuming less of preferred foods, limiting household expenses, taking children out of school or sending them to live with better-off relatives, engaging in transactional sex, or drawing down assets (Box 9.3). Individuals with greater resilience capacities have more choices of strategies that protect and improve their livelihoods and well-being over the long term.

Gender differences in capacities lead to differing options to choose from and differing abilities to pursue desired response options. In Ethiopia, Mersha and Van Laerhoven (2018) found that male-headed households accessed a wider array of adaptation options in response to climate change and extreme events, including on-farm adaptation, temporary migration, storage, communal pooling, and diversification, whereas female-headed households were excluded from these options and primarily

BOX 9.3—THE ROLE OF ASSETS IN STRENGTHENING RESILIENCE CAPACITIES

Access to and control over assets is a key factor influencing resilience capacities (USAID 2017). Assets function as a store of value and can be used to generate food and income or facilitate investment in better livelihood strategies (Meinzen-Dick et al. 2011; Johnson et al. 2016). Assets also influence social status and bargaining power at home and in the community (Meinzen-Dick et al. 2011; Johnson et al. 2016). Yet gender disparities in access to and control over assets means that different approaches must be taken to effectively support women in building and safeguarding productive assets.

For example, the types of assets that can be acquired and the mode of accumulating them differ by gender. Women often receive assets through relationships—for example, a husband may allocate a lower-quality plot of land to his wife to cultivate seasonally (Perez et al. 2015).

Moreover, women's property rights are typically fewer and less robust, of shorter duration, and less likely to be formally recognized or documented than men's (Meinzen-Dick et al. 2017). This discrepancy has negative implications for women's resilience. For example, perceived or real weaker tenure security can discourage investment, such as tree planting or technology adoption, needed to prevent losses due to shocks and stressors but also essential for longer-term adaptation (Verma 2001, Jost et al. 2016; Quisumbing and Kumar 2014). In addition, assets that women nominally "own" may be sold without their consent, or the proceeds may be controlled by another household member (Theis et al. 2018).

In some cases, women's assets, such as jewelry, may be drawn down in response to shocks if the asset is less important for generating household income, the owner has weaker bargaining power within the household, or the asset is easier to sell (Quisumbing, Kumar, and Behrman 2018). Moreover, women who want to sell or exchange their assets into more liquid forms might face credit, information, mobility, and market discrimination barriers. Programs can protect women's assets from divestiture by providing and making accessible to different social groups alternatives to asset drawdown for the whole household, such as emergency loans, social transfers, and other means of providing liquidity as well as facilitating asset rebuilding after crises.

Source: Authors.

engaged in diversification through low-paying, unstable wage labor and self-employment.

Sexual and gender-based violence is a source of everyday insecurity that affects women's and girls' resilience capacities and well-being, and which can increase in times of distress. Violence against women and girls intersects with other resilience capacities by affecting their ability to secure and improve livelihoods, access information, and participate in decision-making at the household and community levels (Le Masson et al. 2018).

The gendered distribution of unpaid work within households draws heavily on girls' and women's time, and can limit their development or exercise of resilience capacities by hindering their ability to generate income or build and draw on social and human capital when shocks and stressors occur. In addition, their workload can be further exacerbated by shocks that lengthen the time required to collect water, fuel, wild foods, or fodder. The energy burden of these activities can also be detrimental to women's health and, at reproductive age, carry intergenerational implications (Owens et al. 2015; Rao et al. 2003). An excessively heavy agricultural workload can take away from time needed for adequate food preparation and care practices (Komatsu, Malapit, and Theis 2018). Women may avoid certain adaptation options and appear less proactive because the available options entail too heavy a workload (Jost et al. 2016).

Recognizing women's and girls' essential contributions to livelihoods, reducing their workload through labor-saving technologies, and redistributing chores among household members can reduce time poverty and free up time for other activities that build resilience capacities. For example, Ethiopia's Productive Safety Net Programme (PSNP) leverages community labor to build public works infrastructure such as water points and woodlots for fuel that relieve women's domestic work burden (Jones, Tafere, and Woldehanna 2010). Time poverty may make it difficult for women to participate in resilience-strengthening program activities. Flexible hours, childcare, and proximity to the home (or home-based work) can facilitate women's participation. The PSNP accounts for women's productive and reproductive roles by providing flexible work hours for women, although

BOX 9.4—SUPPORTING MORE INCLUSIVE RESILIENCE CAPACITIES THROUGH KNOWLEDGE SHARING AND EXCHANGE

Contributed by Jennifer Linkletter, Senior Technical Officer, FHI 360

Since 2017, FHI 360 has implemented the Feed the Future Catalyzing Partnerships for Scale/Community Resilience in Mali/Mopti (COREM) project, which provides technical and logistical assistance to the USAID/Mali mission to improve communication and collaboration among the USAID resilience platform partners and other resilience stakeholders in the Mopti region of Mali. The platform is composed of 20 local and international implementing partners who work on 21 different resilience projects in Mopti. COREM collects data on platform communication and collaboration; conducts bimonthly platform meetings; hosts large-scale learning events and stakeholder workshops; and disseminates good practices and lessons learned through an email newsletter, an online repository, and a WhatsApp community of practice.

In response to the demand for greater emphasis on women's empowerment in the resilience sector, COREM initiated gender-related roundtable discussions at its June 2018 workshop for USAID resilience partners in Mopti. Participants had a choice between two sessions: "Women in Resilience" or "Men as Allies to Women in Resilience." The roundtable sessions allowed participants to view their own project implementation and internal policies through a gender lens. In addition to promoting further discussion around gender equality through its communication channels, COREM also models women's empowerment by striving to achieve gender balance among participants in its workshops and meetings.

COREM's work on gender and resilience has resulted in the identification of specific areas of challenge to women's empowerment in resilience projects, such as unequal land laws, lack of access to credit, conflict and insecurity, and cultural barriers. Finally, although COREM sought to increase female participation at its meetings and workshops, additional female participants often came from administrative support positions due to a lack of women in technical roles. Nevertheless, an opening was generated to listen to women's perspectives and to consider hiring women in technical positions in the future.

it is unclear how consistently this principle is applied in practice (Jones, Tafere, and Woldehanna 2010).

Identifying ways in which different groups within a target population have differing resilience capacities is critical to determine how programs and policies can strengthen or diversify all groups' capacities. In addition, understanding existing constraints to building and exercising capacities is important so that policymakers can find new ways of helping people build capacities and ensure that services are accessible to and relevant for all groups. Building capacity among institutions operating at larger scales to integrate thinking about gender into resilience policies and programs is also essential so that these policies and programs meet the needs of the most vulnerable groups. The Catalyzing Partnerships for Scale/Community Resilience in Mali (COREM) project (Box 9.4) shows how a knowledge-sharing platform can provide a space for people to learn about the intersection of gender and resilience, and share strategies for implementing gender-sensitive resilience programs. The project also encourages organizations to model gender equity within their own ranks by seeking input from both men and women staffers and including women in important positions.

The Decision-Making Context and Responses

Within households, institutions, and communities, each response to a shock or stressor is the result of choice and negotiation, albeit among restricted options. Choices include the intrahousehold allocation of food, goods, and labor; governance of shared natural resources such as pasture, water, forests, and agricultural land; community-led preparation and distribution of relief aid; and even input into resilience programming. The GCAN framework emphasizes that responses are embedded within a decision-making context, with the observed response that a group chooses often reflecting power dynamics within the institution, rather than all members' preferences. That is, individuals within households and other social organizations do not always share the same needs, preferences, knowledge, or power (Quisumbing and Maluccio 2003; Demetriades and Esplen 2010; Bernier et al. 2015). Some of the factors that influence these differences in preferences include risk tolerance, knowledge and perceptions of the options available, and expectations about impacts on individual well-being outcomes (including labor burden and future risks). Because interests are not homogeneous within households, institutions, and communities, people need to be able to negotiate for their desired response. Although equitable decision-making can be classified as a transformative resilience capacity (Vaughan 2018), some degree of decision-making power is needed to exercise any resilience capacity—whether absorptive, adaptive, or transformative—for any preferred response.

At the community level, local institutions play multiple roles in building resilience to climate shocks and stressors, including mobilizing, pooling, or regulating the use of shared resources, including wealth, income, labor, and natural resources such as water and land (Agrawal 2010). When institutions that establish rules around the use and management of community resources—such as village councils or water user committees—do not represent the needs and priorities of the most marginal, they can serve to reinforce intracommunity inequality and curtail the response options of the most vulnerable groups.

At the same time, women and women's community-based organizations are often excluded from decision-making processes. This exclusion sidelines women's specific knowledge and ability to reach certain networks—for example, in determining where to situate a well, identifying vulnerable households, or sharing information with other women (Demetriades and Esplen 2010). Low participation by women and other groups in community-based decision-making bodies (due to disability or lack of literacy, for example) may be the result of explicit or implicit discrimination, including social norms about who can participate; the timing and location of meetings; and exclusive membership criteria, such as a requirement that members of a water user association own land or be literate (Pandolfelli, Meinzen-Dick, and Dohrn 2007). As a result, the resilience-building decisions of households, communities, institutions, and development projects often primarily represent the preferences of the powerful.

Even within a household, men and women often have different preferences regarding how to use resources, what risks to take, and how to respond to specific shocks and stressors (Ravera et al. 2016). In part, these differences are tied to the different roles men and women play in securing livelihoods (Bernier et al. 2015). Decisions such as a woman's choice to pursue an income-generating activity, be employed outside the household, or participate in a group or program activity, can be subject to a husband's (and sometimes in-laws') consent. Moreover, household budgeting often rests within the male domain, and women do not always know how pooled household income is earned or spent. In dual farming systems, men usually allocate land to women, choosing the quantity and quality

of land that they will farm. Furthermore, women's credit acquisition may require male approval, and the sale of a woman's own assets may not be her decision (Pradhan et al. 2018).

Women's greater involvement in household decision-making can help families better plan and prepare for shocks in a way that accounts for different household members' knowledge and needs. Women's increased bargaining power is associated with increases in households' expenditures on child health and education—human capital investments that can increase resilience in the long run (Quisumbing and Maluccio 2003). In Somalia, Mercy Corps (2014) found that women's involvement in household decision-making was strongly linked with household dietary diversity and a reduction in negative coping mechanisms. Women also played critical roles by interacting with and petitioning authorities and institutions for access to resources and services essential for household health, food and nutrition security, and well-being (Mercy Corps 2014).

Resilience programs can actively promote women's participation in decision-making at multiple scales from the household to the community level. The case study of Mercy Corps's BRIGE Program shows how household dialogue interventions can improve women's bargaining power within the household (Box 9.5). The Water Resources Integration Development Initiative (WARIDI) case study (Box 9.6) highlights how programs aimed at improving environmental resilience can also build resilience for vulnerable groups, including women and youth, by increasing their participation in community governance institutions, particularly to help ensure that decisions made in these spaces meet the needs and priorities that women have for more sustainable water management.

BOX 9.5—INTRAHOUSEHOLD DIALOGUES INCREASE WOMEN'S BARGAINING POWER IN NIGER

Contributed by Jenny Morgan, Senior Knowledge Management Advisor, Mercy Corps

Mercy Corps' 2015–2018 Building Resilience through the Integration of Gender and Empowerment (BRIGE) program aimed to strengthen gender-sensitive resilience programming within the organization by piloting a series of gender-based interventions within six resilience programs in Indonesia, Nepal, and Niger.

One BRIGE intervention in Niger was designed to increase women's equitable participation in household decision-making through a facilitated household dialogue (Mercy Corps 2018). A household dialogue curriculum was piloted in Tillaberi Region over four days, with gender-separated sessions held before couples were brought together for joint sessions. Well-trained facilitators presented couples with a chance to reflect on issues of gender equity and the gendered division of labor within their own households. Discussions followed, and couples jointly designed action plans for their households. The implementation of the plans sometimes involved other family members and was monitored by BRIGE staff through follow-up visits. In addition to the household dialogue, Mercy Corps also organized training for religious and traditional leaders in the communities to generate broader community awareness. An end-of-training celebration featured community leaders and recognized local role models to reinforce the gender messages. A complementary activity called "Husband Schools" also supported the transformation of gendered power dynamics by increasing men's awareness of issues related to gender equity, women's workload, and family planning, among other topics.

Research conducted following the Niger intervention revealed that it increased men's respect for women and their opinions, as well as increasing women's confidence, leading to greater women's participation in household and community decision-making. Women's opinions regarding household food management, including balancing the nutritional value of food items, were more valued, and husbands began to inform their wives about their intention to buy certain foodstuffs, reinforcing women's faith in men's ability to prioritize food purchases for the household. The household dialogue also increased men's trust in women to travel outside the home, thereby improving women's mobility and access to mobile phones, information, and financial services, all of which have the potential to increase their resilience. The household dialogue also increased men's participation in household chores, such as collecting water, thereby reducing women's time burden, enabling them to participate in other activities, such as preparing more nutritious food and attending Quranic schools.

BOX 9.6—INCREASING DECISION-MAKING BY WOMEN AND YOUTH IN NATURAL RESOURCE MANAGEMENT

Contributed by Hannah F. G. Taukobong, Vice President, Iris Group; Christina G. Sudi, Gender Integration and Youth Inclusion Advisor, USAID WARIDI; and Erneus Kaijage, Climate Change Specialist, USAID WARIDI

The USAID Water Resources Integration Development Initiative (WARIDI) in Tanzania promotes integrated water resources management and service delivery across multiple sectors, with the goal of improving the management of water resources and access to services. Specifically, in selected districts of the Rufiji and Wami-Ruvu river basins, the project (1) increases access to sustainable multiple-use water, sanitation, and hygiene (WASH) services; (2) strengthens governance for sustainable and resilient management of water resources and services under a changing climate; and (3) improves livelihoods through supporting private-sector opportunities in sustainable WASH services, agriculture, and natural resources management.

From its inception, WARIDI has intentionally focused on gender integration and youth inclusion (GIYI) in pursuit of better project outcomes and gender equality. In its first year, the WARIDI gender team conducted a rapid project-level GIYI assessment. Based on these findings, the initiative wrote a GIYI strategy identifying short- and long-term actions for GIYI through project activities and management systems.

The GIYI assessment found limited women's participation in community-based governance institutions, despite the fact that women and girls in rural Tanzania are more affected by water scarcity and inadequate sanitation and hygiene, problems that are expected to be aggravated by climate change through prolonged and recurrent droughts and flood-induced waterborne diseases. National policies mandating that women hold one-third of leadership positions in village and water governance institutions have done little to encourage their meaningful participation, given existing social norms that sanction women who speak up. To address this problem, WARIDI piloted the UPWARD (Uplifting Women's Participation in Water-Related Decision Making) intervention in Kanolo in Kilombero and Lulanzi in Kilolo, designed to shift gendered social norms regarding women's participation in water decisions by working with community leaders and women's groups. In addition, local government authorities (LGAs) and WASH governance institutions were trained on the importance of including women's voices in order to directly empower women with water resources management capabilities and further encourage their participation in decision-making. By adopting a more inclusive approach, WARIDI expects to improve the capacity of institutions to manage water resources, provide access to drinking water from improved sources, expand opportunities for income-generating activities, and ultimately increase the resilience of families and communities.

Results emerging from UPWARD show that community-based sessions for leaders and women's groups generate interest across the community about gender roles and gendered social norms. Intervention staff report greater discussion of and support for women's participation in public decision-making among community members. These preliminary findings suggest the beginnings of a shift in gendered social norms and concurrent changes in women's participation. UPWARD has also documented shifts in water-related tasks, such as an increase in men's and boys' fetching water, following the intervention. Following the LGA and WASH governance trainings, project staff documented instances of community leaders' noting the importance of women's involvement in these decision-making spaces. Project staff will continue to track whether these changing attitudes lead to further shifts in leadership and membership in water governance institutions.

Changing gendered social norms is a challenging and slow process that requires significant resources and sustained involvement and interactions with participating communities. Altering behaviors and institutional practices through trainings is also challenging, particularly given turnover in staffing, which can undermine monitoring and evaluation efforts, as well as require ongoing training for new staff. However, experience from the UPWARD intervention shows that programs can support shifts in social norms, leading to greater participation of women in decision-making.

Well-Being Pathways and Outcomes

Responses to shocks and stressors can have differential impacts on men's and women's well-being outcomes, especially when the decision-making context is characterized by large power differentials or exclusion and lack of representation.

The GCAN framework highlights seven pathways through which response trajectories can have differential effects on well-being outcomes such as food and nutrition security, gender equality, health, and environmental security (Figure 9.1, "Pathways" panel; Table 9.1). These pathways show the impact mechanisms from responses to well-being outcomes, revealing ways in which outcomes may diverge among different social groups and even among members of the same household.

The pathways can result in different well-being outcomes even for individuals in the same household, especially when there are large power differentials and primary decision-makers undervalue others' well-being or are not aware of how a chosen response can affect others. For example, taking children out of school may save cash for the household's immediate subsistence needs but can

TABLE 9.1—PATHWAYS TO DIFFERENTIAL WELL-BEING OUTCOMES

Pathway	Factors influencing gender-differentiated outcomes	Examples
1. Food production	Who influences production decisions and controls outputs of production (such as whether crops are sold or consumed)?	• Women decide to grow vegetables for home consumption and sale on plots they manage • Food stored in a granary or warehouse is inaccessible to women • Men shift into cash crops or livestock that women previously controlled, displacing an important source of revenue for women
2. Incomes and expenditures	Whose finances and control over expenditures are affected? How do consumption patterns change?	• New off-farm employment opportunities for women increase their control over income • Men and women are able to access emergency loans • Women take on debt in their names to sponsor husbands' migration • Women and girls reduce their consumption during shortages
3. Asset dynamics	Whose asset holdings are affected (whose assets are sold, who acquires new assets, whose assets are invested in)?	• Women's assets are sold without women's input • Women acquire small livestock to improve nutrition and increase income from the sale of livestock products
4. Labor	Whose time use and energy expenditure changes?	• Conservation agriculture techniques (such as composting and no-till practices) increase women's labor requirements • Drought increases the amount of time women spend collecting water and fuelwood for domestic use, reducing their time for other economic activities, other household duties, and leisure • New agricultural technologies adopted in response to climate shocks free women's time in the field
5. Natural resources	Whose access and rights to natural resources change? How does the quality and supply of natural resources change?	• New water rationing rules for livestock exclude women's small livestock • New rules on forest management reduce women's access to firewood and nontimber forest products, which are important for food security • New water harvesting schemes reduce women's time burden in collecting domestic water
6. Human capital	How do investments in human capital (such as education and training) change?	• Children are removed from school and sent to live with relatives to reduce household costs • Women get training in entrepreneurship to diversify household livelihood sources
7. Cooperation	How do relationships, social capital and networks, gender norms, gender-based violence, and participation in collective action change?	• Women's groups foster collective action in a time of scarcity • Reduced mobility, greater isolation, security concerns, and displacement decrease social capital of both bonding and bridging types • Shifts in gender-based violence can occur as men's and women's livelihoods change

Source: Authors.

hamper children's long-term human capital development (the human capital pathway). Women's personal assets such as small livestock or jewelry may be sold for household liquidity, which can reduce women's intrahousehold bargaining power and economic independence (asset dynamics and income pathways). Many agricultural technologies that can assist in building resilience also redistribute family labor and control over income (labor and income pathways).

At the community level, trade-offs also exist between different groups of people; for example, women who manage land may benefit from labor-saving agricultural technology in the form of increased free time, but women who rely on wage labor may be displaced, losing a valuable source of income (labor and income pathways). Resource governance rules about who can use water, pasture, or forests for what purposes can also benefit some and exclude others. For example, Agarwal (2001) noted that in a forest in India, men preferred to maximize income generation by planting quick-growing eucalyptus, whereas women preferred to plant other species that produce nontimber forest products useful for fuel and household needs (natural resource management, income, and cooperation pathways).

Potential synergies also exist between well-being outcomes. Households with both male and female economic activity can spread risk across different livelihood activities and reduce exposure to idiosyncratic risks related to the primary breadwinner, such as falling sick, becoming injured, or migrating for work (Eriksen et al. 2005). Decreases in drudgery and time burden, especially for women, can open opportunities to pursue economic or community activities, as well as increase time for education, health access, and care work, all of which can benefit household well-being.

In the longer term, unequal well-being outcomes exacerbate inequality by affecting future resilience trajectories and the ability to maintain and build resilience capacities. For example, even short-term shocks can have long-term, and even intergenerational, implications. Short maternal stature (a consequence of poor nutrition in childhood) is associated with low birth weight and child stunting, which in turn has implications for adolescent nutritional status, thus perpetuating the cycle of undernutrition.

In order to identify how well-being impacts may differ across social groups, it is important to examine how different response options affect these groups. Every response option carries some degree of trade-off among people and across outcomes and spatial scales. For example, responses may improve economic outcomes for certain groups of people in the short term at the expense of outcomes for other groups or the environment over the long term. To illustrate, imagine that farmers begin supplemental irrigation from the river to stabilize their livelihoods and food security in response to increasing drought. Urban water users downstream may experience an increase in water insecurity as a result of reduced downstream water flows.

Even resilience projects that directly target women to reduce gender gaps in resilience capacities may face challenges. Research has shown that even when women's empowerment is a program objective, such an outcome can be difficult to achieve (Johnson et al. 2016). Supporting women's empowerment requires understanding how alternative interventions affect men and women differently. A project by ACDI/VOCA, aimed at increasing resilience by facilitating market participation for male and female traders and pastoralists in northern Kenya, illustrates an approach to tracking the differential outcomes of men and women involved in the project (Box 9.7).

Integrating Gender and Resilience into Policy and Practice

Investigating the gender and social dynamics of resilience—exposure and sensitivity to disturbances, resilience capacities, decision-making context and responses, and well-being outcomes—reveals differences in the target populations' needs, priorities, and constraints related to building resilience. This information can provide the foundation for designing more tailored, locally accepted, and sustainable interventions to increase livelihood resilience to multiple shocks and stressors. To facilitate integrating the elements of the framework into program and policy design, monitoring, and evaluation, and to guide research on these topics, Table 9.2 presents summary guiding questions structured according to the components of the GCAN framework, which can be summarized as follows:

- ***Evidence on distinct exposure and sensitivity to disturbances*** can show programs how to reduce risk exposure and sensitivity to shocks and stressors for all by identifying the risks people consider to be critical, supporting their risk management and prevention strategies, and ensuring that the risk management strategies being promoted do not exacerbate other risks. Programs can bring stakeholders together to understand the risks that different groups face, come to consensus on the prioritization of risks through multistakeholder dialogues, and partner with other service providers to broaden risk coverage.

BOX 9.7—TRACKING HOW WELL-BEING OUTCOMES DIFFER FOR WOMEN AND MEN

Contributed by Jennifer Himmelstein, Corporate Analyst, and Sean Stone, Data Analyst, Monitoring, Evaluation, Reporting and Learning, ACDI/VOCA

ACDI/VOCA's Feed the Future Resilience and Economic Growth in the Arid Lands–Accelerated Growth (REGAL-AG) project aims to improve the resilience of male and female market actors, including pastoralists, traders, and agrovets, in northern Kenya by expanding their access to markets and economic opportunities. The REGAL-AG project is a two-pronged approach to facilitating market systems. One targeted approach built livestock markets in northern Kenya by developing market infrastructure and building the capacity of livestock market associations. The second approach involved investing in value-added livestock enterprises by building business infrastructure and management skills, and promoting an enabling business environment for livestock enterprises.

In order to assess the impact of the project and to discern differential impacts on men and women, in 2018, the project used Outcome Harvesting, a monitoring and evaluation tool, to elicit insights into project outcomes and lessons learned. ACDI/VOCA staff developed qualitative questionnaires tailored to each target group/individual, with gender-sensitive questions and probes intentionally integrated to identify differential impacts on male and female market actors.

Outcome Harvesting revealed a number of outcomes that were specific to female actors in livestock value chains. The enhanced security, organization, and frequency of livestock markets generally increased women's participation in livestock-trading livelihoods—specifically in shoat (sheep and goat) trading. Some women formed groups, aggregating shoats from others to do proxy trading on market day.

In addition, REGAL-AG's development of a poultry processing plant as well as other value-added livestock enterprises that aggregate and sell poultry products (such as eggs and chicken meat), incited entrepreneur training of livestock product suppliers, and created a reliable end market for poultry producers, who are primarily women. Subsequently, poultry production has taken off in northern Kenya, with more women adopting this livelihood as a means of supplementing their income. Other outcomes benefited both men and women, including more diversified livelihoods, increased income, and an increase in the amount, variety, and affordability of nutrient-rich foods in the community, all due to the expansion of different livestock markets.

- ***Knowledge about differential resilience capacities*** can point to key social and gender-based constraints that need to be addressed to help all groups build and exercise resilience capacities, close gender gaps in these capacities, and design appropriate strategies to do so.
- ***Information on the decision-making context and response preferences*** can reveal household, community, and institutional power dynamics and ways to improve inclusion, representation, and accountability. Programs can build support for equitable gender norms in communities, households, and institutions; remove barriers to and promote women's participation in community organizations; and invite input from different social groups concerning resilience assessments and program design processes. Understanding the response preferences of different social groups will ensure that programs and projects promote response options that meet the needs of different groups of people, particularly those that are more vulnerable and lack influence in decision-making processes.
- ***Measuring different aspects of well-being*** at disaggregated levels can indicate trade-offs and synergies across outcomes and people. Programs can use this information to adapt programming if it reveals that some groups are being negatively affected (through, for example, gender-based violence), and to create accessible accountability mechanisms.

The questions in Table 9.2 can guide the assessment, monitoring, evaluation, and study of gender and resilience dynamics in a given setting. They can be adapted and expanded upon to examine certain aspects of gender and resilience dynamics in more detail based on program objectives. Following project development, the

TABLE 9.2—GUIDING QUESTIONS ON GENDER AND RESILIENCE FROM THE GCAN FRAMEWORK

Domain of resilience	Key questions
Exposure and sensitivity to disturbances	• To what risks are women and men, and other relevant differential groups, exposed? • How do different groups perceive, prioritize, and experience different risks, shocks, and stressors? • How do different risks, shocks, and stressors interact?
Resilience capacities	• How do resilience capacities vary among different groups of people, and why? • What factors influence the resilience capacities of different groups of people in a particular context? • How do an individual's resilience capacities enable or restrict his or her range of possible options for responding to and managing risk?
Decision-making context and responses	• How do needs and preferences about how to respond to a disturbance vary? • What are current response strategies for different groups of people? • Whose priorities do the current response strategies represent? • Are there differences in decision-making authority within households, community organizations, and projects?
Well-being outcomes and pathways	• In what ways do responses to climate shocks and stressors have different impacts on men's and women's (and other relevant differential groups') well-being outcomes? • What are the pathways that mediate these outcomes? • What are the trade-offs and synergies across different outcomes and time scales?

Source: Authors.

questions can be used to reflect on a program's theory of change, risk mitigation strategies, and monitoring and evaluation frameworks, and to identify topics that require further investigation at different points in the project cycle. These themes can be studied throughout the project cycle to produce learning on how to strengthen gender and social equity at points including program design, risk mitigation planning, implementation, and evaluation.

To some extent, responses to shocks and stressors always redistribute power, risks, and rewards. Recognizing these dynamics can help development actors design resilience programs that increase people's capacity to respond to shocks and stressors, improve the range of response choices, and facilitate equitable decision-making among these choices, so that more positive well-being outcomes are possible for all. In this way, resilience-building initiatives represent significant opportunities to advance gender and social equity in a way that leverages the contributions of different groups and strengthens everyone's ability to thrive despite inevitable shocks and stressors.

Gender and social equity in resilience programming starts but does not end with a gender-sensitive resilience assessment. It is important that programs apply principles of inclusion in program planning and implementation, and form teams that serve as a model for gender and social parity. For example, programs should take proactive measures to hire and retain women and marginalized groups at all levels of program staff and to train staff on principles of gender equality as they manifest in both the program implementation context and the workplace. Program activities themselves should promote women's leadership, active participation, and inclusion, with accessible opportunities for women and men to provide input and feedback on program design and implementation.

CHAPTER 10

Toward Gender Equality: A Critical Assessment of Evidence on Social Safety Nets in Africa

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Over the last decade, social safety nets (SSNs) have rapidly expanded on the African continent, becoming a core strategy for addressing poverty and vulnerability, responding to shocks, increasing productivity, and investing in human capital. SSNs' popularity among governments and other stakeholders has been bolstered by regional evidence showing that they are effective at combating poverty and food insecurity, increasing resilience and agricultural productivity, and improving the education and well-being of future generations (Bastagli et al. 2016; Garcia and Moore 2012; Handa et al. 2018; Hidrobo et al. 2018). By 2017, every country on the continent had at least 1 SSN, with the number ranging from 2 (Republic of the Congo and Gabon) to 56 (Burkina Faso), and the average country having 15 (Beegle, Coudouel, and Monsalve 2018).

Although the design and system integration of SSNs continue to evolve, at their core, SSNs operated in Africa typically consist of noncontributory economic support to households and individuals given at regular, sustained intervals—whose common forms include cash, vouchers, or in-kind transfers; fee waivers; cash-for-work or public works programs; and school feeding.[2] According to the World Bank, on average, SSNs cover 10 percent of the African population, with cash transfers accounting for nearly 41 percent (and growing) of the share of SSN spending (Beegle, Coudouel, and Monsalve 2018). Thus, by their coverage as well as the political commitment to continue expanding them, SSNs, particularly noncontributory ones, represent an important policy tool for reaching poor populations across countries and at scale.

Poverty, vulnerability, and well-being have inherent gender dimensions, and thus it is not surprising that gender considerations have historically motivated and driven certain design features of SSNs. Since the late 1990s, with the emergence of social welfare policies in Latin America, women have been targeted as transfer recipients for their instrumental value in helping programs to achieve their intended outcomes, particularly outcomes related to household food security and child human capital (health and nutrition). In addition, targeting women was preferred from an operational point of view, because women are often responsible for taking children to the health clinic, for example, or *perceived* as having more free time to attend training sessions as part of co-responsibilities. Despite targeting women as recipients for instrumental reasons, the evidence causally attributing differences in outcomes to beneficiaries' sex is scarce and yields mixed findings (Bastagli et al. 2016; Yoong, Rabinovich, and Diepeveen 2012). Further, some have argued that making women responsible for fulfilling conditionalities or work requirements attached to programs has exacerbated gender inequalities in care work, thus limiting poor women's opportunities to engage in more productive work (Molyneux 2006).

More recently, the narrative has expanded to acknowledge the intrinsic value of increasing gender equality and facilitating women's empowerment, broadly defined. In 2016, the Sustainable Development Goals (SDGs) called for social protection policies as a target under SDG 5 (gender equity and empowerment of women and girls) as an avenue for reducing unpaid care, in addition to calling for minimum social protection coverage, by sex and age, as part of SDG 1 (ending poverty and inequality). In 2018, the Social Protection Inter-agency Cooperation Board of the International Labour Organization formed its first-ever working group on gender in preparation for the 63rd Commission on the Status of Women (CSW63), with a priority theme on social protection systems (UN Women 2018). Background discussion papers in preparation for CSW63 emphasized the importance of SSNs to address gender dimensions of well-being.[3] Among these, a statement from the African member states called for an "agenda for action [to] optimize current efforts and investments in social protection … by making [them] gender responsive and attuned to the needs and challenges of women and girls" (Africa Ministerial Pre- CSW 2019, 2). Thus, SSNs, which traditionally have been focused on poverty and vulnerability, are now additionally being championed for improving gender equality.

Despite this recent attention to gender equality and women's empowerment, it is worth reflecting on the breadth of rigorous evidence available to guide programming to achieve these goals. The majority of papers commissioned for CSW63 to inform whether SSNs are achieving results for women have primarily

2 SSNs (or social assistance programs) fall within broader typologies of social protection (including, for example, input and fuel subsidies, microfinance, and contributory social insurance, among others) and are likely to be diverse, with substantial heterogeneity in gendered designs and implications. The definition of and focus on SSNs and noncontributory programming adopted in this chapter aligns with recent prominent reports from Africa (Beegle, Coudouel, and Monsalve 2018).

3 CSW63 background papers can be accessed on the following page of the UN Women website: http://www.unwomen.org/en/csw/csw63-2019/preparations/expert-group-meeting.

summarized "promising" case studies and highlighted successes, rather than providing a comprehensive understanding of impacts. However, recent reviews at the global level broadly agree on a number of conclusions, including that (1) there is promising evidence that SSNs can facilitate gender equality and women's empowerment, but (2) such effects are not assured and may depend critically on program designs that reflect the relevant context. In addition, for many domains of women's well-being, additional research is needed (de la O Campos 2015; Newton 2016; van den Bold, Quisumbing, and Gillespie 2013). Further, there is little research that rigorously identifies the design features and impact pathways that contribute to the impact of SSNs on gender equality and women's well-being (Bastagli et al. 2016). Finally, despite calls for integration of gender within program design, implementation, and monitoring/evaluation, there are few examples of programs that have fully taken this advice (World Bank 2014).

Past reviews of the evidence have drawn heavily on Latin America, where SSNs were scaled up in the early 2000s. Because the program design, poverty dynamics, and gender norms underlying the potential for program impact are likely to vary by region, region-specific learning is needed. For example, Africa has higher poverty rates and a larger poverty gap, as well as poorer access to services and lower-quality infrastructure, than Latin America. In addition, poor populations in Africa are more likely to live in areas that are prone to drought or conflict, with deteriorating services and governance structures. Due to these factors, SSNs in Africa have traditionally had greater focus on resilience and shock responsivity, with fewer punitive co-responsibilities related to service provision. From a gender perspective, Africa is likely to be unique in a number of important ways related to social norms and demographics. For example, Africa has a higher share of HIV-affected households and individuals (including orphans and vulnerable children), higher fertility rates, and earlier marriage transitions (including polygamous marriages), than elsewhere. Due to the wide diversity of program typologies and objectives, women have not necessarily been targeted *instrumentally* as recipients of SSNs in Africa—however, coverage by sex may vary by program type (Garcia and Moore 2012). These unique considerations translate into both opportunities and potential restrictions on how SSNs can be leveraged by and for women on the continent.

This chapter contributes to a broader understanding of the evidence on how SSNs in Africa affect gender equality and women's empowerment. First, it describes the motivations for gender-sensitive SSNs and takes stock of ways in which gender is factored into SSN design. Second, it summarizes evidence from rigorous evaluations of the impact of SSNs on women's well-being across five key domains. This section includes a summary of literature on program design features within the impact evaluations reviewed, in order to understand how much is known about gender-sensitive design features—and whether they truly result in better outcomes for women. The chapter closes with recommendations for future research on how to improve the impact of SSNs in Africa on gender equality and women's empowerment.

SSNs in Africa: The Role of Gender in Program Design

The motivations for gender-sensitive SSNs stem from deep-seated gender norms that determine differential roles and responsibilities for women and men, girls and boys, within households, communities, and society at large. These differential roles result in differential economic and social assets, risks, and vulnerabilities, leading to different experiences of poverty. Further, even when faced with common risks, men and women's coping strategies differ, yet both tend to make women worse off on a range of outcomes such as food and nutrition security, wages, and safety (Kumar and Quisumbing 2014). Due to structural inequalities and perpetuated by gender norms, women and girls face unequal opportunities to participate in and fully benefit from economic and social activities, politics, and local governance. SSNs have the potential to directly attack some of these gender inequities by addressing poverty and providing complementary skills and linkages to service provision. However, as previously discussed, this potential does not result in automatic benefits for women, and SSNs may also reinforce, rather than address, inequalities.

SSNs use multiple instruments and design features to address gender objectives. Broadly, programming approaches can be categorized into three groups on a "gender sensitivity continuum": gender-blind, gender-neutral, and gender-transformative (FAO 2018). *Gender-blind* (also called *gender-discriminatory*) interventions are those that fail to recognize gender issues by ignoring gender roles and gender gaps (in various dimensions) in their design, thereby reinforcing gender inequalities. *Gender-neutral* interventions may recognize gender issues in their design but take no measures to address them. *Gender-transformative* (or *gender-sensitive*) interventions, on the other hand, are interventions that not only recognize existing gender inequalities but also take measures to address them.

Because both gender-neutral and gender-transformative interventions recognize gender issues, they are further classified as *gender-aware*.

Although a full review of design features is outside the scope of this chapter and has been detailed elsewhere (FAO 2018; Holmes and Jones 2010a; UN Women 2018), we provide a brief description of design and implementation features with gender implications, alongside examples from SSNs in Africa.

1. *Gender-based targeting.* One of the most prevalent gender-aware design features is the targeting of transfers or benefits to women, rather than to men or to households. Some programs specifically target women (girls) because they are primary caregivers of young children, or in order to meet program objectives related to maternity benefits (Cohen et al. 2017), widow pensions, or benefits for adolescent girls (Kilburn, Pettifor, et al. 2018). Whereas putting benefits in the hands of women (girls) may enhance preconditions for favorable impacts, simply reaching women (girls) does not equal benefiting them via transformative outcomes.

2. *Conditionality and behavioral features.* Traditionally, conditionalities and behavioral requirements, such as school enrollment or health monitoring visits, were often placed on SSNs. However, in Africa, such conditions are more frequently viewed as a continuum, in which features such as indirect conditions (with no punitive measures), nudges, labeling, and messaging are seen to be beneficial alternatives to punitive "co-responsibilities" (Pellerano and Barca 2014). For example, a cash transfer program in the Zomba district of Malawi tested both unconditional transfers and those conditional on schooling for young women, with the hypothesis that conditional transfers would help increase human capital and transitions to adulthood, providing benefits outweighing the time and cost of school attendance (Baird, McIntosh, and Özler 2011).

3. *Payments and transfer mechanisms.* A large body of literature indicates that benefits should be reliable, timely, and sizable in order to have the intended protective, preventive, and promotive impacts. Benefits that are not reliable and timely can lead to suboptimal coping strategies that widen gender asset gaps or lead to worse comparative outcomes for women. The situation is more nuanced, however, for the size of the transfer (whether cash or in-kind), which may affect the ability of the woman recipient to make autonomous decisions about how to use it. One hypothesis is that women may be likely to have greater control over how to spend smaller transfers—or even be better able to hide them from their spouse. However, there is little empirical evidence from Africa to verify this claim, and benefits of larger value are presumed to have greater potential for addressing economic constraints in general.

   How benefits are delivered to or collected by recipients also has many gender implications. If there are mobility restrictions for women (due either to seclusion norms or safety concerns), benefits that are delivered far from recipients' homes are not gender-aware. Electronic transfers can be cost-effective and safe, reduce stigma (because they are not observable), and reduce the threat of expropriation by partners or family members.

   Electronic transfers also may have wider benefits than physical money in terms of financial inclusion and economic empowerment of women. For example, a cash transfer program run by a nongovernmental organization (NGO) in Niger provided women with mobile phones and tested mobile money versus physical transfers (Aker et al. 2016). Providing mobile money accounts and training to program staff, as well as transfer recipients, is important when providing transfers through electronic or other unconventional payment mechanisms that women may not be familiar with.

4. *Integrated approaches.* Theoretically, adding "plus" components—that is, integrating SSNs with linkages to other services—has high potential for enhancing a gender-transformative design (Roelen et al. 2017). As noted previously, this is simply because the additional component can be either directed at enhancing women's status or well-being (including economic status), or focused on facilitating impacts on gender equality via addressing masculinities (the many socially constructed definitions of being or acting male) or involving men as allies. One example is the government of Ghana's Livelihood Empowerment against Poverty (LEAP) 1000 program, which bundles an unconditional cash transfer (UCT) for pregnant and lactating women with a waiver for the national health insurance scheme—allowing women to access healthcare during the critical maternity and postpartum period.

5. *Gender-aware operational features.* Programs can be mindful of gendered social risks related to women's childcare and domestic duties by incorporating operational features that can accommodate these risks. Ethiopia's Productive Safety Net Programme takes such risks into account by providing childcare facilities at public works program locations, flexible work hours for women, and direct support (through UCTs) for women during advanced pregnancy and nursing (if the work requirement is not fulfilled by other household members) (Holmes and Jones 2010b). Women are also involved in the targeting and selection of community assets to be built as part of the public works (Coll-Black et al. 2012).

SSNs in Africa: Impacts on Women's Well-Being Outcomes

This section reviews the evidence from rigorous evaluations of SSNs' effects on women's outcomes, focusing on five key domains: (1) food security and nutrition, (2) economic standing and productivity, (3) empowerment, (4) psychological well-being, and (5) gender-based violence. These domains were chosen based on their perceived importance to women's overall well-being, as well as their potential for impacts based on dominant program objectives of SSNs. In addition, global reviews have tended to focus on outcomes traditionally linked to women, including early marriage, sexual and reproductive health, and maternal health, so less is known regarding the domains we examine (Bastagli et al. 2016). This section discusses only outcomes that are measured at the individual woman level using samples with women 18 and older (rather than those measured among female-headed households or those that measure comparative gaps between women and men). We focus on rigorous experimental and quasi-experimental studies (with identification of a credible counterfactual) taking place after the year 2000 in Africa. Published studies in journals or books, as well as working papers and reports, are included. In addition, we do not investigate impacts on outcomes for adolescent girls, which are important but are being reviewed elsewhere.

We conducted a rigorous review, starting by aggregating studies in recent relevant reviews and then conducting forward and backward citations of key qualifying studies. Further, we searched the websites of organizations known to conduct impact evaluations of SSNs in Africa, inquired with key researchers, and conducted searches via Google Scholar, using various combinations of SSN type and outcome examined. Additional information regarding the search procedure is available in Peterman and colleagues (2019).

Table 10.1 summarizes the evidence by domain and indicator group, listing the number of programs evaluated; the countries included; the percentage of impacts for which there were positive, negative, mixed, or null findings; and citations of the studies. We focus on average impacts, because not all studies are powered for heterogeneous impacts, and additional analysis is largely at the discretion of authors. In a companion paper (Peterman et al. 2019), we provide detailed tables disaggregating evidence from each study, including description of the program, evaluation, indicators analyzed, and impact coefficients. In addition, we summarize evidence of design features (drawing on the categories described below) that have been tested empirically by the included studies.

Women's Food Security and Nutrition

In total, we identified 5 studies that examined impacts of SSNs on women's food security and nutrition domains, representing 5 countries and 40 individual indicators (9 nutritional indicators, including body mass index and anemia; 30 dietary diversity indicators; and 1 food security indicator, representing food coping strategies). In general, results indicated few significant impacts of programs on women's individual outcomes, with 2 studies (40 percent) showing positive results and the remainder having nonsignificant findings. In terms of indicator groups, dietary diversity indicators showed more promising results (43 percent significant), whereas nutritional biomarkers and food security were less promising (11 percent and 0 percent significant, respectively).

The limited evidence on women's food security and nutrition is notable, because improving these outcomes is often a main objective of SSNs—yet such outcomes tend to be measured only at the household or child level. Recent global reviews and meta-analyses suggest that the average social protection program increases the value of food consumed at the household level by 14 percent and caloric acquisition by 8 percent, including increases in consumption of fruits and vegetables, grains, and animal-source foods (Hidrobo et al. 2018). Studies from Africa make up the majority of the global evidence across the food consumption categories—thus it is surprising that none of these studies collected intrahousehold measures.

Though the evidence on positive impact for nutritional biomarkers is even more limited, global reviews suggest that child nutrition specifically is unlikely to

TABLE 10.1—SUMMARY OF EVIDENCE FROM EVALUATIONS OF SOCIAL SAFETY NET PROGRAMS' EFFECTS ON WOMEN'S WELL-BEING OUTCOMES

Domain / Indicator group	No. of programs / *No. of indicators*	Countries covered (#)	Direction of results (% of studies/indicators)				Citations
			Positive	Mixed	Negative	Nonsignificant	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Food security and nutrition	**5**	Egypt; Lesotho; Malawi; Rwanda; South Africa (5)	**40%**	**0%**	**0%**	**60%**	Baird, McIntosh, and Özler (2019); Breisinger et al. (2018); FAO and UNICEF (2018); Kilburn et al. (2019); McIntosh and Zeitlin (2018)
Nutrition biomarkers	*9*		*11%*	*n.a.*	*0%*	*89%*	
Dietary diversity	*30*		*43%*	*n.a.*	*0%*	*57%*	
Food security	*1*		*0%*	*n.a.*	*0%*	*100%*	
Economic standing and productivity	**14**	Ethiopia; Ghana; Kenya; Lesotho; Malawi; Nigeria; Sierra Leone; South Africa; Tanzania; Uganda; Zambia (11)	**50%**	**7%**	**14%**	**29%**	Asfaw et al. (2014); Baird, McIntosh, and Özler (2019); Bastian, Goldstein, and Papineni (2019); Daidone et al. (2014); Ghana LEAP 1000 Evaluation Team (2019); Gilligan, Hoddinott, and Taffesse (2009); Kilburn et al. (2018); Malawi Cash Transfer Evaluation Team (2016b); Merttens et al. (2016); Natali et al. (2016); PSSN Youth Evaluation Team (2018); Rosas and Sabarwal (2016); Seidenfeld and Handa (2016)
Labor force participation (any—extensive margin)	*68*		*34%*	*n.a.*	*1%*	*65%*	
Labor force participation (hours/days/wage—intensive margin)	*53*		*17%*	*n.a.*	*8%*	*75%*	
Savings	*12*		*100%*	*n.a.*	*0%*	*0%*	
Expenditure	*6*		*50%*	*n.a.*	*0%*	*50%*	
Credit, debt, or loans	*1*		*100%*	*n.a.*	*0%*	*0%*	
Aggregate economic standing and productivity	*1*		*100%*	*n.a.*	*0%*	*0%*	
Empowerment	**16**	DRC; Egypt; Ghana; Kenya; Malawi; Niger; Senegal; South Africa; Tanzania; Uganda; Zambia (11)	**31%**	**6%**	**13%**	**50%**	Aker (2017); Aker et al. (2016); Ambler (2016); Ambler, de Brauw, and Godlonton (2019); Baird, McIntosh, and Özler (2019); Bonilla et al. (2017); Breisinger et al. (2018); Haushofer and Shapiro (2016); Kilburn et al. (2018); Merttens et al. (2013); Merttens et al. (2016); Peterman et al. (2015); Peterman et al. (2018); PSSN Youth Evaluation Team (2018)
Primary decision-making	*31*		*13%*	*n.a.*	*6%*	*81%*	
Shared/joint decision-making	*117*		*25%*	*n.a.*	*3%*	*73%*	
Agency / locus of control	*4*		*25%*	*n.a.*	*0%*	*75%*	
Self-efficacy	*3*		*0%*	*n.a.*	*0%*	*100%*	
Aggregate "empowerment"	*1*		*0%*	*n.a.*	*0%*	*100%*	
Psychological well-being	**9**	Ghana; Kenya; Mali; South Africa; Tanzania; Zambia (6)	**56%**	**0%**	**11%**	**33%**	Angeles et al. (2019); Baird, de Hoop, and Özler (2013); LEAP 1000 Evaluation Team (2017); Haushofer & Shapiro (2016); Hjelm et al. (2017); Kilburn et al. (2016); Kilburn et al. (2018); Kilburn et al. (2019); Malawi Social Cash Transfer Evaluation Team (2016b); Natali et al. (2018); PSSN Youth Evaluation Team (2018)
Mental health	*7*		*43%*	*n.a.*	*0%*	*57%*	
Stress/distress/worries (including biomarkers)	*19*		*47%*	*n.a.*	*5%*	*47%*	
Life satisfaction / quality of life / happiness	*10*		*70%*	*n.a.*	*0%*	*30%*	
Other emotional well-being (hope/trust/optimism/self-esteem/future assessment)	*8*		*38%*	*n.a.*	*0%*	*63%*	
Aggregate psychological well-being	*1*		*100%*	*n.a.*	*0%*	*0%*	
Gender-based violence	**5**	Ghana; Kenya; Mali; South Africa; Tanzania (5)	**80%**	**0%**	**0%**	**20%**	Haushofer et al. (2019); Heath, Hidrobo, and Roy (2018); Kilburn et al. (2018); Peterman et al. (2018); Pettifor et al. (2016); PSSN Youth Evaluation Team (2018)
Controlling behaviors	4		*50%*	*n.a.*	*0%*	*50%*	
Emotional intimate partner violence	*5*		*40%*	*n.a.*	*0%*	*60%*	
Physical intimate partner violence	*8*		63%	*n.a.*	*0%*	*38%*	
Sexual intimate partner violence	*6*		*17%*	*n.a.*	*0%*	*83%*	
Aggregate gender-based violence	*5*		*20%*	*n.a.*	*0%*	*80%*	

Source: Peterman et al. (2019).

quarterly, but that monthly transfer recipients whose empathy in marriage was lowest shared a smaller portion of monthly transfers with their husbands than did those receiving quarterly transfers.

Women's Empowerment

In total, 16 studies were identified that examined impacts on direct measures of women's empowerment, representing 11 countries and 159 individual indicators. We break these indicators down as follows: (1) primary decision-making power (31 indicators), (2) joint or shared decision-making power (117 indicators), (3) agency or locus of control (4 indicators), (4) self-efficacy (3 indicators), and (5) aggregate empowerment (1 indicator). Overall, 5 studies (31 percent) reported at least 1 positive outcome, whereas 2 studies (13 percent) found negative impacts, and the remaining 8 found no relationship (50 percent). In relation to indicator groups, indicators of joint or shared decision-making appear the most promising (25 percent positive, 3 percent negative), whereas primary or sole decision-making indicators are less promising (13 percent positive, 6 percent negative). Only 1 indicator of autonomy (out of 4, or 25 percent) was positive and significant, whereas for other measures of self-efficacy or overall empowerment, there were no positive impacts.

Overall, the evidence found for this domain does not align with the narrative that giving SSN benefits directly to women (as was done in all but three studies) necessarily results in a shift in power dynamics in the household and higher direct measures of women's empowerment. In only two studies were authors able to contrast impacts by the gender of the recipient. In Kenya, Haushofer and Shapiro (2016) randomly selected men versus women as target recipients of the GiveDirectly UCT and examined the program's differential impact on locus of control. They found no significant impacts overall and no significant difference by sex of recipient. Ambler (2016) examined the effects of the South African old age pension among women and men on primary decision-making (for day-to-day purchases and in an overall category based on four domains). However, in this case, not only did the pension result in increased decision-making for women (alongside increases in personal income share), but there were no increases for men. Although few studies are able to investigate the potential program design variations or mechanisms responsible for shifting outcomes, it is likely that mixed results stem in part from ambiguity in the measurement of empowerment. More than 90 percent of the outcomes measured represent conventional household decision-making questions on standard domains regarding household purchases, education, or health. Qualitative and other measurement work around such questions suggests they do not adequately capture nuances in empowerment experienced by women in different settings, and in particular fail to capture the motivation behind or the power associated with autonomy (Bonilla et al. 2017; Seymour and Peterman 2018). It is likely that more holistic measures of empowerment, such as autonomy and self-efficacy across different life spheres, would more accurately capture meaningful changes.

Women's Psychological Well-Being

In total, 9 studies were identified that examined SSNs' impacts on women's psychological well-being, representing 6 countries and 45 individual indicators. We break these indicators down as follows: (1) mental health and depression (7 indicators); (2) stress, distress, and worry—including cortisol biomarkers (19 indicators); (3) life satisfaction, quality of life, or happiness (10 indicators); (4) other emotional well-being indicators, including trust, optimism, hope, and future outlook (8 indicators); and (5) aggregate psychological well-being (1 indicator). Overall, 5 studies (56 percent) reported at least 1 positive outcome, 1 study (11 percent) showed negative results, and the rest found no relationship (33 percent). With respect to indicator groups, the 1 aggregate measure is significant, and in addition, indicators of life satisfaction (70 percent positive, 0 percent negative), as well as those of stress and worry (47 percent positive, 5 percent negative) and mental health (43 percent positive, 0 percent negative), are the most promising. Other emotional well-being measures are moderately promising (38 percent positive, 0 percent negative).

Whereas psychological well-being is rarely acknowledged as an objective or potential outcome of SSNs, there is a growing evidence base suggesting that poverty and mental well-being are linked and reinforcing (Lund et al. 2010). Further, poor mental health is linked to a host of adverse outcomes, including poor physical health, low productivity, substance abuse, intrahousehold violence, and suicide. Women consistently show higher rates of depression than do men, a gap that first emerges in adolescence and persists through age 45 to 50, making these findings particularly notable (Cyranowski et al. 2000).

Several studies examined the mechanisms behind their results, particularly with young women in Malawi, finding that improvements may be due to a wide range of factors, including better physical health, increased schooling, family support, higher consumption, more leisure, lower caregiver stress levels, and reductions in hard labor (Angeles et al. 2019; Baird, de Hoop, and Özler 2013).

Two studies examined design factors, one finding that cash with conditions attached resulted in smaller mental health impacts for young women than UCTs, potentially due to distress attached to fulfilling the conditions (Baird, de Hoop, and Özler 2013), and the other finding no differences between monthly and lump-sum UCTs on a range of psychological well-being outcomes (Haushofer and Shapiro 2016). Overall, results indicate promise in leveraging SSNs to improve the psychological well-being of women.

Women's Exposure to Violence and Abuse

In total, 5 studies were identified that examined impacts on women's experience of gender-based violence, representing 5 countries and 28 individual indicators. We break these indicators down as follows: (1) controlling behaviors (4 indicators), (2) emotional violence (5 indicators), (3) physical violence (8 indicators), (4) sexual violence (6 indicators), and (5) aggregate violence measures (5 indicators). Although studies were screened for broad typologies of violence, the only study that measured non–intimate partner outcomes from multiple perpetrators was done among youth in Tanzania (PSSN Youth Evaluation Team 2018). The remaining studies, and all significant indicators, referred to intimate partner violence (IPV)—therefore, for ease of description, we likewise refer to IPV when describing results. Overall, 4 studies (80 percent) reported at least 1 positive outcome (reduction in IPV), whereas 1 study found no relationship (20 percent). As for indicator groups, indicators of physical IPV are most promising (63 percent positive, 0 percent negative), followed by those for controlling behaviors (50 percent positive, 0 percent negative), emotional IPV (40 percent positive, 0 percent negative), aggregate measures (20 percent positive, 0 percent negative), and sexual IPV (17 percent positive, 0 percent negative). Measures of both experience (any) and intensity (frequency) were significant. The latter has rarely been measured in global studies, so its inclusion here represents a substantial contribution to the overall evidence base. No adverse impacts of SSNs were documented within the studies reviewed, either on average or within subgroups. This result is also notable, given some stakeholders' fear that giving economic benefits to women may increase the risk of violence within the household or community.

These results are in line with a recent mixed-methods review of the linkages between cash transfers and IPV in low- and middle-income countries, which found that three out of the four included studies documented decreases in IPV (Buller et al. 2018). The findings presented here (of which only South Africa overlaps the results of the mixed-methods review) represent even more promising results, including similar findings that physical IPV showed the most consistent declines. Buller and colleagues (2018) suggested three mechanisms through which cash can lead to declines in IPV: (1) increases in economic standing and emotional well-being, (2) decreases in intrahousehold conflict, and (3) increases in women's empowerment. Studies included here provide evidence for all three pathways.

One interesting aspect of the included studies relates to household structure in West Africa. In Mali, Heath and others (2018) found that when transfers were given to male household heads, reductions in IPV were concentrated among polygamous households, via reductions in men's stress and anxiety as well as intrahousehold disputes. In contrast, in Ghana, Peterman and colleagues (2018) found that transfers given to women along with health insurance waivers resulted in decreases in IPV (primarily in frequency), concentrated in nonpolygamous households. In both cases, polygamous households had higher levels of IPV at baseline, indicating that such families may be more conflictual, with implications for the targeting of SSNs and the expected well-being gains for both men and women. Despite these promising results, we still know little about multiple types of violence, including violence against children and violence from co-wives or the broader community—suggesting the need to collect more holistic measures within evaluations to understand the full effects of SSNs on violence and underlying mechanisms (Peterman et al. 2017).

Research and Policy Implications

Despite high-level commitments made by African member states and global stakeholders to advancing gender equity through SSNs, and the important role of this shared objective, there remain significant evidence gaps in understanding what it means in practice. The volume of research conducted in Africa has increased exponentially in recent years. Of the research summarized here regarding the impacts of SSNs on women (including published and working papers), only five studies were released before 2016 (one in 2009, two in 2013, and one each in 2014 and 2015). This means that until recently, a review reflecting the realities and priorities of SSNs on the African continent was not possible. This chapter shows there is strong evidence that SSNs can decrease IPV (particularly physical violence) and increase psychological well-being for women, increasing

life satisfaction and decreasing stress. In addition, there is moderate evidence that SSNs can increase dietary diversity, as well as the economic standing of women (including their savings and expenditures). Changes in labor force participation, on the other hand, tend to be minimal. We find less strong evidence that SSNs can improve food security, and nutrition; however, few studies measure these outcomes for women. Finally, we find little evidence that SSNs increase direct empowerment—but this domain is dominated by measures of intrahousehold bargaining, which have measurement weaknesses.

Providing a region-specific understanding of SSNs' impacts on women (rather than on households in general) is important for a number of reasons. First, although there is now a large body of evidence showing the impacts of SSNs at the household level, our findings suggest that in many cases, knowledge of impacts at the individual level is lacking, and the requisite data are not necessarily collected or analyzed automatically. Second, few of the studies included in this review were able to disentangle design components. Therefore, we know very little about how programs can be modified in terms of design or operation to move toward gender-transformative approaches (see Peterman et al. 2019 for more complete discussion). Third, our analysis shows that conclusions from global evidence reviews do not necessarily translate to Africa-specific situations. For example, Bastagli and colleagues (2016) found strong evidence on women's empowerment, and women's decision-making specifically, through SSNs globally, yet we find relatively weak evidence for changes in decision-making in Africa. Finally, several evaluations have highlighted unique regional demographic features, including targeting of and impacts on individuals in polygamous partnerships, with critical implications for women's outcomes. These features highlight the need for a regional body of evidence for women in Africa, rather than continued reliance on household-level evidence from Africa and elsewhere, or global lessons on women.

A notable gap in the evidence presented here is in the diversity of program typologies studied. In all but one case (a cash-for-work program), programs consisted of cash transfers (of varying designs, with and without additional components); therefore, we know little about how noncash modalities affect women. For example, we found no evaluations of in-kind transfers alone or of school feeding programs, but we acknowledge that the latter primarily focus on school-age children and rarely measure individual-level outcomes for adults. We do not include other program typologies that are not strictly SSNs—for example, graduation or livelihood programs—but these may add to researchers' understanding of how economic programs work for women. For example, in a diverse set of countries, NGOs including BRAC and Concern Worldwide are implementing bundled programming that incorporates training, coaching, and access to financial instruments along with cash or asset transfers.

A number of limitations are worth mentioning. Although this chapter summarizes available evidence across domains for adult women, it does not summarize research focused exclusively on outcomes for children, including adolescent girls. In addition, a true gender analysis of outcomes would give comparative impacts for men and women across the same outcomes for the same studies. However, due to lack of data for the evaluations included in this review, we were unable to examine truly gender-disaggregated impacts. Furthermore, this review does not consider qualitative work, although qualitative methodologies are needed to capture a holistic understanding of women's lived experiences. In addition, although we report all indicators directly from reviewed papers, a minority of sources explicitly controlled for multiple hypothesis testing. Finally, even though this analysis includes gray literature, it is likely that the measures reported suffer in part from publication (analysis) bias.

To move from promise to the successful implementation of gender-transformative SSNs in Africa, we must invest in evidence generation, in order not only to demonstrate impacts on women's well-being, but also to inform mechanisms related to design features and how they may differ according to the underlying gender inequalities in a given setting. Randomized variation—including program designs that make it possible to identify the unbundled contributions of components as well as their synergistic contributions toward women's and men's well-being—can maximize the potential of quantitative research to inform design decisions. It is likely that qualitative and political economy analysis will also play an important role in increasing understanding of both the impacts of and the constraints to adoption of gender-transformative programming. Finally, in areas where measurement is weak, investments must be made to refine existing measures or apply better measures to leverage the full potential of research efforts. We welcome future regional research that has the potential to contribute to this goal.

CHAPTER 11

Women's Control over Income: Implications for Women's Empowerment and the Agricultural Sector

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Across Africa, rural transformation is taking place, and agriculture remains a central driver of that transformation. Agricultural production is the most important sector in most African countries, averaging 24 percent of gross domestic product (GDP) for the region. Agribusiness supplies, processing, marketing, and retailing add about 20 percent of GDP (O'Sullivan et al. 2014). Urbanization and rapidly changing consumption patterns have fueled a sharp shift in diets beyond grains into nongrain foods, such as dairy, fish, meat, vegetables, fruit, and tubers, and heavily into processed foods. In any scenario, agriculture will continue to play a greater role than has been the case in other transformations around the world. Although the development literature contains analyses of rural agricultural transformation and what it means for youth, the gender dimensions are lacking. It is critical to ensure that women receive and control an equitable share of the benefits of the rural transformation processes that are occurring in various forms and at various speeds throughout Africa.

One approach in the literature has been to analyze the performance of specific value chains and their contribution to agricultural transformation. The gender dimension, however, is not commonly incorporated into such analysis. A few recent studies have started incorporating a gender analysis and specifically looking at women's contributions to and benefits from value chains, but the evidence is not promising (AfDB 2015; Coles and Mitchell 2011). The analysis shows that women do not get benefits commensurate to their labor contribution from these value chains, and that has implications for the development of the chains, for investments in household food and nutrition security, and for poverty reduction.

In Africa, one also sees continued underinvestment in crops and livestock that are important for women, whereas cash crops and major cereals continue to receive substantial investment (World Bank 2009). With current shifts in urban demand for foods, the changing relative importance of crops to households can lead to a shift in the control over those crops and incomes generated. As market opportunities improve for crops under women's control, there is need to ensure that such shifts are inclusive of women.

Two dimensions of women's control over income are relevant: the first is whether women are remunerated for the labor, and the second is the extent to which they retain some control over their income once they bring it home. We highlight how these two are related.

The chapter starts with a brief description of the changing agricultural landscape and women's roles in agriculture and some of the driving forces of these shifts. We then proceed to make three main points. First, we provide evidence of why control over income by women is important to argue that women should control the income that is being generated from agricultural value chains, especially income generated with their labor and skills. Women's control over income has important implications for their own empowerment, and for reinvestment in crops that are important for women and value chains, food and nutrition security outcomes, and poverty reduction. Second, we analyze household decision making in three African countries and find considerable heterogeneity in patterns of women's control over income. Thus, policy makers should be considerate that patterns vary across the characteristics of the women themselves and the source of income in designing policy to better integrate women into value chains. Lastly, by drawing on analyses of agricultural interventions, we argue that the approaches that governments, development partners, and others use to transform agriculture can be designed to be more inclusive of women and lead to better benefits for women and their households. We conclude with recommendations on what works to ensure women control the income from their labor.

Women's Roles in Agricultural Production and How They Are Changing

Women play a major role in Africa's agricultural economy. They provide close to 50 percent of the labor in agricultural production (FAO 2011). And agriculture is important to African women. Estimates of the proportion of economically active women working in the agricultural sector in Africa south of the Sahara range from 30 to 80 percent (FAO 2011). In some countries, notably Burundi, Rwanda, Malawi, and Burkina Faso, more than 90 percent of economically active women are involved in agriculture. Their roles, however, vary across value chains and across countries. Depending on the country, the rural wage gap between men and women in Africa is estimated to be 15 to 60 percent, indicating that women are more likely to be in lower-paying or temporary agriculture jobs or are unremunerated for the labor they provide on family farms (AfDB 2015).

Although sex-disaggregated data on entrepreneurship in agriculture are scarce, it can be said that, in general, African women are highly entrepreneurial; they own a third of all businesses across Africa and up to a high of 62 percent in Côte d'Ivoire (Global Entrepreneurship Research Association

2017). Yet women entrepreneurs are more likely to be running microenterprises in the informal sector, engaging in low-value-added activities that reap marginal returns. They tend to be entrepreneurs of necessity, rather than opportunity, driven into small business by the lack of alternatives. Most female entrepreneurs are found in the informal sector. In the case of Côte d'Ivoire, only 15 percent of formal-sector firms have a woman as the managing director, while 32 percent have some degree of female ownership. While these data are for all entrepreneurial activities, these patterns are most likely also reflected in agriculture-related enterprises as well.

These dynamics of women's roles in agriculture shift as new markets emerge and smallholder agriculture commercializes. Comprehensive data are not yet available, but several case studies suggest that African food markets have expanded hugely. Reardon (2015) estimates that, between 1970 and 2010, rural–urban food supply chains in Africa moved about five times more food to the proliferating cities and the volume of food purchased in rural markets expanded to eight times the 1970 levels. With these changes, new market trends emerged, such as "supermarketization" and new nodes in the food supply chain (including first- and second-stage processing, packaging, branding, and logistics). Household care work and barriers of access to finance, capital, and information, however, mean that women are less likely to take advantage of these new trends than men.

As incomes grow and diets diversify during structural transformation, the demand for food also shifts from basic staples to horticultural and livestock products. This leads to shifts in overall structures of agricultural production. Such shifts are already visible in some economies, such as Tanzania, South Africa, Cabo Verde, and Senegal, but not in others (IFAD 2016). Given previous underinvestment in crops and livestock managed by women (including horticultural crops and poultry and small livestock), these shifts provide tremendous opportunities for women. Yet if the processes of change are not managed well, women could lose out as men position themselves to serve these new markets with new crops and livestock products. These dynamics are already starting to manifest themselves in the poultry sector and with crops such as indigenous vegetables (IFAD 2016). Those activities were traditionally managed by women and are now starting to be dominated by men.

Migration and climate change also influence the roles of women in agricultural value chains. In Tanzania and other areas of Africa, migration away from the farm to nonagricultural activities has been gender-biased; women remain in agriculture and their labor in agricultural value chains is intensified (Addison and Schnurr 2016; Mbilinyi 2016). At the same time, climate change shocks have caused large and rapid transformations in many agroenvironments. The "climate-smart agriculture" approach builds resilience to climate change while simultaneously diffusing agricultural technologies that increase crop productivity. Yet the differentiated impacts of technological change on women and men may affect productivity and sustainability differently according to gender (Kristjanson et al. 2017; Taylor 2018).

Why Is Women's Control over Income Important?

In broad strokes, we can identify three dimensions in which women's control over income is important. It benefits the women themselves; controlling one's income is a source of empowerment and agency. Second, it benefits their children and families. Finally, when women control the income, it increases their stake in the agricultural sector and increases investment.

Much of the literature analyzing women's control over income has considered how that control affects household decisions. Such work is based on household survey data that asks about men's and women's earnings, who makes household decisions, and the outcomes associated with those decisions, such as household expenditure patterns or investments in children's health and education. Much less work has considered how women's control over income within value chains has directly affected the value chain. In this section, we explore the literature on women's control over income within households and link it to broader issues within value chains.

One initial challenge is to define what is meant by control over income and how to measure it. Conceptually, we mean that women have some say in how the income is used—whether it is saved, invested, or spent on consumption and, if it is invested or spent on consumption goods, which items are purchased. It may be that the woman makes and implements the decisions alone or that she has a say in how the decisions are made within the household. It may be that she has money in a separate purse that she alone controls or that money is pooled and she has a voice in how it is spent.

The Women's Empowerment in Agriculture Index (WEAI) measures the empowerment, agency, and inclusion of women in the agriculture sector and recognizes control over income as a central component of empowerment (Alkire et al. 2013; Malapit et al. 2019). Other studies rely on questions about decision making over income, often asking a woman whether she has control over the income she earns. Questions in empowerment modules often ask who makes

decisions regarding household expenditures, including both major and minor expenditures. In agricultural modules, there may be questions about who controls the output from a particular crop or livestock activity. The structure and content of these questions affects the responses given and measures of decision-making power (Donald et al. 2017).

Women's share of household income has been shown to be positively correlated with better household outcomes. For example, in Ghana, Doss (2001) found that the impact of transitory income shocks to agricultural production varied depending on whose crop was affected.[2] Similar findings in Côte d'Ivoire suggest that household expenditure patterns differ based on whether men or women earn the income (Hoddinott and Haddad 1995). This literature does not always clearly distinguish between income earned and income the woman controls; the implicit assumption tends to be that they are the same. Because of a concern about reverse causality (for example, that those with more bargaining power are able to earn higher incomes), Schultz (1994) demonstrated that unearned income of husbands and wives had different impacts on labor supply and fertility decisions.

As a result of this literature, both conditional cash transfer programs and unconditional cash transfer programs, particularly in Latin America and, more recently, Africa, have targeted women as the recipient. In a systematic review, Baird et al. (2014) find that cash transfers improve schooling outcomes. A review of health outcomes finds that conditional cash transfers have had a positive effect on the use of preventative health services, immunization, and in encouraging healthy behaviors (Ranganathan and Lagarde 2012). More recent reviews find that conditional cash transfers are associated with a decrease in intimate partner violence (Buller et al. 2018) and improvements in child nutrition when appropriately targeted (Manley and Slavchevska 2019).

The third dimension relates to investments in the agriculture sector. Much of the evidence is based on examples of what happens when women do not control the income. Women's lack of control over income can limit improvements in both women's well-being and productivity in the agricultural sector—much in the same way as the gender gap in access to productive resources (Peterman, Behrman, and Quisumbing 2014). Women may choose not to contribute their labor to new opportunities when they do not obtain benefits (Dolan 2001; Koczberski 2007). The agricultural sector as a whole can therefore benefit from women controlling their own income if it induces higher labor supply in the sector.

What Factors Affect Whether Women Control the Income?

The factors affecting women's control over income from agriculture can be characterized into three broad areas: the characteristics of the women themselves, including the households in which they live; the type of crop or livestock; and finally, the characteristics of the market.

In addition to drawing heavily on the literature, we analyze WEAI data from Ghana, Mozambique, and Rwanda[3] to analyze the relationships of control over income with women's characteristics and the source of income. For these three countries, we have data for men as well as women, which facilitates a comparison across sexes. In the sampled household, a primary male and female decision maker were interviewed. Both men and women were asked, "How much input did you have in decisions on the use of income generated from food cropping, cash cropping, livestock, nonfarm enterprises, and wage income?"

We analyze these using an ordered probit model, comparing women who have input into few or no decisions, those who have input into some decisions, and those who have input into most or all decisions. We run the regressions separately for control over each of the types of agricultural income, including food cropping, cash cropping, and livestock.[4] Then, we consider how the pattern of who influences the decisions varies across income source. Finally, we compare women's control over various sources of income with that of men.

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2 For two other examples of the impact of women controlling income from India and China, see Luke and Munshi (2011) and Qian (2008).

3 The datasets used are as follows: Ghana baseline survey (conducted July–August 2012), which includes 4,410 households in the country's Northern Savanna area; Mozambique baseline survey (conducted February–May 2013) comprising 2,864 households across four provinces; and Rwanda interim survey (conducted December 2014–January 2015), which includes 1,066 households across the entire country (excluding Kigali). The graphs are based on the baseline survey data for all three countries, including Rwanda, for which there is a larger number of observations and five gradations of control over income (as opposed to three in the interim survey). We favor the interim survey data in our analysis as it proved easier to match the control-over-income variable with demographic characteristics. We also conducted the analysis for Malawi and Zambia, but since control over income is reported as only "Yes, decisions regarding income" or "No decisions regarding income," we only report the results for Ghana, Rwanda, and Mozambique where we are able to distinguish between "No input into any decisions," "Input into few decisions," "Input into some decisions," "Input into most decisions," and "Input into all decisions." Results for Malawi and Zambia are available on request.

4 Each regression included only the households that reported participation in the given activity. Data were also collected about fishing income, but in all of the countries too few people reported fishing income for appropriate statistical analysis.

Which Women Control Agricultural Income?

Women's control over agricultural income is closely associated with other factors that are related to women's empowerment (Table 11.1). When women identify themselves as the primary decision maker, rather than the spouse of the primary decision maker, they are more likely to have control over income.

Across all three countries, older women consistently have greater control over their income. Programs designed to promote women's control over income should therefore be sensitive to the possibility that younger women may be particularly vulnerable to losing control over their income.

In addition, women with control over resources, specifically land and livestock, are more likely to control income. Women's landownership is consistently correlated with women's greater control over income from food crops and is positively correlated with women's control over income from cash crops in Ghana. This result holds up regardless of whether we consider any landownership[5] or only sole landownership.[6] Similarly, owning any livestock is correlated with greater control over income from livestock in all three countries. The coefficients for individual ownership of land and livestock are consistently positive, and often significant and larger in magnitude than the coefficient on joint ownership.

The Ghana data have information on marital status and demonstrate that women who are single and those who are widowed, divorced, or separated are more likely to report control over income relative to those who are married (the default category).

Lastly, women who are more educated (not shown) are more likely to report that they have input into most or all decisions regarding the various forms of agricultural income.

A number of other domains of women's empowerment are correlated to women's control over income, but the evidence is mixed across sources of income and countries. For example, women's access to credit[7] is negatively related to their control over income from food cropping, cash cropping, and livestock in Ghana. But the relationship is positive for all types of income (except food cropping) in Mozambique and for food cropping, livestock, and nonfarm enterprise income in Rwanda. The coefficients in the Ghana regressions may be explained by reverse causality such that women with higher control over their income have a lower demand for loan products, whether formal or informal. The results for Mozambique and Rwanda imply that in some contexts, access to credit is positively related to control over income. That is, improving women's control over income can enhance their access to credit.

Membership specifically in economic groups (agricultural producer groups, and trade and business associations) and other types of groups (including insurance, civic, and religious groups) is also sometimes related to women's control over income, although the direction of the relationship again differs across income type and context. For example, although there is little indication that women who actively participate in economic groups are more likely to control income, these results mask considerable heterogeneity. In Ghana (and in accordance with the evidence on value chains in fish farming [Naved 2000]), agricultural producer groups are always associated with greater control over income, but this is offset by the negative correlation between trade and business associations and control over income. The negative relationship between other group membership and control over income in the case of livestock income in Mozambique and nonfarm enterprise income in Rwanda may be explained by the detrimental impact of participation in women's groups, which reinforce traditional gender roles. The positive relationship in the case of wage income in Ghana and food cropping and livestock income in Rwanda may be explained by the role of saving and credit associations in enabling women to retain control over their income. In this sense, group membership can be either beneficial or harmful, depending on the specific nature of the group.

Thus, control over income varies across women within rural communities, based on relationships within the household and their education and age. In addition, women's control over income is correlated with other domains of women's empowerment. In our analysis, it is not possible to identify the causal relations, but only to show that they are interrelated and that women who are empowered in some dimensions are more likely to control income from various sources.

5 Defined as joint or individual ownership of land.

6 Not shown.

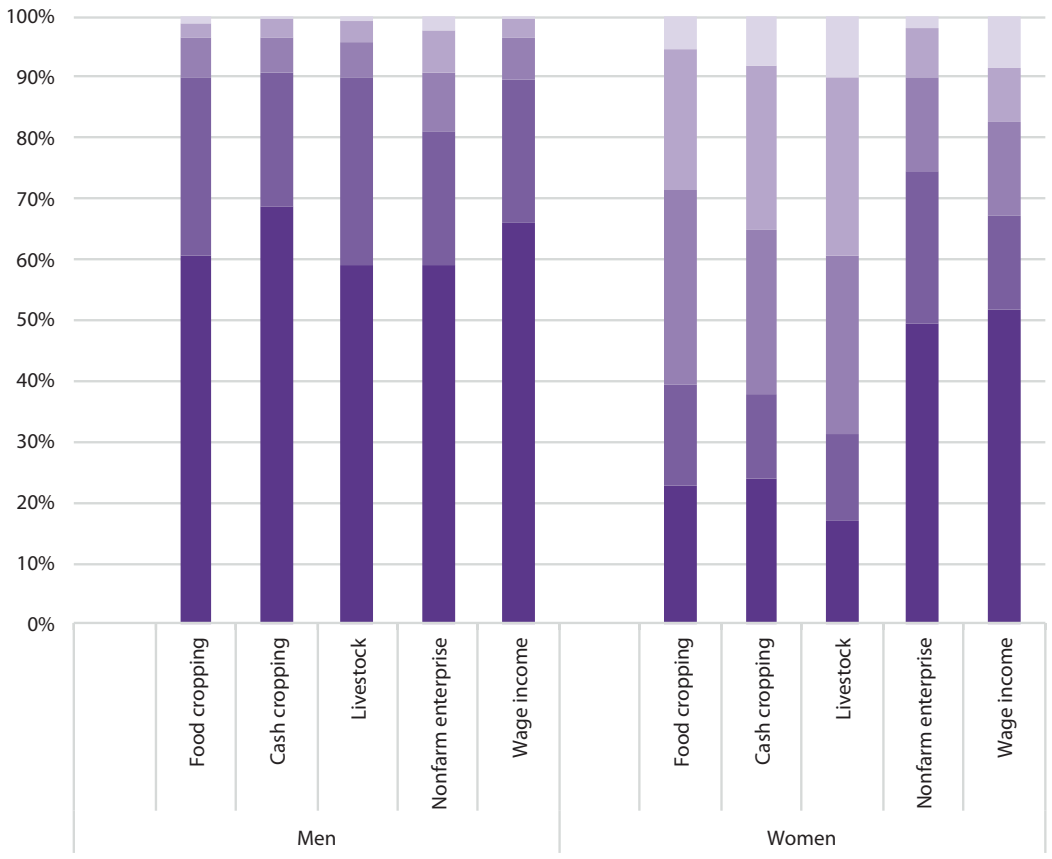
7 Defined as having any sole or joint control over the decision to borrow or the use of a loan from any source of credit, excluding credit from friends or relatives.

TABLE 11.1—WOMEN'S CHARACTERISTICS AND CONTROL OVER HOUSEHOLD INCOME

	Panel A: Ghana					Panel B: Mozambique					Panel C: Rwanda				
	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
	Food cropping	Cash cropping	Livestock	Nonfarm enterprise	Wage	Food cropping	Cash cropping	Livestock	Nonfarm enterprise	Wage	Food cropping	Cash cropping	Livestock	Nonfarm enterprise	Wage
Relationship to primary respondent															
Spouse	-0.3814***	-0.3052***	-0.2665**	-0.3323**	-0.3505	-0.6873***	-0.9276***	-0.8338***	-0.9731***	-1.0505***	-0.9574***	-1.4877***	-1.3845***	-1.2219***	-1.4946***
Child	4.2762***	4.0974***	5.4508***	4.0508***	omitted	-0.4359	4.6785***	-1.267***	-0.5882	3.7130***	-1.3404***	3.3579***	-0.6528	3.2272***	3.3053***
Other	-0.8188**	-0.2480	-0.5905	-0.8583**	-6.5882***	-0.9908*	-5.6667***	-6.0014***	omitted	-0.7098**	-0.7488***	-0.7517	-1.1043***	3.2441***	3.1507***
Age	0.0097***	0.0092***	0.0074**	0.0104***	0.0131	0.0094***	0.0061	0.0033	0.0132	0.0273***	0.0020	0.0218***	0.0051	0.0179	0.0152*
Marital status															
Single	1.0182***	0.9925**	1.2781***	0.7752	0.4151										
Widowed / divorced / separated	0.6197***	0.6611***	0.8214***	0.2927	0.6465										
Cohabiting	0.4696	0.5533	5.5624***	4.2520***	4.6886***										
Literate	-0.0592	-0.0596	0.1963	0.1982	0.0027	-0.0099	-0.2403	0.1398	0.0598	0.1811	0.2656	-0.2446	0.1787	0.6516*	-0.0005
Access to credit	-0.2712***	-0.3639***	-0.2290*	0.1136	-0.0936	0.0034	0.9406	1.1881**	5.3053***	0.7777*	0.1662*	0.0940	0.2412**	0.3713*	0.0857
Other group membership	-0.0954	-0.0372	-0.0079	-0.0150	0.5109**	0.0693	-0.0544	-0.2676*	0.1162	-0.2018	0.2773**	0.0997	0.2328	-0.5940*	-0.0027
Economic group membership	0.0975	0.0993	0.0378	0.2002*	0.1448	-0.0702	-0.1517	-0.2318	-0.6223	-0.7365*	0.0127	-0.3077	-0.1399	-0.4880*	0.1122
Landownership															
Joint or individual	0.4524***	0.5601***				0.6663***	0.2938				0.3771***	0.1312			
Livestock ownership															
Joint or individual			0.5251***					0.4737**					0.5992***		
Observations	1,629	1,024	1,017	901	179	1,160	299	297	167	171	865	262	653	213	410

Source: Feed the Future Ghana Zone of Influence Baseline Population Based Survey (2012), Feed the Future Mozambique Zone of Influence Baseline Population Based Survey (2013), and Feed the Future Rwanda Zone of Influence Interim Survey (2015).
Note: Each of the columns pertains to a separate ordered probit regression in which the dependent variable takes the value of -1 if the woman reports few or no decisions in the control over the type of income, 0 if the woman reports having input into some decisions, and 1 if the woman reports having input into most or all decisions.

FIGURE 11.1—WOMEN'S AND MEN'S CONTROL OVER INCOME BY INCOME TYPE—GHANA



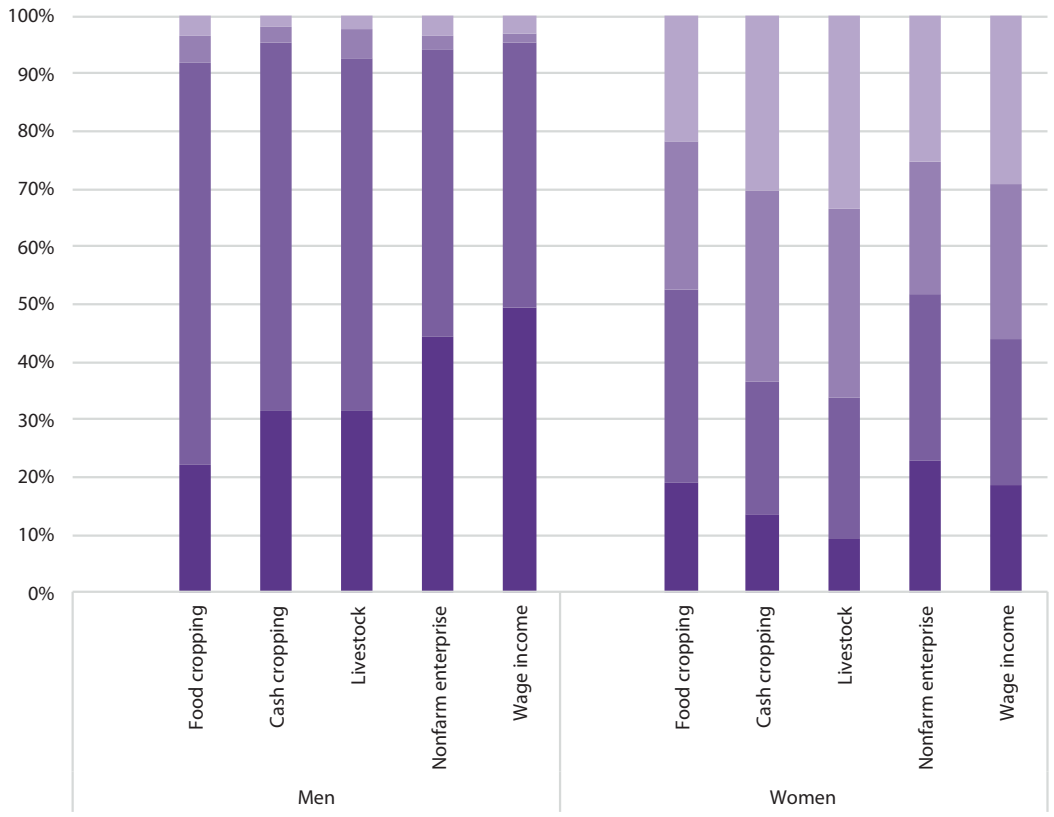
Source: Feed the Future Ghana Zone of Influence Baseline Population Based Survey (2012).

Variation across Types of Agricultural Income

The foregoing discussion clearly indicates that the patterns of women's control over income vary by the source of the income. Figures 11.1 through 11.3 compare women's and men's control over various sources of income by considering their responses to questions about how much input they have into the decisions about the use of income.

Our empirical analyses indicate that the patterns differ somewhat by country. In Ghana, women are most likely to say that they have input into all or most decisions regarding wage and nonfarm income, while in Mozambique, it is nonfarm enterprises and food cropping. In Rwanda, women enjoy high levels of involvement in all or most decisions across types of income but are least likely to report high levels of involvement in cash cropping. In both Ghana and Mozambique, women report the least input into decisions regarding income from livestock.

FIGURE 11.2—WOMEN'S AND MEN'S CONTROL OVER INCOME BY INCOME TYPE—MOZAMBIQUE



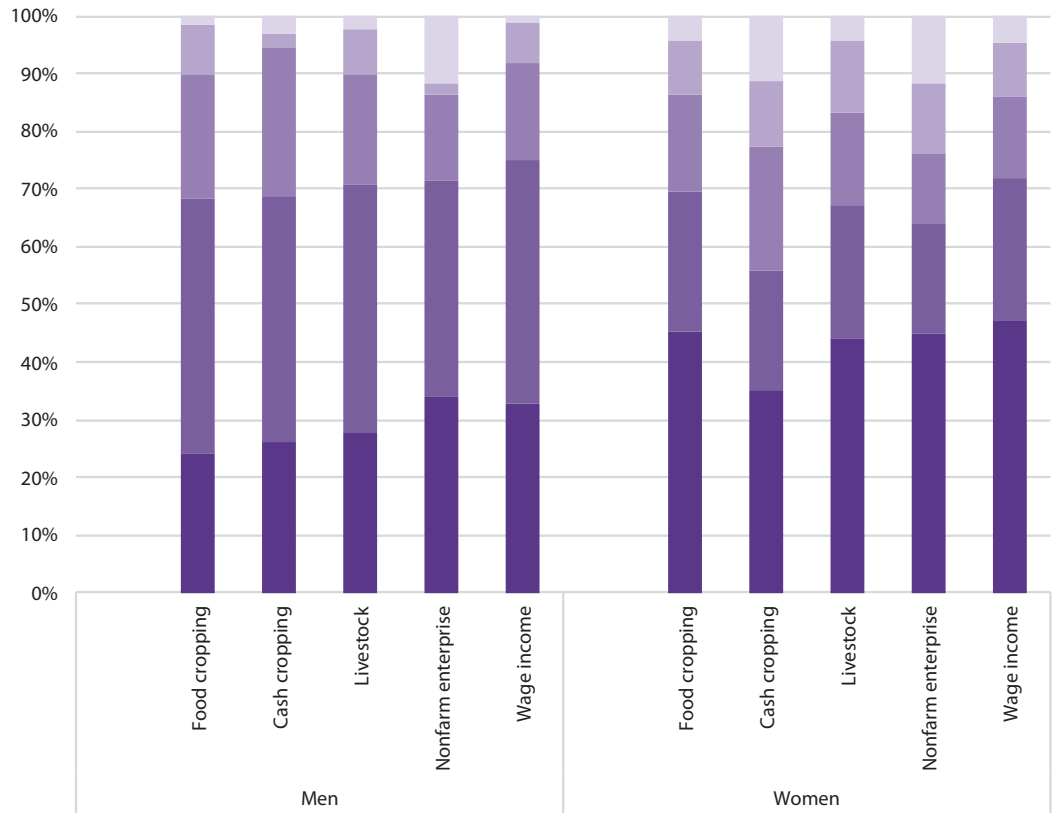
Source: Feed the Future Mozambique Zone of Influence Baseline Population Based Survey (2013).

These data mask important differences across different crops and for different forms of livestock. Unfortunately, the WEAI data do not break this down further to look at particular types of food-cropping income. With the Ghana data, however, we can compare the control over income across households producing different types of crops. In Ghana, women in soya-growing households are more likely to report control over food and cash income than women in rice-growing households, thus supporting the existing literature that crop type is related to control over income (Njuki et al. 2011).

Women consistently report less control over income than do men, regardless of country or source of income. Rwanda is a bit unusual in that women are more likely than men to report that they have input into all decisions, while the most common response from men is that they have input into most decisions.

An extensive literature documents how the characteristics of the crops or livestock affect whether men or women control the income. Some crops and livestock are seen as socially more appropriate for women. These may include home gardens, some staple crops, and small livestock and poultry. They tend to be grown on a smaller scale, often in and around the homestead, and produce lower

FIGURE 11.3—WOMEN'S AND MEN'S CONTROL OVER INCOME BY INCOME TYPE—RWANDA



Source: Feed the Future Rwanda Zone of Influence Baseline Survey (2015). See footnote 2.

revenue. Value chains that involve crops or livestock where the income streams are smaller and more frequent make it easier for women to control the income.

Home gardens are often seen as appropriate forms of agriculture for women. Women may grow a variety of vegetables on a relatively small scale, primarily for home consumption with any excess sold. When the produce is sold, it is often sold in small quantities with low amounts of money changing hands, which makes it easier for women to retain control. Early literature on this subject showed that income from commercial (cash) crops was most often controlled by men (Alarcon 1993; Kennedy and Cogill 1987; Tinker 1979 cited in Kennedy 1994) and was mainly used for nonfood expenditure (Kennedy and Cogill 1987). Even when considering crops such as irrigated vegetables, there may be differences. Njuki et al. (2014) report that women prefer to irrigate leafy vegetables. These can be harvested over time and sold in small quantities. On the other hand, men prefer to irrigate tomatoes, which are sold on a larger scale.

In livestock, Njuki and Sanginga (2013) report that women are more likely to control income from the sale of small livestock compared to large livestock, and from livestock products such as milk compared to sale of the actual livestock. In a study in Tanzania (Njuki and Sanginga 2013), women managed more income

from the sale of small livestock than large livestock. Specifically, they managed 49 percent of income from the sale of chickens and 33 percent of income from the sale of sheep and goats compared to 24 percent of income from the sale of cattle. On management of livestock and their products, women managed 50 percent of the income from the sale of milk, which was much higher than their income share from the sale of cattle (24 percent). According to Ridgewell and Flintan (2007) trading in milk provides women with one of the few available opportunities to control their own money.

Market Characteristics

Finally, the characteristics of the market affect who controls the income. It is not necessarily the case that the person who sells the produce in the market is the one who keeps the revenue, although in many contexts this is the pattern. Thus, when some markets are culturally inappropriate for women, such as markets for large livestock, women may not participate directly in them. It is often difficult for women to sell large livestock directly in the markets, and instead they often rely on a broker to sell their animals. Women then get lower returns from these sales.

Qualitative data from Tanzania show that when men sell bags of grain to warehouses, they keep the revenue, even if the production was done jointly with their wives (Theis et al. 2018). The social norms render this acceptable, and the structure of the market makes it difficult for women to sell without their husbands' involvement.

The distance to and the type of market that a product is sold to has been shown to influence the income share going to women (Njuki et al. 2011). Traveling long distances to markets may be more challenging for women than for men. Women face greater time constraints due to their daily responsibilities in the home, and women tend to face greater physical threats when traveling to markets. Thus, women are more likely to sell their produce in local markets or at the farmgate. There is evidence that women are more likely to sell to informal, often near-to-home markets, and that income derived from these markets will be managed by women. In Tanzania, for example, when chickens were delivered to traders and shops away from home, women lost up to 35 percent of the income share that they would have managed if they had sold chickens at the farmgate to other farmers (Njuki and Sanginga 2013).

A final challenge women face is that when a crop enters the market economy men are likely to take over from women, and women therefore do not benefit from market-oriented production (von Braun 1988, 1989). In a review of the literature, Kaaria and Ashby (2000) found that poor rural women were often excluded from accessing the more lucrative markets; women often did not benefit from market linkages because of men taking over the commodity once it became profitable. To avoid men taking over, women often selected commodities with lower value and a lower return that did not interest men (Kaaria and Ashby 2000). More recent examples abound. For example, in Burkina Faso and Mali (Bassett 2010), although growing Fairtrade cotton may increase women's incomes and their autonomy, men are often attracted by the high returns and may use their wives' names to apply for Fairtrade certification. Social norms require that a woman hand over the money that she receives to her husband and it is up to the husband to determine how much to return to her.

An extensive literature has analyzed women's limited access to land and other resources needed to support their livelihoods. The evidence is clear that in Africa, as well as elsewhere, women have less access to and ownership of land than do men, regardless of how land access and ownership are defined (see Doss et al. [2015] for an analysis of women's landownership in Africa). Yet simply owning the land or managing the field does not necessarily mean that women will control the income. An analysis of six countries in Africa finds that overlap does not necessarily exist among who is reported to own, manage, and control the income from land. Similarly, Theis et al. (2018) find that the person who controls the outputs from an irrigated land parcel is not necessarily the person who manages or works the land. Women also typically have less access to nonland resources, including extension services and other sources of information, than do men (Peterman et al. 2014).

An analysis carried out by the AfDB (2015) in four countries and four value chains showed the relationship between landownership, labor contribution, and control over income. In Côte d'Ivoire women owned 25 percent of the cocoa plantations and made up about 68 percent of the labor force. However, due to their relatively low plantation ownership rates, they had very little control over the revenues they generated and were largely unremunerated for their labor. In Ethiopia, women made up 75 percent of the coffee-industry workforce but controlled only 43 percent of the revenue. And in Burkina Faso, women made up approximately 50 percent of production labor in cotton but received less than 2 percent of the income. This trend was replicated even in traditional food crops such as cassava. In Nigeria, the world's largest cassava producer, women account for 25 percent of the 6 million smallholder cassava farmers but earn just 17 percent

of the income. Most commercial production and processing facilities are owned by men, while women are predominant in smallholder processing (AfDB 2015).

Evidence on What Works to Ensure That Women Control the Income

Numerous interventions have attempted to increase women's control over income. This section provides examples of what works in facilitating women's control over income. The examples are grouped into three categories; value chain interventions, interventions in commercial agriculture, and interventions to change gender relations at household and community level.

Interventions in Value Chains

Rubin et al. (Chapter 6 in this report) have detailed the different ways in which women can be engaged in and benefit from value chains. Here we focus specifically on the factors that influence women's control over income derived within value chains.

Many value chains based on smallholder production continue to assume that the household is the unit of production and contract with the household head. Innovations that have found ways to pay women for their labor have both increased women's participation and improved their control over income. For example, an oil palm company in Papua New Guinea created incentives for women to participate in oil palm production by collecting loose fruit that had dislodged from main bunches during harvesting. The women were paid directly by the company and were able to keep this income (Koczberski 2007). While this is a descriptive case study, it is one of several that show that identifying a niche position for women in a value chain can lead to their control over income. The study also provides an effective example of how engaging men and women as individuals and rewarding each separately for their participation can lead to better benefits for women.

As the previous example demonstrates, one key way that value chains influence who controls income is through the structure of payments. More generally, payment systems within value chains influence women's participation and control over income. Women are less likely to have bank accounts than men. So if money is paid directly to bank accounts, it is more likely to be controlled by men unless additional steps are taken. New methods of payment make it easier to ensure that payments for women's production go directly to women. For example, a bank in Malawi employed a biometric card that allowed only the cardholder to withdraw money from the account. This intervention successfully attracted large numbers of women to open bank accounts and was particularly effective for those in rural areas who did not possess an identity card and for widows who were able to protect their savings from their husbands' relatives (Cheston 2007, cited in Quisumbing and Pandolfelli 2010). A recent review suggests that payment systems via mobile phones further expand the options for women to receive payments directly (Duncome and Boateng 2009). Women who are members of producer groups (such as milk unions) can receive payments into their own accounts.

Most value chain projects remain gender-blind, often increasing women's labor without increasing their control over income. In Mozambique, an evaluation study found that a dairy project that aimed to improve dairy production and marketing by providing improved and higher-yielding dairy cows led to increases in milk production but a higher labor burden for women and children. The highly productive cattle distributed by the project produced much more milk than traditional cows but required more and better food and other inputs. Because they did not graze, food and water had to be brought to the cow, which dramatically increased labor requirements. While having a woman trained to manage the dairy cows was positively associated with dairy income, both men and women reported that men controlled the majority of the income from dairy production (Johnson et al. 2015).

Interventions in Commercial Agriculture

As women play an extremely important role in agriculture in poor countries, the modernization of food supply chains entails important gender implications as well. The critical role export firms can play in enhancing women's access to commodity crop income is supported by further studies that find that women employed in modern supply chains through off-farm wage work in the agro-industry benefit more directly than those employed as family-farm workers. This is mainly because in both on- and off-farm wage labor, women are themselves the "contracted party" in the labor agreement with the companies and not only directly receive the cash wages related to their labor but are also more directly attributable to their labor (as compared to family work), which increases their bargaining power over that income (Martens and Swinnen 2009).

When agricultural companies contract with smallholder farmer, they often need to secure access to land and labor for a guaranteed supply of primary produce, which leads them to contract with male household heads (Dolan 2001). Women are excluded because they lack statutory rights over land and because

they have less authority over family labor than do men. When men contract with the firm, they also receive and directly control the income derived from high-value contract farming. Even when women provide the bulk of the labor in high-value contract production as family laborers on plots controlled by their husbands and brothers, their work is often unpaid or inadequately remunerated.

Direct contracting of women and innovative contracting that does not require that the farmer own the land can ensure women manage more of the income from the contracted crop. Agribusinesses may opt to base contracting eligibility on the principle of control: as long as a farmer has been assigned land where he or she has control over the produce, he or she can become a member, regardless of whether he or she has ownership rights over the land itself. This allows married women to sign contracts on their own. Other options include the registration of both spouses in a household and the registration of women's groups. For example, in Phata Sugarcane Outgrowers Cooperative in Malawi, 44 percent of those contracted were women (Rijke 2017). This was because membership was not limited to household heads. Instead, each contracted farmer was provided with a unique registration number, and hence multiple individuals from the same household/women and men from the same family could register as individuals. In some families, men allocated land to their wives so that they could join. This enabled women to directly receive benefits from the land, including the payment of dividends (Rijke 2017).

In sharp contrast to high-value contract farming, there is no bias in favor of men in the labor market effects of modern supply chains, especially in the fresh fruit and vegetables agro-industry (Martens and Swinnen 2009). In Senegal, 90 percent of the agro-industrial employees in the French bean sector, and 60 percent in the cherry tomato sector, are women. Women make up 75 percent of flower industry employees in Kenya and Uganda and 65 percent of employees in the fresh vegetable sector in Zambia. In the Niayes area of Senegal, wages earned in the French bean export industry make up one-third of household income for those households involved in agro-industrial employment, and 85 percent of these wages pertain to women. In the Senegal River Delta area, 45 percent of the income derived from employment in the tomato export industry pertains to women while this agro-industrial employment has become the major source of income in the region (Martens and Swinnen 2009). However, more evidence is needed on how much of this income is under the control of women.

In sum, interventions that appear to work in the commercial agriculture sector to support women's control over income include direct contracting of women for crops for which they are the main producers, joint registration of spouses in contracts where both are providing the labor, payment systems that work for women such as village banks and mobile payments, and ensuring women obtain financial literacy to manage contracts.

Interventions to Change Household and Community Gender Relations

Even when income is paid directly to women, social and gender norms can limit women's control over how that income is used. Changing gender relations at the household and community level can influence society's acceptance of women's increased roles in markets and their ability to control and make decisions regarding household income. Over the past several decades, the transition from exclusive subsistence farming to the growing of cash crops has been promoted as a method of increasing the incomes of poor smallholder farmers and is viewed as a key stepping-stone in economic development (Masanjala 2006). Despite the potential of cash crops to raise household income, the transition can also contribute to gender inequality within the household. Though both men and women provide labor for cash crop plots, men conduct most market-facing activities and consequently control the income from these activities.

The Uganda Farm and Family Balance project tested two approaches to increasing women's integration into and returns from cash crop value chains: contracting with women farmers and sensitization workshops to improve cooperation between men and women in households (Ambler, Jones and O'Sullivan 2018). The impact evaluation intervention cross-randomized (1) encouraging households to transfer one of multiple sugar contracts into wife's name, and (2) providing sensitization workshops to increase gender equity and cooperation in households. It is one of few rigorous impact evaluations that provide evidence of an intervention that was successful in enhancing women's control over income. Both components had an impact in changing the social norms about women's roles in sugar production.

In Malawi and Zambia, a fisheries project sought to change the gender and social relations that govern fishing in order to reduce postharvest losses and increase women's decision making and control over income (Cole et al. 2018). In both countries, while women participate actively in farming and fishing, they are often segregated in processing often using traditional, rudimentary, and labor-intensive technologies, while men do the fishing and selling and earn greater income. This has several technical and social consequences. The lack of improved

technologies, low access to finance, and women's low mobility accounted for up to 38 percent of losses in captured fish (Cole et al. 2018). Low involvement of women in other nodes of the value chain and social and cultural norms lead to lower incomes for women, low input in household decision making, and a lack of control over income by women. The project used community theater to address some of the harmful social and gender norms and power relations identified, and to change attitudes toward women. Results showed that after exposure to the program, a greater percentage of women made larger contributions to decisions regarding fish processing and the associated income (a 30 percent and 49 percent increase, respectively) (Cole et al. 2018). Women's involvement in decisions about income generated from fish trading significantly increased for those who participated in community theater, from 65 to 94 percent.

While rare, norm transformative interventions that explicitly work to change social norms through direct engagement of men, women, and the broader community around gender and social barriers are becoming increasingly common both in the agricultural and the financial sector. For example, CARE International has made transformative norms change an organizationwide priority and is addressing the gender norms that affect financial inclusion through its work supporting Village Savings and Loan Associations. The organization has promoted dialogue between men and women around intrahousehold resource management and the role of women in the paid economy (see Miruka and Hillenbrand, this report).

Media can also play a role in changing these norms. In Kenya, for example, Women's World Banking developed an education campaign to encourage low-income, underbanked women to open and use bank accounts. Partnering with a local educational television show, Makutano Junction, Women's World Banking used market research findings on the psychological barriers women face in accessing bank accounts to develop storylines in the shows and embed messages to examine power relations in the family to shift norms and perceptions around financial services for women. Approximately 138,000 low-income female viewers opened an account after the show; on the other hand, no female nonviewers opened accounts (Women's World Banking 2017).

From these examples, it is clear that value chain or financial inclusion interventions alone are not enough to guarantee women's control over income due to gender and social norms that create additional barriers. It is necessary to change those norms through participatory and norm change activities including building women's own confidence, engaging men for gender equality, and using media campaigns to ensure women have control over resources including control over benefits from their labor.

Conclusions

As rural economies transform and new income earning opportunities arise, it is important that both women and men benefit from these changes.

Women's control over agricultural income is mediated by a number of factors. Some are related to the women themselves and their position within their families. Women are often involved in particular types of crop and livestock production for which it is easier for them to control the income. These are often small-scale agricultural activities for which the marketing is done locally and frequently. Thus, women are more likely to engage in vegetable production for the local market than in large livestock production where animals are sold once or twice a year at a distant specialized market.

Interventions to increase women's control over agricultural income have taken several directions. One approach is to focus on crop and livestock activities that have been traditionally within women's domain and work to increase their productivity and marketing. A second approach is to change the structures in more lucrative value chains to make them more accessible to women. Often this includes rethinking the payment structure so that the proceeds from women's own labor goes directly to them. Finally, some programs have directly tackled the social norms that limit women's participation and that suggest that women should not earn or control money. Despite this evidence, value chain and other market development programs often do not include explicit interventions to improve women's control over income from their labor. Where efforts have been made to design and evaluate programs that explicitly target women's control over income, the results are promising. Agricultural interventions can ensure that women not only participate and engage in agricultural projects, but that they also control the benefits of their labor.

For women to fully participate in the processes of rural transformation and benefit from the changes that are taking place, they must be able to participate in relatively productive activities, receive the income from their labor and produce, and have some say over that income within their household. Changes in payment structures must be done in conjunction with efforts to change social norms to increase the acceptability of women earning income and being involved in household decisions. Such changes will not only promote better welfare for women and children but also ensure that rural communities grow and thrive.

CASE STUDY 5

The Role of Men in Nutrition: Reflections from Malawi

Elizabeth Mkandawire and Sheryl L. Hendriks[1]

Men's role in nutrition offers opportunities to strategically advance multiple Sustainable Development Goals (SDGs) simultaneously—in particular, SDG 2 on zero hunger and SDG 5 on gender equality. Men's involvement in maternal and child nutrition has been a policy priority since the 1992 First International Conference on Nutrition (FAO 1992a), at which the World Declaration and Plan of Action for Nutrition (FAO 1992b) highlighted that men often control the household resources needed to improve nutrition outcomes. The "men's involvement" approach was more clearly articulated at the 1994 International Conference on Population and Development in Cairo. During this period, a shift was occurring in development approaches, from "women in development" to "gender and development," because experts realized that a focus on women alone was not enough to address the institutionalized power relations that undermined women's equality (Moser 1993). The 1994 Cairo Declaration on Population and Development emphasized the importance of men's shared responsibility in maternal and child health, with specific reference to children's nutrition (UNFPA 1994). The 1995 Beijing Declaration and Platform for Action highlighted the need to understand the roles of both men and women, and the relationship between men and women, in all development actions, and emphasized women's and men's shared responsibility for the family (UN 1995).

Development and nutrition policies that target only women overlook the gender relations that constrain women's access to nutritious food. Moreover, policies that focus on women at the exclusion of men reinforce traditional gender roles and stereotypes that allocate nutrition-related responsibilities solely to women. These policies inadvertently absolve men of their responsibility in this domain, overlooking opportunities for cooperation and complementarity between men and women (Doss et al. 2018). Such policies also miss an opportunity to harness the complementary role of men in sharing responsibility for family well-being.

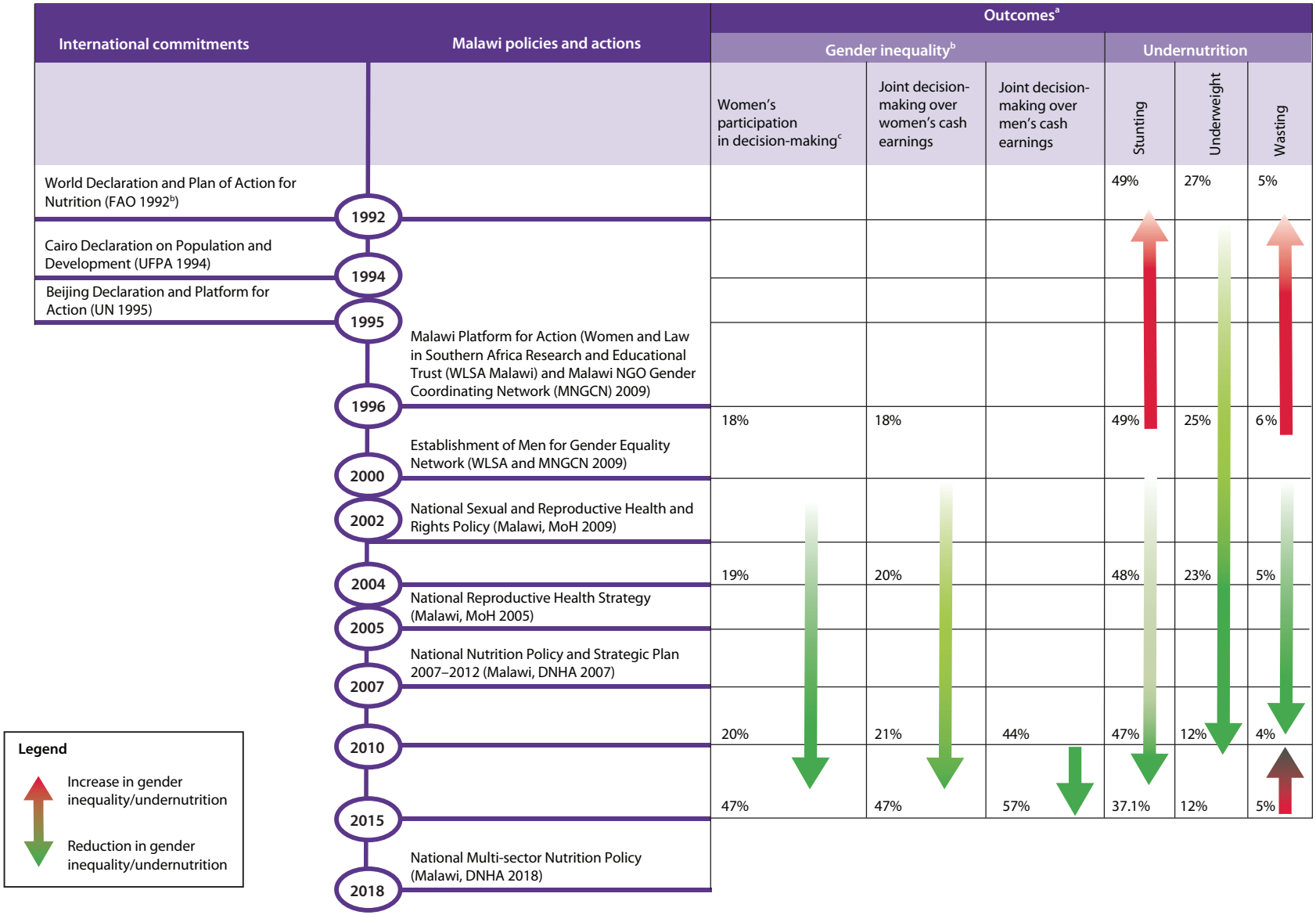
Mainstreaming Men in Nutrition Policy: An Example from Malawi

Efforts to involve men in maternal and child health in Malawi have led to the development of several policies and actions at various levels. The timeline in Figure C5.1 provides a map of the actions and policies implemented in Malawi as a response to its commitments under the international agreements discussed above. According to the 2015–2016 Malawi Demographic and Health Survey (Malawi, NSO and Macro ICF 2017), women's participation in decision-making increased between 2010 and 2015, suggesting a reduction in gender inequality. Undernutrition also decreased quite significantly during this period. Although the policies can be seen as an important factor in improving gender and nutrition outcomes, the depictions in Figure C5.1 are not meant to imply that policies were the only factor contributing to these outcomes.

The first policy to integrate men's involvement in maternal and child health was the 2002 National Reproductive Health Policy. The National Reproductive Health Strategy, adopted in 2006 as the implementation plan for the policy, emphasized men's participation in antenatal clinics. Between 2007 and 2010, Malawi witnessed a high-level commitment to reducing malnutrition, with the president making a personal commitment to decreasing undernutrition. Consequently, when the 2007 National Nutrition Policy and Strategic Plan

1 This study was made possible by the generous support of the American people through the United States Agency for International Development (USAID) under the Feed the Future initiative. The contents are the responsibility of the study authors and do not necessarily reflect the views of USAID or the United States government. We would like to thank the various stakeholders and men and women from rural central Malawi who participated in this study.

FIGURE C5.1—MALAWI TIMELINE OF COMMITMENTS, POLICIES, AND OUTCOMES FOR MEN'S INVOLVEMENT IN MATERNAL AND CHILD HEALTH AND NUTRITION



Source: Authors.

Note: [a] Data on outcomes are sourced from the Malawi Demographic and Health Survey (Malawi, NSO and Macro ICF 1992, 2000, 2004, 2010, and 2015). [b] Gender inequality is measured based on decision-making only. c This indicator includes women's participation in decision-making over their own healthcare, household purchases, purchases for daily household needs, and visits to relatives.

(NNPSP) was developed, the Department of Nutrition, HIV and AIDS (DNHA) was placed in the Office of the President and Cabinet (Babu et al. 2016).

Mkandawire, Hendriks, and Mkandawire-Valhmu (2018) conducted a gender assessment of the 2007 NNPSP. Using a tool called the Integrated Framework for Gender Analysis in Nutrition Policy (GINA), the analysis found that the NNPSP was not gender responsive—that is, it did not go beyond merely acknowledging gender inequalities. For example, the policy highlighted that men are often favored in terms of food and resource distribution at the expense of women and children, but it proposed no actions to overcome this concern. The NNPSP did not promote the reshaping of power relations between men and women, nor did it challenge gender roles. Instead, it perpetuated gender stereotypes by focusing on the role of women in nutrition, reinforcing the idea that only women are responsible for children's nutrition. Even in focusing on women, the NNPSP did not address the constraints women face in accessing nutritious food or healthcare services. For example, the policy aimed to increase the number of women eating diverse foods, but it did not address the challenges that women face in controlling and accessing resources to obtain food. It did not consider men's shared interest in maternal and child nutrition, nor did it take into account gender norms that constrain men from becoming involved, yet it highlighted that most household decisions are made by men (Mkandawire, Hendriks, and Mkandawire-Valhmu 2018).

Several factors contributed to the weak integration of gender in Malawi's first nutrition policy. Mkandawire, Hendriks, and Mkandawire-Valhmu (2018) suggested that the NNPSP had a limited capacity to integrate gender. First, unclear mandates for the Ministry of Gender, Children, Disability and Social Welfare compromised that body's capacity to mainstream gender through the NNPSP (Olivier et al. 2019). Second, policymakers trained in nutrition did not necessarily have the capacity or the will to ensure adequate integration of gender equality. Third, as is often the case, policy decisions were influenced by policymakers' gender perspectives, influencing the ways in which gender was interpreted and articulated in the policy. Fourth, the policy lacked an enforcement mechanism, such as a legally mandated high-level gender supervisory body that ensures adequate integration of gender into all of the country's policies.

In 2012, the Department of Nutrition, HIV and AIDS began revising the NNPSP. As documented by Mkandawire and colleagues (2016), a policy support process using GINA helped policy makers engage in an assessment of the new draft policy. This process enabled them to reflect on gaps and personal biases that had influenced previous decisions. The initial draft of the policy reinforced the role of women in maternal and child nutrition by stating, "The policy shall ensure an increase in men's shared responsibility for childcare and household duties to enable women to have more time to provide optimal childcare" (Malawi, MoH 2016, 17). Men's involvement was mentioned but only in order to contrast it with women's stereotypical role of caring for children. This statement was revised after the policy makers were supported to conduct the assessment. The finalized statement says the policy will ensure that "men's shared responsibility for child care and household duties to enable women['s] participation in social and economic activities is increased" (Malawi, DNHA 2018, 18). The revised National Multi-sector Nutrition Policy for 2018–2022 was adopted in June 2018. In comparison with the previous policy, this new policy places a greater emphasis on the important role men have to play in maternal and child nutrition and gender equality.

Translating Policy to Action

In an effort to implement its 2006–2010 National Reproductive Health Strategy, Malawi put in place some measures to enforce men's involvement in maternal and child nutrition and health. Within the Ministry of Health, efforts to implement men's involvement interventions began as early as 2005 and have been characterized by a combination of bylaws and policies enforced by traditional leaders and government health centers, respectively. Although these regulations reinforce the need for men's engagement and provide incentives and punitive measures to support compliance, the approaches also have unintended consequences that further marginalize vulnerable groups. For example, traditional leaders have established regulations to encourage men to attend antenatal visits with their partners, such as the imposition of fines on men who do not attend. During these visits, men and women are tested for HIV and receive information on the mother's health and well-being. Studies by Bezner-Kerr and others (2016), Kululanga and colleagues (2012), Mkandawire and Hendriks (2018), and Nyondo, Chimwaza, and Muula (2014) suggest that these interventions have increased men's support of women in accessing nutritious food during pregnancy. However, women who, for whatever reason, do not have an accompanying partner are either sent away from the health center or pushed to the back of the line. Not only are these regulations punitive toward women, but their outcome

is also contrary to the international human rights framework as well as the 1994 Malawi constitution, which guarantees the right of women to be free from discrimination on the basis of their marital status (Mkandawire and Hendriks 2018).

It is evident that there is a danger in simply involving men in maternal and child nutrition without channeling these efforts toward gender equality. Sternberg and Hubley (2004) have raised concern that involving men in maternal and child health could increase men's control over women by inviting them to participate in a domain that has previously been occupied only by women. Even though the bylaws are indeed counterintuitive, it is reported that some men have begun taking up work that has traditionally been associated with women, such as cooking and looking after children. As a result of the nutrition education men receive during antenatal visits, they have also reported making concerted efforts to ensure that their pregnant partners have access to nutritious food by, for example, borrowing money to buy milk (Mkandawire and Hendriks 2018).

Conclusions and Implications for Men's Participation in Nutrition

Nutrition policies offer opportunities for simultaneously improving nutrition outcomes and gender equality. Men and women can play complementary roles in nutrition. Policies that overlook men's role miss opportunities to free up women's time to take care of their own needs and engage in productive and leisure activities—essential elements in women's empowerment. Malawi's strong national commitment to involving men in maternal and child health has been overshadowed by the limited capacity of policy makers to integrate gender into policies and programs. One of the main challenges is that many of these international commitments are signed by one set of policy makers, but the sectoral policies are developed and implemented by a different set of policy makers. The mechanism for mainstreaming international commitments into sectoral policies is weak (Olivier et al. 2019). The appropriate integration of such international agreements into national programs is an indication of the level of a country's commitment to addressing the global challenges identified in these agreements. Malawi's initial nutrition policy reflected an overemphasis on women's roles in nutrition, perpetuating gender stereotypes. As the case of Malawi shows, however, application of user-friendly tools such as GINA (Mkandawire et al. 2019) can enhance policymakers' understanding of complex gender issues and their ability to craft policies that better account for such issues. The support of gender experts in policymaking processes is also critical to developing gender-responsive policies. The capacity to conduct gender assessments needs to be strengthened across all levels of policy.

Men's vital role in maternal and child health needs to be articulated in the context of gender equality. Efforts to involve men in maternal and child health have created a new set of gender challenges in Malawi. Local bylaws and regulations incentivize men to accompany their partners to antenatal clinics but inadvertently lead to discrimination against women who, for whatever reason, attend without a partner.

Although involving men in maternal and child nutrition challenges and transforms traditional gender roles, men's involvement in nutrition can foster cooperation between men and women. In Malawi, men's attendance at antenatal clinics has motivated some men to take on more responsibility for women's and children's nutrition. The participation of traditional leaders has been instrumental in increasing the likelihood that interventions will be implemented.

CASE STUDY 6

How Empowered Are Women in African Agriculture?

Ruth Meinzen-Dick, Emily C. Myers, and Agnes Quisumbing[1]

Women's empowerment and gender equality are important for their intrinsic value and because of documented linkages with other Sustainable Development Goals (SDGs), such as eliminating poverty (SDG 1), achieving zero hunger and malnutrition (SDG 2), and good health and well-being for women and children (SDG 3) (Cunningham et al. 2015; Malapit et al. 2015; Ruel, Quisumbing, and Balagamwala 2018; Sraboni et al. 2014). Those who wish to measure progress in women's empowerment need indicators designed to capture the many dimensions of empowerment. The personal and multidimensional nature of empowerment has obstructed attempts to measure it. However, the increasing use of Kabeer's (1999) definition of empowerment as "expansion in people's ability to make strategic life choices in a context where this ability was previously denied to them" (Kabeer 1999, 437) has inspired recent measurement efforts. In Kabeer's definition, the ability to exercise choice encompasses three dimensions: resources, agency, and achievements. *Resources* are defined to include not only access to but also future claims on resources, and include material resources such as land or finances; human resources including not only one's own health and knowledge but also the ability to draw on the labor of others; and social resources, both formal and informal. *Agency* includes processes of decision making, negotiation, and even deception and manipulation. *Achievements* are defined in terms of a range of well-being outcomes, whether tangible such as nutrition or less tangible such as self-confidence and life satisfaction.

In 2012, drawing heavily from Kabeer's definition of empowerment, the International Food Policy Research Institute, the Oxford Poverty and Human Development Initiative, and USAID developed the Women's Empowerment in Agriculture Index (WEAI) to measure and track changes in women's empowerment in agriculture over time and assess differences across countries, regions, and population subgroups (Alkire et al. 2013). Because relatively well-developed indicators of resources and achievements exist, the WEAI focuses on capturing agency, particularly in the agricultural sector, as well as gender parity between the principal adult male and female in the household. The survey was piloted in Uganda, Bangladesh, and Guatemala, and was subsequently included in 19 Feed the Future (FTF) countries' monitoring and evaluation framework as part of the U.S. government's global hunger and food security initiative (Malapit et al. 2014). The WEAI has since been used to diagnose areas of women's disempowerment in agriculture and aid development programs and in the design of interventions to address those areas under the Feed the Future initiative and in studies by more than 98 organizations in more than 54 countries. The index has also been incorporated into the minimum core set of indicators for monitoring the commitments of the Malabo Declaration to promote gender equality in agriculture (AUC, CAADP, and NPCA 2017; see Chapter 1 of this report).

The WEAI is an aggregate index, reported at the country or regional level, based on individual-level data collected by interviewing men and women within the same households, which allows for generalizations and cross-country comparisons. The WEAI comprises two sub-indexes. The first, which is worth 90 percent of the WEAI score, measures the degree to which respondents are empowered in five domains of empowerment (5DE) in agriculture. Those domains are as follows: decisions about agricultural production; access to and decision-making power about productive resources; control of use of income; leadership in the community; and time allocation. Ten composite indicators (Table C6.1) are used to construct the 5DE. Each indicator is given a value of 1 if the respondent has exceeded the threshold for that indicator and a value of 0 if the respondent does not meet the threshold criteria. A person is defined as "empowered" if the weighted sum of these 10 indicators, or 5DE score, is 80 percent or higher. The overall 5DE reflects the

1 Ruth Meinzen-Dick and Agnes Quisumbing acknowledge support from USAID on work related to the WEAI through USAID Grant Number: EEM-G-00-04-00013-00 and helpful comments from Hazel Malapit.

percentage of women and men who are empowered and, among those who are not, the percentage of domains in which they enjoy adequate achievements.

The second sub-index, the Gender Parity Index (GPI), measures gender parity and is weighted as 10 percent of the total WEAI score. The GPI reflects the percentage of women who are empowered or whose achievements are at least as high as the principal man in their households. For those households that have not achieved gender parity, the GPI shows the empowerment gap that needs to be closed for women to reach the same level of empowerment as men in their households. Measuring both men's and women's empowerment is important because different strategies are needed if both men and women are disempowered, compared with cases where only women are disempowered. Moreover, the gender gap in empowerment can have a negative impact on a number of outcomes, beyond the impact of women's disempowerment itself (Malapit et al. 2018).

TABLE C6.1—THE FIVE DOMAINS OF EMPOWERMENT IN THE WEAI

Domain	Indicator	Definition of indicator	Weight
Production	Input in productive decisions	Sole or joint decision making over food and cash crop farming, livestock, and fisheries	1/10
	Autonomy in production	Autonomy in agricultural production (for example, what inputs to buy, what crops to grow, what livestock to raise). Reflects the extent to which the respondent's motivation for decision making reflects his or her values	1/10
Resources	Ownership of assets	Sole or joint ownership of major household assets	1/15
	Purchase, sale, or transfer of assets	Whether respondent participates in decision to buy, sell, or transfer his or her owned assets	1/15
	Access to and decisions on credit	Access to and participation in decision making concerning credit	1/15
Income	Control over use of income	Sole or joint control over income and expenditures	1/5
Leadership	Group member	Whether respondent is an active member in at least one economic or social group	1/10
	Speaking in public	Whether the respondent is comfortable speaking in public concerning various issues such as intervening in a family dispute, ensuring proper payment of wages for public works programs, and so forth	1/10
Time	Workload	Allocation of time to productive and domestic tasks	1/10
	Leisure	Satisfaction with the available time for leisure activities	1/10

Source: Alkire et al. (2013).

Overall Empowerment Scores by Region

Baseline WEAI data exist for 10 African countries in three broad geographical regions: Ethiopia, Kenya, Rwanda, and Uganda in East Africa; Ghana, Liberia, and Senegal in West Africa; and Malawi, Mozambique, and Zambia in Southern Africa (Table C6.2). Higher scores indicate higher levels of empowerment, with 1.0 indicating perfect levels of empowerment. The scores reflect the proportion of women who are empowered and have gender parity but also, for the remainder of women, the depth of their disempowerment and gender disparity. The surveys from which the WEAI data are computed are not nationally representative but are representative of Feed the Future Zones of Influence (ZOIs).[2] Table C6.2 also classifies countries into high, medium, and low rankings based on their score. Although East Africa has two high-scoring countries, Rwanda and Uganda (by ZOI), it also has two low-scoring countries, Ethiopia and Kenya. West Africa demonstrates the lowest levels of achievement, followed by southern Africa, with medium-ranking countries. Again, one should not take these overall patterns of empowerment as characterizing empowerment for countries as a whole because they are not based on nationally representative data.

Identifying Sources of Disempowerment

We can also use the WEAI indicators of empowerment to identify key areas of disempowerment, where 1 minus the score for each indicator gives the proportion of women (or men) who do not meet the threshold for empowerment on that indicator. Figure C6.1 decomposes the WEAI to

2 Zones of Influence (ZOIs) are geographic areas through which Feed the Future is implemented. ZOIs are determined by an area's poverty level, staple food production activities, and ethnic diversity.

TABLE C6.2—5DE, GPI, AND WEAI SCORES, FEED THE FUTURE BASELINES: FEED THE FUTURE ZONES OF INFLUENCE IN AFRICA

Region/country	Year	5DE	GPI	WEAI	Ranking
East Africa					
Ethiopia	2013	0.68	0.87	0.70	Low
Kenya	2013	0.71	0.81	0.72	Low
Rwanda	2012–2013	0.90	0.96	0.91	High
Uganda	2012	0.85	0.92	0.86	High
West Africa					
Ghana	2012	0.70	0.81	0.71	Low
Liberia	2013	0.66	0.95	0.69	Low
Senegal	2012	0.68	0.77	0.69	Low
Southern Africa					
Malawi	2012	0.83	0.91	0.84	Medium
Mozambique	2013–2014	0.82	0.89	0.83	Medium
Zambia	2012	0.79	0.89	0.80	Medium

Source: Kansas State University, Department of Agricultural Economics (2014); Optimal Solutions Group (2013); Westat (2012a, 2012b, 2012c, 2013a, 2013b).

Note: 5DE = five domains of empowerment; GPI = Gender Parity Index; WEAI = Women's Empowerment in Agriculture Index.

identify patterns of disempowerment for women for the seven countries for which we have the raw data to conduct the decomposition analysis. The lack of access to and ability to make decisions on credit emerges among the top three contributors to disempowerment in all seven countries (Table C6.3).[3] Lack of control over the use of income and excessive workload also emerge as important constraints in four out of the seven countries. The excessive workload comes about because of women's important role as agricultural producers in addition to their domestic responsibilities, but these contributions to the household do not always translate into control over the income to which women contribute.

For a deeper analysis of disempowerment, it is instructive to compare the contributions of each indicator to women's and men's disempowerment. Figures C6.2 through C6.8 present visual representations that decompose the contributions of each of the 10 indicators to women's and men's disempowerment (1 minus 5DE) scores for three countries in East Africa (Kenya, Rwanda, Uganda), two countries in West Africa (Ghana, Liberia), and two countries in southern Africa (Malawi, Zambia). These data demonstrate that the decomposition of the disempowerment scores may be useful diagnostic tools because they reveal which areas constrain women's and men's empowerment the most.

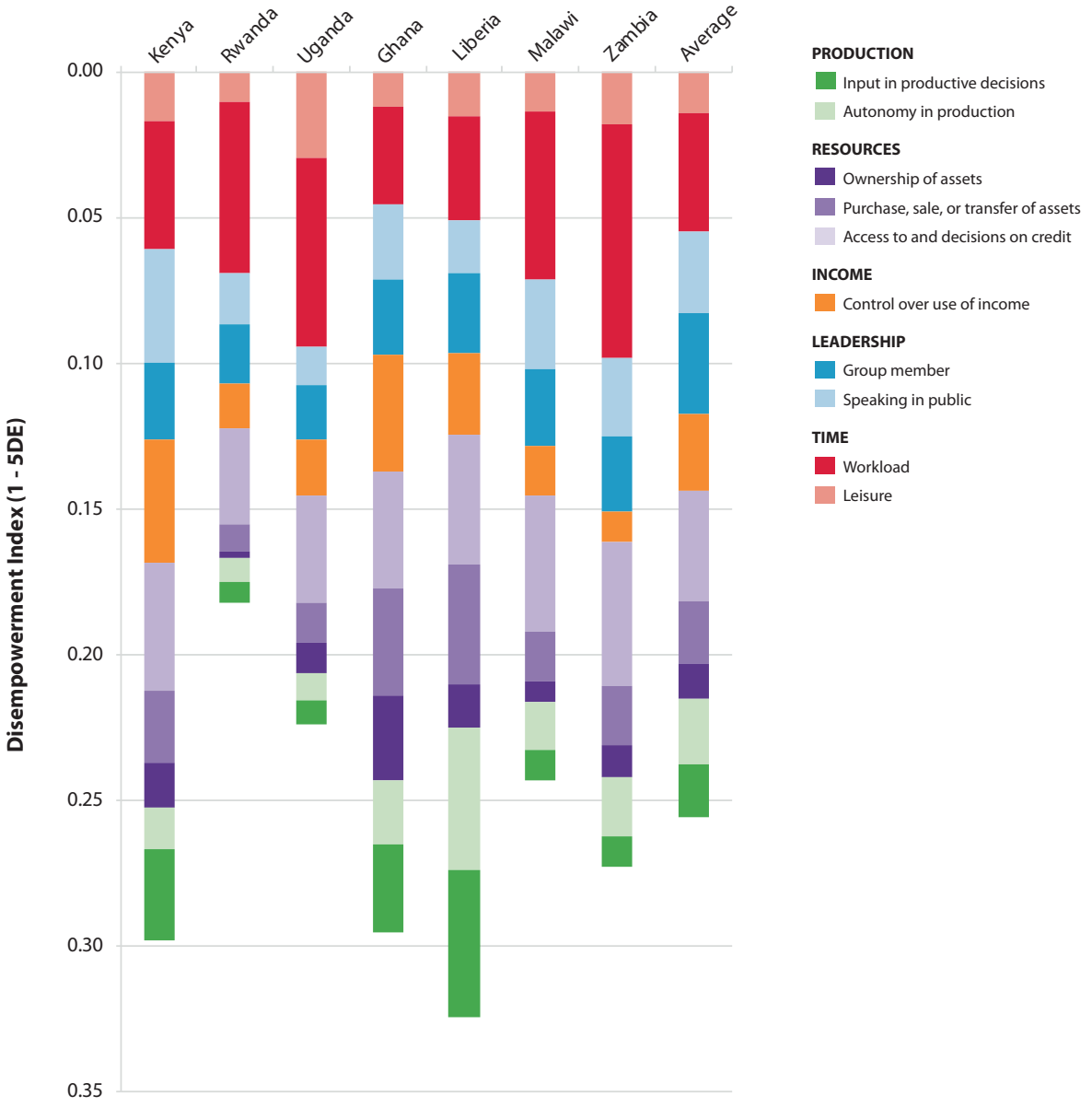
In all seven African countries, women are more disempowered than men. Excessive workload emerges as an important contributor to disempowerment for men and women alike, with women more constrained in this indicator than men. Limited access to and control of credit is a constraint for both women and men, but the extent of disempowerment with respect to this indicator is also greater for women.

There is some variability across regions and across countries within regions. In the East African countries, for example, although workload and lack of access and control over credit are important sources of disempowerment, lack of control over the use of the income is a source of women's (but not men's) disempowerment in Kenya and Uganda. Lack of membership in groups is an important source of disempowerment for both women and men alike in Rwanda and in Uganda.

In the two West African countries in our sample, other sources of disempowerment come into play. In Ghana, disempowerment with respect to being able to purchase, sell, or transfer assets, access to and control of credit, and control over income are sources of women's, but not men's, disempowerment. In Liberia, women are disempowered with respect to input into production decisions, autonomy in production, and the purchase, sale,

3 Note that the original WEAI counts respondents as "adequate" on credit only if they have taken a loan. Those who do not take a loan because they do not need or want one would therefore also be counted as inadequate on this indicator. The pro-WEAI has corrected this by adding a question on whether the respondent could take a loan if they wanted to.

FIGURE C6.1—WOMEN'S DISEMPOWERMENT SCORES



Source: Kansas State University, Department of Agricultural Economics (2014); Optimal Solutions Group (2013); Westat (2012a, 2012b, 2012c, 2013a, 2013b).

and transfer of assets, credit, and workload. Interestingly, input into production decisions is not a major source of disempowerment for men, but the contributions of workload, credit, and autonomy to disempowerment are fairly similar for men and women.

Finally, in the two southern African countries, workload is the biggest contributor to disempowerment for men and women alike, although women are more disempowered with respect to this indicator than men. Speaking in public is also a source of disempowerment for women but not for men.

Identifying major sources of disempowerment for women and men can be a valuable diagnostic exercise to guide policies and investments in programs to address key areas of disempowerment. These results indicate that in all seven countries, improving access to and decision making over credit would be important for both men and women. Technologies and investments that reduce women's workload would be particularly beneficial in Kenya, Malawi, Uganda, and Zambia. That could include domestic water supply or clean fuel as well as other domestic or agricultural labor-saving devices. Results also highlight the importance of increasing women's control over income in Ghana, Kenya, Rwanda, and Uganda. For example, agricultural programs to increase marketing of produce should ensure that women gain or retain control of income rather than having it go to male "heads of households."

TABLE C6.3—TOP CONTRIBUTORS TO WOMEN'S DISEMPOWERMENT, AFRICA

Constraints	East Africa			Southern Africa		West Africa		Number of countries where among top three constraints
	Kenya	Rwanda	Uganda	Malawi	Zambia	Ghana	Liberia	
Input in productive decisions							1	1
Autonomy in production							2	1
Ownership of assets								
Purchase, sale, or transfer of assets						2		1
Access to and decisions on credit	1	1	2	2	2	1	3	7
Control over use of income	3	3	3			1		4
Group member		2						1
Speaking in public				3	3			2
Workload	2		1	1	1			4
Leisure								

Source: Kansas State University, Department of Agricultural Economics (2014); Optimal Solutions Group (2013); Westat (2012a, 2012b, 2012c, 2013a, 2013b).

Note: The table was constructed in the following manner: The top three of 10 indicators representing the greatest constraints to empowerment were identified and ranked for women in each country; they are indicated by a "1," "2," or "3" in each of the country columns for first, second, and third greatest constraint, respectively. The last column represents the number of countries in which a given indicator was a top constraint, with each constraint weighted equally.

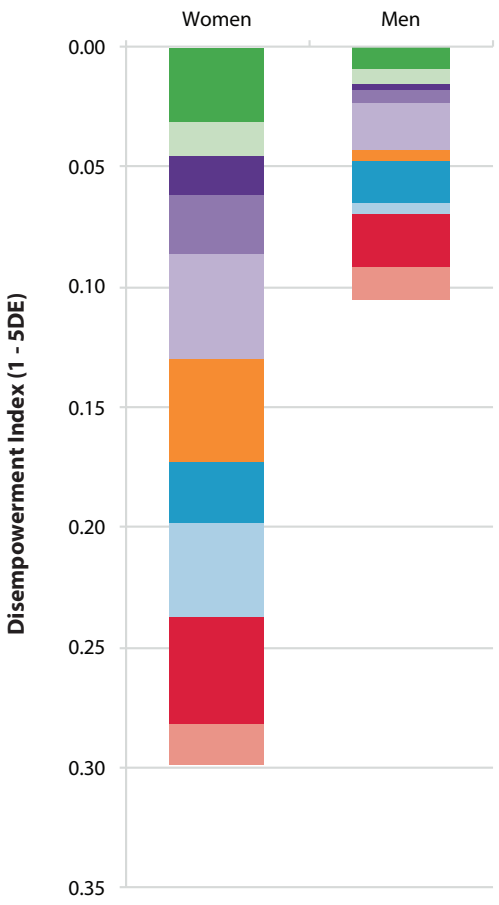
Can We Measure Progress toward Gender Equality?

Commitment 4 of the Malabo Declaration aims to halve poverty by 2025 in Africa through inclusive agricultural growth and transformation with a specific emphasis on the role of gender in agriculture: "to support and facilitate preferential entry and participation for women and youth in gainful and attractive agri-business opportunities." The Comprehensive Africa Agriculture Development Programme (CAADP) biennial reporting framework and guidelines recommend the use of the 5DE to track progress toward attaining commitment 4 (as indicator 4.4—the proportion of rural women that are empowered in agriculture; see AUC, CAADP, and NPCA 2017).

For either the WEAI or the 5DE to be used to monitor progress toward women's empowerment, the data need to be collected regularly with similar methods. Because the WEAI was still being developed when it was initially fielded, survey implementers had problems with the length of the questionnaire as well as with some questions that were more difficult to implement. These issues have been addressed with the creation of an abbreviated version of the WEAI (the A-WEAI) (Malapit et al. 2017) and more systematic cognitive interviewing (Malapit, Sproule, and Kovarik 2017) to ensure that respondents understand what is being asked. In 2015, the Feed the Future countries conducted midline surveys that included nine out of the 10 WEAI indicators (excluding the autonomy indicator), administered in the same areas but, with the exceptions of Ethiopia and Senegal, administered only to women. The change in survey instrument and coverage makes it possible to assess progress in gender equality only in Ethiopia and Senegal. Only indicator-by-indicator comparisons are possible for the other countries.

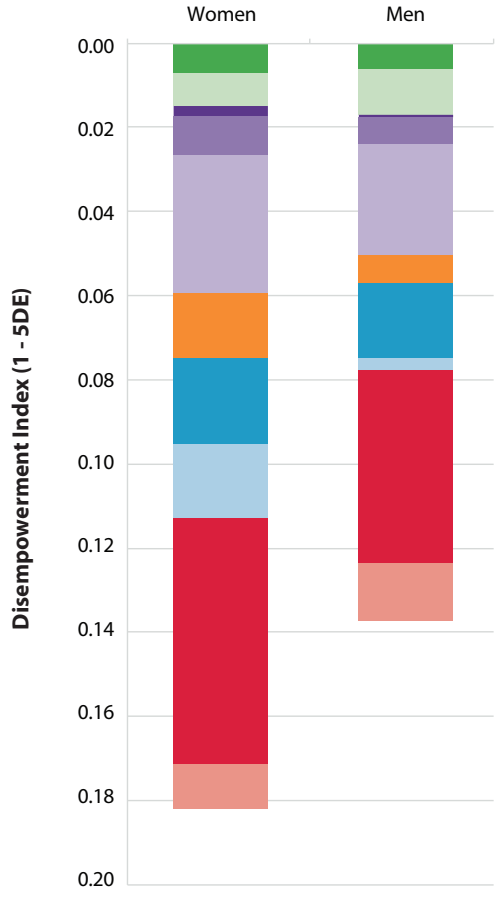
The case of Ethiopia illustrates what can be learned by collecting WEAI data using the same methodology over time. Figure C6.9 presents the WEAI, 5DE, and GPI scores for Women in Ethiopia in 2013 and 2015.

FIGURE C6.2—WOMEN'S AND MEN'S DISEMPOWERMENT IN KENYA



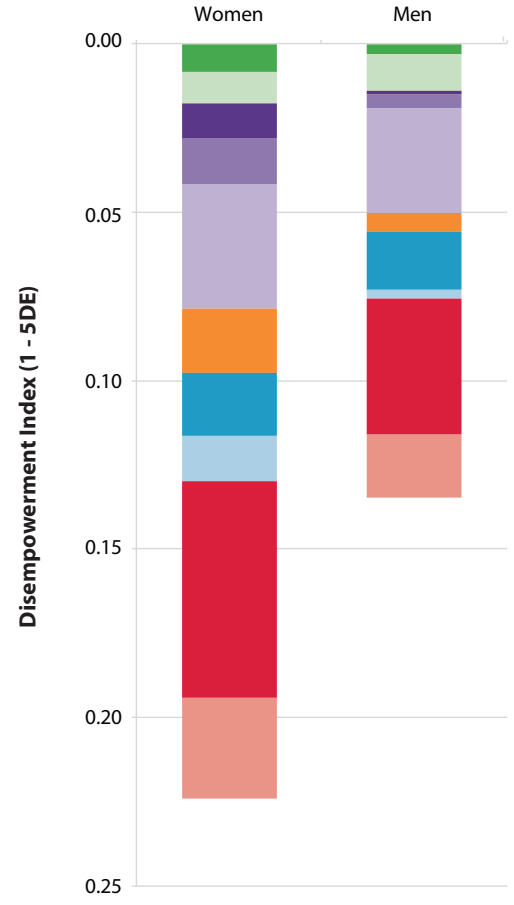
Source: 2013a. "FTF FEEDBACK Population Based Survey: Northern Kenya." Unpublished, Rockville, MD, US.

FIGURE C6.3—WOMEN'S AND MEN'S DISEMPOWERMENT IN RWANDA



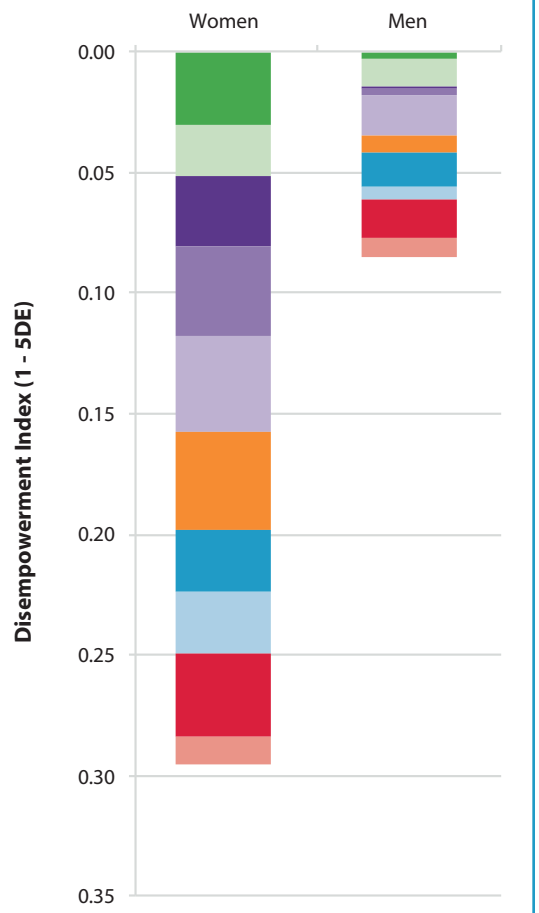
Source: 2013b. "FTF FEEDBACK Population Based Survey: Rwanda." Unpublished, Rockville, MD, US.

FIGURE C6.4—WOMEN'S AND MEN'S DISEMPOWERMENT IN UGANDA



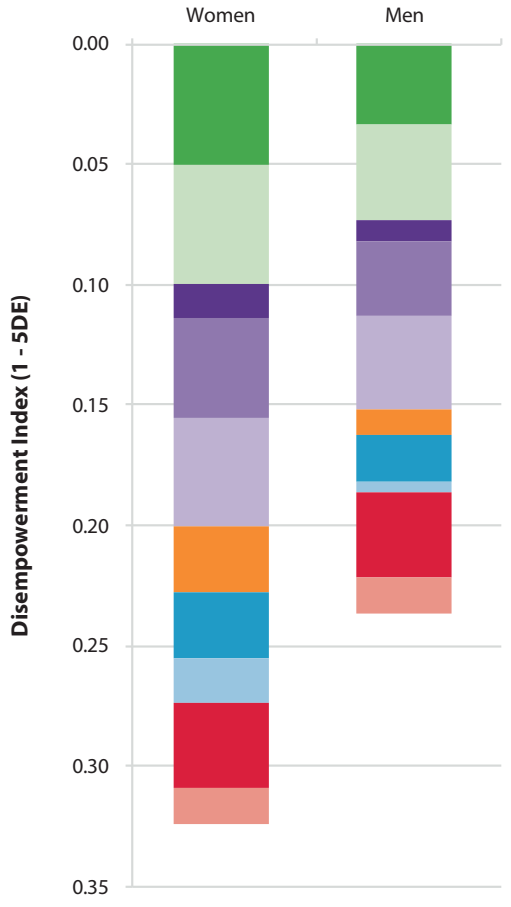
Source: Westat. 2012b. "FTF FEEDBACK Population Based Survey: Uganda." Unpublished, Rockville, MD, US.

FIGURE C6.5—WOMEN'S AND MEN'S DISEMPOWERMENT IN GHANA



Source: Kansas State University, Department of Agricultural Economics. 2014. "Baseline Feed the Future Indicators for Ghana 2012." Manhattan, KS, US.

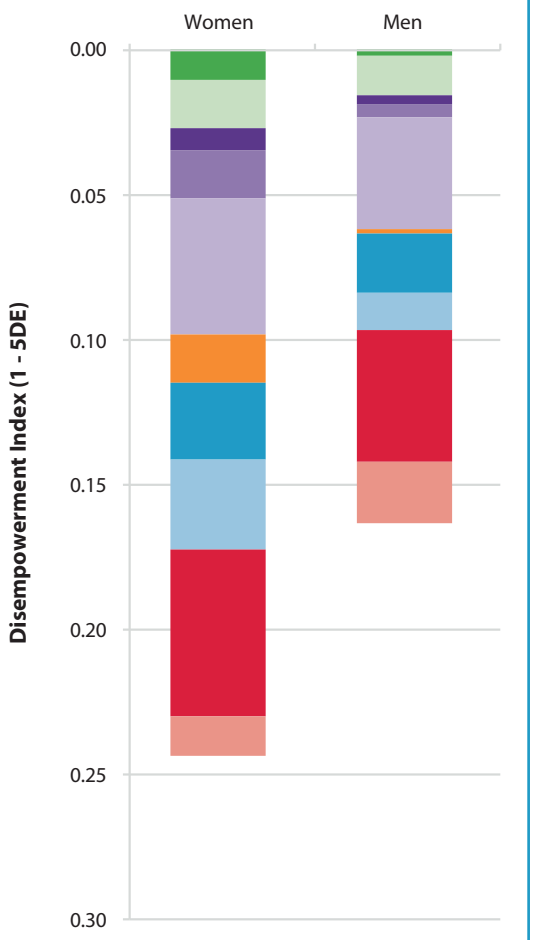
FIGURE C6.6—WOMEN'S AND MEN'S DISEMPOWERMENT IN LIBERIA



Source: Optimal Solutions Group. 2013. "USAID Liberia Feed the Future Population-Based Survey Final Report." College Park, MD, US.

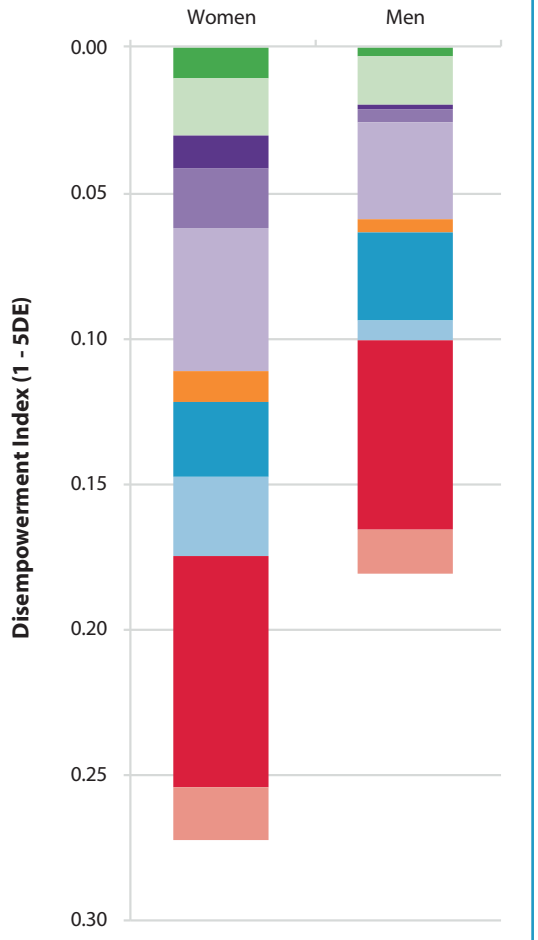
Leisure
Workload
Speaking in public
Group member
Control over use of income
Access to and decisions on credit
Purchase, sale, or transfer of assets
Ownership of assets
Autonomy in production
Input in productive decisions

FIGURE C6.7—WOMEN'S AND MEN'S DISEMPOWERMENT IN MALAWI



Source: Westat. 2012a. "FTF FEEDBACK Population Based Survey: Malawi." Unpublished, Rockville, MD, US.

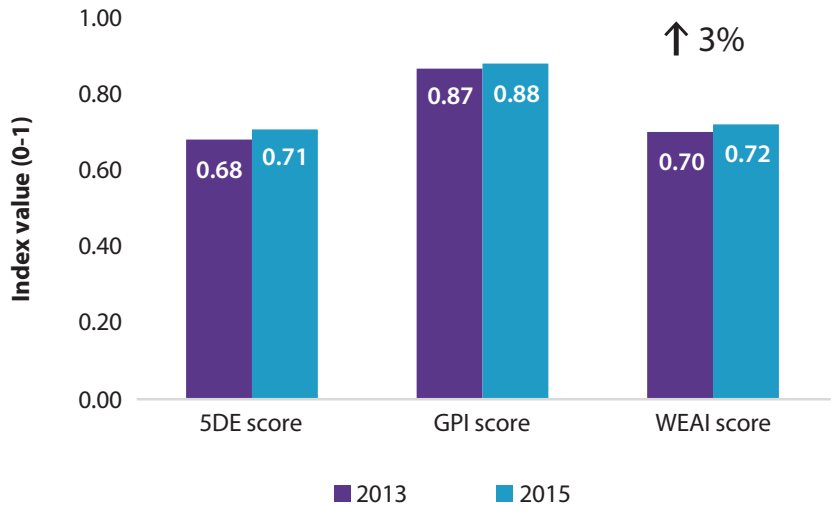
FIGURE C6.8—WOMEN'S AND MEN'S DISEMPOWERMENT IN ZAMBIA



Source: Westat. 2012c. "FTF FEEDBACK Population Based Survey: Zambia." Unpublished, Rockville, MD, US.

Leisure
Workload
Speaking in public
Group member
Control over use of income
Access to and decisions on credit
Purchase, sale, or transfer of assets
Ownership of assets
Autonomy in production
Input in productive decisions

FIGURE C6.9—WEAI, 5DE, AND GPI SCORES FOR WOMEN IN ETHIOPIA



Source: Feed the Future (2018).

Between 2013 and 2015, both Ethiopian women and men experienced modest gains in their 5DE scores (Feed the Future 2018). Ethiopian women experienced very modest improvements in empowerment as their WEAI score increased by 3 percent in two years. Their 5DE score in 2015 was 0.71, which was marginally higher than the 5DE in 2013 at 0.68. Women's GPI score increased by 1 percent from 0.87 to 0.88, which indicates a slight rise in gender equality within a household.

In 2015, similar to 2013, in all 10 indicators, a greater proportion of men than women achieved adequacy. This gap has increased over time (Figure C6.10). The indicators exhibiting the greatest gap in male-versus-female achievement are speaking in public, access to credit, and workload. In terms of the contribution of each indicator to women's total disempowerment, we see no statistically significant changes for any of the indicators from 2013 to 2015. Group membership and speaking in public remain top contributors to women's disempowerment; group membership is also consistently a top contributor to disempowerment among men. Because the baseline and midline data are from population-based surveys at the ZOI level, it is not possible to attribute changes to particular programs, but further developments of a project-level WEAI (pro-WEAI) can be used to test the effect of interventions on women's empowerment (see Malapit et al. 2019).

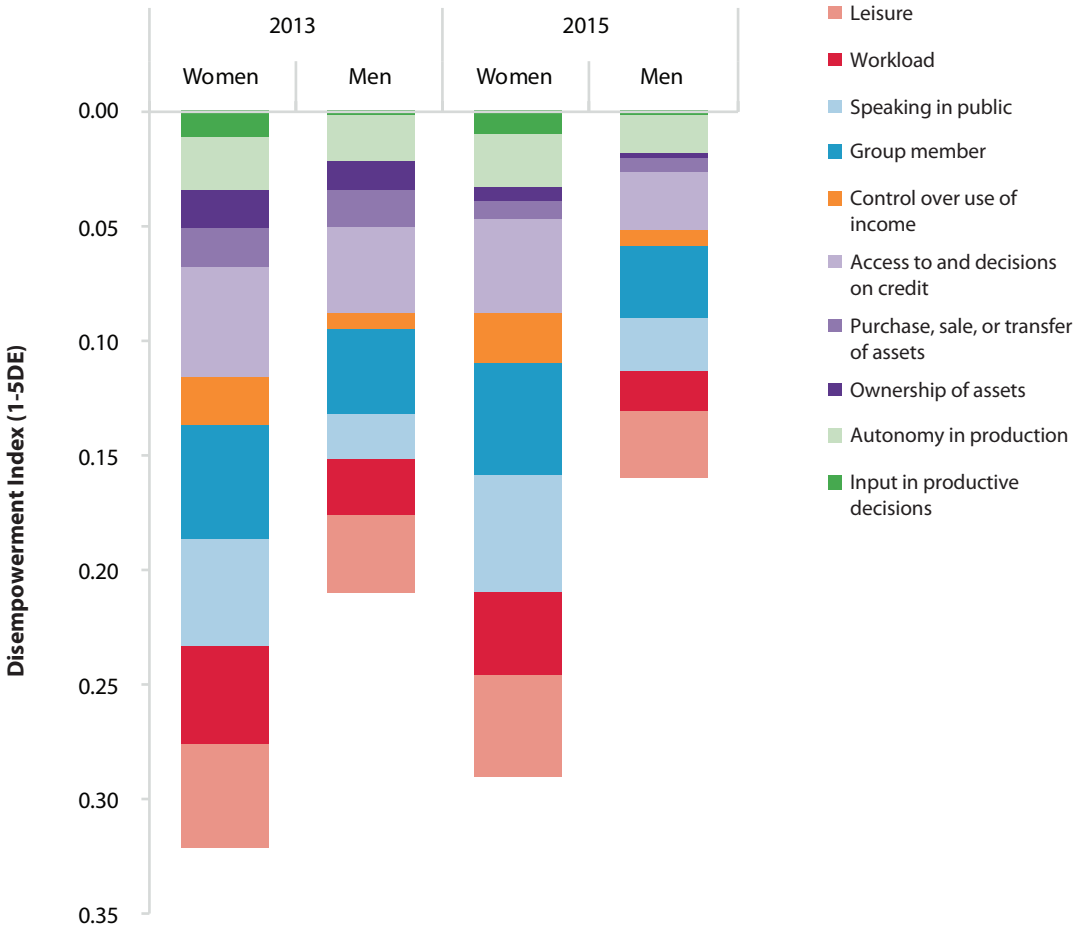
Further analysis of the WEAI data in relation to other outcomes shows that women's empowerment is positively related to children's and women's dietary diversity (Yimer and Tadesse 2015). Group membership, the amount of time spent on paid and unpaid activities, decisions on income, and autonomy in production are positively associated with women's dietary diversity. Such findings are consistent with evidence that the WEAI indicators of women's empowerment are associated with improved nutritional outcomes for women and children in Ghana, Mozambique, Bangladesh, Nepal, and Cambodia (Malapit and Quisumbing 2015; Komatsu, Malapit, and Theis 2018; Malapit et al. 2015, 2018; Sraboni et al. 2014; Sraboni and Quisumbing 2018). Other research finds a positive relationship between women's WEAI empowerment indicators and agricultural productivity in Kenya (Diiro et al. 2018), Niger (Wouterse 2017, 2019), and Bangladesh (Seymour 2017).

The WEAI results from Ethiopia and the accumulating evidence that WEAI indicators are associated with improved agricultural and nutrition outcomes have informed the Ethiopian government's National Nutrition Program, which recognizes women's lack of access to and control over household resources, time, knowledge, and social support networks as barriers to improving nutrition outcomes, prompting government efforts to design and implement projects to empower women to increase their engagement in and control over economic activities. Additionally, the United Nation's Joint Programme on Accelerating Progress towards the Economic Empowerment of Rural Women in Ethiopia has adopted a multisectoral and comprehensive approach to reduce gender inequalities related to increasing women's access to resources, credit, and financial services; decision making within the household; and participation in the community in pastoralist communities (Feed the Future 2018).

Measuring women's empowerment is not just an academic exercise. Experience with the WEAI suggests that this metric can be used to diagnose areas of women's and men's disempowerment and to design programs and policies to address them. For example, low baseline WEAI scores in Bangladesh

combined with evidence that women's empowerment is associated with household food security and nutritional outcomes prompted USAID and the government of Bangladesh to develop programming to address women's empowerment. WEAI scores increased by 17 percent in four years, showing that progress is possible. WEAI results have been used by the Ministry of Agriculture to identify interventions in promoting women's empowerment, increasing agricultural diversity, and improving nutrition, to be implemented nationally in Bangladesh. The Feed the Future initiative will soon be collecting end line data to assess the impact of this 19-country program. In addition, the possibility of collecting indicators of women's empowerment in the comprehensive agricultural surveys being planned for the 50 X 2030 Initiative, an ambitious effort to conduct regular surveys of farming households in 50 low- and lower-middle-income countries by 2030, means that even more information will be available for monitoring women's empowerment over time.[4] Further evidence on how programmatic interventions affect women's empowerment from impact assessments using the pro-WEAI can provide more detailed guidance on effective strategies (Malapit et al. 2019). As these data are collected and analyzed, researchers and policy makers will have even more information with which to assess progress toward women's empowerment and gender equality in Africa.

FIGURE C6.10—CONTRIBUTION OF EACH INDICATOR TO DISEMPOWERMENT



Source: Feed the Future (2018).

4 For more on the 50 X 2030 Initiative, see: http://www.data4sdgs.org/50by2030.

CHAPTER 12

The Promise and Challenges of Gender Data

Mayra Buvinic and Eleanor Carey[1]

1 The authors would like to acknowledge the contribution of Isabel Schmidt of Statistics South Africa, Kanobana Muchochori of UN Women Rwanda, Michel Ndakize of the National Institute of Statistics Rwanda, and Omar Seidu of Ghana Statistical Service, who were interviewed for this piece.

A major difficulty in assessing the economic contribution of women at the present time is lack of or incomplete data and indicators to measure their situation as it affects the process of development and is in turn affected by it.

—World Plan of Action, adopted by the World Conference of the International Women's Year, Mexico City, July 2, 1975

Good data form the backbone of effective policy. While much progress has been made since 1975, the epigraph at the beginning of this chapter still, unfortunately, describes accurately the state of gender data in Africa south of the Sahara (SSA). Women and girls in these largely rural economies are widely acknowledged to be among those suffering the worst life outcomes and are among the groups most poorly represented in the data. The content of their days do not fit neatly into categories but straddle and blur the boundaries between "productive" and "nonproductive," "public" and "private," and "home" and "work," challenging the conceptual frameworks for measurement that have largely been devised to capture the roles that men have traditionally played in more advanced economies. In some cases, this has led to poor measurement, and in others, no measurement at all. In recent years, however, the measurement community has begun undertaking methodological work to produce more accurate and policy-relevant information aimed at improving the lives of marginalized women and girls.

This chapter examines the state of gender data on rural women and girls in SSA on three key Sustainable Development Goals (SDGs) outcomes in line with the focus areas for this year's Annual Trends and Outlook Report (ATOR): assets, income, and work; social and political empowerment; and food security and nutrition. The second section outlines some of the benefits of improved data on rural women and girls, offers guiding principles for good evidence, identifies major sources of data and their limitations, and explores methodological issues and advancements in measurement. The third section selects 32 indicators from the SDG and related frameworks to measure these three outcomes and assesses the availability and quality of data for these indicators in 15 SSA countries using an assessment carried out by Open Data Watch (ODW). The chapter concludes by summarizing suggestions for further gender data work in the region. This chapter was enriched by interviews we conducted with data experts in Ghana, Rwanda, and South Africa.

Addressing Gender Data Gaps in 2019 ATOR Priority Focus Areas

Better data on rural African women and girls in the priority focus areas for the 2019 ATOR are needed to (1) account for all of women's work; (2) help improve women's productivity and food security and nutrition; and (3) better understand and ultimately more effectively tackle poverty.

Accounting for All of Women's Work

Close to half a century ago, Ester Boserup (Boserup 1970) was among the first to call attention to the problems of measuring rural women's economic participation, pointing out that subsistence activities, usually omitted in official labor statistics, were largely women's work. She also was among the first to document that the modernization of agriculture in developing countries could hinder rather than help women's economic participation and widen the productivity gap between the sexes. In the intervening decades, the measurement of rural women's work has improved notably (Box 12.1 lists important recent data initiatives), but measurement issues arising from the tradition of not counting unpaid work in systems of national accounts linger. Further, the gender gap in productivity has not budged (O'Sullivan et al. 2014; World Bank 2012). These problems in both measurement and outcomes are particularly salient in rural Africa, which records women's highest contribution to subsistence production globally (Doss 2011).

The problems of substandard data have been well documented. In Uganda, for instance, the use of insufficient screening questions to define "activity" led to significant undercounting (close to 10 percent of the labor force) of subsistence workers, the majority women (Fox and Pimhidzai 2013). In Tanzania, the use of response by proxy in household surveys led to lower reported employment for men, while a short employment module led to higher working hours for both men and women (Bardasi et al. 2011). The paucity of time use data also means that we have little reliable information on rural women's unpaid care and domestic work (Buvinic and King 2018)

Helping Improve Women's Productivity and Food Security and Nutrition

Studies have repeatedly shown that female farmers in Africa have lower yields than male farmers, stemming from unequal access to agricultural inputs (information, land, capital, and equipment) as well as biases in extension service provision (O'Sullivan et al. 2014; Ali et al. 2015; Oseni et al. 2015).

Reduced productivity contributes to increased food insecurity and poor nutritional outcomes. However, poor data hamper our ability to determine women's exact contribution to agriculture and the magnitude of improvement to their productivity required to tackle food insecurity, or, more generally, to design effective policy responses to observed gender inequalities in farming (Doss et al. 2015). *The State of Food Security and Nutrition Report* (FAO 2018) notes that for the third year in a row, hunger is on the rise, and Africa is the region with the highest prevalence of undernourishment at 20.4 percent. To keep pace with rising demand, the Food and Agriculture Organization of the United Nations (FAO) estimates that agricultural output in SSA needs to more than double by 2050; however, climate change has already begun to reduce yields (World Bank 2018a). Because women often play the role of caregiver and food provider, and in many cases are working the most vulnerable land, climate shocks can increase their workload, reduce their yields, and harm their ability to feed their families.

Better Understanding and Ultimately More Effectively Tackling Poverty

Current projections estimate that by 2030 global poverty will become concentrated in SSA, with the share of global poor living in the region projected to reach 87 percent (World Bank 2018b). Moreover, while Africa is rapidly urbanizing, in the majority of countries 65 to 70 percent of the population still resides in rural areas where poverty is more prevalent, and higher for rural women when compared with their urban counterparts (Beegle et al. 2018). Better understanding and measuring rural women's and girls' poverty, including the economic, social, psychological, and political correlates, is a first necessary step to effective policy solutions.

Guiding Principles and Main Features of Good Gender Evidence in SSA

Two main principles should guide the collection of data on rural women and girls:[2]

- **Women's economic and social roles, especially in rural economies in developing countries, are interdependent.** This means that barriers to either dimension can prevent progress on the other; for instance, women's family roles may influence business choices and returns to those businesses, and vice versa. Data, therefore, need to be generated on both economic and social outcomes, and measures need to track their interdependence.
- **Women's individual experience is difficult to separate from that of the household.** It is difficult to separate and measure changes in income for the individual woman without considering possible positive or negative spillover effects on the income of other household members. While this challenge is applicable in theory to all household members, it is particularly an issue in farm households, where substantial subsistence production occurs alongside market production, and for women because of the strong interdependence between their family and economic roles. Ideally, therefore, data on rural women and girls should be generated and analyzed at both individual and household levels.

Good evidence on women and girls, above all, is of high quality—that is, based on data that are reliable, valid, representative, and free of gender biases. Good evidence also[3]

- has good *coverage*, across countries and produced at regular intervals;
- is *comparable* across countries in terms of concepts, definitions, and measures;
- has desirable features of *complexity*, where data from different domains in women's lives can be cross-referenced and cross-tabulated, and *granularity*, where the data can be disaggregated into smaller units by race and ethnicity, age, and geographical location, as well as sex; and

2 Based on ""Measuring Women's Economic Empowerment" (United Nations Foundation and ExxonMobil 2014).

3 Based on Buvinic, Furst-Nichols, and Koolwal (2014).

BOX 12.1—STEPS TOWARD BETTER GENDER DATA

In recent years, the measurement community has pursued methodological improvements to increase and improve gender data production, which in turn holds promise to provide insight on rural African women's lives:

- **2012:** World Health Assembly agrees on common indicators on food security and nutrition.
- **2012:** Women's Empowerment in Agriculture Index (Alkire et al. 2013) and its derivatives highlight the importance of generating knowledge about women's role in the agricultural setting.
- **2013:** The Minimum Set of Gender Indicators includes a call for information on women's wages and their work in agriculture (UNSD, "Minimum Set," n.d.).
- **2013:** The International Conference of Labor Statisticians agrees on new definitions of work and employment that make both the paid and unpaid working activities more visible (Data2X and ILO 2018).
- **2014:** Indicators for the Malabo Declaration include women's empowerment and call for sex disaggregation (CAADP and NEPAD 2015).
- **2015:** The Sustainable Development Goals indicators call for the sex disaggregation of data on a broad range of topics including assets, livelihoods, institutional contexts, and those that reveal women's vulnerability (UNSD 2015).
- **2017:** The International Classification of Activities for Time Use Statistics, or ICATUS 2016, is adopted by the UN Statistical Commission at its 48th session, providing agreement on key concepts and definitions for the production of internationally comparable time use data and helping to capture women's activities that other frameworks often fail to (UNSD 2017).
- **2017:** The 2020 Round of Agricultural Census guidelines build on the previous round's commitment to sex-disaggregated data by encouraging the collection of data on managerial decisions and the identification of ownership of the holding by sex (FAO 2017b).
- **2017:** The FAO, under the Global Strategy to Improve Agricultural and Rural Statistics, releases Guidelines for Collecting Data for Sex-Disaggregated and Gender-Specific Indicators in National Agricultural Surveys (FAO 2017a).
- **2018:** The International Labour Organization releases guidelines for implementation of new definitions of work and employment (ILO 2018).
- **2018:** The 50 x 2030 Initiative to Close the Agricultural Data Gap is launched at the Data to End Hunger event with a target to scale up agricultural surveys to 50 low- and lower-middle-income countries by 2030 (GPSDD 2018).
- **2019:** The UN Guidelines for Producing Statistics on Asset Ownership from a Gender Perspective are released under the Evidence and Data for Gender Equality (EDGE) project, a joint initiative of the UN Statistics Division and UN Women (UNSD 2019).

Source: Authors.

- is *parsimonious* and *policy relevant*, that is, able to reflect the reality of women's and girls' lives with a minimum amount of information and indicators and can readily inform public policies.

These principles and qualities of good data should be the basis for measurement on rural women. However, executing against these principles is challenging, as the following section outlines.

Measuring Key Outcomes for Rural African Women and Girls

The SDGs require African countries to have data on rural women to measure, among other outcomes, those that are the focus of the 2019 ATOR: income, assets, and work; social and political empowerment; and food security and nutrition. Below we examine for these three key outcomes (1) sources of data and their limitations and (2) methodological issues and advancements in measurement.

Sources of Data and Their Limitations

Agricultural surveys and censuses are central (Doss 2013) to generate data on these three key outcomes, but so too are the population and housing censuses (UNFPA 2014), labor force surveys and general household surveys (ILO 2018), time use surveys (Buvinic and King 2018), income and expenditure surveys, and data collection on issues specifically relating to women's experiences, such as maternal health and domestic violence. There are international and national data collection efforts. Administrative data are a potentially especially useful national-level data source that can be disaggregated by sex and into smaller administrative or geographical units (ODW 2019). However, quality issues with this source of data, particularly in low-income settings, are considerable. Alternative data sources may also hold promise in reaching populations that have been historically poorly represented by traditional data collection instruments. If properly combined with traditional data sources, satellite data, for example, have shown promising results—for example, by improving spatial resolution of existing data on girls' stunting, women's literacy, and access to modern contraception (Vaitla 2017).

To generate high-quality data on rural women, a number of overarching technical issues must be addressed:

- A central issue that has been highlighted is the need to **collect data at an individual level as well as at the level of the household** (FAO 2016). Many surveys are designed to sample households, and when deployed in the field, questionnaires are often administered to the "household head" or a proxy respondent and important questions, such as assets, consumption, and poverty status, elicit information about the entire household, rather than individuals within the household. This only allows for comparisons between female- and male-headed households, which are usually systematically different, and cannot take into account intrahousehold inequalities. Studies find that using household-level gender indicators tends to underestimate gender differences and suggests that the level of disaggregation of gender indicators must be considered from the beginning of instrument design (Peterman et al. 2010). Disaggregation increases the cost of data collection, which can be a deterrent. Some methodological efforts have been made to resolve this issue, including the 2017 FAO guidelines on sex-disaggregated agricultural data (FAO 2017a), which lay out approaches to generating individual-level insights, and the 2019 EDGE guidelines, which also discuss the sample design implications of interviewing one or more household members (UNSD 2019). Using proxy respondents instead of self-reporting can also present data quality issues, particularly where males in the household are relied on to provide information on women (UNSD 2019).
- While generating data on rural women by comparing households based on the sex of the household head is limited, this does not imply doing away with the concept of female headship; rather, it **calls for improving the operationalization and measurement of this term**. Research (Milazzo and van de Walle 2015) shows that the incidence of female headship is on the rise in SSA, and that widowhood—a main determinant of female headship—is strongly associated with poverty.
- Most **surveys often do not have large enough sample sizes to simultaneously disaggregate the data by sex as well as by location and other individual and household-level characteristics (that is, allow for the multiple disaggregations called for by the SDGs)**. This hugely limits the opportunities to generate meaningful evidence on the women and girls that are most marginalized due to the intersecting inequalities they face. The challenge is to ensure, for instance, that both sex disaggregation and geographical disaggregation are pursued in tandem in survey design and analysis.
- Another constraint in data collection design that particularly disadvantages rural women is that **survey samples may overrepresent urban**

populations and underrepresent rural populations, given the higher demand for data on employment, which tends to be more prevalent in urban areas.[4] The focus on employment may also crowd out the possibility of gathering high-quality data on the myriad economic activities that rural women often engage in but that are not strictly classified as "employment."**Other sources of data may also underrepresent rural women.** Agricultural surveys can have holding-size limitations that exclude women farming the smallest plots or may be limited to holdings conducting commercial agricultural activities. Administrative data, such as vital statistics, may fail to capture rural women when they live far from registration centers or are less likely to register births, marriages, divorces, or death because of gender-related constraints (Buvinic and Carey 2019). Big data may provide some opportunities to generate information on groups that are difficult to reach, for example, through satellite information to improve spatial resolution (see above). However, for some forms of big data, such as mobile operator data, rural African women may again be underrepresented as women's access to mobile phones lags behind men's in the region (GSMA 2018) and careful consideration of how to use this type of data to map women's well-being is required (Vaitla 2017).

- **Data to track gender dynamics over time require longitudinal studies**, which are largely absent. In some cases, pseudo-panels can be constructed from repeated cross-sections to allow analysis over time, but this comes with limitations in terms of data quality (Lambrecht et al. 2017). Some survey programs, such as MICS, are beginning to experiment with repeated data collection using mobile phones (UNICEF 2018), which is helpful for rapid feedback, for example, crisis monitoring, but is less suitable for tracking long-term changes in gender dynamics. Big data may offer some opportunities for frequent and time series data, but in most countries engagement with big data is outside of national statistical offices' budget parameters or expertise and partnerships with specialized organizations are necessary to pursue innovative projects.

Methodological Challenges and Advancements

(1) Income, assets, and work

Income: Rural women's income is particularly challenging to capture because it may be more sporadic, variable, and difficult to disentangle from household income than men's rural income. In addition, income measurement itself is not straightforward, particularly for the smallest household and farm enterprises in rural areas (Knowles 2014). Measuring profits is difficult since it requires respondents to recall figures on sales and costs, information they may not have or may not be willing to provide. Studies have shown that revenues can be easier for respondents to recall than profits, particularly for high-value crops (FAO 2016).

Another challenge is to identify who (the man or the woman) is the main owner or manager of the firm or farm (or plots within the farm) when the enterprise or the farm has more than one owner or may be jointly owned. In this case, a further issue is who controls the profits. Work from IFPRI and partners, in particular, has shown that individual and joint ownership as well as control of both income and assets (see below) are distinct and important concepts to operationalize and measure since they significantly affect outcomes for rural women (Johnson et al. 2016). However, these concepts and measures have seldom been included in traditional survey work, though recent methodological work under the EDGE project is beginning to address this issue (UNSD 2019).

Assets: Assets, loosely defined as resources that individuals, families, or other groups control to produce economic or social value, are preferable to income as a measure of rural women's economic status as they are less sensitive to recall bias, especially for women farmers and rural producers, particularly physical and financial assets (such as land, livestock, bank accounts, and access to Internet and mobile phone technology) (Knowles 2014). A focus on assets can also help in measuring the impacts of climate shocks and coping strategies (FAO 2018), understanding how poverty affects members of the household differently, and adding information on empowerment and livelihoods (UNSD 2019).

Asset measures, however, are less sensitive than income measures to detecting short-term variations, so they are better medium- and long-term

4 Data2X interview with Isabel Schmidt, Statistics South Africa.

indicators of wealth (Knowles 2014; UNSD 2019). Measuring access to, control of, and ownership of assets for rural African women is challenging. For example, women tend to farm smaller plots, which can be overlooked by agricultural censuses and surveys if they fall below the minimum cutoff for plot sizes to be included.

Suggested improvements to data collection to capture male-owned, female-owned, and jointly owned assets have included careful consideration of who should be interviewed, and identifying which people are involved in activities as owners, managers, workers, and decision makers (Doss 2013; World Bank 2015). In general, household surveys are considered the most appropriate instrument to collect information on assets, and that is where attention should be focused to improve data quality (UNSD 2019). Increased attention to intra-household bargaining should underpin improved data collection (Peterman et al. 2010), as should the fact that men and women may use different assets to cope with different types of shocks (Meinzen-Dick et al. 2011). Valuation of assets can also be used to assess various aspects of the gender wealth gap including whether women and men possess similar levels of wealth, concentrate their wealth in the same types of assets, how the composition of wealth varies by sex among wealth quintiles, and whether women are overrepresented in the poorest wealth quintiles (UNSD 2019).

Recent advances on measuring women's ownership and control of assets have included FAO's *Guidelines for Collecting Data for Sex-Disaggregated and Gender Specific Indicators in National Agricultural Surveys* (including 26 indicators measuring landownership, access to financial resources, labor, and paid and unpaid work in agricultural households, among others) (FAO 2017a). The Women's Empowerment in Agriculture Index (WEAI) and its abbreviated form (A-WEAI) include an indicator on asset ownership (Alkire et al. 2013; Malapit et al. 2017). The Evidence and Data for Gender Equality program led by UNSD has devised measures of ownership rights (including reported, documented, and economic ownership) that should shed significant light on rural women's relationships to ownership and control over assets. Priority assets include principal dwellings, agricultural land, other real estate, and financial assets (UNSD 2019).

Work: Definitions and methodologies deployed across labor force and household surveys have compounded the issue of lack of quality data on women's work as they have, to date, not allowed for accurate measurement of much of rural women's work in producing goods and services for the family's consumption or for the market. For example, contributing or unpaid family work has been found to have low coverage across survey instruments (World Bank 2015) and because women who are doing agricultural production often report homemaking as their primary activity, unless specific probing questions are built in to uncover these activities (ILO 2018) rural women's work is often missed in data collection. Custodian agencies are pursuing necessary adjustments to these surveys (see below).

Women in both urban and rural settings carry out unpaid work activities, but for women in rural areas with less infrastructure, access to public services, and market alternatives, the burden of unpaid care and domestic work is larger, with implications for the availability of time for income-generating activities, as well as the reproduction of gender inequalities that hamper women's empowerment more generally (Buvinic and King 2018). For girls, their domestic and care burdens may increase as their mothers pursue income-generating activities. Time use data are the primary source of information on unpaid work activities and can also add insight into women's contribution to agriculture, and provide contextual information to build good policy and interventions (Doss 2011). However, as of 2018, SSA was the world region with the lowest number of time use surveys conducted (Buvinic and King 2018). Data on childcare arrangements, a significant constraint on women's work, would also provide highly policy-relevant information (Buvinic and King 2018).

The new definitions of work and employment, agreed by the International Conference of Labor Statisticians (19th ICLS) in 2013, have changed the conceptualization of work—both paid and unpaid activities are now considered work, while "employment" is restricted to activities that are only for pay or profit. When fully implemented, these new definitions should improve the measurement of rural women's work (Data2X and ILO 2018). As of late 2018, however, a review of 14 lower- and middle-income countries found that only Malawi and Nigeria had adopted the new definitions in their survey instruments (Desiere and Costa 2018; Koolwal 2018). At the 20th International Conference of Labor Statisticians in 2018, 29 out of 41 low- and lower-middle-income countries reported that they had conducted or were planning to conduct some kind of test regarding the implementation of new definitions, with a focus on measurement of employment and subsistence foodstuff production (Benes and Walsh 2018). Therefore, while

uptake to date has been slow, there are signs of accelerated implementation in the coming years.

There are methodological and policy challenges in the adoption of these new definitions. Among the former is identifying the boundary between which production is for sale and which is for subsistence, especially when, in rural households, production for sale may change over time to production for own use and vice versa (Benes and Walsh 2018). Another issue that has plagued the measurement of work in agriculture is which reference period is appropriate to capture employment and its seasonality, and the restriction of employment to only work for pay or profit makes it even more salient to use a suitable reference period that will not undercount employment.

An obvious policy issue is the reduction in the size of the labor force once subsistence activities (which still predominate in rural African economies and are performed mostly by women) are taken out of "employment" and moved into "own use production work" and the implications that this could have for policy makers who may not be well informed about what caused the shift in numbers (Data2X and ILO 2018). The ILO is working with partner agencies and governments to operationalize the new definitions, harmonize relevant indicators, and produce guidelines for countries to use in forthcoming rounds of labor force surveys (ILO, n.d.).

(2) Women's empowerment

Empowerment can be social, economic, or political. Regardless of the domain, empowerment includes both an objective outcome dimension (such as income and employment) and a subjective sense of autonomy or agency, mostly unobservable, that does not translate easily into empirical measures. These increasingly popular but also complex concepts are largely context and culture specific, which adds to the challenge of testing and building robust indicators to develop standardized cross-culturally comparable empowerment measures (UN Foundation and Exxon Mobil 2017).

While objective outcomes are in theory easier to measure than subjective ones, when it comes to empowerment there are problems with measuring both kinds of indicators across domains. For instance, in the social domain, prevalence and incidence data on different forms of gender-based violence are difficult to obtain. In the economic domain, the quality of data on often-used objective empowerment indicators, such as income and gainful employment, is questionable for rural women (see above). Data on political empowerment are generally limited to the proportion of female representation in the national legislature, unlikely to correlate very highly with rural women's ability to participate in community/local decision making (which is included in the SDG indicator framework [5]). The WEAI and project-level WEAI are among the only instruments that collect information on group membership and participation at the local level (Alkire et al. 2013; Malapit et al. 2019). In general, a review of data collection instruments found that indicators on public life and decision making have very low coverage (World Bank 2015).

A commonly used measure to tap subjective empowerment has been self-reports of independence in or control over individual or household decision making. Reliable and cross-country comparable data are currently only available for exercising control over decisions in relation to healthcare and family planning (largely due to the wide coverage of household surveys such as the Demographic and Health Surveys Program, which focuses on these issues). Different features of subjective empowerment, such as ability to decide on family planning, autonomy over how to use individual savings, or freedom to vote, mediate different empowerment outcomes. These features will vary across different empowerment domains (social, economic, and political) and may even vary within domains for different groups; for instance, while financial autonomy may be the core feature to measure for women entrepreneurs, control over agricultural inputs or reduction in time spent in subsistence production may be the appropriate economic empowerment measure for women farmers.

Recent significant attempts to better capture the complexities of empowerment have included the construction of indexes that integrate a number of the main features of empowerment, such as the WEAI and its abbreviated form (A-WEAI) and project-level form (pro-WEAI), self-reported measures of decision-making power within the household (influence on or control over household expenditures, decision making on agricultural production and on resources such as credit) and, increasingly, psychological testing to capture

5 However, metadata have recently been agreed for SDG indicator 5.5.1(b) on representation of women in local government. Data for this indicator will rely on administrative electoral records (UN Women 2018b).

subjective states or feelings, including autonomy and sense of agency (Donald et al. 2017). UNECE is also currently leading methodological work to better measure intrahousehold decision making (UNECE 2017).

Fox and Romero (2016) suggest empowerment indicators encompassing both attitudes and behaviors for the different empowerment domains. Collection of data on attitudes would be a significant step forward, layering nuance on findings from outcome indicators. Examples of attitudinal indicators for the economic domain include whether the respondent believes women can work outside the home or thinks that she has a right to be involved in financial decisions. Data on attitudes toward gender-based violence, control over fertility and sexual health, and belief in women's ability to learn and apply knowledge may provide insight into levels of social empowerment. Attitudinal indicators to measure political empowerment may include willingness to participate in community activities or desire to know and exercise legal rights. Psychological empowerment indicators encompass measurements of self-esteem, self-confidence, optimism, and self-regulation (Fox and Romero 2016). Big data has also been explored as a source of attitudinal data—for example, through analysis of social media feeds (Vaitla 2017). Again, however, we must remember that rural African women are less likely to be represented in this type of data at present. A task ahead is to identify regionally comparable, easy to implement behavioral and attitudinal indicators of social, economic, and political empowerment.

(3) Food security and nutrition

Food security and nutrition measures overall have fewer methodological issues than income, assets, and work, and empowerment measures; they have more tangible qualities and are less difficult to operationalize. Direct measures of food security and nutrition such as wasting and stunting of children under five largely have sex-disaggregated data available (UNICEF 2019) but are not always reported by sex and location (see, for example, data for indicator 2.2.1 on stunting in the SDG global database (UNSD, *SDG Indicators*, n.d.), while this reporting can help to identify the most vulnerable groups of girls and boys (UN Women 2018c). Other common food security and nutrition measures include childhood overweight, exclusive breastfeeding, anemia in women, and adult obesity, which were agreed by the World Health Assembly in 2012 (FAO 2018). Some of these have been absorbed into the SDG indicators while all are reported in the *State of the World's Food Security and Nutrition Report*. These are a subset of a wider set of food security indicators and an underlying database managed by the FAO that covers issues of availability, access, overall stability, and utilization of basic infrastructure such as sanitation and drinking water. However, the majority of these indicators cannot be sex disaggregated, nor would it be meaningful to do so (FAO, "Food Security," n.d.). For example, sex disaggregating indicators on populations with access to safe drinking water would not be meaningful at the individual level; rather it has been suggested that this be disaggregated by "type of household" to assess inequality of access (UNEP and IUCN 2019). However, as no international standardization exists for "type of household," this is an area in need of more methodological research.

The 2018 *State of the World's Food Security and Nutrition Report* calls for examining food insecurity at the individual level to assess gender differentials in decisions and behaviors within food-insecure households. Given women's critical roles in the provision of food security and nutrition at the family level in rural African households, a well-rounded assessment should include measuring changes in both household- and individual-level indicators of food security and nutrition (tracking "spillovers" among household members) and complementing these measures with indicators of women's and girls' efforts (that is, time use) in the provision of food since, in times of food insecurity, they may notably increase their time in food production and processing to achieve household food security.

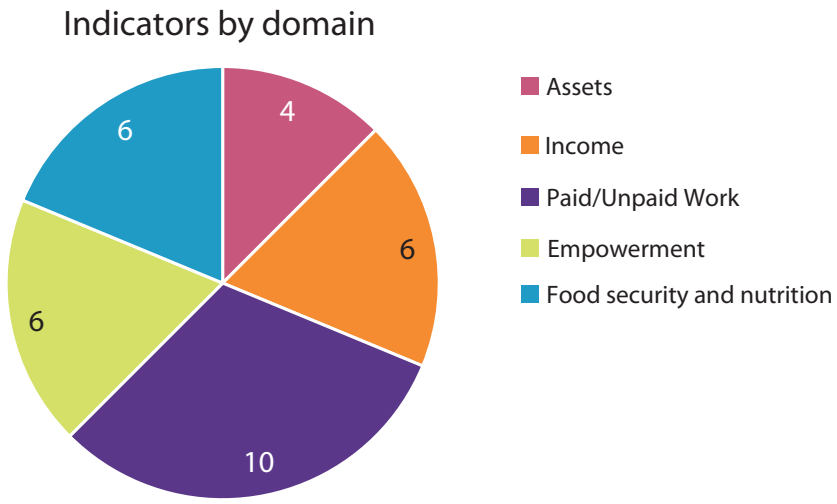
Individual-level direct measures of food security and nutrition should be cross-tabulated with observable indicators of economic outcomes (such as landownership, land quality, and access to assets and resources) and subjective measures of empowerment to understand the drivers of food security and the possible effects of climate change on individual food security and nutrition and, ultimately, women's well-being.

Current Data Availability and Opportunities for Improvement

Bridging the Gap Indicator Assessment

The SDGs have provided an overall framework and a list of indicators, agreed by 193 countries, for measuring development progress. Selecting from this master list and related indicator frameworks (the Minimum Set of Gender Indicators [UNSD, "Minimum Set," n.d.]) and supplementary indicators outlined in UN Women's recent SDG report (UN Women 2018c), ODW assessed the availability

FIGURE 12.1—NUMBER OF SELECTED INDICATORS IN EACH DOMAIN



Source: Authors.

and quality of data for 104 gender-relevant indicators across 15 SSA countries in both international and national databases, from 2010 to 2018.[6] These countries represent 60 percent of the population of SSA and cover a range of income levels (ODW 2019).[7]

For this chapter we selected the 32 indicators that best measured the three key outcomes of interest for rural women and girls in the 15 SSA countries. Four indicators measure assets, six measure income (and expenditures), 10 measure paid and unpaid work, and six each measure social and political empowerment, and food security and nutrition (Figure 12.1). Appendix A[8] lists the 32 indicators. We used the assessment to identify, first, how available are these indicators (does the indicator exist in any form?) and, second, whether the available indicators are sex disaggregated, in international and national databases, for the 15 SSA countries.

The ODW dataset does not consider tier III indicators (those with no agreed methodology and that are not regularly produced). The indicators discussed in this section, therefore, represent just the very minimum information we need to deliver on current promises for improving the lives of rural women and girls in SSA. Taking stock of this current state of data availability and outlining the basic data structure that exists highlights where advances are urgently needed to confront the methodological challenges outlined in the previous section of this chapter.

Findings on Availability

Table 12.1 presents for the 15 SSA countries the total availability score per domain, calculated based on availability at the international and national level of any data at all for a given indicator per country (expressed in percentages), and also based on whether the indicator is sex disaggregated[9] (also in percentages). Appendix A lists availability scores for all indicators. An average of the availability score for indicators in each domain provides the overall availability score for the domain. ODW also examined the frequency and timeliness of each indicator in each country, and results can be found in Appendix A. These elements are not included in the total availability score.

6 Uganda, Senegal, Rwanda, Kenya, Botswana, Lesotho, Malawi, Tanzania, Ethiopia, Nigeria, South Africa, Zambia, Zimbabwe, Côte d'Ivoire, and Ghana.

7 Assessing data availability for SDG indicators in international databases was a two-step process: the team first looked for data in the SDG Global Database maintained by the UN Statistics Division and then looked for data on the website(s) of the so-called custodian agencies or the World Bank's World Development Indicators. For non-SDG indicators, assessors looked for data published by intergovernmental organizations that are primarily responsible for publishing relevant statistics for the topic of interest. At the national level, databases maintained by national statistical offices as well as data sources from other government actors were investigated.

8 See Chapter 12 Appendix A (https://www.resakss.org/node/6747?region=aw).

9 Indicators that relate only to women are counted as having sex disaggregation.

TABLE 12.1—AVAILABILITY AND SEX-DISAGGREGATION SCORES BY DOMAIN, IN NATIONAL AND INTERNATIONAL DATABASES (PERCENTAGE), AND TOTAL FOR 15 SSA COUNTRIES

Domain	Availability at international level (a)	Sex disaggregated at international level (b)	Availability at national level (c)	Sex disaggregated at national level (d)	Total availability score (e)
Assets, income, work: (20 indicators)	0.77	0.33	0.67	0.42	0.55
Assets	0.82	0.15	0.78	0.35	0.53
Income	0.70	0.11	0.40	0.18	0.35
Work	0.79	0.72	0.83	0.75	0.77
Empowerment: (6 indicators)	0.81	0.81	0.74	0.74	0.77
Social	0.61		0.75		0.68
Political	1.00		0.73		0.87
Food security and nutrition: (6 indicators)	0.98	0.77	0.72	0.64	0.78
Total	0.85	0.64	0.71	0.60	0.7

Source: Authors.

Overall, on average, around 70 percent of all indicators have some data available across international and national databases. Assets, income, and work show the lowest total availability across domains for these 15 SSA countries, while availability is higher and almost equal for women's empowerment and food security and nutrition (Table 12.1, column e). The lower scores for assets, income, and work are largely because asset and income indicators are available at international and national levels but are not sex disaggregated (Table 12.1, b and d). Across domains, availability of data (not considering sex disaggregation) is lower at the national level (71 percent) than at the international level (85 percent),[10] thus dragging the average of total availability downward. This suggests that the international level is performing better in terms of producing headline indicators (Table 12.1, a and c).

Interestingly, when considering the availability of sex-disaggregated asset and income indicators, national data sources score somewhat better than international data sources, although sex disaggregation remains a significant challenge. For instance, 15 percent of asset indicators are sex disaggregated in international databases versus 35 percent in national databases. For income these percentages are 11 percent and 18 percent, respectively. Women's empowerment indicators, by definition, provide information on women so they are considered here to be sex disaggregated if produced. In this domain too, average overall availability at the international level is higher than at the national level (81 percent versus 74 percent), but availability for political indicators is higher at the international level (100 percent versus 73 percent) while availability for social indicators is higher at the national level (75 percent versus 61 percent). Food security and nutrition performs best, but there are still significant gaps in terms of availability of sex disaggregation at both levels—of 11 percentage points at the international level and 8 percentage points at the national level.

Availability of the indicators by outcomes varies significantly between countries, and country rankings are different for international versus national databases (Figure 12.2 and Appendix B[11]). Sorted by international availability and sex disaggregation, Tanzania, Uganda, and Ghana are the top performers with Botswana, South Africa, and Lesotho at the bottom, largely driven by the low levels of data on women's empowerment indicators. However, sorted by national availability of sex-disaggregated data, Ethiopia, Ghana, and Malawi perform best with high levels of coverage, particularly for empowerment measures as well as indicators on assets, income, and work. Lesotho, Botswana, and Senegal have the lowest levels of information available at the national level, driven by different components for each country. Lesotho has no nationally available data on food security

10 International databases may be reporting indicators based on modeled estimates. Moreover, data may exist at the national level but be reported in international rather than national databases. Methodologies may also differ between national and international databases.

11 See Chapter 12 Appendix B (https://www.resakss.org/node/6747?region=aw).

FIGURE 12.2—AVAILABILITY SCORES FOR DATA FOR DOMAINS AT THE NATIONAL AND INTERNATIONAL LEVELS

Source: Authors.

and nutrition, while low levels of empowerment data for Botswana and low levels of assets, income, and work data in Senegal contribute to their weaker overall performance.

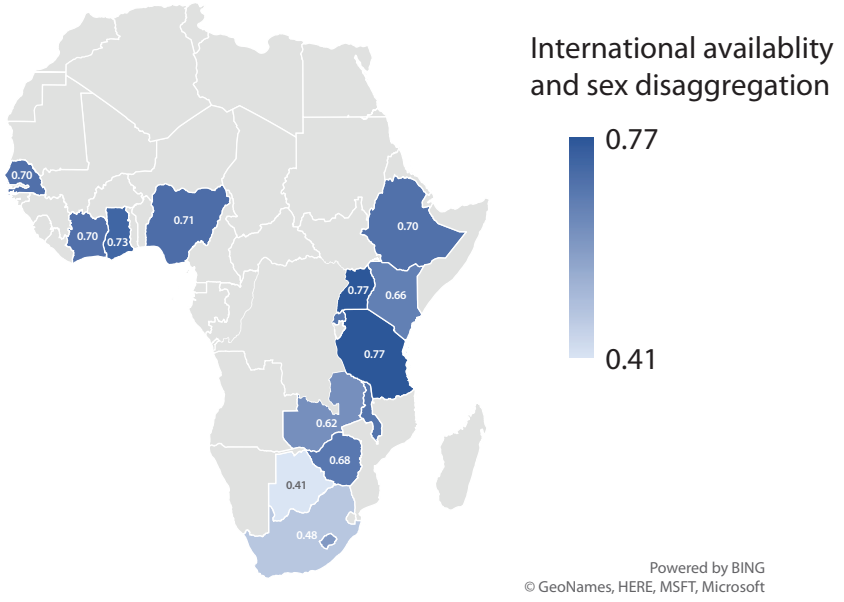
Overall, these findings are promising in that they indicate that, on average, around three-fourths of all indicators have some data available across the 15 countries in SSA. Their availability, however, drops by more than 20 percentage points when considering sex disaggregation at the international level and by 11 percentage points when considering sex disaggregation at the national level, suggesting that investments in sex disaggregation of currently available indicators and stronger feedback loops between international- and national-level data collection and indicator generation could help to improve significantly data availability for decision making regarding rural women and girls (Figures 12.3 and 12.4).

Economic measures of assets, income, and work remain challenging to disaggregate by sex; collaboration between national efforts, which are doing comparatively better, and international data efforts should be encouraged. In addition, there is the need to operationalize new guidelines on data collection on asset ownership and use, and more generally work toward increased individual-level data collection would be beneficial in filling data gaps in this area. While women's social and political empowerment and food security and nutrition performed better, there is still work to be done. We found only one relevant indicator on political empowerment (proportion of women in national parliaments) that was either tier I or tier II in the SDG indicator framework, which is limited as a proxy measure for political empowerment of rural women. Advances on measuring representation at the local level, as well as decision making in areas apart from health, are needed.

Social empowerment indicators, such as making informed decisions over family planning or being the victim of intimate partner violence, performed better at the country level, largely due to the lack of information at the international level about violence from those other than an intimate partner. This is an area where international sources may be able to learn from national methods of data production.

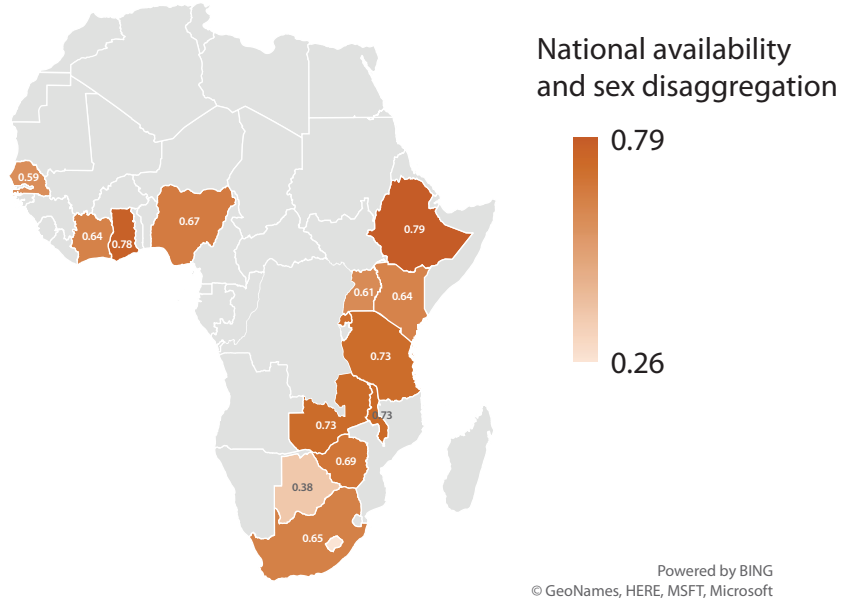
While food security and nutrition indicators overall performed best, their level of sex disaggregation varied significantly between countries—ranging from 17 percent to 83 percent for country availability at the international level and from 26 percent to 79 percent for country availability at the national level. The 15 SSA countries are all at very different levels of sex disaggregation, which indicates that whereas some countries will require little additional effort to bridge the gender data gap, others will require significant effort. While bridging these gender data gaps will necessitate increased and improved data collection, it is also likely that the data that are available are relatively underused and could be further analyzed. The ODW assessment and the country scores presented in this chapter can help channel the right level of assistance and collaboration that is customized to countries' specific data needs.

FIGURE 12.3—AVAILABILITY OF ANY DATA FOR INDICATORS AND SEX DISAGGREGATION AT THE INTERNATIONAL LEVEL



Source: Authors.

FIGURE 12.4—AVAILABILITY OF ANY DATA FOR INDICATORS AND SEX DISAGGREGATION AT THE NATIONAL LEVEL



Source: Authors.

Discussion and Recommendations

Rural women and girls in SSA are a key group to target in the drive to leave no one behind. Generating high-quality data on this group should advance our understanding of both paid and unpaid work, help tackle multidimensional poverty, and boost food security and nutrition. But generating good evidence at the individual and household levels that acknowledges the interdependence between economic and social aspects of rural women's and girls' lives is challenging for both conceptual and practical reasons.

The first section of this chapter covered some of the conceptual and methodological challenges for measuring three main SDG-relevant outcomes for women and girls. The second section took a more practical view—it chose existing (tier I and II) indicators that offer at best a proxy and often an imperfect measure of the outcomes we were interested in measuring, and used an ODW assessment to ask basic questions about their availability. While in an ideal world we would like to have had measures that tracked income and assets at the household and individual levels, captured the different dimensions of objective and subjective empowerment separately, and had food security and nutrition indicators that reflected the gendered intrahousehold dynamics of food-insecure households, in the practical world we can first improve on those indicators we have available. Assessing availability, therefore, is a first basic step.

ODW's assessment yielded promising results for these 15 countries—the most salient being that approximately three-fourths of the indicators have some data available—as well as sobering ones, reminding us that sex disaggregation is a major challenge, especially for economic indicators. It also yielded the somewhat unexpected result that sex disaggregation for indicators on assets, income, and work and social empowerment, while lacking overall, was better at the national than the international level. If one (safely) assumes that nationally generated

indicators are more likely to be demand driven or more likely to be used by policy makers at the country level, the ODW assessment reminds us that sex disaggregating these indicators may be more of a policy priority at the national level, when compared with international priorities. It also sends the strong message that partnerships between international- and national-driven data efforts are needed for both international- and national-generated expertise.

In an effort to improve coverage, comparability, complexity, granularity, and policy relevance, we make the following recommendations:

1. Where possible and appropriate, **collect data at the individual and household level**. In the absence of individual-level data collection, implement data collection and analytical approaches to derive individual-level estimates from household-level surveys.
2. Invest in efforts to better **combine and harmonize data sources** to achieve the disaggregations required to generate insights on rural women and girls. This also implies strengthening data sources such as administrative data and improving the frequency and timeliness of data.
3. Support the widespread **implementation of new guidelines and technical assistance** to countries in areas that will improve measurement on rural women and girls, in particular the 19th ICLS resolution on work, the UNSD 2019 guidelines on asset measurement, and the FAO's guidelines on sex-disaggregated data and indicators in agriculture.
4. Undertake work to **agree on methodology for tier III indicators** and devise indicators that are better at capturing objective and subjective measures of empowerment. There are opportunities for national- and international-level data collection exercises to learn from and reinforce each other.
5. **Prioritize disaggregating data by sex** for indicators on income and assets—such data are particularly low in the 15 countries, especially from international databases.
6. ***Emphasize secondary analysis*** of data in addition to improving primary data collection, especially because of the availability of data in particular domains.
7. In addition, data producers require support to **build connections to decision makers** to improve the potential for data uptake and impact.

This last point is, perhaps, the most crucial. During background interviews with data experts at the national level, it was clear that for most national statistical offices their measure of success ends at data release. Whether the data are used to change outcomes, is, understandably, seen as out of their control. However, the complexities of designing policies to meet the needs of rural women and girls require equally sophisticated data production and analyses. Understanding the relevant policy questions will be crucial to guide data producers in where to focus their efforts, while a reciprocal understanding on the part of decision makers of the possibilities and limits of data on this group will help to bring the realities of rural women and girls into sharper focus and, hopefully, lead to real change.

CHAPTER 13

Tracking Key CAADP Indicators and Implementation Processes

Tsitsi Makombe, Wondwosen Tefera, and John Ulimwengu

The Comprehensive Africa Agriculture Development Programme (CAADP) is a continentwide framework for accelerating broad-based economic growth and progress toward poverty reduction and food and nutrition security through an agriculture-led growth strategy. It was officially adopted by the African Union (AU) heads of state and government in the 2003 Maputo Declaration on *Agriculture and Food Security* with two main targets: achieving a 6 percent annual agricultural growth rate at the national level and allocating 10 percent of national budgets to the agriculture sector. In 2014, the AU heads of state and government reaffirmed their commitment to CAADP by adopting the Malabo Declaration on *Accelerated Agricultural Growth and Transformation for Shared Prosperity and Improved Livelihoods*. In the Malabo Declaration they made seven broad commitments, including upholding the CAADP principles and values; enhancing investment in agriculture; ending hunger and halving poverty by 2025; boosting intra-African agricultural trade; enhancing resilience to climate variability; and strengthening mutual accountability for actions and results by conducting a Biennial Review (BR) of progress made in achieving the commitments.

The Regional Strategic Analysis and Knowledge Support System (ReSAKSS) tracks progress on core CAADP indicators and Malabo Declaration goals and targets through its flagship Annual Trends and Outlook Reports (ATORs) and website (www.resakss.org).[1] It does so using indicators outlined in the CAADP Results Framework (RF) for 2015–2025 organized on three levels (AUC and NPCA 2015). Level 1 includes broader development outcomes and impacts to which agriculture contributes, including wealth creation; food and nutrition security; enhanced economic opportunities, poverty alleviation, and shared prosperity; and resilience and sustainability. Level 2 includes the outputs from interventions intended to transform the agriculture sector and achieve inclusive growth: improved agricultural production and productivity; increased intra-African trade and functional markets; expanded local agro-industry and value chain development, inclusive of women and youth; increased resilience of livelihoods and improved management of risks in agriculture; and improved management of natural resources for sustainable agriculture. Level 3 includes inputs and processes required to strengthen systemic capacity to deliver CAADP results and create an enabling environment in which agricultural transformation can take place: effective and inclusive policy processes; effective and accountable institutions that regularly assess the quality of implementation of policies and commitments; strengthened capacity for evidence-based planning, implementation, and review; improved multisectoral coordination, partnerships, and mutual accountability in sectors related to agriculture; increased public and private investments in agriculture; and increased capacity to generate, analyze, and use data, information, knowledge, and innovations. There are 38 indicators in the CAADP RF, 14 for level 1, 12 for level 2, and 12 for level 3 (Table 13.1).

TABLE 13.1—NUMBER OF INDICATORS IN THE CAADP RESULTS FRAMEWORK AND BIENNIAL REVIEW

CAADP Results Framework	Number of indicators
Level 1: Agriculture's contribution to growth and development	14
Level 2: Agricultural transformation and inclusive growth	12
Level 3: Systemic capacity to deliver results	12
Total number of indicators	**38**
CAADP Biennial Review and Africa Agriculture Transformation Scorecard	**Number of indicators**
Theme 1: CAADP processes and values	3
Theme 2: Investment finance in agriculture	6
Theme 3: Ending hunger by 2025[a]	21
Theme 4: Halving poverty by 2025	8
Theme 5: Boosting intra-African trade in agricultural commodities and services	3
Theme 6: Enhancing resilience to climate variability	3
Theme 7: Mutual accountability for results and actions	3
Total number of indicators	**47**

Source: Authors.
[a] Four new indicators, which are all part of commitment 3 to end hunger by 2025, were added to the CAADP BR in 2018.

1 ReSAKSS was established in 2006 to provide data and knowledge products to facilitate CAADP benchmarking, review, dialogue, and mutual learning processes. ReSAKSS is facilitated by the International Food Policy Research Institute (IFPRI) in partnership with Africa-based CGIAR centers, the African Union Commission (AUC), the African Union Development Agency-New Partnership for Africa's Development (AUDA-NEPAD), and leading regional economic communities (RECs).

Trends in the indicators can be seen on the ReSAKSS website, organized under the three levels of the CAADP RF and one additional category that includes "other" important indicators of interest to CAADP stakeholders. Details of the "other" indicators and aggregate statistics are available in the supplementary data tables in Annex 7 of this report. Although the CAADP RF is intended to help track progress in implementing the Malabo Declaration, the CAADP Biennial Review (BR) process, initiated in 2015, has introduced 47 indicators aimed at monitoring the specific commitments in the Declaration using the Africa Agriculture Transformation Scorecard (AATS) (Table 13.1). However, some of the indicators in the CAADP RF and the CAADP BR/AATS are not included in the ReSAKSS database as the data are not yet available. These include several on access to finance, on value chain development, on resilience, and age- and sex-disaggregated indicators for men and women across the life cycle. These will be added as the data become available.

Objectives of the Chapter

This chapter discusses progress on 29 of the 38 CAADP RF indicators for which cross-country data are available—details of the indicators and aggregate statistics are available in the data tables in Annexes 1–3 of this report (Table 13.2). The progress is discussed across different geographic and economic groupings in the

TABLE 13.2—CAADP RESULTS FRAMEWORK INDICATORS DISCUSSED

No	LEVEL 1:	Agriculture's Contribution to Economic Growth and Inclusive Development
1	**L1.1.1**	GDP per capita (constant 2010 US$)
2	**L1.1.2**	Household final consumption expenditure per capita (constant 2010 US$)
3	**L1.2.1**	Prevalence of undernourishment (% of population)
4	**L1.2.2a**	Prevalence of underweight, weight for age (% of children under 5)
5	**L1.2.2b**	Prevalence of stunting, height for age (% of children under 5)
6	**L1.2.2c**	Prevalence of wasting, weight for height (% of children under 5)
7	**L1.2.3**	Cereal import dependency index
8	**L1.3.1**	Employment rate
9	**L1.3.3**	Poverty gap at $1.90 a day (2011 PPP)
10	**L1.3.4**	Extreme poverty headcount ratio at $1.90 a day (2011 PPP), % of population
11	**L1.3.5**	Gini coefficient
No	**LEVEL 2**	**Agricultural Transformation and Sustained Inclusive Agricultural Growth**
12	**L2.1.1**	Agriculture value added (million, constant 2010 US$)
13	**L2.1.2**	Agriculture Production Index (2004-2006 = 100)
14	**L2.1.3**	Agriculture value added per agricultural worker (constant 2010 US$)
15	**L2.1.4**	Agriculture value added per hectare of agricultural land (constant 2010 US$)
16	**L2.1.5**	Yield for the five most important agricultural commodities
17	**L2.2.1**	Value of intra-African agricultural trade (constant 2010 US$, million)
18	**L2.2.2**	Domestic food price volatility (index)
19	**L2.4.2**	Existence of food reserves, local purchases for relief programs, early warning systems and school feeding programs
No	**LEVEL 3**	**Strengthening Systemic Capacity to Deliver Results**
20	**L3.1.1**	Existence of a new NAIP/NAFSIP developed through an inclusive and participatory process
21	**L3.2.1**	Existence of inclusive institutionalized mechanisms for mutual accountability and peer review
22	**L3.3.1**	Existence of and quality in the implementation of evidence-informed policies and corresponding human resources
23	**L3.4.1**	Existence of a functional multisectoral and multistakeholder coordination body
24	**L3.4.2**	Cumulative number of agriculture-related public-private partnerships (PPPs) that are successfully undertaken
25	**L3.4.3**	Cumulative value of investments in the PPPs
26	**L3.5.1**	Government agriculture expenditure (billion, constant 2010 US$)
27	**L3.5.2**	Government agriculture expenditure (% of total government expenditure)
28	**L3.5.3**	Government agriculture expenditure (% of agriculture value added)
29	**L3.6.2**	Existence of an operational country SAKSS

Source: AUC and NPCA (2015).

continent, comparing trends in the RF indicators since the adoption of CAADP in 2003 (that is, from 2003 to 2018) with the pre-CAADP subperiod (from 1995 to 2003). In keeping with the gender equality theme of the 2019 ATOR, the chapter also discusses trends in sex-disaggregated data on child malnutrition (stunting, underweight, and wasting). [2] Sex-disaggregated data on other indicators are not available. The chapter, starting with the next section, also discusses progress in the CAADP implementation process itself in terms of country and regional progress in developing evidence-based, Malabo compliant national agriculture investment plans (NAIPs) and operationalizing CAADP mutual accountability processes to support agriculture sector review and dialogue.

Progress in CAADP Implementation Processes

Following the adoption of the Malabo Declaration in 2014, countries and regions had to develop second-generation national or regional agriculture investment plans that reflect detailed implementation plans on how the commitments and goals in the declaration would be achieved. At the country level, the process starts with a Malabo NAIP domestication event—led by the African Union Commission (AUC), the African Union Development Agency–New Partnership for Africa's Development (AUDA-NEPAD), and regional economic communities (RECs)—that convenes national CAADP constituencies to discuss and agree on a country roadmap to review and revise the NAIP. The roadmap specifies roles, timelines, and coordination modalities needed to generate a NAIP that receives broad support from national stakeholders. To date, domestication events have been held in 25 countries (Table L3(a) in Annex 3d).

For each country, analysis is done by ReSAKSS in collaboration with the International Food Policy Research Institution (IFPRI) to generate three key Malabo products: (1) the Malabo Status Assessment and Profile report, which reviews changes in each country since the last NAIP and evaluates the country's current situation with respect to the Malabo thematic areas, thus providing a baseline for measuring future progress toward targets; (2) the Malabo Goals and Milestones report, which lays out the intermediate targets for a county to achieve the Malabo commitments on agricultural growth and poverty reduction; and (3) the Policy and Program Opportunities report, which identifies specific country-level actions to achieve the Malabo targets in each thematic area, policy and institutional opportunities, and existing best practices that each country could customize in light of its own agricultural development challenges and opportunities. By the end of September 2019, Status Assessment and Profile reports had been completed for 29 countries, and Malabo Goals and Milestones reports had been completed for 22 countries (Table L3(a)). All 15 Economic Community of West African States (ECOWAS) countries had their Status Assessment and Profile reports and Malabo Goals and Milestones reports completed, as had 7 Southern and Central African countries—Angola, Eswatini, Gabon, Kenya, Lesotho, Malawi, and Namibia. A total of 19 countries had either drafted, reviewed, and/or validated their Malabo-compliant NAIPs by the end of September 2019, while NAIPs were still under development (in progress) in another 12 countries (Table L3(a)).

The Malabo Declaration calls for improved multi-institutional platforms for peer review, mutual learning, and mutual accountability as well as a biennial agricultural review process that tracks and reports on progress toward achieving commitments in the Declaration and laid out in NAIPs (AUC 2014). Agricultural joint sector reviews (JSRs) are one way of operationalizing mutual accountability at regional and country levels. Well-functioning JSRs provide an inclusive, evidence-based platform for multiple stakeholders to jointly review progress; hold each other accountable for actions, results, and commitments; and, based on gaps identified, agree on future implementation actions. To strengthen mutual accountability, the ReSAKSS team, at the request of AUC and AUDA-NEPAD, has to date initiated or completed agricultural JSR assessments in 31 countries. These assessments evaluate the institutional and policy landscape as well as the quality of current agricultural review processes. Areas in these review processes that need strengthening are identified in order to help countries develop JSRs that are regular, comprehensive, and inclusive. Of the 31 countries in which JSR assessments have been initiated since 2014, 21 have been completed (Table L3(a)). At the regional level, in June 2016, ECOWAS became the first REC to hold a regional JSR following a regional JSR assessment conducted by ReSAKSS in 2015; and the East African Community (EAC) is expected to be the second, after ReSAKSS completed its JSR assessment in July 2019. As of September 2019, 28 countries had inclusive, institutionalized mechanisms for mutual accountability and peer review, mainly JSRs (see Annex 3d, Table L3 (b)). Over time, using outcomes of the JSR assessments, the JSRs have become more inclusive of nonstate actors, more

2 Sex-disaggregated data are not yet available for most of the CAADP RF indicators tracked by ReSAKSS.

comprehensive in coverage, and have better monitoring and follow-up of actions, which has led to improvements in policy review and dialogue.

The CAADP Biennial Review (BR) is another important mechanism for tracking continental progress toward achieving Malabo commitments through NAIPs. The inaugural (2017) BR report, which included the Africa Agricultural Transformation Scorecard (AATS), was launched on January 29, 2018, during the 30th Ordinary Session of the Assembly of Heads of State and Government of the African Union, held in Addis Ababa, Ethiopia. The report launch marked an important milestone in promoting mutual accountability at the highest political level. Out of the 47 reporting countries, 20 obtained an overall agricultural transformation score that was sufficient to indicate that they are on track to achieve the Malabo commitments by 2025 (Table L3(a)).

The second BR (2019) process was launched at the country level following BR continental training workshops held in March and April 2019. The 2019 BR features the eBiennial Review (eBR), an interactive web-based data platform developed by IFPRI/ReSAKSS at the request of AUC and AUDA-NEPAD, to facilitate BR data collection, access, management, and reporting at country, regional, and continental levels. Similar to the inaugural BR process, each country organized a multistakeholder workshop to review and validate the report and data before its submission to the respective REC. With the support of technical partners, including ReSAKSS and the RECs, by the end of September 2019, 49 countries had drafted, validated, and submitted reports under the second BR round to their respective REC (Table L3(a)). The continental report from this second BR round, including the AATS, was finalized in September 2019 in preparation for its review by AUC's Specialized Technical Committee on Agriculture in October 2019. The report and scorecard are expected to be presented at the AU heads of state and government summit in January 2020.

Progress in CAADP Indicators

This section discusses Africa's performance on 29 of the 38 CAADP RF indicators for which data are available—21 quantitative and all 8 qualitative indicators, organized by the three RF levels.[3] Data on the 29 indicators are presented in Table 13.2 and Annexes 1–3. Unlike the qualitative indicators, which are presented primarily at the country level, progress in the quantitative indicators is presented at the aggregate level in six different breakdowns: (1) for Africa as a whole; (2) by AU's five geographic regions (Central, Eastern, Northern, Southern, and Western); (3) by five economic categories (countries with less favorable agricultural conditions, countries with more favorable agricultural conditions, mineral-rich countries, lower-middle-income countries, and upper-middle-income countries); (4) by the eight RECs (CEN-SAD, COMESA, EAC, ECCAS, ECOWAS, IGAD, SADC, and UMA);[4] (5) by the period during which countries signed the CAADP compact (CC0, CC1, CC2, and CC3);[5] (6) by the level or stage of CAADP implementation reached by the end of 2016 (CL0, CL1, CL2, CL3, and CL4);[6] and (7) by the distribution of countries in formulating first- and second-generation NAIPs (N00, N10, and N11).[7] Annex 4 lists countries in the various geographic, economic, and REC categories; Annex 5 lists the countries in the different categories of CAADP compact signing or level of implementation reached; and Annex 6 lists countries by NAIP formulation category. Progress is also reported over different subperiods, with achievement in post-CAADP subperiods—that is, annual average levels over the periods 2003 to 2008, 2008 to 2014, and 2014 to 2018—compared with achievement in the pre-CAADP subperiod of 1995 to 2003.[8] The discussion

3 Several of the indicators are also part of the CAADP BR and AATS.

4 CEN-SAD = Community of Sahel-Saharan States; COMESA = Common Market for Eastern and Southern Africa; EAC = East African Community; ECCAS = Economic Community of Central African States; ECOWAS = Economic Community of West African States; IGAD = Intergovernmental Authority for Development; SADC = Southern African Development Community; UMA = Arab Maghreb Union.

5 CC1 = group of countries that signed the compact in 2007–2009; CC2 = group of countries that signed the compact in 2010–2012; CC3 = group of countries that signed the compact in 2013–2015; CC0 = group of countries that have not yet signed a CAADP compact.

6 CL0 =group of countries that have not started the CAADP process or are pre-compact; CL1 =group of countries that have signed a CAADP compact; CL2 = group of countries that have signed a compact and formulated a NAIP; CL3 = group of countries that have signed a compact, formulated a NAIP, and secured one external funding source; CL4 = group of countries that have signed a compact, formulated a NAIP, and secured more than one external funding source.

7 N00= group of countries that have neither a first-generation NAIP (NAIP1.0) nor second-generation NAIP (NAIP2.0); N10= group of countries that have NAIP1.0 but do not have NAIP2.0; N11= group of countries that have both NAIP1.0 and NAIP2.0.

8 Considering CAADP was launched in 2003, renewed in 2008, and renewed again 2014 with the Malabo Declaration, the years 2003, 2008, and 2014 represent important milestones. Therefore, the post-CAADP subperiods for reporting on progress use overlapping years to mark these milestones that usually occurred during the middle of the year in June, that is, 2003-2008, 2008-2014, and 2014-2018.

of trends and changes in CAADP indicators pertains to country categories or groupings as a whole and not individual countries within the categories, for example it relates to Africa as a whole, Central Africa as a group, ECOWAS as a group, and groups of countries categorized by their stage of CAADP implementation and NAIP formulation experience. Presenting the trends by different groups helps to determine how the implications for strengthening or maintaining desirable outcomes or for reversing undesirable outcomes may differ across the continent, without inference of causality. Unless otherwise stated, all monetary values have been converted into constant 2010 US dollar prices for intertemporal and cross-country or cross-category comparisons.

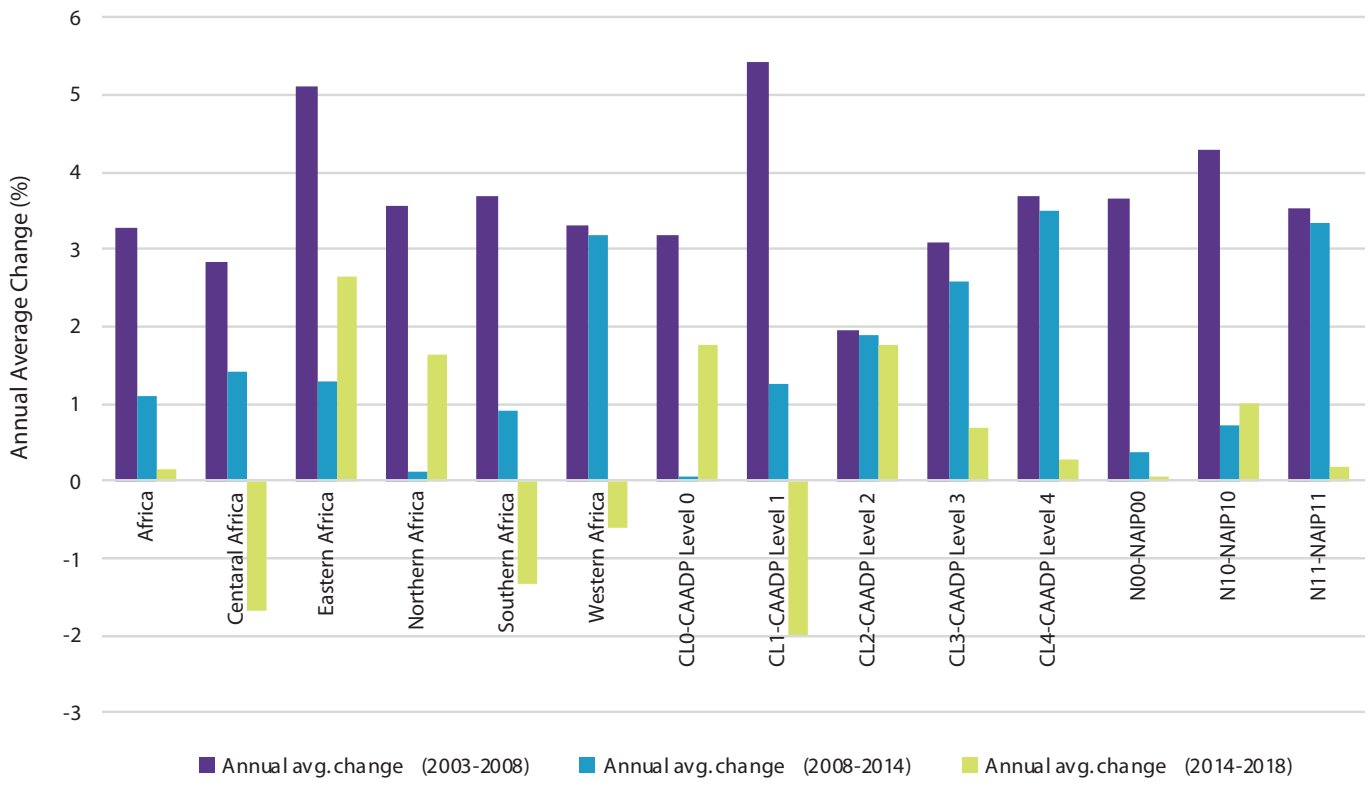
Despite the slowing growth rate, GDP per capita in terms of annual average level has continued to show sustained increases for Africa as a whole and for all country categories, except in mineral-rich and upper-middle-income countries. For example, Africa's average GDP per capita increased from US$1,483 in 1995–2003 to US$1,722 in 2003–2008 and reached US$1,984 in 2014–2018. While GDP per capita for most categories was below US$1,000 in the most recent period of 2014–2018, upper-middle-income countries and the Arab Maghreb Union (UMA), which includes the group of countries that are yet to embark on the CAADP process (CC0 and CL0), saw GDP per capita levels of above US$4,000 in 2014–2018.

CAADP Results Framework Level 1 Indicators: Agriculture's Contribution to Economic Growth and Inclusive Development

Wealth Creation

For Africa as a whole and all other categories, *GDP per capita* growth has slowed since 2008 compared with the growth registered between 2003 and 2008. In particular, annual growth in Africa's GDP per capita decelerated from 3.3 percent in 2003–2008 to 1.1 percent in 2008–2014, and further slowed to 0.2 percent in 2014–2018 (Table L1.1.1). The observed growth slowdown can be attributed to lower commodity prices and weaker global growth in recent years, particularly in 2016. While several categories experienced negative GDP per capita growth in 2014–2018, higher growth of more than 2.5 percent is observed in Eastern Africa over this most recent period (Table L1.1.1 and Figure 13.1).

FIGURE 13.1—GDP PER CAPITA (CONSTANT 2010 US$), ANNUAL AVERAGE PERCENT CHANGE, 2003–2018



Source: ReSAKSS based on World Bank (2019) and ILO (2019).

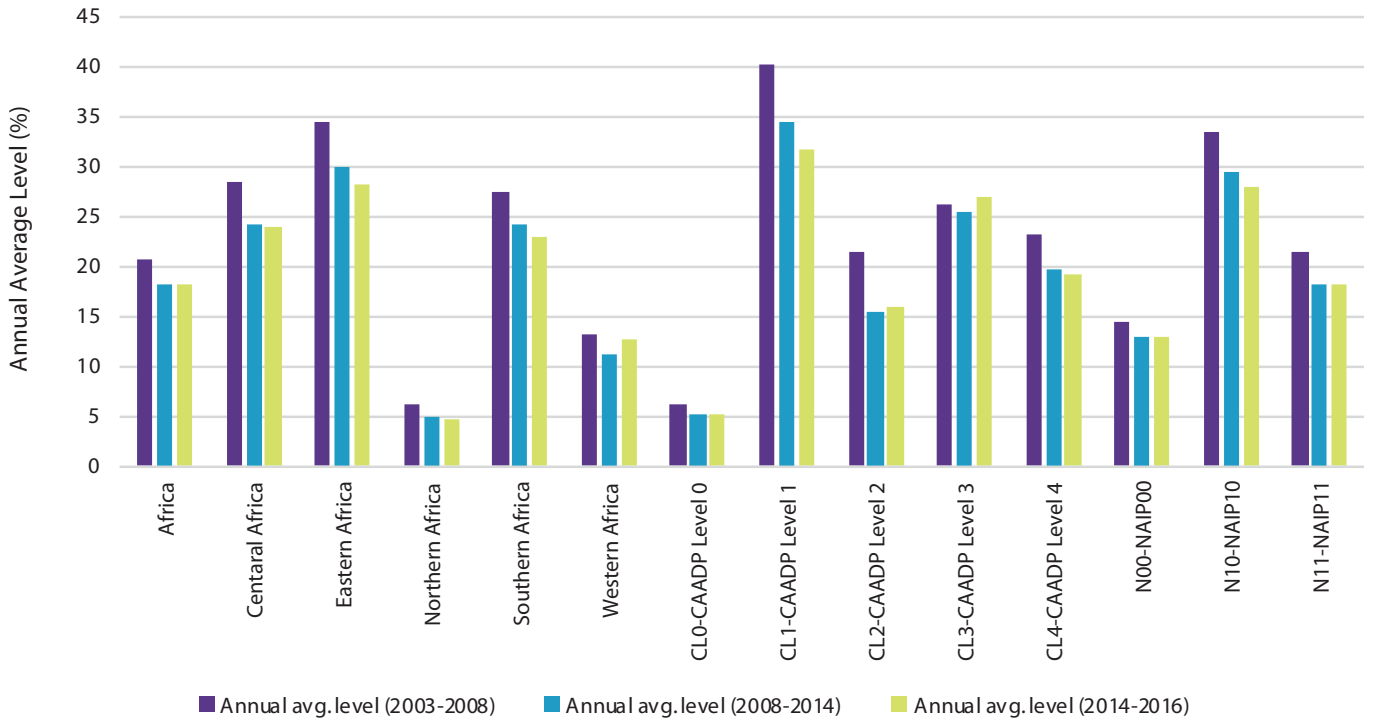
Household consumption expenditure per capita is another measure of household standards of living. The trends in this measure in recent years generally resemble those of GDP per capita. Household consumption expenditure per capita has consistently increased over the past two decades for Africa as a whole and across all country categories, particularly during the post-CAADP period of 2003–2014 (Table L1.1.2). For most country categories, the average annual growth in household consumption expenditure per capita was slower over the 2014–2018 period compared with 2008–2014. Nonetheless, Africa's household consumption expenditure per capita increased from an annual average level of US$1,107 in 2003–2008 to $1,270 in 2008–2014 and further up to US$1,426 in 2014–2018. Higher growth rates in household consumption per capita were recorded in Western Africa, lower-middle-income countries, ECOWAS member countries as a whole, and the groups of countries that joined CAADP early (CC1), that are most advanced in implementing CAADP (CL4), and that have developed both a first- and a second-generation NAIP (N11).

Food and Nutrition Security

The *prevalence of undernourishment* measures the proportion of the population whose caloric intake is below the minimum energy requirement. For Africa as a whole, the prevalence of undernourishment declined slowly from an annual average of 20.6 percent in 2003–2008 to 18.2 percent in 2008–2014 and remained at 18.2 percent in the more recent period of 2014–2016, the latest period for which data are available (Table L1.2.1 and Figure 13.2). A slower rate of decline in the prevalence of undernourishment in 2014–2016 is also observed across all country categories. Moreover, some categories even recorded increased levels in undernourishment in 2014–2016 compared with 2008–2014, including in Western Africa, mineral-rich countries, CEN-SAD, ECOWAS, and the groups of countries that have been implementing CAADP for longer (CC2) and that are further along in the implementation process (CL3). As pointed out by Benin (2016), this could be explained by the inadequacy of early agriculture investment plans to address undernourishment.

Throughout the review period (1995–2018), Africa as a whole and most country categories have consistently experienced a decline in the prevalence of child malnutrition—that is, stunting (low height-for-age), underweight (low weight-for-age), and wasting (low weight-for-height)—among children under the

FIGURE 13.2—PREVALENCE OF UNDERNOURISHMENT (% OF POPULATION), 2003-2016



Source: ReSAKSS based on World Bank (2019) and ILO (2019).

TABLE 13.3—SEVERITY OF MALNUTRITION BY PREVALENCE RANGES

Indicator	Prevalence cut-off values	
Stunting	< 20%	Low prevalence
	20-29%	Medium prevalence
	30-39%	High prevalence
	=> 40%	Very high prevalence
Underweight	< 10%	Low prevalence
	10-19%	Medium prevalence
	20-29%	High prevalence
	=> 30%	Very high prevalence
Wasting	< 5%	Low prevalence
	5-9%	Medium prevalence
	10-14%	High prevalence
	=>15%	Very high prevalence

Source: WHO (2019).

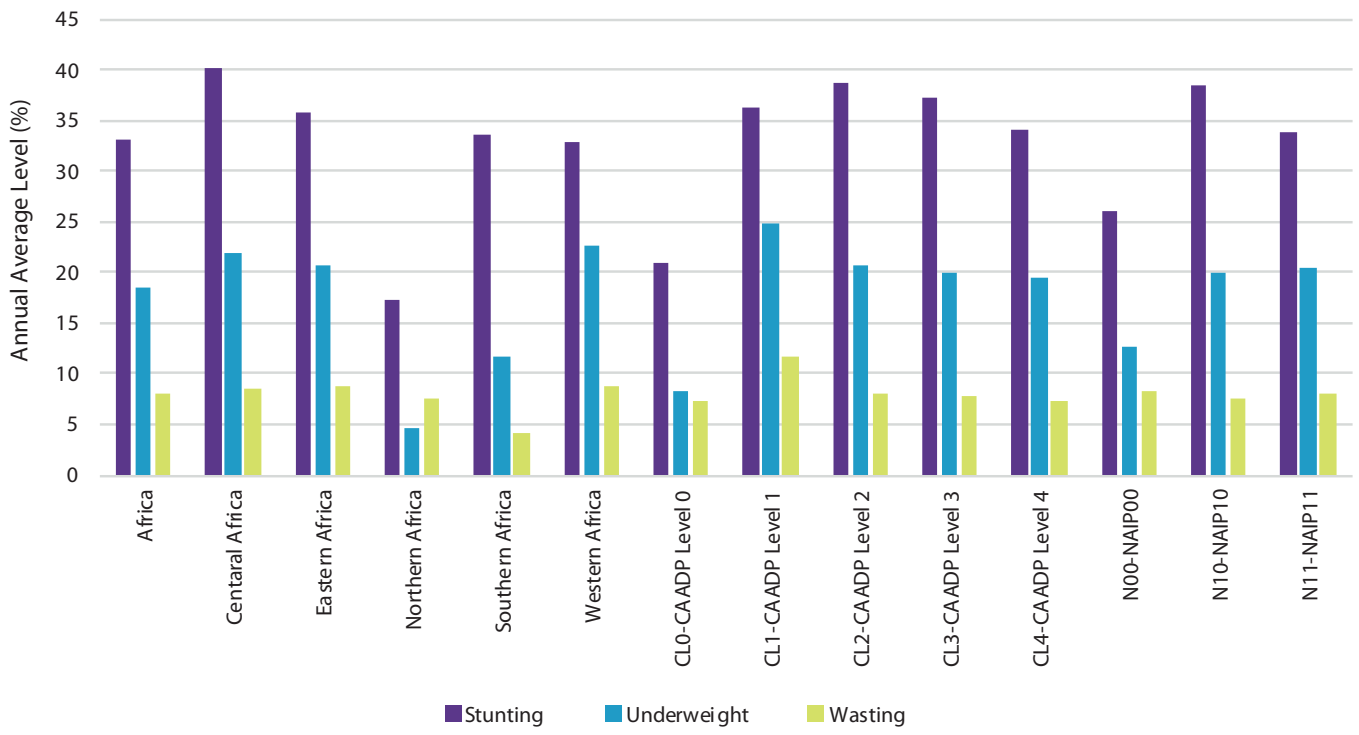
age of five years (Tables L1.2.2A to L1.2.2C). Despite this aggregate improvement in child nutritional status, using the World Health Organization's (WHO) malnutrition prevalence ranges (Table 13.3), the prevalence rates for child stunting, underweight, and wasting are considered high (and even very high in the case of stunting) for Africa as a whole and for many categories of countries.

Stunting is the most common measure of chronic malnutrition. Although Africa as a whole and most categories of countries have managed to reduce the *prevalence of stunting* over time, rates remain distinctly high with one out of every three children under five years of age being stunted in their growth (Table L1.2.2B and Figure 13.3). The prevalence of stunting for Africa declined from 41.8 percent in 1995–2003 to 35.8 percent in 2008–2018, and to 33.0 percent in 2014–2018. The prevalence of stunting in 2014–2018 remained very high, that is, above 40 percent, in Central Africa, in countries with less favorable agricultural conditions, and in mineral-rich countries. During the same period, stunting rates were lowest in UMA and in Northern Africa at 13.1 percent and 17.4 percent, respectively. Between 1995–2003 and 2014–2018, the largest reductions in stunting, by more than 10 percentage points, occurred in Eastern Africa, in countries with more favorable agricultural conditions, in COMESA and IGAD, and in the groups of countries that joined CAADP early (CC1), are furthest along in CAADP implementation (CL4), and that have formulated both NAIP1 and NAIP2 (N11). This suggests that adopting CAADP early and engaging in its implementation may play a role in helping to reduce the prevalence of child stunting.

For Africa as a whole, the *prevalence of underweight* children under the age of five has moved from high prevalence in the pre-CAADP period to medium prevalence in the post-CAADP period. Specifically, the prevalence declined from an annual average of 24.3 percent in 1995–2003 to 20.2 percent in 2008–2014 and further to 18.0 percent in 2014–2018 (Table L1.2.2A). However, several country categories, including Central, Eastern, and Western Africa, those with less favorable agricultural conditions, mineral-rich countries, the groups of countries that signed a CAADP compact in 2007–2009 (CC1) and in 2013–2015 (CC3), and those that are not advanced in CAADP implementation (CL2), have underweight prevalence rates of at least 20 percent in 2014–2018 (Figure 13.3). Meanwhile, Northern Africa, upper-middle-income countries, and the UMA group of countries have underweight prevalence rates of less than 5 percent in 2014–2018.

An indicator of acute malnutrition, the *prevalence of wasting* for Africa as a whole in children under five years of age declined from a high annual average rate of 10 percent in 1995–2003 to a medium rate of 8.7 percent in 2008–2014, with a further small decline to 8.0 percent in 2014–2018 (Table L1.2.2C). Similar reductions are observed in most of the country categories over the entire review period. Between 1995–2003 and 2014–2018, the highest reductions are witnessed in Western Africa, in countries with less favorable agricultural conditions, in mineral-rich countries, in ECOWAS, and in the group of countries that are implementing CAADP (CL2). However, for several categories of countries, the prevalence of wasting has increased over time, including in Northern Africa and in the groups of countries that joined CAADP later (CC3), have not yet joined (CC0 and CL0), are not advanced in CAADP implementation (CL1), or have not yet embarked on NAIP formulation. Ongoing conflict in some Northern Africa countries is reported to have negatively impacted the nutritional status of children (UNICEF 2019). Using available sex-disaggregated data on child malnutrition, average prevalence rates of stunting, underweight, and wasting for Africa as a whole have been on a declining trend for both boys and girls under the age of five years (Figure 13.4). Over the review period (1997–2018), the prevalence rates of stunting, underweight, and wasting are higher among boys than girls.

FIGURE 13.3—PREVALENCE OF STUNTING, UNDERWEIGHT, AND WASTING (% OF CHILDREN UNDER 5), 2014–2018

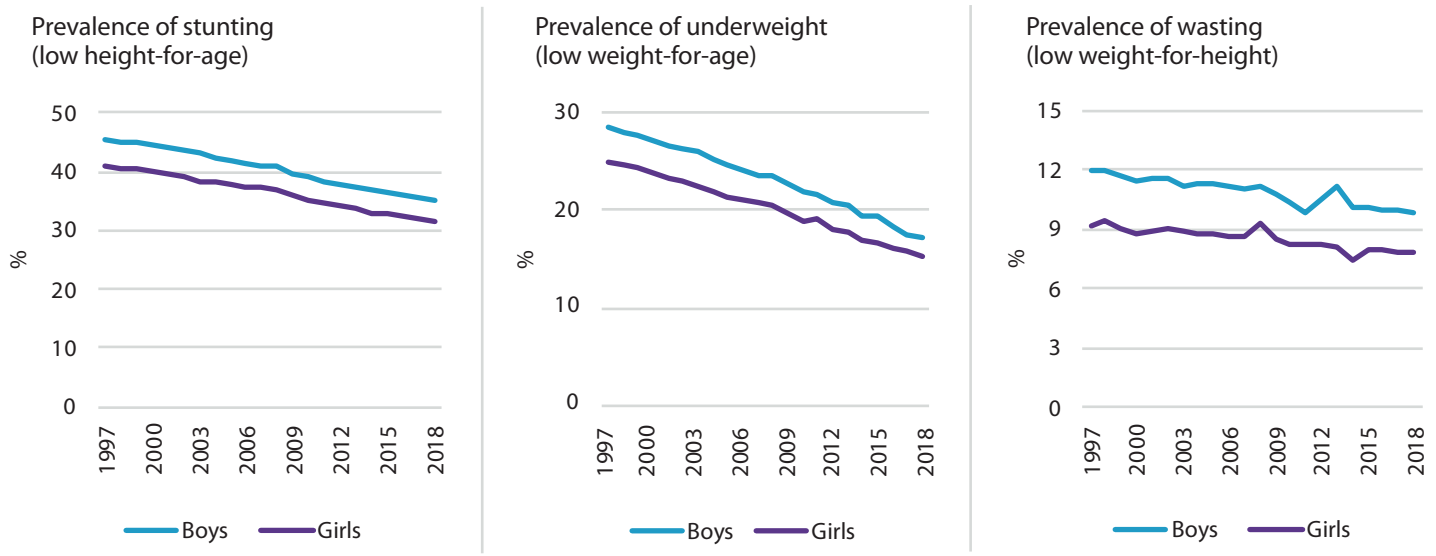


Source: ReSAKSS based on World Bank (2019) and ILO (2019).

This is consistent with findings of studies by Gebre et al. (2019) and Ettyang and Sawe (2016). During the most recent period of 2008–2018, for Africa as a whole, prevalence rates of stunting averaged 35.9 percent among boys and 32.4 percent among girls, while prevalence rates of wasting averaged 10.1 percent among boys and 7.8 percent among girls (Tables L1.2.2.B-1 and L1.2.2.C-1).

Africa's dependence on cereal imports averaged 26.4 percent of total cereal supply in 2008–2012, based on the latest available data. This implies that Africa was able to meet about three-fourths of its cereal demand through domestic production. Cereal import dependency ratios of above 40 percent in 2012 are observed in Northern Africa, in ECCAS and UMA, and in non-CAADP countries (CC0 and CL0) (Table L1.2.3). Import dependency also increased further in some of these categories including Northern Africa, UMA, and non-CAADP countries (CC0 and CL0). At the same time, lower cereal import dependency ratios are witnessed in Southern Africa, mineral-rich countries, upper-middle-income countries, SADC, and the groups of countries that are further along in implementing CAADP or have only formulated a first-generation NAIP (N10). Countries in these categories experienced consistent declines in their cereal import dependency between 2003 and 2012.

FIGURE 13.4—SEX-DISAGGREGATED PREVALENCE OF CHILD MALNUTRITION, PERCENT OF CHILDREN UNDER FIVE YEARS



Source: ReSAKSS based on World Bank (2019) and ILO (2019).

Employment

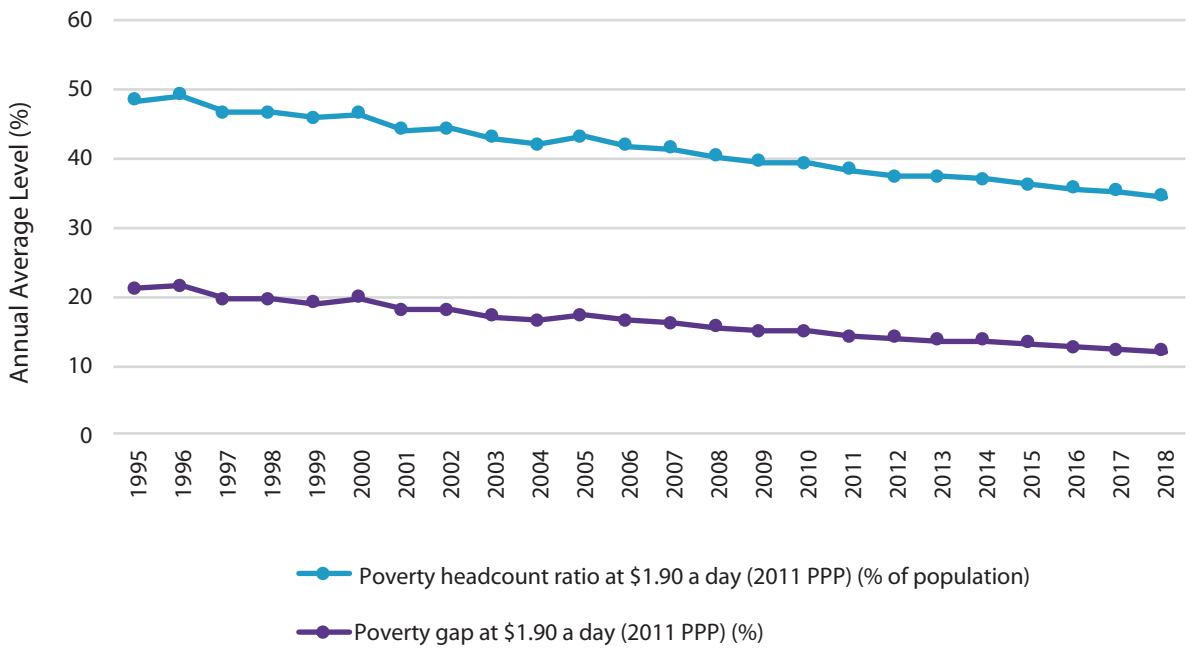
For Africa as a whole and most country categories, *employment rates*, expressed as a percentage of the labor force (all individuals aged 15 to 64 years, Table L1.3.1A), have remained moderately high over time. Africa's average employment rate increased slightly from 91.3 percent in 1995–2003 to 93.1 percent in 2014–2018. Employment rates expressed as a percentage of the labor force (all individuals aged 15+ years, Table L1.3.1B) are lower but have also remained fairly constant, averaging 58.7 percent for Africa as a whole in 1995–2003 and 59.0 percent in 2014–2018. For both measures of employment, rates are relatively lower in the Northern and Southern Africa, in upper-middle-income countries, and in UMA and non-CAADP countries. However, Africa has the highest rate of vulnerable employment in the world at 66 percent or close to 300 million people (ILO 2018).[9] The high employment rates mask high rates of underemployment, especially among youth, as well as informal and poor-quality jobs. The lack of age- and sex-disaggregated data on employment makes it difficult to formulate employment policies that recognize the different needs and vulnerabilities of women and men throughout the life cycle, as highlighted by Heckert et al. (Chapter 7 of this report).

Poverty

Africa has managed to consistently reduce poverty over the past two decades as measured by both the incidence (headcount ratio) and the intensity of poverty (poverty gap) (Figure 13.5). The proportion of Africa's population living below the poverty line (US$1.90 a day), measured by the *poverty headcount ratio*,

9 ILO (2018) defines vulnerable employment as the share of own-account workers and contributing family workers in total employment. This is often informal work arrangements characterized by inadequate earnings, low productivity, and difficult work conditions that undermine the rights of workers.

FIGURE 13.5—POVERTY GAP AND POVERTY HEADCOUNT RATIO IN AFRICA (%, AT US $ 1.90 A DAY)



Source: ReSAKSS based on World Bank (2019) and ILO (2019).

declined by 6 percentage points from 41.8 percent in 2003–2008 to 35.6 percent in 2014–2018 (Table L1.3.4 and Figure 13.5).

Over the same period, reductions of 10 percentage points or more were observed in Eastern Africa, in countries with less favorable agricultural conditions, in mineral-rich countries, the IGAD group of countries, and the group of countries that are further along in CAADP implementation (CL3). However, despite declines overall in Africa on average, the poverty headcount ratio in 2014–2018 remains markedly high in most categories of countries at above 30 percent.

For Africa as a whole, the *poverty gap*, measured as the mean shortfall from the poverty line of US$1.90 a day, declined from 16.5 percent in 2003–2008 to 14.4 percent in 2008–2014 and down to 12.7 percent in 2014–2018 (Table L1.3.3 and Figure 13.5). During the post-CAADP period since 2003, the poverty gap has declined for Africa as a whole and for most categories of countries. Mineral-rich countries registered the highest reductions in the poverty gap, with a decline of 23.1 percent in 2014–2018. Northern Africa, upper-middle-income countries, and non-CAADP countries (CC0 and CL0) also experienced reductions in the poverty gap of more than 10 percent in 2014–2018.

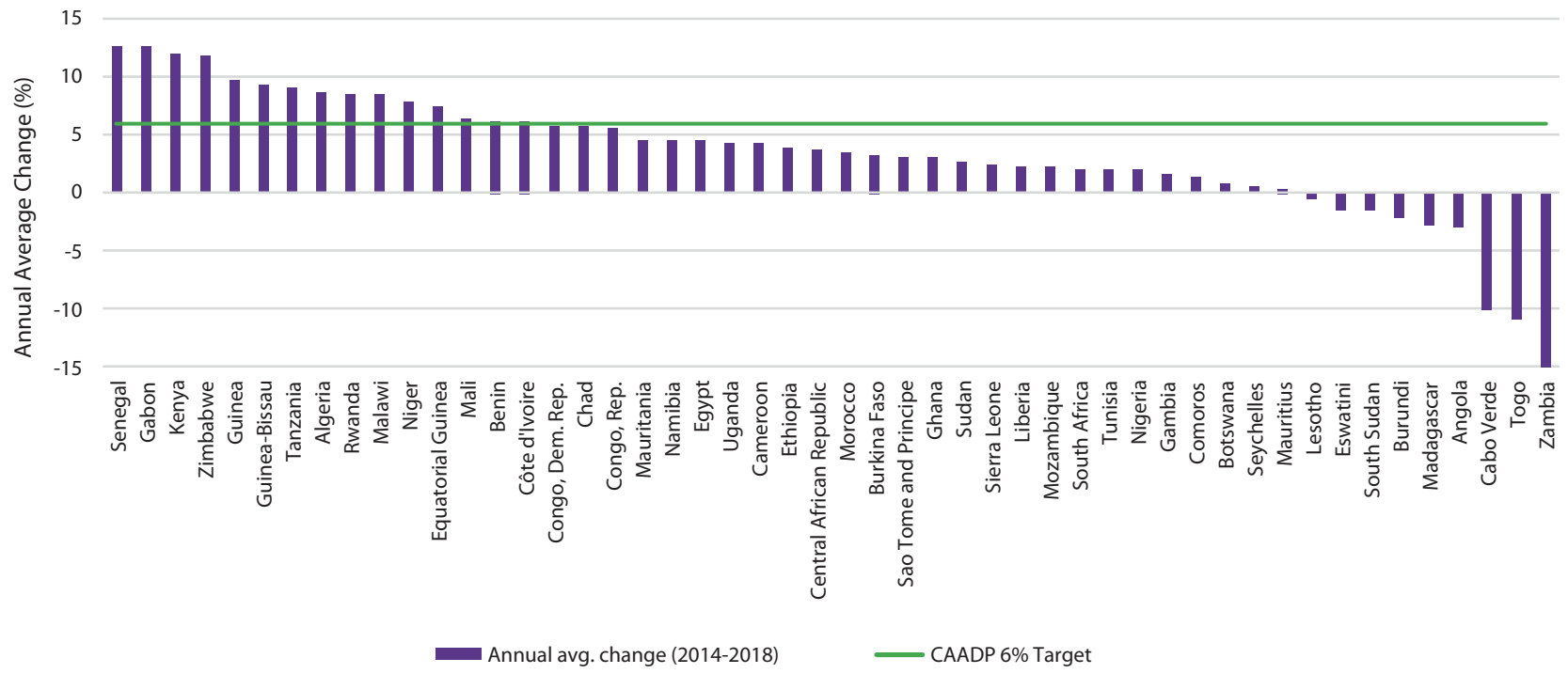
Income inequality for Africa as a whole, measured by the *Gini index*, declined marginally from 42.0 percent in 2003–2008 to 41.6 percent in 2014–2018 (Table L1.3.5). Over the same period, marginal reductions in income inequality were also achieved across all the other country categories, with the exception of upper-middle-income countries, the ECCAS group of countries, non-CAADP countries, and the group of countries that do have a NAIP. In addition, distinctly higher income inequality is observed in Southern Africa, upper-middle-income countries, and the SADC group of countries. The Gini index in these country categories averaged more than 50 percent in 2014–2018. Income inequality is lowest in Northern Africa, a region enjoying high levels of GDP per capita, where it averaged 33.6 percent in 2014–2018.

CAADP Results Framework Level 2 Indicators: Agricultural Transformation and Sustained Inclusive Agricultural Growth

Agricultural Production and Productivity

For Africa as a whole, *agriculture value added* grew faster in the pre-CAADP era compared to the post-CAADP period. Specifically, it grew at 5.0 percent

FIGURE 13.6—AGRICULTURE VALUE ADDED ANNUAL AVERAGE GROWTH (%), 2014–2018

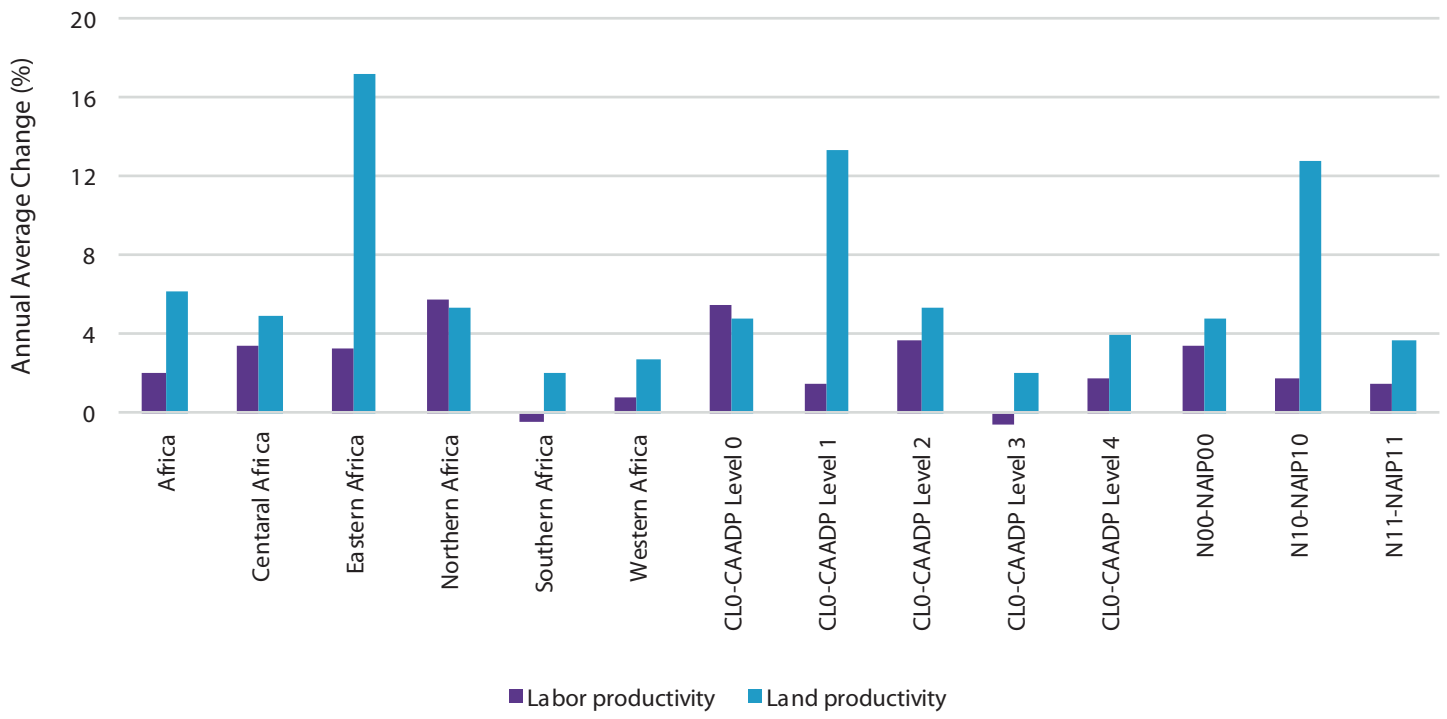


Source: ReSAKSS based on World Bank (2019) and ILO (2019).

in 1995–2003 and decelerated to 2.0 percent in 2003–2008 before increasing marginally to 3.1 percent in 2008–2014 and to 3.2 percent in 2014–2018, still below the CAADP 6 percent target (Table L2.1.1). However, a few categories of countries managed to meet the CAADP 6 percent target during the more recent period of 2014–2018, including Northern Africa, countries with less favorable agricultural conditions, EAC, UMA, and the groups of countries that signed the compact between 2010 and 2012 (CC2 and CC3). In addition, 15 countries either met or surpassed the 6 percent target in 2014–2018 (Figure 13.6).

Meanwhile, Africa's agriculture value added has consistently increased over time. It rose from an annual average of US$9.5 billion per country in 2003–2008 to $11.7 billion and $13.9 billion per country in 2008–2014 and 2014–2018, respectively. The increasing trend is consistent across all categories of countries. Moreover, in the 2014–2018 period, annual average agriculture GDP per country was more than $25 billion in Western Africa, lower-middle-income countries, members of ECOWAS, and the groups of countries that joined CAADP early (CC1), those that are most advanced in CAADP implementation (CL4), and those that have formulated both first- and second-generation NAIPs (N11). On the other hand, over the same period, annual average agriculture value added of less than $5 billion per country is observed in Central Africa, countries with less favorable agricultural conditions, mineral-rich countries, and the groups of countries that are somewhat advanced in CAADP implementation (CL2 and CL3).

FIGURE 13.7—LABOR AND LAND PRODUCTIVITY, ANNUAL AVERAGE GROWTH (%), 2014–2018



Source: ReSAKSS based on World Bank (2019), FAO (2019), and UNCTAD (2017).

The *agricultural production index* (API) shows total agricultural production for each year relative to the base period of 2004–2006. During the review period, API increased consistently for Africa and for all categories of countries. For Africa as a whole, it grew by 2.8 percent in 1995–2003, 3.2 percent in 2003–2008, and 3.6 percent in 2014–2016. Country categories that experienced API annual average growth rates of at least 5 percent in 2008–2014 include those in Eastern Africa, countries with more favorable agricultural conditions, and the groups of countries that are not advanced in CAADP implementation (CL1) and that have formulated a first-generation NAIP only (N10) (Table L2.1.2).

Over the review period, both labor and land productivity have been increasing, with productivity for land rising faster than for labor (Figure 13.7). Agriculture *labor productivity* for Africa as a whole, measured by agriculture value added per agricultural worker, decelerated from an annual average growth of 2.2 percent in the period 1995–2003 to 1.5 percent in 2008–2014 before increasing to a 2.0 percent growth rate over the 2014–2018 period (Table L2.1.3). Country categories that have witnessed the largest increases in labor productivity, of 5 percent or more, during the 2014–2018 period are Northern Africa, upper-middle-income countries, EAC, UMA, and the groups

of countries that have not started the CAADP process (CC0 and CL0). Notably, with the exception of EAC, the categories that experienced the largest growth in labor productivity are also the ones that had the highest annual average levels of labor productivity in 2008–2018. This is partially due to the higher levels of mechanization in these country categories, which include South Africa and the Northern African countries.

For Africa as a whole, annual average growth in *land productivity*, measured by agricultural value added per hectare of arable land, declined from 3.3 percent in 1995–2003 to 1.7 percent in 2008–2014 and rose to 6.2 percent in 2014–2018 (Table L2.1.4). In the most recent period, 2014–2018, all country categories witnessed positive growth in land productivity. The highest growth rates were seen in Eastern Africa, COMESA, IGAD, and the groups of countries that signed a CAADP compact in 2013–2015, that are not as advanced in CAADP implementation (CL1), or that have formulated the first-generation NAIP only (NAIP10) (Figure 13.7). The country categories that exhibit the highest annual average levels of land productivity in 2014–2018 include Northern Africa, lower-middle-income countries, CEN-SAD, and the group of countries that are the furthest along in CAADP implementation (CL4). These data, presented at the aggregate level, do not permit us to analyze gender-specific constraints to increasing land and labor productivity. As more sex-disaggregated data on land and labor productivity become available, we will be better able to address gender-related constraints to boosting agricultural productivity in Africa.

Yields of the top five agricultural commodities—cassava, yams, maize, meat, and cow milk[10]—show variable performance between the first CAADP subperiod of 2003–2008 and the later subperiods of 2008–2014 and 2014–2018 (Table L2.1.5A, Table L2.1.5B, Table L2.1.5C, Table L2.1.5D, Table L2.1.5E). In particular, yields of *cassava, yams, maize, and meat* for Africa and several categories show a declining trend during the 2008–2014 and 2014–2018 periods compared to 2003–2008. For example, average yields of cassava for Africa as a whole grew at an annual average rate of 1.2 percent in 2003–2008 but experienced negative growth in both 2008–2014 and 2014–2017. Although average milk yield for Africa as a whole has increased over time, this growth decelerated in both 2003–2008 and 2014–2017, while accelerating between 2008 and 2014. Yields of meat and milk are much higher in Northern Africa, upper-middle-income countries, and in the groups of countries that have not yet embarked on the CAADP process (CC0 and CL0). Countries in these categories are also those that have high levels of agricultural mechanization.

Intra-African Regional Trade and Market Performance

Boosting intra-African agricultural trade is one of the seven Malabo Declaration commitments that can help generate jobs in agricultural value chains, raise incomes, and improve food security and nutrition. Trade trends reveal that for Africa as a whole, *intra-African agricultural exports* more than quadrupled during the post-CAADP period. They rose from an annual average of US$0.5 billion per country in 2003–2008 to $2.1 billion in 2014–2018 (L2.2.1A). Several categories of countries consistently experienced relatively high and positive growth in intra-African agricultural exports in the post-CAADP period, including Eastern, Northern, and Western Africa, countries with more favorable agricultural conditions, CEN-SAD, EAC, ECOWAS, and the groups of countries that joined CAADP early (CC1) and that have formulated both first- and second-generation NAIPs (N11). Intra-African agricultural exports averaged over $3 billion per country per year in 2014–2018 in Southern Africa, upper-middle-income countries, SADC, and the groups of countries that are yet to embark on the CAADP process (CC1 and CL0) and those that have not yet formulated a NAIP (N00). On the other hand, Central Africa, mineral-rich countries, and ECCAS consistently recorded the lowest levels of intra-Africa agricultural exports throughout the review period, averaging less than $30 million in 2014–2018 per country per year.

Intra-African agricultural imports also grew significantly during the post-CAADP period, more than doubling from an annual average per country of US$301 million in 2003–2008 to $655 million in 2014–2018 (L2.2.1B).[11] Relatively higher growth rates in intra-African agricultural imports are seen in Southern Africa, upper-middle-income countries, SADC, and the groups of countries that have not yet joined the CAADP process (CL0 and CC0) or formulated a NAIP (N00). Due in part to having a much lower level of intra-African agricultural

10 These five were the commodities with the largest shares in total value of production for Africa as a whole.

11 The value of intra-African agricultural exports and imports for Africa as a whole is expected to be equal. However, Tables TL2.2.1A and TL.2.2.1B show exports to be greater than imports, likely due to differences in how the origin of initial exports versus re-exports are reflected in the imports, as well as differences in the valuation of exports versus imports in terms of use of c.i.f. or f.o.b. values.

imports in terms of value, intra-African imports grew at a remarkable 12.9 percent in Eastern Africa in 2014–2018.

While the growth in intra-African agricultural exports and imports is commendable, the progressive elimination of tariff and nontariff barriers as envisioned under the African Continental Free Trade Area is expected to significantly improve Africa's trade performance. Nontariff barriers and, to a lesser extent, the lack of agricultural product diversification and high trading costs are among the largest impediments to Africa's ability to trade effectively (Bouet and Odjo 2019).

For Africa as a whole and all country categories, the variability in domestic food prices over time, measured by the *domestic food price volatility index*, has been in a steady decline in recent years (L2.2.2). Domestic food price volatility in Africa decreased from 12.7 percent per year in 2003–2008 to 11.5 percent in 2008–2014 and averaged 8.6 percent in 2014. Domestic food price volatility in the 2008–2014 period was somewhat higher in Southern Africa, countries with less favorable agricultural conditions, upper-middle-income countries, COMESA, EAC, IGAD, SADC, and the group of countries that are fairly advanced in implementing CAADP (CL3). However, these categories were also those that experienced some of the largest relative declines in domestic food price volatility during this period.

Resilience of Livelihoods and Management of Risks

The existence of food reserves, food insecurity response programs, and early warning systems is a key indicator for assessing the resilience of livelihoods and production systems to climate variability as well as for the management of risks associated with the agriculture sector. As of September 2019, 42 countries had food reserves, conducted local purchases of food for relief programs, had early warning systems, and were implementing school feeding programs (Table L3(b)).

CAADP Results Framework Level 3 Indicators: Strengthening Systemic Capacity to Deliver Results

Capacities for Policy Design and Implementation

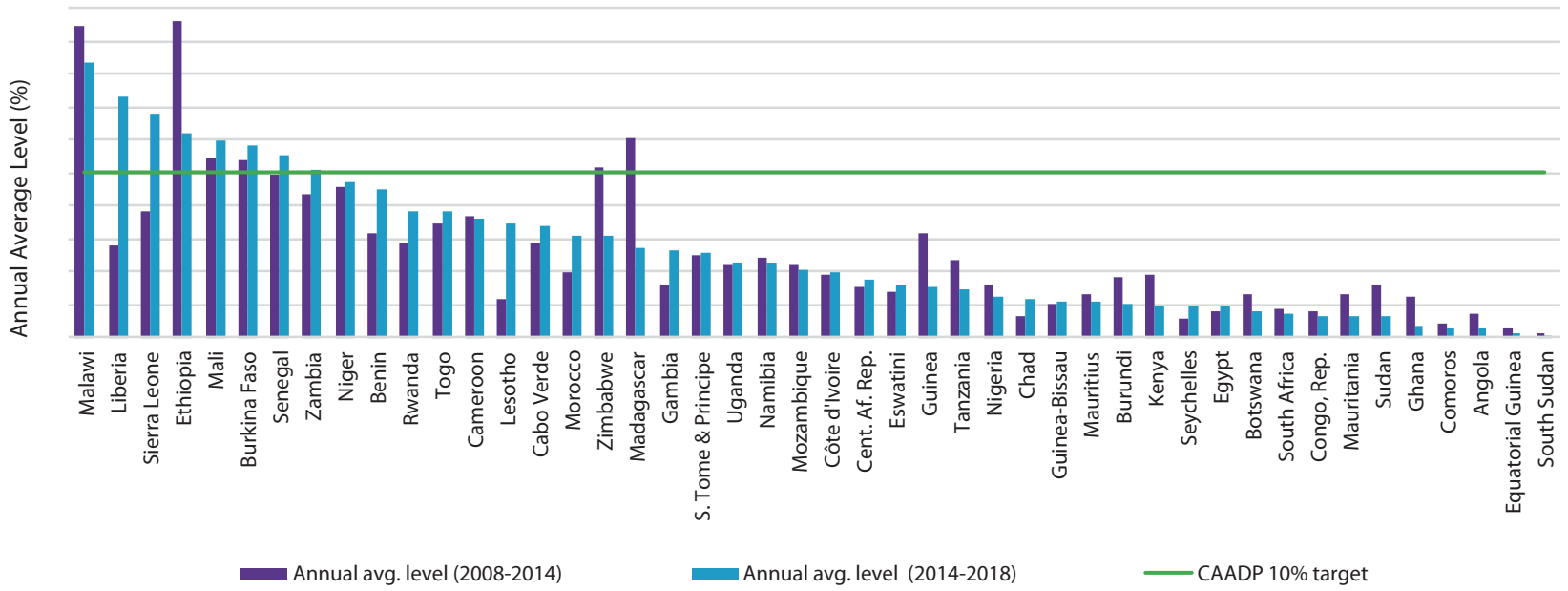
Progress in the implementation of actions aimed at strengthening systemic capacity for agriculture and food-security policy planning and implementation are presented in Table L3(b). As of September 2019, 19 countries had formulated new or revised second-generation NAIPs through inclusive and participatory processes; 28 had inclusive institutionalized mechanisms for mutual accountability and peer review (mainly JSRs); 36 were implementing evidence-based policies; 30 had functional multisectoral and multistakeholder coordination bodies—mainly agriculture sector working groups; and 25 had successfully undertaken agriculture-related public-private partnerships aimed at boosting specific agricultural value chains. Furthermore, Strategic Analysis and Knowledge Support System (SAKSS) platforms, which help countries to meet their specific data, analytical, and capacity needs, were established in 14 countries. Building the capacity to generate and analyze gendered data will be an important part of this agenda in the future to support Malabo commitments toward gender equality.

Government Agriculture Expenditure

For Africa as a whole, government agricultural expenditure increased from an average of US$0.59 billion per country per year in 1995–2003 to $0.86 billion in 2003–2008 and rose to $1.0 billion in 2014–2018 (Table L3.5.1). However, the annual average growth in Africa's government agricultural expenditure has significantly declined in recent years. It grew at 0.5 percent in 2008–2014 and at 0.9 percent in 2014–2018 compared with 7.2 percent in 2003–2008 and 10.5 percent in 1995–2003. Several categories experienced negative growth in expenditures during both 2008–2014 and 2014–2018 including Eastern, Southern, and Western Africa, lower-middle-income countries, and the groups of countries that joined the CAADP process early (CC1), that are either not very advanced or are advanced in CAADP implementation (CL1 and CL4), and that have formulated either a first- and or a second-generation NAIP (N10 and N11). On the other hand, other categories registered steady and positive growth in government agricultural expenditure; these include Central and Northern Africa, countries with less favorable agricultural conditions, upper-middle-income countries, non-CAADP countries (CC0 and CL0), and the groups of countries that signed CAADP compacts between 2010 and 2015, that are fairly advanced in implementing CAADP (CL3), or that have not formulated a first- or a second-generation NAIP (N00).

Another key commitment of the 2003 Maputo Declaration, reaffirmed in the 2014 Malabo Declaration, is the commitment to allocate 10 percent of national budgets to the agriculture sector. An assessment of progress on the commitment shows that the *share of agricultural expenditure in total government expenditure* remains below the CAADP 10 percent target across all categories (Table L.3.5.2). For example, Africa's share of agricultural expenditure increased on average 3.6 percent per year between 2003 and 2008, but then decelerated to only grow at 3.2 percent between 2014 and 2018. However, a few categories

FIGURE 13.8—SHARE OF GOVERNMENT AGRICULTURE EXPENDITURE IN TOTAL PUBLIC EXPENDITURE (%), 2008–2014 AND 2014–2018



Source: ReSAKSS based on IFPRI (2015), World Bank (2019), and national sources.

managed to consistently register an agriculture expenditure share of at least 7 percent. These include countries with both less and more favorable agricultural conditions, and the group of countries that are further along in implementing CAADP (CL3). Moreover, although ECCAS had one of the smallest shares of agriculture expenditure in 2014–2018, it recorded one of the largest growth rates in the share of the government expenditure going to agriculture—at more than 6 percent—during the same period. Moreover, while on average no regional category met the 10 percent target, Figure 13.8 shows that 10 countries—Burkina Faso, Ethiopia, Liberia, Madagascar, Malawi, Mali, Senegal, Sierra Leone, Zambia, and Zimbabwe—managed to meet or surpass the target in either 2008–2014 or 2014–2018. Meanwhile, Benin, Cameroon, Niger, Rwanda, and Togo came close to the CAADP 10 percent target, with shares of government agriculture expenditure of more than 7 percent in 2014–2018.

The *share of government agriculture expenditure in agriculture GDP* grew faster in 2003–2008 compared with the more recent post-CAADP periods of 2008–2014 and 2014–2018 (Table L3.5.3). For Africa as a whole, the share declined from an annual average of 5.9 percent in 2003–2008 to 5.8 percent in 2008–2014 and further to 5.5 percent in 2014–2018. During 2014–2018, the highest shares were observed in Northern Africa, upper-middle-income countries, UMA, non-CAADP countries, and the group of countries without a NAIP, reflecting the relatively larger agriculture expenditures in these countries relative to the size of their agriculture sector.

Overall Conclusions and Implications

This chapter shows that African countries and regions continue to steadily advance the implementation of CAADP. To date, 25 countries have held

domestication events to launch the process to formulate Malabo Declaration compliant second-generation NAIPs. Countries have also made good progress in preparing the second BR report and AATC to be presented at the AU summit of heads of state and government in January 2020.

Trends presented in this chapter show that, on average, Africa and most country categories (regions and economic classifications) have continued to make good progress on key CAADP targets and development outcomes, although the rate has slowed. For example, due to lower commodity prices and weaker global growth, particularly in 2016, growth in Africa's GDP per capita decelerated from 3.3 percent in 2003–2008 to 0.2 percent in 2014–2018. Meanwhile, the prevalence of undernourishment in Africa only declined modestly, from 20.6 percent in 2003–2008 to 18.2 percent in 2014–2016. For Africa and for many categories, the prevalence rates for stunting, underweight, and wasting in children under the age of five are still high, and are considered very high (at least 40 percent) in the case of stunting in Central Africa, countries with less favorable agricultural conditions, and mineral-rich countries. In addition, while Africa's prevalence rates of stunting, underweight, and wasting in children under the age of five have been declining for both boys and girls, the rates have been higher among boys than girls.

On average, annual growth in agriculture value added for Africa increased marginally from 2.0 percent in 2003–2008 to 3.2 percent in 2014–2018, still below the CAADP 6 percent growth target. Although Africa as whole did not meet the target, several categories of countries managed to meet the target during 2014–2018, including Northern Africa, countries with less favorable agricultural conditions, EAC, UMA, and the group of countries that signed their CAADP compact between 2010 and 2015. In addition, a total of 15 countries either met or surpassed the 6 percent target in 2014–2018. Both labor and land productivity increased in 2014–2018 after declining in 2008–2014. Land productivity has risen faster than labor productivity. Growth in intra-African agricultural exports and imports has been particularly strong, with Africa's intra-African agricultural exports more than quadrupling between 2003–2008 and 2014–2018 while intra-African agricultural imports more than doubled during the same period. The progressive elimination of tariff and nontariff barriers as envisioned under the African Continental Free Trade Area is expected to significantly improve Africa's trade performance. The chapter shows that the share of agricultural expenditure in total government expenditure remains below the CAADP 10 percent target across all country categories. For example, Africa's share of government agriculture expenditure declined from 3.6 percent in 2003–2008 to 3.2 percent in 2014–2018. Although no regional category met the 10 percent target, 10 countries—Burkina Faso, Ethiopia, Liberia, Madagascar, Malawi, Mali, Senegal, Sierra Leone, Zambia, and Zimbabwe—managed to meet or even surpass the target in either 2008–2014 or 2014–2018.

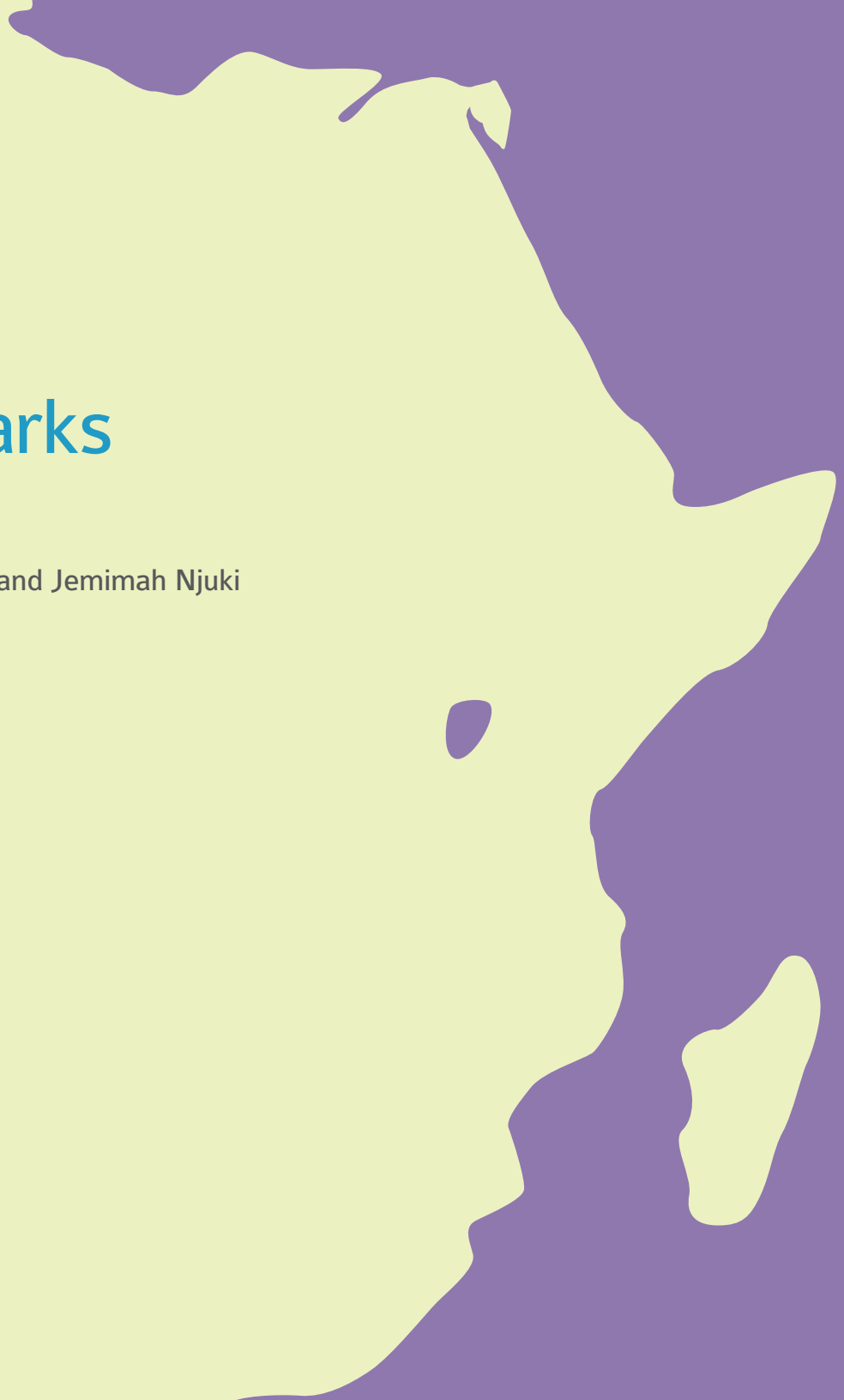
Progress in CAADP implementation is commendable and most CAADP indicators have trended in the expected direction since 2003. However, considering slowing economic growth, some deceleration in the reduction of inequality, poverty, and undernourishment, and still relatively high levels of child malnutrition, there is need to accelerate efforts to transform Africa's agriculture sector. This calls for substantially raising agricultural productivity growth and investments in the sector, including for market access and trade infrastructure. This is particularly important as many countries still lag behind in allocating 10 percent of their national budget to agriculture. The second-generation NAIPs now being prepared provide an important entry point for designing and implementing plans that are evidence-based and Malabo-compliant. In addition, fast-tracking progress and the achievement of desired outcomes will require reinforcing the adoption of regular, comprehensive, and inclusive CAADP mutual accountability processes, such as JSRs and BRs, to facilitate evidence-based review and dialogue and to hold stakeholders accountable for their commitments to the sector.

To move the Malabo commitments to improve gender equality forward, more and better gendered data need to be collected regularly and used for monitoring and policy formulation. Our analysis of sex-disaggregated data in this chapter has been limited by the lack of comparable data over time from the different countries. Data on the empowerment of women in agriculture that can be collected at a national level will allow measuring of progress toward empowering women in the sector. A key recommendation from Buvinic and Carey (Chapter 12, in this report) is worth noting: data producers need to be better connected to decision-makers to improve the potential for data uptake and impact. Understanding the relevant policy questions can guide data producers on where to focus their efforts, while decision-makers' understanding of the possibilities and limits of gender data can better inform policy formulation and program implementation toward achieving gender equality.

CHAPTER 14

Concluding Remarks

Agnes Quisumbing, Ruth Meinzen-Dick, and Jemimah Njuki

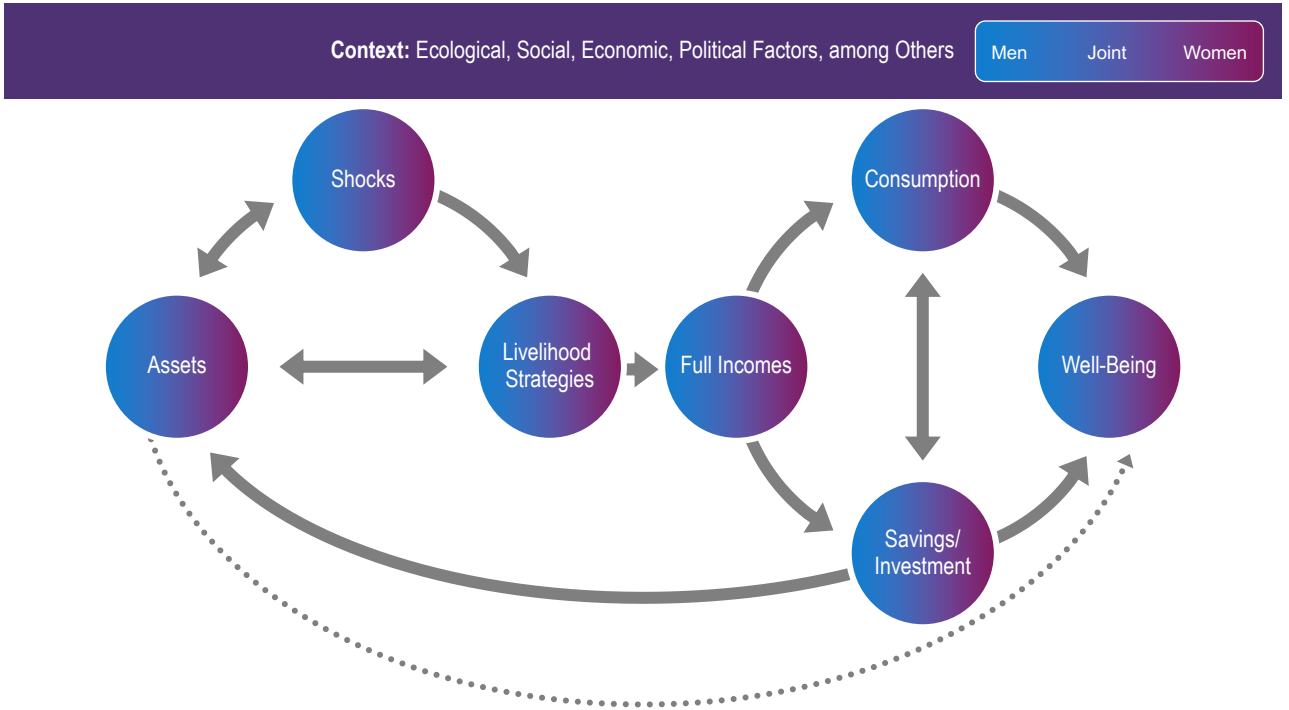


This report examines the ways in which explicit attention to gender is key to achieving the Malabo goals of shared prosperity and improved livelihoods through inclusive agricultural growth. The evidence presented here shows convincingly that gender gaps in assets, livelihood strategies, and control over income impose costs on households, communities, and nations. There have been attempts to estimate the costs of gender inequality in Africa south of the Sahara (SSA). For example, a report by UN Women estimates losses at an average of US$95 billion per year (UN Women et al. 2015). Although such estimates vary widely depending on their underlying assumptions, it is likely that, by focusing only on economic costs, they understate the full social costs of gender inequality in Africa. To identify pathways toward agricultural transformation, poverty reduction, and gender equality, this report applies the conceptual framework of the Gender, Agriculture, and Assets Project (GAAP) (Figure 14.1), which traces the gendered linkages between contexts, resources, livelihoods, and well-being. This framework helps us to better understand how policies and programs can help realize the Malabo commitment to gender equality.

Understanding the social, political, and institutional context is a first step to ending gender inequality. The context shapes the environment in which individuals and households use their resources to engage in various livelihood opportunities. Social norms regarding gender are part of that context and influence behavior in profound ways. More than individual attitudes and personal beliefs, social norms shape expectations of what it is to be a man or a woman (Miruka and Hillenbrand, Chapter 2), and by restricting women's options disproportionately, social norms impose costs at the individual, household, and community levels.

Gender gaps in resources are costly for households. These costs take the form, for example, of productivity losses in agriculture, because women farmers have less access to land and productive inputs than men farmers (Doss and Quisumbing, Case Study 3); of poor health and nutritional status, because women do not have the control over income and time to ensure adequate nutrition for themselves and their families (Njuki, Doss, and Boote, Chapter 11); and of foregone income, because of missed opportunities for women entrepreneurs to enter profitable nodes of the value chain (Rubin et al., Chapter 6). These gender gaps also impinge on men's and women's ability to be resilient to shocks (Theis et al., Chapter 9).

FIGURE 14.1—SCHEMATIC REPRESENTATION OF A GENDERED LIVELIHOOD CONCEPTUAL FRAMEWORK



Source: Adapted from Meinzen-Dick et al. (2011).

Restrictive gender norms deprive communities of potential leaders. Women continue to be underrepresented at the top levels of organizational and political processes in most African regions (Barnes and Burchard 2013). Data from the Women's Empowerment in Agriculture Index (WEAI) show that lack of membership in groups is an important source of disempowerment for both women and men alike in Rwanda and in Uganda (Meinzen-Dick et al., Case Study 6). Leaders who support gender transformative change need not, and should not, be only women, but gender transformative leadership requires a change in mindset and a commitment to bring people together and inspire them to work together (Mboʻo-Tchouawou et al., Chapter 3).

Gender gaps also impose structural constraints on economies and nations and hinder their ability to benefit fully from trade reform. For example, even if Niger's implementation of the ECOWAS Common External Tariff (CET) is likely to lead to positive outcomes for both men and women when compared with the baseline (Fofana et al., Chapter 8), the CET implementation is likely to increase the gender gap in employment levels and earnings. This means that the potential gains from trade liberalization may increase gender inequalities and exacerbate existing gender gaps.

Gender gaps and restrictive gender norms also impose costs whose monetary value is difficult to quantify. These costs, often taking the form of missed opportunities, are felt primarily by individuals, for whom gender gaps may mean inability to realize one's full potential. The costs of missed opportunities can be very high for young men and women who are constrained by sociocultural norms and gender-specific barriers from pursuing different career paths or entering nontraditional employment sectors, and thus prevented from taking advantage of potential opportunities offered by structural transformation (Heckert et al., Chapter 7). Norms regarding masculinity hold men back from participating fully in caring for their children (Mkandawire and Hendriks, Case Study 5) and may underlie high rates of intimate partner violence. Gender disparities in resources and access to social safety nets detract from men's and women's capacity for resilience (Theis et al., Chapter 9; Peterman et al., Chapter 10).

Connecting the Pieces for Change

While each of the chapters illustrates different components of the conceptual framework (Figure 14.1), understanding their linkages helps to identify effective entry points for change. To begin with, contextual factors, notably social norms and legal and institutional arrangements, shape control over assets, including land and natural resources. The legal reforms that have taken place in recent decades (documented by Ghebru, Chapter 4) can help increase women's land rights, but changing social norms is also important to increase the social acceptability of women's land rights. Secure land rights, in turn, can contribute to women's investments in their land, thereby increasing productivity and resilience to shocks (Meinzen-Dick et al. 2018).

Social norms and formal institutions also shape financial inclusion. The acceptability of women's mobility beyond the homestead affects their ability to access conventional banking services, although innovative technologies and approaches to financial inclusion are allowing women to build savings and obtain loans and insurance, as discussed in Chapter 5 (Njuki, Melesse et al.). Financial inclusion is not only critical for investments and expanding production, but also can be an important source of resilience, such as through investments in irrigation or other climate-smart agricultural technologies or through insurance or consumption smoothing (drawing down savings or taking loans to maintain healthy diets and keep children in school when shocks do occur). Social safety nets and expanding employment options for young women and men similarly can increase resilience to shocks by diversifying income sources. Chapter 9 on resilience (Theis et al.) illustrates how these connections play out at different levels, from the individual to the national, while Chapter 10 on social protection (Peterman et al.) examines the African experience with social safety net programs. Chapter 7 (Heckert et al.) discusses how the livelihood opportunities, created by structural and rural transformation may be quite different for young men and young women.

Control over land plus financial services for investment can lead to productive agricultural livelihoods or entrepreneurship. If that, in turn, gives women more bargaining power and control over income, it can shift patterns of consumption and savings. But women's ability to translate increases in production into income under their control depends on the structure of value chains and access to financial services.

Case Study 4 (Asare-Marfo et al.) shows that increased women's decision making in production can influence consumption directly through the adoption of higher-nutrient biofortified crops. However, Case Study 5 on nutrition (Mkandawire and Hendriks) cautions that improving nutritional status should not be left to women alone—it is important to work with both men and women to secure improved nutritional outcomes for all.

These linkages take place in a dynamic environment, making it all the more important to understand the context. For many women, increases in agricultural productivity and land market activity are causes of insecurity (Ghebru, Chapter 4). Trade policies and agricultural value chains can create new employment opportunities that expand livelihood strategies, but attention is needed to ensure that these are accessible to women and do not worsen existing gender gaps (Fofana et al., Chapter 8).

Gender is More Than Women

In the pursuit of gender equality, the focus has often been on women: how to remove barriers for the inclusion of women, how to empower women, how to ensure that women gain access to health, economic, educational, and other opportunities. And for a good reason. Where gender inequality exists, it is generally women who are excluded or disadvantaged in relation to decision making and access to economic and social resources (as illustrated in many of the chapters in this report). Therefore, a critical aspect of promoting gender equality is the empowerment of women, with a focus on identifying and redressing power imbalances and giving women more autonomy to manage their own lives. Measuring empowerment and gender equality is an important step toward this, requiring data on women and men, as illustrated in Case Study 6 (Meinzen-Dick et al.) and Chapter 12 (Buvinic and Carey).

The achievement of gender equality implies changes for both men and women. More equitable relationships will need to be based on a redefinition of the rights and responsibilities of women and men in all spheres of life, including the family, the workplace, and the society at large, as illustrated in Case Study 2 (Hillenbrand and Miruka) and Case Study 5 (Mkandawire and Hendricks). It is therefore crucial not to overlook gender as an aspect of men's social identity. The GAAP framework (Figure 14.1) recognizes that each of the components—assets, shocks, livelihood strategies, control of income and how it is spent on consumption or investment, and even ultimate well-being outcomes—are gendered.

It is also crucial to recognize that the lives of men are just as strongly influenced by gender as those of women. Societal norms and conceptions of masculinity and expectations of men as leaders, husbands, or sons create demands on men and shape their behavior. Men are too often expected to concentrate on the material needs of their families, rather than on the nurturing and caring roles assigned to women. Additionally, socialization in the family and later in schools promotes risk-taking behavior among young men, which is often reinforced through peer pressure and media stereotypes. In many cultural contexts, gender norms and expectations for the role of boys and men extends beyond the household and can play a powerful role in reinforcing behaviors. Because of these norms, men may resist stepping outside expectations of masculinity for fear of being shunned by their peers (Hillenbrand and Miruka, Chapter 2). Understanding the drivers behind the motivations and behaviors of boys and men can help identify and address unspoken societal barriers to gender equity. Besides in their roles as parents, men can actively challenge traditional gender norms and expectations as champions for gender equality.

A key implication of this is that gender analysis must consider intrahousehold dynamics including individual and joint asset ownership, decision making, and control over resources. Moreover, since inequalities are often created by unequal power dynamics between men and women, efforts that shift these dynamics, encourage normative and behavior change, and engage men and boys as allies, are central to making progress on gender equality. While some organizations have engaged men to work toward gender equality, the sometimes passive role that men have historically played in supporting women's advancement is a challenge but could provide an opportunity for change.

Ensure That Systems Work for Women

Most global conversations about women's empowerment in the agriculture sector have been about how women can contribute to food security and poverty reduction, and how we need to organize women and build their capacity to play this role better and more effectively. This is not enough. What if our approach to gender inequality stopped focusing on "fixing women," and instead focused on "fixing the agriculture and food system" so that it *better serves women*? Agriculture development programs designed to fix the agriculture and food system would look very different from current programs. While we need to build women's agency and increase women's access to knowledge and information, we also need to address the social, structural, and institutional barriers that create gender gaps. This would mean removing the burden from women of changing themselves in order to change the world, and instead creating a world that works for women.

Creating this world requires a food system that is gender transformative. A gender transformative food system is inclusive, sustainable, and eliminates gender inequality. This means that the transformation of the food system must go

hand-in-hand with the transformation of women's (and men's) lives (Njuki and Alba-Corral 2018).

Such a system must address the structural impediments to gender equality and the achievement of women's rights. While this thinking is not new and draws on a wide variety of gender integration approaches, including those that aim to transform gendered power relations, the major challenge has been how to apply the approach in practice within an agriculture and food system (Njuki and Alba-Corral 2018).

Achieving a gender transformative food system would require a focus on four key elements of gender equality that have been addressed in this report, but in combination—increasing access to control over productive resources, investing in women's leadership, addressing gender and social norms, and removing structural and institutional barriers. The latter two strategies—addressing gender and social norms and removing structural and institutional barriers—are less common in the agriculture sector, yet they are the most fundamental to creating a gender transformative food system.

Social and gender norms underlie both the progress toward gender equality and persistent gender gaps. Chapter 2 (Miruka and Hillenbrand) discusses how gender and social norms define women's and men's roles and dictate responsibilities in households, markets, and public life in their communities. Social norms play a central role in the relation between people's agency and the opportunities that their communities provide. They can either help or hinder an individual's capacity to take advantage of available opportunities, for example accessing resources, taking up economic activities, engaging in markets, or even participating in leadership. Changing norms and expectations through community dialogue, engaging men and boys, influencing traditional leaders, and using male champions for gender equality, alongside traditional agriculture interventions, can create transformative change that allows women to benefit from agriculture without having to "fix" women.

Similarly, structural and institutional barriers can be a hinderance to the achievement of gender equality in the agriculture sector. Transforming formal and informal structures and institutions, rather than training women to circumvent or overcome these barriers, can lead to more lasting, broader, and transformative change. Chapter 5 (Njuki et al.) describes how financial systems can be transformative and move away from making "women bankable" to making banks and other financial institutions "womenable"—by applying a gender lens to the financial project cycle, from product conceptualization and design through product delivery and marketing to evaluation of impact.

These interventions are key contributors to women's empowerment—but are not as effective when applied in isolation as when applied in combination, which can lead to long-term sustainable change. For example, land policies may be designed to favor women, but if cultural norms against women's ownership of land do not change and women are not leading the change process themselves, the outcomes can be short-term and unsustainable (Njuki 2019). Ultimately, for agriculture and food systems to truly work for women, they must be shaped in a multilayered way so that they contribute to equitably transforming gender and social relations.

What's Measured Gets Done

As the official M&E report for CAADP, Chapter 13 tracks progress in CAADP implementation and indicators. The chapter shows that African countries and regions have continued to advance their implementation of CAADP. To date, 25 countries have held domestication events to launch the process to formulate Malabo-compliant second-generation national agriculture investment plans (NAIPs). And as of September 2019, 49 countries had submitted Biennial Review (BR) reports and data to feed into the second continental BR report and the Africa Agriculture Transformation Scorecard, which will be presented during the African Union summit of heads of state and government in January 2020.

Trends presented in the chapter show that, overall, Africa and most subcategories (regions and economic classifications) have continued to make good progress on key targets and development outcomes although the rate has slowed. For example, Africa's GDP per capita growth decelerated from 3.3 percent in 2003–2008 to 0.2 percent in 2014–2018, and the prevalence of undernutrition declined modestly from 20.6 percent in 2003–2008 to 18.2 percent in 2014–2016. Moreover, Africa as a whole and several regions and countries still lag behind in meeting key CAADP growth and expenditure targets. Africa's growth in agriculture value added averaged 3.2 percent in 2014–2018, which is below the CAADP target of 6 percent, and the agricultural budget share averaged 3.2 percent over the same period, also below the CAADP target of 10 percent.

Considering the slowing progress on key growth and development targets, there is need to accelerate efforts to transform Africa's agriculture sector. This transformation calls for substantially raising agricultural productivity

growth and investments in the sector, including in market access and trade infrastructure. The current second-generation NAIPs provide an important entry point for designing and implementing plans that are evidence-based and Malabo-compliant. In addition, regular, comprehensive, and inclusive CAADP mutual accountability processes—both to facilitate evidence-based review and dialogue and to hold stakeholders accountable for their commitments to the agriculture sector and gender equality—play a key role in fast-tracking progress toward the Malabo goals.

There is growing momentum and commitment within Africa and globally to the goals of women's empowerment and gender equality. Following the issuance of the Solemn Declaration of Gender Equality in Africa in 2004 and the adoption of the Malabo Declaration on Accelerated Agricultural Growth and Transformation for Shared Prosperity and Improved Livelihoods in 2014, 193 countries adopted the 2030 Agenda for Sustainable Development and its 17 Sustainable Development Goals in 2015. Women's empowerment and gender equality are now recognized as SDG5, as goals in their own right, apart from their instrumental value in achieving other goals. According to the United Nations, "Gender equality is not only a fundamental human right, but a necessary foundation for a peaceful, prosperous and sustainable world. Providing women and girls with equal access to education, health care, decent work, and representation in political and economic decision-making processes will fuel sustainable economies and benefit societies and humanity at large."[1]

Challenging entrenched gender norms to achieve gender equality is not an easy task. One of the key ingredients in the effort to achieve gender equality is good data to show where gender gaps exist (which impose substantial costs and missed opportunities) and monitor progress toward closing those gaps. Good data also require the infrastructure to produce, interpret, and use that data for programs and policy. The CAADP BR process has laid the foundation for that infrastructure to be built, but much remains to be done.

Monitoring progress toward gender equality requires that national statistical systems collect sex-disaggregated data. Yet, the chapter on gendered data (Buvinic and Carey, Chapter 12) reminds us that sex disaggregation of key indicators continues to be a major challenge. The chapter's assessment of current data availability for 15 countries in Africa found that economic measures of assets, income, and work remain challenging to disaggregate by sex; social empowerment indicators are not well reported at the international level; and while food security and nutrition indicators performed best, the level of sex disaggregation varied significantly among countries.

Tracking progress toward women's empowerment is even more challenging. Gender equality can be monitored using aggregate data or administrative data, but measuring women's empowerment requires data at the level of the individual, given that empowerment is inherently a personal experience. Aside from measures based on the WEAI and its variations, which are based on interviews of both women and men, most empowerment measures, such as those based on data from the Demographic and Health Surveys, only focus on women's empowerment. These measures that report only on women cannot diagnose sources of disempowerment for men, or measure progress toward gender equality. However, existing versions of the WEAI remain too long and expensive to implement as part of national statistical systems. The time is ripe for the development of a national measure of women's empowerment, based on individual data, that can be integrated into national statistical systems. If properly designed and implemented, this measure could track both women's and men's empowerment, giving us insights into progress toward gender equality.

Just as the costs of gender gaps are experienced at the household, community, national, and regional levels, so action to redress the gaps will also need to come from all these levels. As men and women work together in households, they can increase their resilience, incomes, and ultimate well-being. As communities shift social norms and make services available to all, they will expand the pool of leaders to drive progress. As countries adopt gender-equitable laws and implement programs to deliver services to women as well as men, they will provide the framework within which gender equity can take root. The regional agreements such as the Malabo Declaration, complemented by data to monitor progress, can reinforce such positive changes for society as a whole.

1 https://www.un.org/sustainabledevelopment/development-agenda/

ANNEXES

Core CAADP M&E and Supplementary Indicators

Annexes:
Core CAADP M&E and Supplementary Indicators

This section presents data and trends across three levels of the CAADP Results Framework as well as supplementary data and trends.[1]

The data are presented at the aggregate level for the entire continent (Africa); the five geographic regions of the African Union (central, eastern, northern, southern, and western); eight Regional Economic Communities (CEN-SAD, COMESA, EAC, ECCAS, ECOWAS, IGAD, SADC, and UMA);[2] four economic categories defined by agricultural production potential, nonagricultural sources of growth, and income level; nine CAADP groups representing either the period during which countries signed a CAADP compact or the level of CAADP implementation reached by countries by the end of 2015; and three levels of progress for countries in formulating NAIPs. Data for individual countries and regional groupings is available at www.resakss.org.

Technical Notes to Annex Tables

1. To control for year-to-year fluctuations, moving averages are used. Therefore, the values under the column "2003" are averages over the years 2002 to 2004 and the values under the column "2018" are averages over the years 2017 to 2018.
2. Annual average level and annual average change for 2014–2018 include data from 2014 up to the most recent year that is measured and available.
3. Annual average level is the simple average over the years shown, inclusive of the years shown.
4. Annual average change for all indicators is annual average percent change, from the beginning to the end years, shown by fitting an exponential growth function to the data points (that is, "LOGEST" function in Excel).
5. For indicators for which there are only a few measured data points over the years specified in the range (such as poverty, which is measured once every three to five years or so), a straight-line method was used to obtain missing values for the individual years between any two measured data points. Otherwise, estimated annual average change based on the measured values is used to obtain missing values either preceding or following the measured data point. In cases where the missing values could not be interpolated, the data are reported as missing and excluded from the calculations for that time period. Any weights used for these indicators are adjusted to account for the missing data in the series.

1 Future Annual Trends and Outlook Reports (ATORs) will report on more of the CAADP Results Framework indicators as more data becomes available.

2 CEN-SAD is the Community of Sahel-Saharan States; COMESA is the Common Market for Eastern and Southern Africa; EAC is the East African Community; ECCAS is the Economic Community of Central African States; ECOWAS is the Economic Community of West African States; IGAD is the Intergovernmental Authority on Development; SADC is the Southern African Development Community; and UMA is the Union du Maghreb Arabe.

6. Values for Africa, the regional aggregations (central, eastern, northern, southern, and western), economic aggregations (less favorable agriculture conditions, more favorable agriculture conditions, mineral-rich countries, and middle-income countries), Regional Economic Communities (CEN-SAD, COMESA, EAC, ECCAS, ECOWAS, IGAD, SADC, and UMA), CAADP groups (Compact 2007–2009, Compact 2010–2012, Compact 2013–2015, Compact not yet, Level 0, Level 1, Level 2, Level 3, and Level 4), and NAIP groups (NAIP00, NAIP10, and NAIP11) are calculated by weighted summation. The weights vary by indicator and are based on each country's proportion in the total value of the indicator used for the weighting measured at the respective aggregate level. Each country i's weight in region j (wij) is then multiplied by the country's data point (xi) and then summed for the relevant countries in the region to obtain the regional value (yj) according to: $yj = \Sigma i\ wijxi$.
7. A methodological note that explains how various indicators are derived is available on the ReSAKSS website (www.resakss.org/node/11).

The trend data are organized as follows:

Annex 1
Level 1—Agriculture's Contribution to Economic Growth and Inclusive Development

Annex 2
Level 2—Agricultural Transformation and Sustained Inclusive Agricultural Growth

Annex 3
Level 3—Strengthening Systemic Capacity to Deliver Results

Annex 4
Country Categories by Geographic Regions, Economic Classification, and Regional Economic Communities

Annex 5
Distribution of Countries by Year of Signing CAADP Compact and Level of CAADP Implementation Reached by End of 2015

Annex 6
Distribution of Countries in Formulating First-Generation Investment Plan (NAIP1.0) and Second-Generation Investment Plans (NAIP2.0) Reached by September of 2019

Annex 7
Supplementary Data Tables

ANNEX 1a: Level 1—Agriculture's Contribution to Economic Growth and Inclusive Development, Indicator 1.1.1

TABLE L1.1.1—GDP PER CAPITA (constant 2010 US$)

Region	Annual avg. level (1995–2003)	Annual avg. change (1995–2003)	2003	Annual avg. level (2003–2008)	Annual avg. change (2003–2008)	Annual avg. level (2008–2014)	Annual avg. change (2008–2014)	Annual avg. level (2014-2018)	Annual avg. change (2014-2018)	2018
Africa	1,483	1.4	1,590	1,722	3.3	1,915	1.1	1,984	0.1	1,991
Central	748	0.0	782	846	2.8	924	1.4	943	-1.7	918
Eastern	565	1.5	604	673	5.1	807	1.3	892	2.6	928
Northern	2,551	2.5	2,813	3,083	3.6	3,386	0.1	3,480	1.7	3,573
Southern	3,007	1.0	3,159	3,431	3.7	3,755	0.9	3,762	-1.3	3,688
Western	1,120	1.8	1,257	1,369	3.3	1,642	3.2	1,778	-0.6	1,763
Less favorable agriculture conditions	441	1.5	483	522	2.4	572	1.5	603	-0.1	602
More favorable agriculture conditions	416	0.7	422	448	3.1	545	4.0	645	3.0	675
Mineral-rich countries	371	-2.7	347	381	6.2	494	-0.8	483	-0.8	477
Lower middle-income countries	1,507	2.2	1,673	1,842	4.1	2,184	2.2	2,332	0.0	2,333
Upper middle-income countries	5,229	1.7	5,686	6,237	3.5	6,612	0.0	6,573	-0.1	6,580
CEN-SAD	1,410	1.9	1,547	1,691	3.6	1,926	1.2	2,018	0.8	2,050
COMESA	972	1.1	1,007	1,092	3.7	1,208	0.2	1,252	2.0	1,293
EAC	556	0.9	587	648	4.8	784	1.3	855	2.5	890
ECCAS	938	0.9	1,010	1,148	5.4	1,333	1.6	1,346	-2.5	1,294
ECOWAS	1,120	1.8	1,257	1,369	3.3	1,642	3.2	1,778	-0.6	1,763
IGAD	560	1.5	597	672	5.8	819	1.0	897	2.6	933
SADC	1,865	0.6	1,929	2,075	3.3	2,244	0.8	2,254	-1.1	2,217
UMA	3,144	2.4	3,500	3,859	3.3	4,116	-0.2	4,168	1.3	4,266
CAADP Compact 2007-09 (CC1)	880	2.0	1,004	1,109	3.9	1,373	3.6	1,500	-0.7	1,486
CAADP Compact 2010-12 (CC2)	604	0.1	613	653	2.7	744	2.6	847	2.5	878
CAADP Compact 2013-15 (CC3)	1,423	1.8	1,536	1,716	5.0	1,982	1.3	2,009	-1.6	1,960
CAADP Compact not yet (CC0)	3,352	2.0	3,644	3,960	3.2	4,204	0.1	4,315	1.8	4,458
CAADP Level 0 (CL0)	3,352	2.0	3,644	3,960	3.2	4,204	0.1	4,315	1.8	4,458
CAADP Level 1 (CL1)	1,501	1.8	1,619	1,826	5.4	2,128	1.3	2,139	-2.0	2,076
CAADP Level 2 (CL2)	555	-1.0	549	576	1.9	625	1.9	694	1.8	712
CAADP Level 3 (CL3)	489	1.6	523	559	3.1	661	2.6	712	0.7	720
CAADP Level 4 (CL4)	859	1.7	957	1,051	3.7	1,279	3.5	1,424	0.3	1,430
NAIP00 (N00)	2,942	1.8	3,177	3,471	3.6	3,791	0.4	3,825	0.1	3,834
NAIP10 (N10)	681	1.2	727	799	4.3	924	0.7	975	1.0	991
NAIP11 (N11)	849	1.5	938	1,024	3.5	1,237	3.3	1,367	0.2	1,371

Source: ReSAKSS based on World Bank (2019) and ILO (2019).

Note: Aggregate value for a group is the sum of real GDP for countries in a group divided by total population of countries in the group.

ANNEX 1b: Level 1—Agriculture's Contribution to Economic Growth and Inclusive Development, Indicator 1.1.2

TABLE L1.1.2—HOUSEHOLD CONSUMPTION EXPENDITURE PER CAPITA (constant 2010 US$)

Region	Annual avg. level (1995–2003)	Annual avg. change (1995–2003)	2003	Annual avg. level (2003–2008)	Annual avg. change (2003–2008)	Annual avg. level (2008–2014)	Annual avg. change (2008–2014)	Annual avg. level (2014-2018)	Annual avg. change (2014-2018)	2018
Africa	1,014	0.7	1,062	1,107	2.3	1,270	2.3	1,426	2.2	1,472
Central	460	-1.0	457	473	1.7	515	1.6	586	-0.3	567
Eastern	569	0.2	568	609	3.0	712	2.1	765	1.5	782
Northern	1,555	0.6	1,583	1,611	1.9	1,884	2.7	2,182	3.5	2,302
Southern	1,991	0.4	2,041	2,158	2.3	2,300	1.3	2,402	-0.2	2,386
Western	700	3.0	838	892	3.2	1,142	4.0	1,386	4.0	1,474
Less favorable agriculture conditions	363	0.6	387	392	1.8	422	1.5	454	0.4	457
More favorable agriculture conditions	397	0.6	403	416	1.8	465	2.2	499	0.7	501
Mineral-rich countries	308	-1.6	298	332	4.6	382	1.5	377	-1.6	364
Lower middle-income countries	994	2.1	1,100	1,175	3.4	1,485	3.5	1,759	3.4	1,851
Upper middle-income countries	2,960	-0.2	2,980	3,069	1.7	3,295	1.4	3,525	1.1	3,573
CEN-SAD	932	1.7	1,017	1,073	3.1	1,301	3.1	1,507	3.2	1,586
COMESA	846	0.1	838	867	2.5	980	1.9	1,083	2.2	1,120
EAC	433	0.5	439	464	2.9	558	3.3	611	2.0	630
ECCAS	538	-1.1	535	546	1.5	645	2.9	800	1.3	796
ECOWAS	700	3.0	838	892	3.2	1,142	4.0	1,386	4.0	1,474
IGAD	659	0.4	659	707	3.0	819	2.1	875	1.5	894
SADC	1,215	-0.1	1,221	1,282	2.0	1,356	1.0	1,405	-0.3	1,392
UMA	1,677	-0.7	1,662	1,614	0.0	1,742	2.2	2,021	3.3	2,114
CAADP Compact 2007-09 (CC1)	678	3.5	840	898	3.4	1,189	4.8	1,478	3.1	1,548
CAADP Compact 2010-12 (CC2)	449	0.0	446	460	1.0	493	1.8	557	4.5	595
CAADP Compact 2013-15 (CC3)	879	-0.4	875	906	2.2	1,073	2.6	1,266	1.1	1,265
CAADP Compact not yet (CC0)	2,055	0.7	2,117	2,209	2.1	2,425	1.8	2,627	1.8	2,704
CAADP Level 0 (CL0)	2,055	0.7	2,117	2,209	2.1	2,425	1.8	2,627	1.8	2,704
CAADP Level 1 (CL1)	919	-0.8	900	934	2.5	1,126	2.8	1,332	0.9	1,326
CAADP Level 2 (CL2)	417	-0.5	412	431	1.9	451	0.7	495	1.4	498
CAADP Level 3 (CL3)	329	0.9	348	378	3.2	423	2.0	454	0.1	454
CAADP Level 4 (CL4)	652	2.7	764	809	3.0	1,034	4.2	1,258	4.1	1,339
NAIP00 (N00)	1,795	0.4	1,831	1,898	2.1	2,123	1.9	2,340	1.7	2,400
NAIP10 (N10)	495	-0.4	490	521	2.7	596	1.5	634	0.1	626
NAIP11 (N11)	641	2.6	748	795	3.1	1,004	4.0	1,213	3.8	1,286

Source: ReSAKSS based on World Bank (2019) and ILO (2019).

ANNEX 1c: Level 1—Agriculture's Contribution to Economic Growth and Inclusive Development, Indicator 1.2.1

TABLE L1.2.1—PREVALENCE OF UNDERNOURISHMENT (% of population)

Region	2003	Annual avg. level (2003–2008)	Annual avg. change (2003–2008)	Annual avg. level (2008–2014)	Annual avg. change (2008–2014)	Annual avg. level (2014-2016)	2016
Africa	22.3	20.6	-3.0	18.2	-1.4	18.2	18.5
Central	30.7	28.6	-3.0	24.1	-2.4	23.9	24.3
Eastern	37.4	34.4	-2.9	30.0	-2.6	28.2	28.4
Northern	6.5	6.1	-3.1	4.9	-4.0	4.6	4.7
Southern	28.5	27.4	-1.6	24.2	-2.3	23.0	23.1
Western	15.1	13.1	-5.4	11.3	0.2	12.7	13.3
Less favorable agriculture conditions	26.5	24.7	-3.1	20.4	-3.0	20.3	21.0
More favorable agriculture conditions	36.0	33.5	-2.5	29.9	-1.8	28.8	28.8
Mineral-rich countries	33.3	30.5	-4.2	26.6	1.0	30.1	30.8
Lower middle-income countries	16.4	14.6	-4.3	12.8	-0.4	13.4	13.7
Upper middle-income countries	7.4	7.2	-0.8	6.3	-3.1	6.3	6.4
CEN-SAD	14.8	13.2	-4.4	11.9	1.1	13.4	13.8
COMESA	29.0	27.1	-2.5	24.1	-1.8	23.5	23.7
EAC	33.1	31.1	-1.8	29.7	-0.9	30.8	31.5
ECCAS	41.8	38.0	-4.1	29.4	-4.7	25.6	25.7
ECOWAS	15.1	13.1	-5.4	11.3	0.2	12.7	13.3
IGAD	37.5	33.9	-3.2	28.6	-3.5	25.8	25.9
SADC	30.8	29.4	-1.8	27.0	-1.3	26.6	26.8
UMA	7.6	7.1	-2.9	5.4	-6.6	4.6	4.6
CAADP Compact 2007-09 (CC1)	21.0	18.5	-4.9	14.9	-2.8	14.2	14.4
CAADP Compact 2010-12 (CC2)	34.0	32.1	-2.1	29.8	-0.8	30.7	31.2
CAADP Compact 2013-15 (CC3)	39.1	36.2	-3.2	30.1	-3.3	27.9	28.1
CAADP Compact not yet (CC0)	6.3	6.1	-1.8	5.3	-2.7	5.2	5.3
CAADP Level 0 (CL0)	6.3	6.1	-1.8	5.3	-2.7	5.2	5.3
CAADP Level 1 (CL1)	42.6	40.3	-2.3	34.5	-3.6	31.7	31.8
CAADP Level 2 (CL2)	25.2	21.4	-7.1	15.5	-2.8	15.9	16.4
CAADP Level 3 (CL3)	27.1	26.3	-0.4	25.5	-0.5	26.9	27.5
CAADP Level 4 (CL4)	26.0	23.3	-4.1	19.7	-2.3	19.1	19.3
NAIP00 (N00)	15.2	14.5	-1.9	13.1	-1.7	12.9	13.1
NAIP10 (N10)	35.1	33.3	-2.1	29.4	-2.5	27.9	28.0
NAIP11 (N11)	23.9	21.3	-4.0	18.2	-1.9	18.2	18.6

Source: ReSAKSS based on World Bank (2019) and ILO (2019).
Note: Data is only available from 2000 to 2016.

ANNEX 1d: Level 1—Agriculture's Contribution to Economic Growth and Inclusive Development, Indicator 1.2.2A

TABLE L1.2.2A—PREVALENCE OF UNDERWEIGHT, WEIGHT FOR AGE (% of children under 5)

Region	Annual avg. level (1995–2003)	Annual avg. change (1995–2003)	2003	Annual avg. level (2003–2008)	Annual avg. change (2003–2008)	Annual avg. level (2008–2014)	Annual avg. change (2008–2014)	Annual avg. level (2014-2018)	Annual avg. change (2014-2018)	2018
Africa	24.3	-1.1	23.0	22.2	-1.5	20.2	-1.5	18.4	-1.6	18.0
Central	27.9	-0.7	26.5	25.8	-1.1	23.5	-1.4	22.0	-1.6	21.5
Eastern	27.8	-1.3	25.9	25.1	-1.5	22.7	-2.0	20.7	-1.2	20.3
Northern	8.4	-2.3	7.9	6.6	-4.5	5.6	-2.4	4.7	-5.5	4.4
Southern	18.6	-1.6	17.5	16.0	-3.6	13.9	-3.2	11.7	-3.6	11.0
Western	28.3	-1.5	26.6	26.0	-1.0	24.3	-0.3	22.5	-1.4	22.2
Less favorable agriculture conditions	32.0	-1.3	30.6	30.4	-0.7	28.6	-0.3	27.7	-0.7	27.6
More favorable agriculture conditions	28.7	-1.7	26.0	24.7	-2.4	21.2	-2.9	18.2	-2.6	17.6
Mineral-rich countries	28.8	-0.8	27.1	26.4	-1.3	23.5	-1.7	21.8	-2.0	21.1
Lower middle-income countries	21.5	-1.1	20.6	20.0	-1.1	19.0	-0.7	17.6	-1.2	17.2
Upper middle-income countries	9.3	-1.1	9.6	8.2	-3.3	6.8	-3.6	5.7	-3.1	5.6
CEN-SAD	23.2	-0.8	22.5	22.1	-0.7	21.1	-0.4	19.8	-0.9	19.6
COMESA	25.1	-0.9	23.7	22.8	-1.6	20.6	-2.1	18.7	-1.4	18.3
EAC	21.0	-2.5	18.5	17.8	-1.9	15.4	-3.3	13.2	-2.5	12.7
ECCAS	28.0	-1.4	26.0	24.8	-2.1	22.2	-2.0	20.2	-2.2	19.4
ECOWAS	28.3	-1.5	26.6	26.0	-1.0	24.3	-0.3	22.5	-1.4	22.2
IGAD	28.2	-1.2	26.6	25.9	-1.5	23.5	-1.9	21.6	-0.8	21.4
SADC	23.8	-1.2	22.2	21.0	-2.1	18.7	-2.3	16.7	-2.6	16.0
UMA	7.7	-2.0	7.3	5.7	-6.9	4.0	-6.8	2.8	-9.2	2.4
CAADP Compact 2007-09 (CC1)	32.3	-1.8	29.8	28.6	-1.6	26.1	-1.0	23.6	-1.7	23.1
CAADP Compact 2010-12 (CC2)	23.2	-1.5	21.3	20.5	-1.8	18.0	-2.5	15.9	-2.2	15.5
CAADP Compact 2013-15 (CC3)	24.2	0.2	24.3	24.0	-0.8	23.7	-0.4	23.4	-0.2	23.1
CAADP Compact not yet (CC0)	10.7	-0.7	10.7	9.9	-2.3	8.9	-1.3	8.2	-2.0	8.0
CAADP Level 0 (CL0)	10.7	-0.7	10.7	9.9	-2.3	8.9	-1.3	8.2	-2.0	8.0
CAADP Level 1 (CL1)	25.3	0.3	25.6	25.3	-0.9	25.0	-0.4	24.8	-0.2	24.5
CAADP Level 2 (CL2)	26.8	-0.6	25.3	24.7	-1.0	22.3	-1.6	20.8	-1.8	20.2
CAADP Level 3 (CL3)	25.9	-1.4	24.4	23.6	-1.3	21.5	-1.3	20.1	-1.5	19.8
CAADP Level 4 (CL4)	28.3	-2.0	25.9	24.7	-1.9	22.1	-1.7	19.4	-2.1	18.9
NAIP00 (N00)	15.7	-0.2	15.8	14.9	-2.2	13.7	-1.7	12.6	-1.4	12.3
NAIP10 (N10)	24.8	-0.7	23.4	22.8	-0.8	21.3	-1.3	19.9	-1.6	19.5
NAIP11 (N11)	28.5	-1.8	26.3	25.3	-1.7	22.8	-1.4	20.5	-1.7	20.1

Source: ReSAKSS based on World Bank (2019) and ILO (2019).

Note: For regions or groups, level is weighted average, where weight is country's share in population under 5 years for the region or group.

ANNEX 1d: Level 1—Agriculture's Contribution to Economic Growth and Inclusive Development, Indicator 1.2.2A-1

L1.2.2A-1: PREVALENCE OF UNDERWEIGHT BY SEX, WEIGHT FOR AGE (% of children under 5)

Region	Annual avg. level (1995–2003)		Annual avg. change (1995–2003)		Annual avg. level (2003–2008)		Annual avg. change (2003–2008)		Annual avg. level (2008–2014)		Annual avg. change (2008–2014)		Annual avg. level (2014-2018)		Annual avg. change (2014-2018)	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Africa	27.6	24.2	-1.5	-1.7	24.5	21.3	-1.9	-1.9	21.5	18.7	-2.9	-2.9	18.4	16.2	-3.5	-2.4
Central	32.8	28.3	-1.9	-2.1	28.9	24.6	-2.1	-2.4	25.4	21.1	-2.3	-2.5	22.2	18.0	-3.0	-3.4
Eastern	32.5	28.5	-2.2	-2.1	27.6	24.3	-2.4	-2.1	24.0	21.4	-2.9	-2.5	20.4	18.7	-4.2	-3.1
Northern	9.0	7.4	-2.3	-3.8	7.4	5.6	-5.0	-5.7	6.0	4.1	-3.3	-4.9	4.8	2.8	-7.2	-15.1
Southern	21.9	18.4	-2.0	-2.0	18.7	15.4	-2.3	-3.4	16.0	12.8	-3.6	-4.0	11.3	10.4	-12.1	-3.9
Western	29.7	26.5	-1.5	-1.7	27.1	23.9	-1.0	-1.1	24.4	21.6	-2.7	-2.7	22.0	19.4	-1.1	-0.8
Less favorable agriculture conditions	35.1	32.3	-1.4	-1.5	33.2	30.3	-0.7	-0.9	31.9	29.3	-0.7	-0.6	29.0	28.5	-5.9	-0.5
More favorable agriculture conditions	32.0	27.8	-2.2	-2.0	27.1	23.7	-2.6	-2.5	23.0	20.3	-3.2	-2.8	19.5	17.5	-3.0	-3.3
Mineral-rich countries	34.7	29.4	-2.2	-2.4	29.9	25.1	-2.6	-2.6	25.5	20.9	-2.9	-2.9	21.6	17.4	-3.7	-4.2
Lower middle-income countries	23.3	20.5	-1.2	-1.6	21.2	18.3	-1.3	-1.4	19.0	16.4	-3.0	-3.4	16.1	14.0	-3.5	-1.8
Upper middle-income countries	10.0	8.6	-3.1	-3.3	6.8	6.0	-4.9	-4.8	4.7	4.2	-8.8	-8.3	2.7	2.5	-13.8	-12.2
CEN-SAD	25.5	22.6	-1.1	-1.4	23.6	20.6	-1.2	-1.2	21.5	18.8	-2.4	-2.6	19.2	16.7	-2.0	-1.3
COMESA	29.1	25.1	-1.8	-1.8	25.2	21.7	-2.5	-2.4	22.0	18.8	-2.9	-2.8	18.8	16.1	-2.9	-3.5
EAC	21.7	18.6	-2.3	-2.5	18.6	15.6	-1.9	-1.4	16.3	13.7	-2.6	-2.9	14.2	11.8	-2.9	-3.3
ECCAS	32.0	27.6	-2.1	-2.3	28.0	23.8	-2.1	-2.4	24.5	20.3	-2.3	-2.6	19.1	17.3	-8.7	-3.5
ECOWAS	29.7	26.5	-1.5	-1.7	27.1	23.9	-1.0	-1.1	24.4	21.6	-2.7	-2.7	22.0	19.4	-1.1	-0.8
IGAD	34.1	29.8	-2.2	-2.1	28.8	25.4	-2.7	-2.3	24.8	22.2	-3.0	-2.5	20.6	19.4	-5.0	-3.3
SADC	29.3	25.2	-2.0	-2.1	25.2	21.4	-2.1	-2.4	22.0	18.3	-2.8	-2.9	17.6	15.4	-6.5	-3.5
UMA	8.8	7.9	-2.1	-2.4	6.2	5.6	-8.1	-8.1	4.0	3.6	-8.7	-8.8	2.3	2.0	-14.6	-15.4
CAADP Compact 2007-09 (CC1)	34.8	30.8	-2.2	-2.2	29.9	26.6	-2.0	-1.9	25.7	23.4	-3.6	-3.1	21.9	20.2	-2.2	-2.0
CAADP Compact 2010-12 (CC2)	26.2	22.6	-2.0	-2.2	22.9	19.3	-2.0	-2.1	20.1	16.6	-2.4	-2.8	17.6	14.3	-2.8	-3.2
CAADP Compact 2013-15 (CC3)	28.7	25.6	-0.1	-0.3	27.7	24.5	-0.5	-1.1	27.1	23.5	-0.6	-0.9	23.1	22.7	-7.2	-0.4
CAADP Compact not yet (CC0)	10.2	8.7	-1.8	-3.0	8.8	7.1	-3.9	-4.1	7.4	5.7	-3.2	-4.1	5.9	4.2	-8.9	-9.8
CAADP Level 0 (CL0)	10.2	8.7	-1.8	-3.0	8.8	7.1	-3.9	-4.1	7.4	5.7	-3.2	-4.1	5.9	4.2	-8.9	-9.8
CAADP Level 1 (CL1)	30.8	27.6	0.0	-0.2	30.0	26.6	-0.6	-0.9	29.5	25.6	-0.6	-0.8	24.5	24.8	-8.5	-0.2
CAADP Level 2 (CL2)	31.7	27.3	-1.9	-2.2	27.8	23.5	-2.1	-2.4	24.2	19.9	-2.4	-2.8	21.0	16.7	-3.1	-3.9
CAADP Level 3 (CL3)	27.7	24.0	-1.2	-1.2	25.5	22.1	-1.1	-1.2	24.1	20.9	-1.1	-1.1	23.0	19.9	-0.9	-1.0
CAADP Level 4 (CL4)	30.7	26.9	-2.3	-2.3	26.1	22.9	-2.1	-2.1	22.2	19.7	-3.8	-3.5	18.7	16.6	-2.7	-2.7
NAIP00 (N00)	15.8	13.5	0.0	-0.3	15.3	13.1	-1.7	-1.8	14.1	11.9	-1.9	-2.0	11.6	10.7	-7.8	-2.0
NAIP10 (N10)	29.7	26.2	-2.0	-2.2	25.4	21.8	-2.0	-2.5	22.3	18.6	-2.7	-3.1	19.2	15.5	-3.2	-4.0
NAIP11 (N11)	30.9	27.1	-2.0	-2.0	27.0	23.7	-1.9	-1.8	23.5	20.9	-3.1	-2.8	20.6	18.4	-2.0	-1.9

Source: ReSAKSS based on FAO (2019) and World Bank (2019)

Note: For regions or groups, level is weighted average, where weight is country's share in boys and girls population under 5 years for the region or group.

ANNEX 1e: Level 1—Agriculture's Contribution to Economic Growth and Inclusive Development, Indicator 1.2.2B

TABLE L1.2.2B—PREVALENCE OF STUNTING, HEIGHT FOR AGE (% of children under 5)

Region	Annual avg. level (1995–2003)	Annual avg. change (1995–2003)	2003	Annual avg. level (2003–2008)	Annual avg. change (2003–2008)	Annual avg. level (2008–2014)	Annual avg. change (2008–2014)	Annual avg. level (2014-2018)	Annual avg. change (2014-2018)	2018
Africa	41.8	-1.1	40.1	39.0	-1.1	35.8	-1.8	33.0	-1.2	32.5
Central	45.2	-1.0	44.1	43.5	-0.6	41.5	-0.7	40.1	-0.6	39.7
Eastern	47.6	-1.4	44.9	43.4	-1.6	39.3	-1.8	35.9	-1.3	35.2
Northern	25.1	-3.2	22.7	22.1	2.5	20.0	-3.9	17.4	-3.3	16.6
Southern	43.2	-1.1	41.5	39.5	-2.4	36.5	-1.6	33.7	-1.4	32.7
Western	40.8	-0.9	39.3	38.5	-1.0	35.3	-1.7	32.9	-1.1	32.6
Less favorable agriculture conditions	44.3	-0.4	43.2	43.5	-0.4	41.1	-0.3	40.2	-0.4	40.3
More favorable agriculture conditions	50.1	-1.5	46.8	44.8	-1.9	40.3	-2.0	35.9	-1.8	35.1
Mineral-rich countries	45.6	-1.0	44.4	44.0	-0.6	41.8	-0.8	40.1	-0.9	39.7
Lower middle-income countries	37.8	-1.3	36.0	35.2	-0.7	32.3	-2.3	29.6	-1.3	29.0
Upper middle-income countries	26.7	-0.1	27.0	25.0	-3.0	22.6	-0.9	21.8	-1.1	21.3
CEN-SAD	37.5	-1.0	36.0	35.6	-0.4	32.9	-1.9	30.6	-1.0	30.2
COMESA	45.3	-1.4	42.9	41.8	-0.7	38.5	-1.9	35.2	-1.2	34.6
EAC	44.2	-1.1	41.9	41.0	-1.3	37.8	-1.9	34.7	-0.2	34.6
ECCAS	46.7	-1.3	44.8	43.4	-1.5	40.9	-1.2	38.7	-1.1	37.8
ECOWAS	40.8	-0.9	39.3	38.5	-1.0	35.3	-1.7	32.9	-1.1	32.6
IGAD	47.0	-1.4	44.0	42.6	-1.7	38.1	-2.0	34.7	-1.4	33.9
SADC	45.9	-1.1	44.1	42.6	-1.6	39.8	-1.3	37.0	-1.1	36.3
UMA	22.1	-1.8	20.3	18.1	-2.9	15.1	-3.6	13.1	-3.6	12.3
CAADP Compact 2007-09 (CC1)	47.3	-1.2	44.8	43.2	-1.5	39.0	-1.9	35.9	-1.5	35.1
CAADP Compact 2010-12 (CC2)	43.8	-1.2	41.8	41.0	-1.1	37.9	-1.6	35.0	-0.8	34.7
CAADP Compact 2013-15 (CC3)	42.4	-1.0	40.9	39.6	-1.7	37.4	-1.0	35.6	-1.1	34.7
CAADP Compact not yet (CC0)	27.5	-2.0	26.0	25.4	0.6	23.1	-2.4	21.0	-2.1	20.4
CAADP Level 0 (CL0)	27.5	-2.0	26.0	25.4	0.6	23.1	-2.4	21.0	-2.1	20.4
CAADP Level 1 (CL1)	43.4	-1.0	41.9	40.4	-1.8	38.1	-1.0	36.1	-1.3	35.2
CAADP Level 2 (CL2)	43.9	-1.0	42.8	42.4	-0.5	40.3	-0.8	38.7	-0.7	38.3
CAADP Level 3 (CL3)	45.0	-0.9	42.8	41.9	-1.0	39.1	-1.0	37.1	-1.0	36.9
CAADP Level 4 (CL4)	45.9	-1.3	43.3	41.8	-1.6	37.7	-2.2	34.1	-1.3	33.4
NAIP00 (N00)	33.2	-1.4	31.9	30.9	-0.7	28.4	-2.1	26.0	-1.8	25.2
NAIP10 (N10)	45.4	-1.1	43.8	42.9	-0.8	40.6	-1.0	38.5	-0.9	38.1
NAIP11 (N11)	44.7	-1.2	42.3	41.0	-1.5	37.0	-2.1	33.8	-1.2	33.3

Source: ReSAKSS based on World Bank (2019) and ILO (2019).

Note: For regions or groups, level is weighted average, where weight is country's share in population under 5 years for the region or group.

ANNEX 1e: Level 1—Agriculture's Contribution to Economic Growth and Inclusive Development, Indicator 1.2.2B-1

L1.2.2B-1: PREVALENCE OF STUNTING BY SEX, HEIGHT FOR AGE (% of children under 5)

Region	Annual avg. level (1995–2003)		Annual avg. change (1995–2003)		Annual avg. level (2003–2008)		Annual avg. change (2003–2008)		Annual avg. level (2008–2014)		Annual avg. change (2008–2014)		Annual avg. level (2014-2018)		Annual avg. change (2014-2018)	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Africa	44.8	40.2	-0.9	-1.0	41.8	37.7	-0.9	-0.6	38.6	34.7	-1.8	-1.8	35.9	32.4	-1.3	-0.9
Central	46.0	40.2	-0.5	-0.4	45.1	39.9	-0.2	-0.2	43.8	38.5	-0.5	-0.3	43.1	38.1	-0.4	-0.4
Eastern	51.4	46.8	-1.2	-1.3	46.8	42.5	-1.4	-1.5	43.3	39.0	-1.5	-1.5	40.1	36.0	-1.5	-1.8
Northern	27.2	24.4	-3.1	-4.1	23.7	20.3	2.1	1.9	21.2	16.9	-4.2	-6.2	18.1	13.0	-3.1	-5.1
Southern	50.3	43.0	-1.4	-0.2	44.4	41.3	-2.3	-1.1	38.7	39.3	-2.8	-1.1	33.7	38.1	-2.7	-0.2
Western	43.6	39.3	-0.6	-0.9	41.6	37.5	-0.9	-0.3	38.7	34.6	-1.4	-1.9	36.9	32.7	-0.8	0.0
Less favorable agriculture conditions	47.0	43.2	0.1	0.2	47.1	43.4	-0.2	-0.3	46.2	42.4	-0.2	-0.2	46.3	42.6	-0.1	-0.1
More favorable agriculture conditions	51.8	46.9	-1.2	-1.1	47.5	43.0	-1.4	-1.6	43.9	39.4	-1.5	-1.4	40.9	36.7	-1.3	-1.5
Mineral-rich countries	46.9	40.8	-0.4	-0.3	46.3	40.7	-0.2	0.0	45.1	39.5	-0.5	-0.2	44.4	39.2	-0.4	-0.3
Lower middle-income countries	41.0	36.2	-1.3	-1.5	37.6	33.5	-0.8	0.1	34.1	30.5	-2.5	-2.9	30.7	27.5	-1.9	-0.8
Upper middle-income countries	24.1	21.9	-0.7	-1.6	19.7	17.3	-2.6	-3.4	16.4	13.7	-4.0	-5.0	13.8	10.7	-3.9	-5.6
CEN-SAD	40.5	36.5	-0.8	-1.1	38.6	34.5	-0.3	0.1	36.2	32.1	-1.6	-2.1	34.2	29.8	-0.9	-0.5
COMESA	47.3	42.9	-1.2	-1.3	43.9	39.5	-0.5	-0.6	41.1	36.5	-1.7	-1.9	38.2	33.6	-1.2	-1.5
EAC	46.9	40.5	-1.0	-1.0	43.6	37.7	-0.9	-0.9	41.0	35.3	-1.1	-1.2	38.7	33.3	-1.2	-1.3
ECCAS	48.4	40.9	-1.3	-0.4	44.2	40.4	-1.5	-0.3	40.2	38.8	-1.8	-0.4	36.8	38.2	-1.9	-0.5
ECOWAS	43.6	39.3	-0.6	-0.9	41.6	37.5	-0.9	-0.3	38.7	34.6	-1.4	-1.9	36.9	32.7	-0.8	0.0
IGAD	50.8	46.6	-1.3	-1.4	45.8	41.8	-1.6	-1.6	42.0	38.1	-1.7	-1.7	38.5	34.9	-1.7	-2.0
SADC	50.6	44.1	-1.0	-0.5	46.8	42.3	-1.2	-0.7	43.3	40.3	-1.6	-0.8	40.3	38.9	-1.4	-0.6
UMA	24.2	22.0	-2.0	-2.6	19.2	17.0	-3.6	-4.4	15.4	13.0	-4.4	-5.6	12.4	9.5	-5.2	-7.2
CAADP Compact 2007-09 (CC1)	49.4	45.5	-1.1	-1.4	45.2	41.7	-1.5	-1.1	41.1	37.5	-1.9	-2.2	38.0	34.3	-1.4	-1.0
CAADP Compact 2010-12 (CC2)	46.0	40.1	-0.6	-0.6	44.1	38.5	-0.5	-0.5	42.2	36.7	-0.8	-0.8	40.8	35.6	-0.7	-0.7
CAADP Compact 2013-15 (CC3)	46.8	40.6	-1.3	-0.4	42.0	39.1	-1.9	-1.0	37.7	37.5	-2.2	-0.9	33.7	36.4	-2.2	-0.2
CAADP Compact not yet (CC0)	28.0	25.2	-2.8	-3.7	24.8	21.4	1.9	1.8	22.4	18.3	-3.9	-5.7	19.4	14.4	-2.8	-4.4
CAADP Level 0 (CL0)	28.0	25.2	-2.8	-3.7	24.8	21.4	1.9	1.8	22.4	18.3	-3.9	-5.7	19.4	14.4	-2.8	-4.4
CAADP Level 1 (CL1)	48.2	42.1	-1.4	-0.4	42.7	40.4	-2.2	-1.0	37.9	38.8	-2.6	-0.9	33.3	37.5	-2.5	-0.2
CAADP Level 2 (CL2)	45.1	39.3	-0.3	-0.2	44.7	39.3	0.0	0.1	43.7	38.2	-0.4	-0.2	43.2	38.0	-0.3	-0.2
CAADP Level 3 (CL3)	46.2	40.8	-0.5	-0.3	44.0	39.0	-0.8	-0.8	42.0	37.1	-0.8	-0.8	40.8	36.3	-0.7	-0.7
CAADP Level 4 (CL4)	48.3	43.8	-1.1	-1.3	44.6	40.3	-1.3	-1.0	40.9	36.6	-1.7	-2.0	37.9	33.7	-1.3	-1.0
NAIP00 (N00)	36.3	30.4	-2.0	-2.1	31.9	27.6	-0.7	0.4	27.6	24.5	-4.0	-3.9	23.1	21.0	-3.3	-2.1
NAIP10 (N10)	47.2	41.9	-0.3	-0.3	45.7	40.5	-0.3	-0.5	44.5	39.2	-0.6	-0.5	43.6	38.4	-0.5	-0.5
NAIP11 (N11)	47.3	42.9	-1.0	-1.2	43.8	39.7	-1.3	-0.9	40.2	36.1	-1.6	-1.9	37.6	33.5	-1.3	-0.9

Source: ReSAKSS based on FAO (2019) and World Bank (2019)

Notes: For regions or groups, level is weighted average, where weight is country's share in boys and girls population under 5 years for the region or group.

ANNEX 1f: Level 1—Agriculture's Contribution to Economic Growth and Inclusive Development, Indicator 1.2.2C

TABLE L1.2.2C—PREVALENCE OF WASTING, WEIGHT FOR HEIGHT (% of children under 5)

Region	Annual avg. level (1995–2003)	Annual avg. change (1995–2003)	2003	Annual avg. level (2003–2008)	Annual avg. change (2003–2008)	Annual avg. level (2008–2014)	Annual avg. change (2008–2014)	Annual avg. level (2014-2018)	Annual avg. change (2014-2018)	2018
Africa	10.0	-0.8	9.6	9.5	0.1	8.6	-2.6	8.0	0.3	7.9
Central	12.4	0.9	11.5	11.2	-1.1	9.4	-2.7	8.6	-2.1	8.3
Eastern	9.6	-0.4	9.3	9.3	-0.3	8.9	-1.5	8.7	1.0	8.7
Northern	5.9	0.5	6.4	6.2	2.1	6.9	1.8	7.6	0.9	7.8
Southern	6.5	-1.9	6.2	5.9	-2.9	5.1	-2.0	4.2	-2.8	4.1
Western	12.8	-2.2	11.8	11.7	0.9	10.2	-4.7	8.7	0.2	8.7
Less favorable agriculture conditions	14.8	-2.4	13.6	13.0	-2.0	11.9	-1.4	10.5	-2.1	10.3
More favorable agriculture conditions	9.2	-0.9	8.7	8.6	-1.4	7.8	-1.7	7.2	-0.1	7.2
Mineral-rich countries	13.7	0.6	12.3	11.9	-1.4	9.5	-3.2	8.5	-3.6	8.0
Lower middle-income countries	9.7	-1.0	9.3	9.4	1.9	8.9	-3.5	8.2	1.4	8.3
Upper middle-income countries	5.5	-0.9	6.2	5.3	-2.6	4.9	-1.1	4.4	-1.2	4.5
CEN-SAD	11.2	-1.1	10.7	10.7	0.9	10.0	-3.1	9.1	0.5	9.2
COMESA	9.5	0.5	9.3	9.4	0.4	8.9	-0.9	8.8	0.6	8.9
EAC	6.3	-2.3	5.5	5.6	-0.3	5.0	-3.4	4.4	-0.4	4.4
ECCAS	11.4	0.1	10.5	10.2	-1.2	8.5	-2.7	7.7	-2.3	7.4
ECOWAS	12.8	-2.2	11.8	11.7	0.9	10.2	-4.7	8.7	0.2	8.7
IGAD	10.1	-0.4	9.8	9.9	-0.5	9.4	-1.6	9.2	1.6	9.3
SADC	9.0	0.0	8.4	8.1	-1.2	7.1	-2.1	6.4	-2.6	6.2
UMA	5.8	1.3	6.6	5.5	-5.2	4.9	-0.7	5.1	-0.3	5.0
CAADP Compact 2007-09 (CC1)	12.3	-2.0	11.3	11.3	1.0	10.0	-4.5	8.8	0.8	8.8
CAADP Compact 2010-12 (CC2)	9.4	-1.0	8.5	8.3	-1.5	7.0	-3.0	6.1	-2.0	6.0
CAADP Compact 2013-15 (CC3)	10.0	1.2	10.5	10.7	0.4	10.8	0.3	11.0	1.0	11.2
CAADP Compact not yet (CC0)	6.9	0.4	7.3	7.0	-0.1	7.2	0.5	7.3	0.0	7.4
CAADP Level 0 (CL0)	6.9	0.4	7.3	7.0	-0.1	7.2	0.5	7.3	0.0	7.4
CAADP Level 1 (CL1)	10.7	1.3	11.2	11.4	0.4	11.6	0.4	11.7	0.8	11.9
CAADP Level 2 (CL2)	12.6	0.8	11.5	11.1	-1.3	9.0	-3.1	8.2	-2.8	7.8
CAADP Level 3 (CL3)	9.4	-1.6	9.0	8.9	-0.8	8.3	-0.1	7.8	-1.0	7.8
CAADP Level 4 (CL4)	10.7	-2.1	9.7	9.7	0.5	8.4	-5.1	7.2	0.7	7.2
NAIP00 (N00)	7.8	0.9	8.3	8.1	0.0	8.2	0.2	8.2	0.3	8.3
NAIP10 (N10)	10.1	-0.1	9.4	9.2	-0.6	8.2	-1.9	7.6	-2.1	7.3
NAIP11 (N11)	11.1	-1.9	10.3	10.3	0.3	9.1	-4.2	8.0	0.8	8.0

Source: ReSAKSS based on World Bank (2019) and ILO (2019).

Note: For regions or groups, level is weighted average, where weight is country's share in population under 5 years for the region or group.

ANNEX 1f: Level 1—Agriculture's Contribution to Economic Growth and Inclusive Development, Indicator 1.2.2C-1

L1.2.2C-1: PREVALENCE OF WASTING BY SEX, WEIGHT FOR HEIGHT (% of children under 5)

Region	Annual avg. level (1995–2003)		Annual avg. change (1995–2003)		Annual avg. level (2003–2008)		Annual avg. change (2003–2008)		Annual avg. level (2008–2014)		Annual avg. change (2008–2014)		Annual avg. level (2014-2018)		Annual avg. change (2014-2018)	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Africa	11.7	9.1	-1.1	-0.9	11.2	8.8	-0.2	0.4	10.6	8.3	-0.7	-2.8	10.1	7.8	-0.7	1.8
Central	19.1	9.5	-3.7	-0.5	14.5	9.3	-4.5	-0.9	10.3	8.7	-6.0	-0.7	6.6	8.5	-10.9	-0.1
Eastern	11.6	9.2	-1.0	-1.7	11.0	8.4	-0.7	-1.0	10.5	7.8	-0.8	-1.6	10.2	7.2	-0.3	-1.1
Northern	5.7	5.1	0.6	0.4	6.3	5.5	2.4	0.1	6.8	5.5	0.7	-0.2	7.2	5.8	0.3	1.1
Southern	7.8	6.4	-2.6	-1.0	6.7	6.0	-2.0	-1.3	5.9	5.5	-2.2	-1.3	5.2	5.3	-2.0	0.0
Western	13.2	11.3	-0.5	-1.1	13.4	11.1	1.5	1.7	13.6	10.3	0.9	-4.4	13.7	9.5	0.6	2.6
Less favorable agriculture conditions	17.0	15.1	-2.8	-3.0	15.4	13.4	-1.2	-1.4	15.0	13.2	-0.8	-0.7	14.2	12.4	-0.8	-0.8
More favorable agriculture conditions	11.1	8.8	-1.1	-1.1	10.5	8.3	-1.1	-1.4	9.7	7.6	-0.9	-1.2	9.3	7.2	-0.4	-0.4
Mineral-rich countries	20.5	9.4	-4.2	-2.3	14.9	8.5	-5.6	-1.3	9.8	6.9	-7.6	-3.5	5.4	6.0	-16.5	-3.4
Lower middle-income countries	10.0	8.6	0.4	-0.4	10.5	8.7	2.1	1.9	11.0	8.2	0.9	-3.9	11.2	7.8	0.8	2.4
Upper middle-income countries	7.2	6.9	-3.0	-3.5	5.4	5.1	-2.8	-3.4	4.6	4.1	-4.0	-5.3	3.6	3.0	-5.1	-6.9
CEN-SAD	11.5	10.0	0.1	-0.6	12.0	10.0	1.5	1.3	12.3	9.5	0.7	-3.2	12.5	9.0	0.6	1.9
COMESA	12.4	8.3	-1.6	-0.9	11.3	8.1	-1.0	-0.1	10.2	7.8	-1.9	-0.9	9.2	7.7	-2.1	0.1
EAC	7.3	5.6	-1.9	-3.3	6.9	4.7	-0.3	-0.1	6.4	4.4	-1.0	-2.5	6.1	3.8	-1.1	-2.5
ECCAS	16.5	8.5	-3.7	-1.2	12.8	8.1	-3.9	-0.8	9.6	7.6	-5.0	-0.8	6.7	7.3	-8.3	-0.5
ECOWAS	13.2	11.3	-0.5	-1.1	13.4	11.1	1.5	1.7	13.6	10.3	0.9	-4.4	13.7	9.5	0.6	2.6
IGAD	12.4	10.1	-1.3	-2.0	11.5	9.1	-1.1	-1.5	10.7	8.2	-1.3	-2.0	10.1	7.5	-0.8	-1.5
SADC	13.0	6.6	-2.9	-0.4	10.7	6.4	-3.1	0.0	8.6	6.3	-3.7	-0.7	6.8	6.1	-5.2	0.1
UMA	6.3	5.7	1.0	0.6	5.7	5.1	-6.1	-7.1	4.7	4.0	-1.8	-2.6	4.4	3.7	-1.9	-2.9
CAADP Compact 2007-09 (CC1)	13.6	11.4	-1.2	-1.8	13.2	10.7	0.8	1.2	13.1	9.8	0.3	-4.8	12.8	8.8	0.1	1.9
CAADP Compact 2010-12 (CC2)	12.1	7.1	-2.9	-1.6	10.1	6.6	-2.8	-0.9	8.2	6.0	-3.3	-1.6	6.6	5.6	-4.7	-0.8
CAADP Compact 2013-15 (CC3)	11.8	10.3	1.3	0.4	12.5	10.5	0.8	0.1	13.0	10.5	0.6	0.0	13.6	10.6	1.3	0.8
CAADP Compact not yet (CC0)	6.2	5.6	0.5	0.2	6.8	5.9	2.0	-0.1	7.1	5.9	0.3	-0.6	7.5	6.0	0.1	0.7
CAADP Level 0 (CL0)	6.2	5.6	0.5	0.2	6.8	5.9	2.0	-0.1	7.1	5.9	0.3	-0.6	7.5	6.0	0.1	0.7
CAADP Level 1 (CL1)	12.6	10.9	1.4	0.5	13.4	11.2	0.7	0.2	14.0	11.2	0.6	0.0	14.5	11.3	1.4	0.8
CAADP Level 2 (CL2)	18.7	8.2	-3.9	-1.8	14.0	7.5	-4.9	-2.0	9.5	6.4	-6.8	-1.9	5.7	6.0	-13.7	-2.1
CAADP Level 3 (CL3)	11.4	9.7	-1.9	-2.1	10.8	9.1	-0.7	-0.5	10.6	9.2	0.0	0.0	10.4	9.0	-0.3	-0.1
CAADP Level 4 (CL4)	11.6	9.7	-1.1	-1.5	11.2	9.0	0.5	0.9	10.9	8.1	0.0	-4.9	10.5	7.2	-0.1	1.6
NAIP00 (N00)	7.8	6.9	1.7	1.0	8.9	7.5	1.8	0.5	9.5	7.6	0.6	-0.2	10.0	7.8	1.3	1.4
NAIP10 (N10)	14.4	8.6	-3.3	-1.4	11.4	7.7	-3.5	-1.2	8.9	7.1	-4.5	-1.8	6.5	6.4	-7.3	-1.9
NAIP11 (N11)	12.2	10.2	-1.0	-1.6	11.9	9.6	0.6	0.7	11.8	8.8	0.3	-3.8	11.6	8.1	0.2	1.4

Source: ReSAKSS based on FAO (2019) and World Bank (2019)

Notes: For regions or groups, level is weighted average, where weight is country's share in boys and girls population under 5 years for the region or group.

ANNEX 1g: Level 1—Agriculture's Contribution to Economic Growth and Inclusive Development, Indicator 1.2.3

TABLE L1.2.3—CEREAL IMPORT DEPENDENCY RATIO (%)

Region	2003	Annual avg. level (2003–2008)	Annual avg. change (2003–2008)	Annual avg. level (2008–2012)	Annual avg. change (2008–2012)	2012
Africa	25.0	25.5	1.2	26.4	0.0	0.2
Central	30.5	29.8	-0.8	30.0	0.0	1.9
Eastern	13.0	13.4	2.7	16.1	0.0	-1.6
Northern	44.0	45.9	3.8	50.7	0.0	0.7
Southern	25.0	26.0	-0.5	22.9	0.0	-3.0
Western	22.6	22.5	-0.7	22.5	0.0	2.5
Less favorable agriculture conditions	10.3	10.8	0.8	11.9	0.0	5.6
More favorable agriculture conditions	14.1	14.4	-0.2	14.6	0.0	-1.3
Mineral-rich countries	30.0	28.3	-1.2	25.7	0.0	-1.4
Lower middle-income countries	29.9	30.6	1.9	33.1	0.0	1.1
Upper middle-income countries	37.9	39.0	1.2	36.5	0.0	-1.5
CEN-SAD	25.6	26.5	2.6	29.0	0.0	1.3
COMESA	18.4	19.2	3.7	22.8	0.0	-1.3
EAC	13.8	16.4	6.2	20.6	0.0	-0.1
ECCAS	37.4	37.7	-0.2	38.6	0.0	2.7
ECOWAS	22.6	22.5	-0.7	22.5	0.0	2.5
IGAD	12.9	13.2	3.8	16.3	0.0	-4.9
SADC	21.1	21.9	-0.6	19.9	0.0	-1.5
UMA	58.0	58.7	2.2	59.7	0.0	-0.6
CAADP Compact 2007-09 (CC1)	16.9	16.5	-1.1	17.2	0.0	1.9
CAADP Compact 2010-12 (CC2)	22.0	22.7	0.4	22.9	0.0	-1.4
CAADP Compact 2013-15 (CC3)	34.4	35.1	0.8	36.7	0.0	1.3
CAADP Compact not yet (CC0)	35.9	37.8	3.7	40.0	0.0	0.0
CAADP Level 0 (CL0)	35.9	37.8	3.7	40.0	0.0	0.0
CAADP Level 1 (CL1)	35.8	37.1	1.3	39.4	0.0	1.0
CAADP Level 2 (CL2)	30.6	29.4	-0.8	29.5	0.0	1.7
CAADP Level 3 (CL3)	15.1	14.7	-5.7	9.6	0.0	-7.8
CAADP Level 4 (CL4)	19.2	19.3	0.4	21.0	0.0	1.1
NAIP00 (N00)	34.9	36.8	3.3	39.1	0.0	0.2
NAIP10 (N10)	24.6	24.2	-3.0	21.9	0.0	-0.1
NAIP11 (N11)	18.9	18.8	0.2	19.9	0.0	0.7

Source: ReSAKSS based on FAO (2019), World Bank (2019), and ILO (2019).

Note: Data are only available from 2000 to 2012. For regions or groups, level is weighted average, where weight is country's share in total population for the region or group.

ANNEX 1h: Level 1—Agriculture's Contribution to Economic Growth and Inclusive Development, Indicator 1.3.1A

TABLE L1.3.1A—EMPLOYMENT RATE (% of labor force, 15-64 years)

Region	Annual avg. level (1995–2003)	Annual avg. change (1995–2003)	2003	Annual avg. level (2003–2008)	Annual avg. change (2003–2008)	Annual avg. level (2008–2014)	Annual avg. change (2008–2014)	Annual avg. level (2014-2018)	Annual avg. change (2014-2018)	2018
Africa	91.3	0.0	91.5	92.4	0.5	93.2	0.0	93.1	0.0	93.2
Central	95.4	0.0	95.6	96.1	0.2	95.8	-0.1	95.8	0.0	95.9
Eastern	93.9	0.0	94.2	94.8	0.2	95.1	0.1	95.6	0.1	95.7
Northern	85.3	0.2	86.3	88.2	1.0	88.9	-0.5	88.1	0.2	88.4
Southern	82.0	-0.2	81.5	83.9	1.4	87.4	0.1	87.4	-0.1	87.3
Western	95.7	-0.1	95.5	95.7	0.1	95.7	0.0	94.9	-0.2	94.8
Less favorable agriculture conditions	96.2	-0.1	95.4	95.3	0.0	96.0	0.1	95.9	-0.1	95.8
More favorable agriculture conditions	96.3	0.0	96.5	96.9	0.2	96.9	0.0	97.3	0.1	97.5
Mineral-rich countries	95.7	-0.1	95.5	95.7	0.0	94.9	-0.2	94.8	0.0	94.8
Lower middle-income countries	90.6	0.0	90.5	91.4	0.5	92.2	-0.1	91.8	0.0	91.9
Upper middle-income countries	72.0	0.0	73.0	77.3	2.2	81.3	-0.2	79.8	-0.7	78.9
CEN-SAD	92.5	0.0	92.4	92.8	0.3	92.8	-0.2	92.2	0.0	92.3
COMESA	93.4	0.0	93.4	93.9	0.3	94.0	-0.1	94.2	0.2	94.4
EAC	94.8	0.0	94.6	95.0	0.2	95.0	0.0	95.5	0.1	95.6
ECCAS	93.1	-0.1	92.9	94.0	0.5	95.3	0.1	95.6	0.0	95.6
ECOWAS	95.7	-0.1	95.5	95.7	0.1	95.7	0.0	94.9	-0.2	94.8
IGAD	92.9	0.0	93.1	93.7	0.3	94.1	0.0	94.5	0.1	94.6
SADC	88.7	-0.1	88.6	90.1	0.8	91.9	0.1	92.1	0.0	92.0
UMA	80.8	0.4	83.6	86.7	1.3	88.9	-0.1	88.6	-0.2	88.3
CAADP Compact 2007-09 (CC1)	96.2	0.0	96.2	96.6	0.2	96.8	0.0	96.1	-0.1	96.0
CAADP Compact 2010-12 (CC2)	94.9	-0.1	94.6	94.9	0.2	94.7	0.0	95.3	0.1	95.5
CAADP Compact 2013-15 (CC3)	88.4	0.0	88.8	90.5	0.8	93.1	0.3	93.7	0.1	93.8
CAADP Compact not yet (CC0)	81.5	0.0	81.9	84.2	1.2	85.8	-0.4	84.7	-0.1	84.6
CAADP Level 0 (CL0)	81.5	0.0	81.9	84.2	1.2	85.8	-0.4	84.7	-0.1	84.6
CAADP Level 1 (CL1)	87.4	0.0	87.6	89.3	0.9	92.3	0.4	93.0	0.1	93.1
CAADP Level 2 (CL2)	95.3	0.0	95.6	96.1	0.2	95.6	-0.1	95.6	0.0	95.7
CAADP Level 3 (CL3)	95.4	-0.2	94.6	95.0	0.3	95.9	0.2	96.6	-0.1	96.5
CAADP Level 4 (CL4)	95.5	0.0	95.5	95.9	0.2	95.9	-0.1	95.6	0.0	95.6
NAIP00 (N00)	83.4	0.0	83.9	86.1	1.2	88.3	-0.2	87.8	0.0	87.8
NAIP10 (N10)	93.4	0.0	93.4	94.0	0.3	94.4	0.0	94.8	0.0	94.8
NAIP11 (N11)	95.5	-0.1	95.4	95.8	0.2	95.8	0.0	95.6	-0.1	95.5

Source: ReSAKSS based on ILO (2019).

Note: For regions or groups, level is weighted average, where weight is country's share in total labor force for the region or group.

ANNEX 1i: Level 1—Agriculture's Contribution to Economic Growth and Inclusive Development, Indicator 1.3.1B

TABLE L1.3.1B—EMPLOYMENT RATE (% of population, 15+ years)

Region	Annual avg. level (1995–2003)	Annual avg. change (1995–2003)	2003	Annual avg. level (2003–2008)	Annual avg. change (2003–2008)	Annual avg. level (2008–2014)	Annual avg. change (2008–2014)	Annual avg. level (2014-2018)	Annual avg. change (2014-2018)	2018
Africa	58.7	-0.1	58.6	59.2	0.5	59.3	-0.2	59.0	0.0	59.1
Central	70.4	-0.1	70.4	70.0	-0.4	66.4	-0.9	65.3	0.0	65.3
Eastern	69.6	0.0	69.7	70.1	0.2	69.9	-0.1	69.7	0.0	69.7
Northern	39.7	-0.1	39.9	41.2	1.3	42.4	-0.3	41.1	-0.6	40.8
Southern	56.4	-0.1	55.9	57.7	1.6	59.6	0.0	60.1	0.2	60.4
Western	59.4	-0.3	58.8	58.6	-0.1	57.9	-0.3	57.1	-0.2	57.0
Less favorable agriculture conditions	70.0	-0.3	69.1	68.9	0.0	69.2	0.0	68.9	-0.1	68.9
More favorable agriculture conditions	77.4	0.2	78.1	78.5	0.1	77.5	-0.3	76.7	0.0	76.7
Mineral-rich countries	67.0	-0.1	66.9	66.3	-0.6	62.6	-1.0	61.2	-0.1	61.2
Lower middle-income countries	52.1	-0.3	51.5	51.9	0.5	52.4	-0.1	51.8	-0.2	51.8
Upper middle-income countries	36.8	-0.3	36.6	38.7	2.5	40.4	-0.3	40.2	-0.2	40.0
CEN-SAD	53.3	-0.2	52.7	52.9	0.2	53.0	-0.2	52.3	-0.2	52.3
COMESA	62.3	0.0	62.2	62.7	0.4	62.7	-0.1	62.6	0.1	62.8
EAC	73.8	-0.3	72.7	72.6	0.1	71.9	-0.3	71.6	0.0	71.6
ECCAS	70.1	-0.1	69.8	70.1	0.1	68.4	-0.5	67.6	0.0	67.6
ECOWAS	59.4	-0.3	58.8	58.6	-0.1	57.9	-0.3	57.1	-0.2	57.0
IGAD	65.0	0.0	64.9	65.1	0.2	65.2	0.0	65.4	0.1	65.5
SADC	65.0	0.0	64.9	66.0	0.8	65.9	-0.4	65.6	0.1	65.8
UMA	38.2	0.1	39.0	40.3	1.0	41.1	-0.2	39.7	-0.8	39.2
CAADP Compact 2007-09 (CC1)	64.3	0.0	64.5	64.8	0.1	64.7	-0.1	64.1	-0.1	64.1
CAADP Compact 2010-12 (CC2)	69.9	-0.2	69.1	68.7	-0.2	66.6	-0.6	65.8	0.0	65.9
CAADP Compact 2013-15 (CC3)	62.9	-0.1	63.0	64.2	0.8	65.4	0.2	65.6	0.0	65.7
CAADP Compact not yet (CC0)	40.7	-0.2	40.5	42.0	1.7	43.2	-0.3	42.4	-0.3	42.3
CAADP Level 0 (CL0)	40.7	-0.2	40.5	42.0	1.7	43.2	-0.3	42.4	-0.3	42.3
CAADP Level 1 (CL1)	60.4	-0.1	60.4	61.6	0.9	63.7	0.3	64.0	0.0	64.0
CAADP Level 2 (CL2)	68.7	0.0	68.8	68.5	-0.5	64.4	-1.0	63.2	0.0	63.2
CAADP Level 3 (CL3)	70.1	-0.2	69.5	69.7	0.2	69.7	0.0	69.8	-0.1	69.7
CAADP Level 4 (CL4)	66.3	-0.1	66.1	66.1	0.0	65.4	-0.3	64.7	-0.1	64.7
NAIP00 (N00)	45.7	-0.1	45.7	47.3	1.6	49.1	0.0	48.8	-0.1	48.8
NAIP10 (N10)	69.0	0.0	68.9	68.9	-0.1	66.5	-0.7	65.6	0.0	65.6
NAIP11 (N11)	64.3	-0.1	64.0	64.0	0.0	63.6	-0.1	63.2	-0.1	63.2

Source: ReSAKSS based on ILO (2019).

Note: For regions or groups, level is weighted average, where weight is country's share in total population for the region or group.

ANNEX 1j: Level 1—Agriculture's Contribution to Economic Growth and Inclusive Development, Indicator 1.3.3

TABLE L1.3.3—POVERTY GAP AT $1.90/ DAY (2011 PPP) (%)

Region	Annual avg. level (1995–2003)	Annual avg. change (1995–2003)	2003	Annual avg. level (2003–2008)	Annual avg. change (2003–2008)	Annual avg. level (2008–2014)	Annual avg. change (2008–2014)	Annual avg. level (2014-2018)	Annual avg. change (2014-2018)	2018
Africa	19.3	-2.5	17.2	16.5	-1.6	14.4	-2.4	12.7	-3.1	12.1
Central	22.6	-3.9	19.9	18.7	-1.8	16.0	-3.3	13.3	-4.9	12.4
Eastern	23.1	-2.4	19.7	18.6	-2.0	15.6	-3.5	13.3	-4.8	12.3
Northern	1.0	-4.5	0.8	0.7	-5.3	0.4	-14.0	0.2	-11.3	0.2
Southern	22.2	-1.7	20.7	19.8	-3.2	17.8	-0.6	16.2	-3.5	15.5
Western	23.7	-3.1	21.2	20.5	-0.9	18.1	-2.3	16.2	-1.8	15.8
Less favorable agriculture conditions	33.6	-3.8	28.6	26.4	-4.5	18.7	-7.4	14.5	-1.9	14.1
More favorable agriculture conditions	27.8	-2.9	23.6	21.9	-2.4	18.2	-3.8	15.0	-5.8	13.6
Mineral-rich countries	35.5	-5.2	28.2	25.3	-3.5	15.7	-11.4	7.0	-23.1	4.4
Lower middle-income countries	13.4	-1.7	12.8	12.9	0.5	12.6	-0.2	12.3	-0.4	12.2
Upper middle-income countries	11.5	-4.2	9.3	7.8	-10.1	5.6	0.7	4.0	-16.0	3.1
CEN-SAD	16.0	-2.6	14.6	14.3	-0.6	12.8	-2.1	11.6	-1.4	11.4
COMESA	15.9	-1.7	14.3	14.0	-0.8	12.6	-2.4	11.4	-3.1	10.9
EAC	24.5	-1.2	22.3	21.0	-2.5	17.8	-2.5	16.1	-2.4	15.5
ECCAS	23.7	-2.7	21.3	20.5	-1.6	18.0	-2.7	15.8	-3.2	15.3
ECOWAS	23.7	-3.1	21.2	20.5	-0.9	18.1	-2.3	16.2	-1.8	15.8
IGAD	19.1	-3.8	15.3	14.2	-2.3	10.8	-5.7	8.1	-9.5	6.8
SADC	25.9	-1.2	24.0	23.0	-2.3	20.9	-1.0	19.4	-2.6	18.7
UMA	1.6	-5.7	1.2	0.9	-9.4	0.4	-23.6	0.1	-33.4	0.1
CAADP Compact 2007-09 (CC1)	23.8	-3.4	20.5	19.8	-1.0	17.2	-2.8	15.2	-3.0	14.5
CAADP Compact 2010-12 (CC2)	25.4	-2.2	22.8	21.5	-2.6	18.0	-3.2	15.1	-3.8	14.3
CAADP Compact 2013-15 (CC3)	21.3	0.4	22.1	22.2	0.9	23.5	0.9	24.2	0.1	24.3
CAADP Compact not yet (CC0)	4.1	-4.3	3.3	2.8	-9.2	1.9	-1.4	1.3	-15.7	1.0
CAADP Level 0 (CL0)	4.1	-4.3	3.3	2.8	-9.2	1.9	-1.4	1.3	-15.7	1.0
CAADP Level 1 (CL1)	30.5	1.7	32.4	33.0	1.7	36.4	1.3	38.8	1.5	39.7
CAADP Level 2 (CL2)	20.2	-5.1	16.6	15.1	-3.6	10.6	-7.3	6.6	-12.6	5.3
CAADP Level 3 (CL3)	28.5	-2.7	25.4	23.6	-3.6	18.1	-5.2	15.1	-2.4	14.5
CAADP Level 4 (CL4)	23.5	-2.8	20.6	19.9	-1.2	17.6	-2.2	15.6	-3.3	14.8
NAIP00 (N00)	6.8	-0.9	6.4	6.2	-1.8	6.0	1.2	6.0	-1.7	5.9
NAIP10 (N10)	30.5	-2.5	26.8	25.2	-3.1	20.9	-3.2	17.6	-4.5	16.5
NAIP11 (N11)	22.3	-3.0	19.6	18.8	-1.2	16.2	-2.9	14.2	-3.1	13.5

Source: ReSAKSS based on World Bank (2019) and ILO (2019).

Note: For regions or groups, level is weighted average, where weight is country's share in total population for the region or group.

ANNEX 1k: Level 1—Agriculture's Contribution to Economic Growth and Inclusive Development, Indicator 1.3.4

TABLE L1.3.4—POVERTY HEADCOUNT RATIO AT $1.90/ DAY (2011 PPP, % of population)

Region	Annual avg. level (1995–2003)	Annual avg. change (1995–2003)	2003	Annual avg. level (2003–2008)	Annual avg. change (2003–2008)	Annual avg. level (2008–2014)	Annual avg. change (2008–2014)	Annual avg. level (2014-2018)	Annual avg. change (2014-2018)	2018
Africa	45.9	-1.5	43.0	41.8	-1.1	38.4	-1.5	35.6	-1.6	35.3
Central	52.9	-2.9	49.0	47.0	-1.5	42.1	-1.9	37.6	-3.2	35.9
Eastern	58.3	-1.7	52.4	50.3	-1.6	44.3	-2.4	39.7	-2.9	38.0
Northern	5.3	-4.3	4.5	3.9	-4.9	2.5	-12.0	1.2	-12.7	1.0
Southern	48.6	-1.0	46.5	44.7	-2.2	41.6	-0.2	39.4	-1.8	38.6
Western	54.3	-1.5	51.5	50.7	-0.5	47.4	-1.3	44.7	-0.8	44.1
Less favorable agriculture conditions	72.2	-1.9	66.6	64.4	-1.9	55.3	-3.2	48.4	-1.8	47.1
More favorable agriculture conditions	65.4	-2.0	58.7	55.7	-1.7	48.9	-2.6	43.3	-3.0	41.3
Mineral-rich countries	67.3	-1.8	63.6	60.7	-1.9	48.7	-4.6	39.3	-4.5	36.4
Lower middle-income countries	33.4	-1.0	32.6	32.7	0.1	32.1	-0.3	31.7	0.1	31.7
Upper middle-income countries	31.7	-3.3	26.9	23.8	-7.3	18.1	-0.5	14.4	-10.1	12.3
CEN-SAD	38.1	-1.2	36.7	36.4	-0.3	34.5	-1.1	33.0	-0.3	32.8
COMESA	41.6	-1.2	38.7	37.8	-0.9	34.6	-1.9	31.9	-2.0	30.9
EAC	58.1	-0.7	55.3	53.7	-1.3	49.2	-1.2	46.8	-1.0	46.2
ECCAS	56.2	-2.1	52.7	51.1	-1.3	46.5	-1.7	42.6	-2.3	41.4
ECOWAS	54.3	-1.5	51.5	50.7	-0.5	47.4	-1.3	44.7	-0.8	44.1
IGAD	52.7	-2.5	45.6	43.1	-2.0	36.0	-3.5	30.3	-4.7	28.1
SADC	56.4	-0.8	54.1	52.5	-1.5	49.4	-0.5	47.4	-1.3	46.6
UMA	7.1	-5.5	5.3	4.3	-8.1	2.3	-16.5	0.7	-35.2	0.3
CAADP Compact 2007-09 (CC1)	57.6	-2.1	52.4	50.9	-1.1	45.9	-2.1	41.7	-2.2	40.2
CAADP Compact 2010-12 (CC2)	56.5	-0.9	53.9	52.3	-1.1	48.3	-1.4	45.6	-0.7	45.2
CAADP Compact 2013-15 (CC3)	52.2	-0.7	52.6	52.4	0.1	52.5	0.1	52.5	-0.5	52.2
CAADP Compact not yet (CC0)	13.2	-3.7	11.2	9.8	-6.6	7.2	-3.4	5.2	-10.5	4.4
CAADP Level 0 (CL0)	13.2	-3.7	11.2	9.8	-6.6	7.2	-3.4	5.2	-10.5	4.4
CAADP Level 1 (CL1)	65.6	1.0	69.0	70.7	1.1	75.1	0.9	79.2	1.0	80.5
CAADP Level 2 (CL2)	47.0	-3.2	42.5	39.8	-2.1	32.8	-3.4	28.4	-2.6	27.3
CAADP Level 3 (CL3)	64.4	-1.3	61.4	58.7	-1.8	50.8	-2.7	45.9	-1.2	45.0
CAADP Level 4 (CL4)	55.7	-1.6	51.4	50.1	-0.9	46.3	-1.5	43.0	-1.7	41.8
NAIP00 (N00)	18.6	-1.6	17.4	16.6	-2.4	15.1	-0.5	14.2	-2.4	13.8
NAIP10 (N10)	64.2	-1.5	60.0	57.5	-1.7	51.8	-1.8	48.3	-0.8	47.8
NAIP11 (N11)	54.4	-1.7	50.4	49.1	-0.9	44.7	-1.8	41.1	-1.8	39.9

Source: ReSAKSS based on World Bank (2019) and ILO (2019).

Note: For regions or groups, level is weighted average, where weight is country's share in total population for the region or group.

ANNEX 1l: Level 1—Agriculture's Contribution to Economic Growth and Inclusive Development, Indicator 1.3.5

TABLE L1.3.5—GINI INDEX

Region	Annual avg. level (1995–2003)	Annual avg. change (1995–2003)	2003	Annual avg. level (2003–2008)	Annual avg. change (2003–2008)	Annual avg. level (2008–2014)	Annual avg. change (2008–2014)	Annual avg. level (2014-2018)	Annual avg. change (2014-2018)	2018
Africa	42.7	-0.6	41.8	42.0	0.2	41.7	-0.1	41.6	-0.3	41.3
Central	43.2	-0.3	42.9	43.0	0.5	43.7	0.1	43.7	-0.3	43.6
Eastern	39.9	-0.4	39.1	39.3	0.3	39.0	-0.2	39.1	-0.6	38.6
Northern	34.6	0.0	34.4	34.3	-0.3	33.7	-0.3	33.6	-0.3	33.5
Southern	56.8	-0.4	55.8	56.6	-0.2	56.4	0.1	56.3	-0.3	55.9
Western	43.1	-1.0	41.8	42.1	0.6	41.7	-0.2	41.4	-0.2	41.3
Less favorable agriculture conditions	40.8	-0.7	39.5	39.4	-1.0	36.8	-1.0	35.3	-0.7	35.2
More favorable agriculture conditions	41.0	-0.6	39.7	39.9	0.3	39.8	0.0	39.9	-0.8	39.3
Mineral-rich countries	44.9	-1.5	42.5	41.7	0.2	38.8	-2.0	36.0	-1.3	35.2
Lower middle-income countries	41.2	-0.6	40.5	40.8	0.4	40.9	0.0	40.9	-0.1	40.8
Upper middle-income countries	60.5	0.2	61.6	62.5	0.3	63.0	0.1	63.9	0.7	64.4
CEN-SAD	41.0	-0.7	40.1	40.2	0.3	39.7	-0.3	39.3	-0.2	39.1
COMESA	39.2	-0.5	38.1	38.2	0.1	37.8	-0.3	37.7	-0.7	37.2
EAC	41.8	0.2	41.9	41.9	-0.1	41.4	-0.2	41.2	-0.1	41.3
ECCAS	43.0	0.0	43.0	43.6	0.5	44.4	0.2	44.8	0.0	45.1
ECOWAS	43.1	-1.0	41.8	42.1	0.6	41.7	-0.2	41.4	-0.2	41.3
IGAD	40.2	-0.9	38.7	38.7	0.2	38.1	-0.4	38.0	-1.1	37.3
SADC	50.5	-0.2	49.9	50.4	0.0	50.2	0.1	50.1	-0.2	49.9
UMA	39.8	-0.2	39.4	39.3	-0.2	38.6	-0.3	38.2	-0.1	38.1
CAADP Compact 2007-09 (CC1)	41.1	-1.1	39.6	40.2	0.9	40.4	0.1	40.6	-0.3	40.4
CAADP Compact 2010-12 (CC2)	44.8	-0.5	43.7	43.6	-0.3	42.6	-0.4	41.7	-0.7	41.2
CAADP Compact 2013-15 (CC3)	43.7	0.1	43.7	43.4	-0.1	43.8	0.1	43.5	-0.3	43.4
CAADP Compact not yet (CC0)	42.6	0.1	42.7	42.9	0.0	42.6	-0.2	42.8	0.1	42.8
CAADP Level 0 (CL0)	42.6	0.1	42.7	42.9	0.0	42.6	-0.2	42.8	0.1	42.8
CAADP Level 1 (CL1)	44.7	0.0	44.1	43.4	-0.3	42.9	-0.4	41.7	-0.4	41.4
CAADP Level 2 (CL2)	44.0	-0.6	43.3	43.0	0.0	42.3	-0.4	41.5	-0.7	41.1
CAADP Level 3 (CL3)	42.8	-0.3	42.1	42.0	-0.6	40.6	-0.7	39.7	-0.5	39.4
CAADP Level 4 (CL4)	42.5	-0.9	41.1	41.5	0.6	41.5	0.0	41.5	-0.4	41.2
NAIP00 (N00)	42.7	0.1	42.8	42.9	-0.1	42.6	-0.2	42.6	0.0	42.6
NAIP10 (N10)	43.2	-0.2	43.0	43.7	0.0	44.1	0.5	44.6	-0.4	44.4
NAIP11 (N11)	42.5	-1.0	41.0	41.2	0.4	40.7	-0.3	40.4	-0.5	40.0

Source: ReSAKSS based on World Bank (2019) and ILO (2019).

Note: For regions or groups, level is weighted average, where weight is country's share in total population for the region or group.

ANNEX 2a: Level 2—Agricultural Transformation and Sustained Inclusive Agricultural Growth, Indicator 2.1.1

TABLE L2.1.1—AGRICULTURE VALUE ADDED (billion, constant 2010 US$)

Region	Annual avg. level (1995–2003)	Annual avg. change (1995–2003)	2003	Annual avg. level (2003–2008)	Annual avg. change (2003–2008)	Annual avg. level (2008–2014)	Annual avg. change (2008–2014)	Annual avg. level (2014-2018)	Annual avg. change (2014-2018)	2018
Africa	7.3	5.0	9.4	9.5	2.0	11.7	3.1	13.9	3.2	14.5
Central	2.6	-4.4	2.3	2.4	1.7	3.1	5.7	4.1	5.5	4.4
Eastern	4.5	-1.0	4.5	5.6	11.0	10.1	7.9	13.5	4.9	14.5
Northern	5.7	8.6	7.4	7.3	-1.3	9.3	6.0	12.8	6.6	13.9
Southern	3.8	0.8	3.9	4.0	4.1	4.7	0.6	5.3	0.5	5.3
Western	16.8	7.2	24.2	23.6	1.0	27.6	1.3	30.7	2.2	31.5
Less favorable agriculture conditions	1.7	4.1	2.0	2.2	5.0	3.0	6.0	4.1	6.4	4.5
More favorable agriculture conditions	2.9	-1.2	2.9	3.6	9.2	5.6	6.6	7.2	5.2	7.8
Mineral-rich countries	3.9	-9.2	2.6	2.5	-3.7	2.2	3.7	2.8	5.2	3.0
Lower middle-income countries	13.5	7.1	19.1	18.9	0.9	22.2	2.9	25.9	2.4	26.6
Upper middle-income countries	6.0	3.8	6.8	6.6	0.9	7.4	1.4	9.1	5.4	9.8
CEN-SAD	11.6	6.8	16.2	15.8	0.1	17.8	2.8	20.6	2.9	21.4
COMESA	4.2	-1.7	3.9	4.9	12.2	9.5	7.2	12.2	4.2	13.0
EAC	5.3	-1.0	5.3	5.6	-0.4	6.6	8.1	9.9	9.6	11.3
ECCAS	2.6	-2.2	2.4	2.7	4.0	4.0	7.8	5.7	1.1	5.6
ECOWAS	16.8	7.2	24.2	23.6	1.0	27.6	1.3	30.7	2.2	31.5
IGAD	5.8	0.1	5.7	7.1	10.7	12.3	8.3	16.4	4.4	17.5
SADC	3.8	-0.8	3.8	4.0	4.1	4.8	1.9	5.7	2.5	5.9
UMA	5.2	9.8	6.9	6.8	-1.7	8.7	6.5	12.3	6.8	13.3
CAADP Compact 2007-09 (CC1)	18.6	6.9	26.4	26.1	1.6	31.2	1.6	34.8	2.2	35.7
CAADP Compact 2010-12 (CC2)	3.1	-1.2	3.1	3.3	3.0	4.4	5.8	6.1	7.7	6.8
CAADP Compact 2013-15 (CC3)	2.0	1.8	2.1	2.9	17.0	7.2	8.0	9.5	1.7	9.7
CAADP Compact not yet (CC0)	6.5	3.1	7.3	7.1	-0.3	7.5	1.9	9.1	4.9	9.7
CAADP Level 0 (CL0)	6.5	3.1	7.3	7.1	-0.3	7.5	1.9	9.1	4.9	9.7
CAADP Level 1 (CL1)	1.9	1.8	2.0	2.8	17.9	7.3	8.0	9.7	1.6	9.8
CAADP Level 2 (CL2)	2.5	-5.7	2.0	2.0	0.5	2.3	3.3	3.0	5.6	3.3
CAADP Level 3 (CL3)	1.8	2.5	1.9	2.2	5.4	2.9	4.6	3.6	4.5	3.8
CAADP Level 4 (CL4)	15.6	6.7	21.9	22.0	1.9	26.7	2.1	30.7	3.0	31.9
NAIP00 (N00)	4.6	3.5	5.2	5.2	1.6	6.3	3.1	7.9	3.6	8.3
NAIP10 (N10)	2.5	-3.3	2.4	3.1	13.9	6.6	7.0	8.5	3.8	9.0
NAIP11 (N11)	14.0	6.6	19.5	19.3	1.6	23.3	2.0	26.6	2.9	27.6

Source: ReSAKSS based on FAO (2019) and World Bank (2019).

Note: For regions or groups, level is weighted average per country, where weight is country's share in total agricultural land area for the region or group.

ANNEX 2b: Level 2—Agricultural Transformation and Sustained Inclusive Agricultural Growth, Indicator 2.1.2

TABLE L2.1.2—AGRICULTURAL PRODUCTION INDEX (API) (2004-2006 = 100)

Region	Annual avg. level (1995–2003)	Annual avg. change (1995–2003)	2003	Annual avg. level (2003–2008)	Annual avg. change (2003–2008)	Annual avg. level (2008–2014)	Annual avg. change (2008–2014)	Annual avg. level (2014-2016)	2016
Africa	80.6	2.8	91.1	100.4	3.2	119.2	3.5	133.7	134.7
Central	93.0	-0.1	93.4	101.4	3.3	122.7	3.5	134.7	136.2
Eastern	77.7	4.0	91.8	100.6	3.1	124.7	5.5	145.3	145.7
Northern	79.1	2.7	90.2	100.7	3.3	122.4	3.1	132.3	134.0
Southern	85.2	2.8	93.8	102.6	3.8	137.0	4.0	147.7	148.2
Western	79.4	3.4	90.4	99.5	3.1	111.2	2.8	126.5	127.4
Less favorable agriculture conditions	81.4	4.3	94.1	104.2	4.5	133.9	3.8	150.2	152.6
More favorable agriculture conditions	81.4	3.2	92.4	101.1	3.6	129.7	5.2	148.9	149.4
Mineral-rich countries	96.8	-1.1	95.0	100.8	2.1	117.2	3.0	126.0	126.5
Lower middle-income countries	78.9	3.5	90.6	100.1	3.2	114.3	2.8	128.0	129.0
Upper middle-income countries	84.0	0.5	90.6	99.5	2.8	128.0	4.5	137.7	139.3
CEN-SAD	79.5	3.5	91.0	100.2	3.1	113.3	2.6	126.5	127.3
COMESA	82.7	2.7	92.5	101.5	3.4	119.6	3.0	130.2	130.7
EAC	78.0	3.5	91.4	100.0	3.7	121.8	4.9	137.9	137.6
ECCAS	87.3	0.9	92.4	102.3	4.3	135.8	4.5	150.7	152.7
ECOWAS	79.4	3.4	90.4	99.5	3.1	111.2	2.8	126.5	127.4
IGAD	77.2	4.4	92.1	100.6	2.6	120.2	4.5	137.7	138.9
SADC	87.6	1.4	93.5	101.8	3.7	133.2	4.8	148.7	148.7
UMA	77.9	2.1	88.9	98.5	1.8	128.1	4.8	139.6	141.7
CAADP Compact 2007-09 (CC1)	77.8	3.6	90.1	99.7	3.4	114.2	3.4	131.1	132.0
CAADP Compact 2010-12 (CC2)	85.2	1.9	92.4	100.7	3.2	122.7	3.8	134.9	135.0
CAADP Compact 2013-15 (CC3)	80.6	3.8	92.5	101.2	2.8	131.3	6.6	155.6	158.2
CAADP Compact not yet (CC0)	81.0	2.5	91.2	101.0	3.3	121.7	2.8	130.6	131.9
CAADP Level 0 (CL0)	81.0	2.5	91.2	101.0	3.3	121.7	2.8	130.6	131.9
CAADP Level 1 (CL1)	81.2	3.9	93.5	100.9	2.1	129.0	6.6	152.1	154.3
CAADP Level 2 (CL2)	92.9	-0.4	92.9	101.3	3.4	121.1	3.1	132.8	134.6
CAADP Level 3 (CL3)	81.4	3.7	94.2	102.0	2.9	123.2	3.3	137.6	139.3
CAADP Level 4 (CL4)	78.4	3.4	90.0	99.7	3.5	116.2	3.7	132.6	133.1
NAIP00 (N00)	81.8	2.4	91.3	101.2	3.4	124.5	3.2	135.1	136.6
NAIP10 (N10)	83.3	2.3	93.1	100.4	2.4	127.9	6.8	152.5	152.7
NAIP11 (N11)	78.9	3.5	90.4	99.9	3.4	114.7	3.1	129.7	130.5

Source: ReSAKSS based on FAO (2019) and World Bank (2019).

Note: For regions or groups, level is weighted average, where weight is country's share in total agriculture value added for the region or group.

ANNEX 2c: Level 2—Agricultural Transformation and Sustained Inclusive Agricultural Growth, Indicator 2.1.3

TABLE L2.1.3—LABOR PRODUCTIVITY (agriculture value-added per agricultural worker, constant 2010 US$)

Region	Annual avg. level (1995–2003)	Annual avg. change (1995–2003)	2003	Annual avg. level (2003–2008)	Annual avg. change (2003–2008)	Annual avg. level (2008–2014)	Annual avg. change (2008–2014)	Annual avg. level (2014-2018)	Annual avg. change (2014-2018)	2018
Africa	1,074.9	2.2	1,192.0	1,160.5	-0.1	1,299.5	1.5	1,433.6	2.0	1,471.5
Central	617.4	-5.6	493.8	479.0	-0.5	543.8	2.6	647.7	3.4	676.8
Eastern	541.9	-1.4	504.8	515.9	1.7	652.4	5.4	791.3	3.3	831.9
Northern	3,026.6	3.8	3,410.5	3,444.1	0.2	4,147.0	3.3	5,202.6	5.7	5,592.8
Southern	832.5	-0.4	810.5	809.6	1.8	847.9	-0.6	873.9	-0.5	858.9
Western	1,767.4	4.9	2,286.5	2,190.5	-0.2	2,398.6	-0.2	2,472.2	0.8	2,491.3
Less favorable agriculture conditions	507.9	0.0	518.4	540.5	1.5	623.1	3.2	730.6	3.3	766.1
More favorable agriculture conditions	350.7	-3.3	316.1	350.2	4.8	438.0	3.1	488.0	1.7	501.9
Mineral-rich countries	525.8	-5.9	399.2	394.9	2.4	475.0	1.1	523.7	2.9	551.8
Lower middle-income countries	1,987.7	4.0	2,383.9	2,317.6	0.0	2,665.8	2.0	2,989.6	2.3	3,073.0
Upper middle-income countries	4,490.7	-1.4	4,457.3	4,212.5	-1.7	4,760.7	3.5	6,429.3	6.9	7,015.6
CEN-SAD	1,780.1	3.7	2,110.5	2,047.1	-0.1	2,304.0	1.6	2,537.2	2.2	2,611.4
COMESA	751.7	-0.8	701.7	700.7	0.7	801.5	2.8	896.8	2.5	931.0
EAC	449.0	-3.2	408.1	422.8	1.3	549.8	5.2	706.0	6.1	773.3
ECCAS	587.7	-4.9	486.2	485.9	0.5	584.0	3.8	736.7	2.8	755.3
ECOWAS	1,767.4	4.9	2,286.5	2,190.5	-0.2	2,398.6	-0.2	2,472.2	0.8	2,491.3
IGAD	608.4	-0.6	565.6	573.6	1.7	742.1	6.2	911.9	3.1	956.9
SADC	620.6	-3.4	552.1	554.7	1.6	606.4	0.6	655.4	1.4	666.2
UMA	2,835.8	4.2	3,294.1	3,248.3	-1.6	4,008.9	5.8	5,449.6	6.1	5,876.9
CAADP Compact 2007-09 (CC1)	1,235.4	3.7	1,551.1	1,494.3	0.3	1,657.9	0.1	1,697.0	0.4	1,701.0
CAADP Compact 2010-12 (CC2)	515.5	-2.5	468.8	470.4	0.4	550.5	2.6	651.6	4.5	695.8
CAADP Compact 2013-15 (CC3)	1,045.0	1.0	1,024.3	980.2	-1.1	1,124.0	6.1	1,411.2	1.7	1,432.3
CAADP Compact not yet (CC0)	3,331.5	3.0	3,687.4	3,740.8	1.1	4,520.7	2.7	5,567.6	5.5	5,983.3
CAADP Level 0 (CL0)	3,331.5	3.0	3,687.4	3,740.8	1.1	4,520.7	2.7	5,567.6	5.5	5,983.3
CAADP Level 1 (CL1)	1,083.6	0.9	1,053.3	1,007.1	-1.2	1,149.5	6.2	1,432.0	1.4	1,446.6
CAADP Level 2 (CL2)	597.6	-5.4	476.9	459.4	-0.7	500.5	1.5	583.1	3.7	615.2
CAADP Level 3 (CL3)	509.6	0.3	500.1	522.4	2.3	599.9	2.1	616.0	-0.5	612.9
CAADP Level 4 (CL4)	957.4	2.9	1,153.4	1,117.9	0.2	1,262.7	0.7	1,351.5	1.8	1,384.0
NAIP00 (N00)	1,907.1	2.6	2,046.9	2,024.3	-0.1	2,259.8	1.6	2,612.9	3.4	2,722.0
NAIP10 (N10)	684.5	-1.5	641.2	626.9	0.0	729.6	4.3	847.4	1.8	868.1
NAIP11 (N11)	1,006.7	3.0	1,198.0	1,159.2	0.1	1,301.1	0.7	1,385.5	1.5	1,414.7

Source: ReSAKSS based on World Bank (2019) and UNCTAD (2017).

ANNEX 2d: Level 2—Agricultural Transformation and Sustained Inclusive Agricultural Growth, Indicator 2.1.4

TABLE L2.1.4—LAND PRODUCTIVITY (agriculture value-added per hectare of arable land, constant 2010 US$)

Region	Annual avg. level (1995–2003)	Annual avg. change (1995–2003)	2003	Annual avg. level (2003–2008)	Annual avg. change (2003–2008)	Annual avg. level (2008–2014)	Annual avg. change (2008–2014)	Annual avg. level (2014-2018)	Annual avg. change (2014-2018)	2018
Africa	202.5	3.3	236.0	239.3	1.6	283.3	1.7	343.3	6.2	376.6
Central	124.2	-4.1	107.1	109.1	1.4	135.2	3.9	173.0	4.9	184.5
Eastern	262.6	0.6	265.1	283.6	3.6	320.7	-0.7	438.8	17.3	571.5
Northern	359.6	1.4	384.4	391.9	0.5	472.6	3.1	583.2	5.3	623.4
Southern	62.2	1.1	64.2	66.9	3.5	77.9	1.6	90.3	2.0	92.0
Western	321.6	5.7	427.6	415.4	0.6	493.1	1.5	557.3	2.7	577.1
Less favorable agriculture conditions	54.2	2.7	61.4	66.9	3.4	87.4	5.5	115.2	5.9	125.0
More favorable agriculture conditions	124.9	-1.7	120.8	140.4	6.7	195.2	5.4	245.1	4.2	261.0
Mineral-rich countries	189.7	-4.8	151.1	154.4	3.5	195.4	2.6	233.5	4.7	251.9
Lower middle-income countries	377.1	5.1	469.3	467.9	1.0	512.4	-1.4	603.9	9.4	699.6
Upper middle-income countries	88.6	8.7	112.2	108.4	-0.6	126.3	3.6	169.7	6.7	184.7
CEN-SAD	329.4	4.8	406.1	402.9	0.9	443.6	-0.8	520.4	8.5	595.3
COMESA	353.3	0.8	352.5	367.9	2.5	391.0	-1.9	485.5	14.2	606.5
EAC	221.5	-1.0	219.2	237.7	3.1	337.6	6.9	480.9	8.5	542.3
ECCAS	100.9	-2.7	92.2	97.5	2.8	130.7	5.5	179.8	4.7	189.1
ECOWAS	321.6	5.7	427.6	415.4	0.6	493.1	1.5	557.3	2.7	577.1
IGAD	421.6	2.0	426.9	448.9	3.4	447.8	-5.9	628.4	27.0	922.0
SADC	79.6	-2.0	75.5	79.8	3.6	97.2	2.7	117.9	3.9	124.0
UMA	172.7	5.7	208.9	209.0	-1.2	261.5	5.9	355.6	6.0	383.1
CAADP Compact 2007-09 (CC1)	339.1	5.4	449.9	444.9	1.6	548.8	2.0	619.9	2.4	639.2
CAADP Compact 2010-12 (CC2)	136.7	-0.8	133.5	139.8	2.1	180.0	4.8	238.5	7.0	263.1
CAADP Compact 2013-15 (CC3)	144.4	2.3	150.0	150.5	0.7	156.4	0.2	211.3	13.1	258.4
CAADP Compact not yet (CC0)	204.5	3.5	230.4	235.1	1.3	281.9	2.4	338.1	4.9	360.3
CAADP Level 0 (CL0)	204.5	3.5	230.4	235.1	1.3	281.9	2.4	338.1	4.9	360.3
CAADP Level 1 (CL1)	136.4	2.3	141.0	142.1	1.0	147.4	0.2	199.1	13.4	244.5
CAADP Level 2 (CL2)	124.8	-4.0	106.4	106.6	0.9	125.8	3.0	158.3	5.3	170.7
CAADP Level 3 (CL3)	92.7	1.7	96.9	105.1	4.0	135.1	4.3	156.2	2.0	161.2
CAADP Level 4 (CL4)	318.5	4.8	408.7	410.0	1.7	512.3	2.7	610.0	4.0	644.0
NAIP00 (N00)	143.4	3.4	159.9	163.9	1.3	196.0	2.9	241.4	4.8	256.1
NAIP10 (N10)	170.0	0.1	170.0	173.7	1.6	184.9	-0.8	234.4	12.9	287.4
NAIP11 (N11)	301.3	4.7	379.5	378.0	1.5	469.7	2.7	556.4	3.7	585.8

Source: ReSAKSS based on World Bank (2019) and FAO (2019).

ANNEX 2e: Level 2—Agricultural Transformation and Sustained Inclusive Agricultural Growth, Indicator 2.1.5A

TABLE L2.1.5A—YIELD, CASSAVA (metric tons per hectare)

Region	Annual avg. level (1995–2003)	Annual avg. change (1995–2003)	2003	Annual avg. level (2003–2008)	Annual avg. change (2003–2008)	Annual avg. level (2008–2014)	Annual avg. change (2008–2014)	Annual avg. level (2014-2017)	Annual avg. change (2014-2017)	2017
Africa	8.6	1.0	8.9	9.3	1.8	9.2	-2.2	9.0	-0.3	9.0
Central	7.8	-0.2	7.6	7.8	1.3	8.1	0.4	8.3	0.4	8.4
Eastern	8.0	0.1	7.7	7.5	1.0	6.2	-3.2	5.3	-6.8	4.9
Northern										
Southern	6.4	8.3	8.1	8.5	2.8	10.4	2.6	10.3	-0.6	10.3
Western	10.1	-0.4	10.3	10.8	1.5	10.4	-4.5	10.0	0.4	10.1
Less favorable agriculture conditions	7.0	6.9	8.2	7.3	-5.9	7.0	5.7	8.6	-0.9	8.6
More favorable agriculture conditions	7.4	3.0	7.7	7.6	0.6	7.5	0.7	7.3	-4.4	7.0
Mineral-rich countries	7.6	-0.2	7.5	7.4	-0.1	7.8	1.5	8.1	0.6	8.2
Lower middle-income countries	9.8	0.1	10.3	11.0	2.7	10.9	-5.0	10.2	0.5	10.3
Upper middle-income countries	4.2	0.5	4.3	4.3	0.9	4.5	0.9	4.7	0.6	4.7
CEN-SAD	9.8	-0.3	10.0	10.5	1.4	10.1	-4.2	9.8	0.5	9.9
COMESA	8.1	2.4	8.6	8.7	-0.4	8.0	-0.9	7.8	-2.4	7.6
EAC	8.4	0.2	8.1	7.7	-0.5	5.8	-3.2	5.2	-7.0	4.8
ECCAS	7.6	1.9	8.3	8.7	2.4	9.2	-1.7	8.7	1.4	8.8
ECOWAS	10.1	-0.4	10.3	10.8	1.5	10.4	-4.5	10.0	0.4	10.1
IGAD	10.2	9.1	12.6	11.9	-7.3	5.7	-12.1	3.6	-11.5	3.2
SADC	7.3	1.3	7.5	7.8	2.7	8.6	0.8	8.5	0.2	8.5
UMA										
CAADP Compact 2007-09 (CC1)	10.3	-0.7	10.4	10.9	1.5	10.6	-4.4	10.3	0.5	10.4
CAADP Compact 2010-12 (CC2)	7.4	1.4	7.5	7.4	0.0	7.4	1.1	7.4	-2.6	7.2
CAADP Compact 2013-15 (CC3)	7.3	4.3	8.5	9.7	6.5	11.2	-2.3	10.5	3.6	10.9
CAADP Compact not yet (CC0)	7.1	0.7	7.3	7.3	-0.1	7.4	0.3	7.4	0.0	7.4
CAADP Level 0 (CL0)	7.1	0.7	7.3	7.3	-0.1	7.4	0.3	7.4	0.0	7.4
CAADP Level 1 (CL1)	6.9	6.5	8.8	9.6	4.7	10.7	-3.3	9.5	5.1	10.0
CAADP Level 2 (CL2)	7.8	-0.5	7.6	7.9	1.7	8.2	0.1	8.3	0.3	8.4
CAADP Level 3 (CL3)	8.2	5.3	9.1	8.6	-4.7	6.2	-3.3	5.8	-3.9	5.5
CAADP Level 4 (CL4)	9.2	0.1	9.4	9.8	2.1	9.9	-2.2	9.8	-0.7	9.8
NAIP00 (N00)	6.8	7.0	8.8	9.6	4.9	10.7	-3.6	9.4	5.6	10.0
NAIP10 (N10)	7.2	-0.9	6.8	6.8	1.5	7.4	3.0	7.9	-0.9	7.9
NAIP11 (N11)	10.0	0.8	10.5	10.9	0.9	10.3	-4.6	9.6	-0.8	9.6

Source: ReSAKSS based on FAO (2019).

Note: Cassava production data is not available in Northern Africa and UMA.

ANNEX 2f: Level 2—Agricultural Transformation and Sustained Inclusive Agricultural Growth, Indicator 2.1.5B

TABLE L2.1.5B—YIELD, YAMS (metric tons per hectare)

Region	Annual avg. level (1995–2003)	Annual avg. change (1995–2003)	2003	Annual avg. level (2003–2008)	Annual avg. change (2003–2008)	Annual avg. level (2008–2014)	Annual avg. change (2008–2014)	Annual avg. level (2014-2017)	Annual avg. change (2014-2017)	2017
Africa	10.0	-0.5	10.3	10.6	0.3	9.4	-5.0	8.8	-1.4	8.6
Central	7.4	0.1	7.2	7.7	3.4	8.3	-0.2	8.5	0.9	8.5
Eastern	4.4	0.3	4.3	4.2	0.8	7.6	22.5	12.1	-2.1	11.9
Northern	6.3	-0.1	6.3	6.3	0.0	6.3	-0.1	6.3	0.1	6.3
Southern										
Western	10.3	-0.6	10.5	10.8	0.2	9.4	-5.6	8.7	-1.4	8.6
Less favorable agriculture conditions	8.7	1.7	9.2	9.7	2.3	10.2	1.1	10.3	1.6	10.5
More favorable agriculture conditions	10.3	2.2	11.5	11.1	-0.1	13.0	4.1	14.8	1.2	15.1
Mineral-rich countries	7.0	-1.6	6.4	6.5	1.1	7.2	0.7	7.2	1.8	7.3
Lower middle-income countries	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Upper middle-income countries	10.1	-0.8	10.3	10.6	0.3	9.2	-5.9	8.5	-1.5	8.3
CEN-SAD	10.1	-0.5	10.4	10.7	0.2	9.3	-5.5	8.6	-1.4	8.5
COMESA	4.6	-0.7	4.3	4.3	0.6	7.1	20.1	11.1	-1.5	10.9
EAC	5.3	0.5	5.4	5.6	-0.3	7.8	13.9	8.6	-5.8	7.9
ECCAS	7.4	0.1	7.1	7.7	3.3	8.3	0.1	8.5	0.8	8.5
ECOWAS	10.3	-0.6	10.5	10.8	0.2	9.4	-5.6	8.7	-1.4	8.6
IGAD	4.4	0.3	4.3	4.2	0.7	7.6	23.0	12.4	-2.1	12.1
SADC	5.9	-5.6	4.5	4.5	0.1	4.5	-0.2	4.4	-0.2	4.4
UMA	6.3	-0.1	6.3	6.3	0.0	6.3	-0.1	6.3	0.1	6.3
CAADP Compact 2007-09 (CC1)	10.4	-0.4	10.8	11.3	0.8	10.1	-6.1	9.3	-1.1	9.2
CAADP Compact 2010-12 (CC2)	8.8	-1.2	8.4	8.1	-2.3	6.7	-1.5	6.1	-2.6	6.0
CAADP Compact 2013-15 (CC3)	5.8	0.9	5.8	6.4	4.0	6.8	-1.4	6.6	0.5	6.7
CAADP Compact not yet (CC0)	5.3	0.2	5.3	5.4	0.2	5.4	0.1	5.4	0.1	5.4
CAADP Level 0 (CL0)	5.3	0.2	5.3	5.4	0.2	5.4	0.1	5.4	0.1	5.4
CAADP Level 1 (CL1)	5.2	-0.1	5.2	5.3	1.4	5.4	-1.5	5.2	0.4	5.2
CAADP Level 2 (CL2)	7.3	-0.6	6.8	7.5	4.7	8.5	-0.1	8.6	1.6	8.7
CAADP Level 3 (CL3)	10.0	3.2	10.6	10.7	0.6	9.9	-3.4	9.3	5.6	9.8
CAADP Level 4 (CL4)	10.2	-0.6	10.5	10.8	0.2	9.5	-5.3	8.8	-1.6	8.7
NAIP00 (N00)	8.4	0.4	8.5	8.6	0.5	8.3	-0.9	8.3	0.3	8.3
NAIP10 (N10)	5.3	0.1	5.2	5.7	3.9	6.2	-0.7	6.2	0.7	6.2
NAIP11 (N11)	10.2	-0.6	10.5	10.8	0.2	9.5	-5.3	8.8	-1.5	8.7

Source:ReSAKSS based on FAO (2019).
Note: Yam production data is not available for Southern Africa

ANNEX 2g: Level 2—Agricultural Transformation and Sustained Inclusive Agricultural Growth, Indicator 2.1.5C

TABLE L2.1.5C—YIELD, MAIZE (metric tons per hectare)

Region	Annual avg. level (1995–2003)	Annual avg. change (1995–2003)	2003	Annual avg. level (2003–2008)	Annual avg. change (2003–2008)	Annual avg. level (2008–2014)	Annual avg. change (2008–2014)	Annual avg. level (2014-2017)	Annual avg. change (2014-2017)	2017
Africa	1.7	1.5	1.7	1.7	2.4	2.0	0.7	2.0	-0.5	2.0
Central	1.5	1.3	1.5	1.6	2.7	1.8	1.0	1.9	-0.1	1.8
Eastern	1.1	0.3	1.1	1.1	1.6	1.1	-1.1	1.1	1.3	1.1
Northern	1.2	-2.7	1.1	1.0	-1.5	1.1	5.4	1.3	0.4	1.3
Southern	2.1	3.3	2.0	2.0	0.5	1.9	-1.8	1.8	1.0	1.8
Western	1.0	2.1	1.0	0.9	-2.7	1.3	2.4	0.8	2.1	0.8
Less favorable agriculture conditions	1.1	0.4	1.2	1.3	2.4	1.8	2.5	1.9	0.6	1.9
More favorable agriculture conditions	1.4	0.1	1.3	1.3	4.2	1.6	4.8	1.8	-1.7	1.7
Mineral-rich countries	0.9	0.8	0.9	0.9	-0.5	0.9	-0.7	0.9	0.2	0.9
Lower middle-income countries	1.9	2.2	2.0	2.1	1.1	2.1	-1.6	2.0	-1.6	2.0
Upper middle-income countries	2.4	5.1	2.8	3.3	6.7	4.5	0.3	4.7	6.7	5.0
CEN-SAD	1.9	2.3	2.0	2.1	0.6	2.1	-1.9	2.0	-0.6	2.0
COMESA	1.8	0.7	1.8	1.9	2.3	2.2	3.3	2.3	-2.7	2.2
EAC	1.6	-0.6	1.5	1.4	4.3	1.6	2.6	1.7	-3.8	1.6
ECCAS	0.9	0.5	0.9	1.0	1.3	1.1	1.5	1.1	-0.5	1.1
ECOWAS	1.4	1.9	1.5	1.6	2.0	1.7	-2.6	1.7	1.4	1.7
IGAD	1.6	1.3	1.6	1.8	3.3	2.2	5.4	2.5	0.6	2.5
SADC	1.5	1.1	1.5	1.5	3.0	1.8	1.5	1.8	-1.0	1.8
UMA	0.6	2.9	0.8	0.7	-1.9	0.8	-1.1	0.8	9.2	0.9
CAADP Compact 2007-09 (CC1)	1.4	1.4	1.5	1.6	4.1	1.9	-0.2	2.0	1.5	2.0
CAADP Compact 2010-12 (CC2)	1.4	-0.2	1.3	1.3	3.3	1.5	2.1	1.5	-2.4	1.5
CAADP Compact 2013-15 (CC3)	1.0	0.0	1.0	1.0	-3.2	1.1	5.9	1.2	-1.8	1.2
CAADP Compact not yet (CC0)	3.0	4.6	3.5	4.0	5.8	5.0	0.4	5.2	5.2	5.5
CAADP Level 0 (CL0)	3.0	4.6	3.5	4.0	5.8	5.0	0.4	5.2	5.2	5.5
CAADP Level 1 (CL1)	0.9	-1.5	0.8	0.8	-6.0	0.9	8.8	1.0	-1.8	1.0
CAADP Level 2 (CL2)	1.1	1.3	1.1	1.1	0.9	1.2	-1.7	1.1	1.1	1.1
CAADP Level 3 (CL3)	1.4	1.5	1.5	1.6	3.2	2.1	1.6	2.2	-0.9	2.2
CAADP Level 4 (CL4)	1.4	0.4	1.4	1.5	4.1	1.7	1.5	1.8	-0.8	1.8
NAIP00 (N00)	2.3	3.6	2.5	2.6	1.6	3.1	1.9	3.1	-1.3	3.0
NAIP10 (N10)	1.3	-0.8	1.2	1.1	3.7	1.3	1.6	1.4	-1.1	1.4
NAIP11 (N11)	1.4	1.2	1.5	1.6	3.7	1.9	0.7	1.9	-0.2	1.9

Source: ReSAKSS based on FAO (2019).

ANNEX 2h: Level 2—Agricultural Transformation and Sustained Inclusive Agricultural Growth, Indicator 2.1.5D

TABLE L2.1.5D—YIELD, MEAT (indigenous cattle, kilograms per head)

Region	Annual avg. level (1995–2003)	Annual avg. change (1995–2003)	2003	Annual avg. level (2003–2008)	Annual avg. change (2003–2008)	Annual avg. level (2008–2013)	Annual avg. change (2008–2013)	2013
Africa	141.7	0.6	147.1	152.8	1.4	155.2	-0.4	153.8
Central	143.8	-0.8	139.7	139.3	0.2	141.5	0.6	143.4
Eastern	116.4	1.0	125.4	129.5	1.0	129.0	-1.1	125.6
Northern	176.0	1.4	185.3	212.7	6.1	238.0	0.1	238.6
Southern	211.6	0.5	214.5	223.4	1.2	227.3	-0.2	225.6
Western	124.2	-0.3	122.8	122.4	0.0	119.3	-0.6	118.0
Less favorable agriculture conditions	123.3	-0.4	121.7	121.7	0.1	116.2	-1.1	114.0
More favorable agriculture conditions	120.2	-0.3	117.7	118.4	0.3	118.2	-0.2	117.8
Mineral-rich countries	128.7	0.3	129.4	126.6	-0.3	125.1	0.1	125.1
Lower middle-income countries	140.6	1.5	154.6	166.7	2.9	174.1	-0.6	171.1
Upper middle-income countries	219.7	0.8	228.3	241.8	1.8	258.1	0.8	260.8
CEN-SAD	131.8	1.0	141.4	149.5	2.2	153.2	-0.7	150.5
COMESA	131.0	1.3	143.1	153.1	2.4	158.8	-0.6	156.9
EAC	122.3	1.8	142.2	152.3	2.1	148.3	-2.6	139.1
ECCAS	148.7	-0.2	145.1	142.1	-0.4	142.6	0.5	144.1
ECOWAS	124.2	-0.3	122.8	122.4	0.0	119.3	-0.6	118.0
IGAD	118.0	1.7	132.1	137.6	1.2	138.2	-1.1	134.6
SADC	169.6	0.6	172.8	178.1	1.0	177.9	-0.6	175.1
UMA	179.8	1.5	187.0	187.5	0.5	187.9	0.5	190.0
CAADP Compact 2007-09 (CC1)	121.0	-0.3	119.7	119.5	0.0	117.0	-0.5	116.1
CAADP Compact 2010-12 (CC2)	124.7	1.0	136.1	142.1	1.5	141.9	-1.3	137.0
CAADP Compact 2013-15 (CC3)	134.0	1.0	137.3	136.4	-0.1	137.0	0.3	137.8
CAADP Compact not yet (CC0)	191.8	0.8	199.8	219.9	3.9	240.1	0.2	239.9
CAADP Level 0 (CL0)	191.8	0.8	199.8	219.9	3.9	240.1	0.2	239.9
CAADP Level 1 (CL1)	133.4	1.1	137.3	136.4	-0.2	136.4	0.1	136.8
CAADP Level 2 (CL2)	133.8	-0.2	132.4	130.8	-0.1	132.5	0.7	134.5
CAADP Level 3 (CL3)	136.4	0.1	136.8	136.7	0.0	133.3	-0.4	132.3
CAADP Level 4 (CL4)	118.4	0.4	125.0	129.2	1.1	128.7	-1.2	125.0
NAIP00 (N00)	179.6	0.9	186.6	199.6	2.7	211.7	0.1	211.6
NAIP10 (N10)	120.6	0.5	122.1	122.3	0.2	124.4	0.4	125.1
NAIP11 (N11)	123.0	0.6	130.4	134.1	0.9	132.3	-1.1	128.9

Source: ReSAKSS based on FAO (2019).
Note: Data are only available from 1995 to 2013.

ANNEX 2i: Level 2—Agricultural Transformation and Sustained Inclusive Agricultural Growth, Indicator 2.1.5E

TABLE L2.1.5E—YIELD, MILK (whole fresh cow, kilograms per head)

Region	Annual avg. level (1995–2003)	Annual avg. change (1995–2003)	2003	Annual avg. level (2003–2008)	Annual avg. change (2003–2008)	Annual avg. level (2008–2014)	Annual avg. change (2008–2014)	Annual avg. level (2014-2017)	Annual avg. change (2014-2017)	2017
Africa	528.2	1.5	563.4	553.6	-0.7	549.6	1.3	548.6	-1.3	543.2
Central	310.8	-0.9	299.1	300.6	0.6	312.8	2.0	390.2	4.5	407.9
Eastern	377.8	2.8	435.1	407.4	-2.5	378.8	-0.3	363.1	0.3	366.2
Northern	1,179.7	4.6	1,375.7	1,580.7	5.0	1,896.4	2.6	1,824.4	-3.8	1,764.2
Southern	1,326.8	-1.1	1,337.5	1,403.8	0.9	1,420.9	1.3	1,458.7	-2.0	1,424.9
Western	256.3	-0.8	248.0	254.0	1.6	263.2	-0.2	268.6	0.8	270.2
Less favorable agriculture conditions	287.5	-1.6	267.4	276.9	1.6	283.8	0.0	310.7	3.3	320.0
More favorable agriculture conditions	322.3	4.2	410.7	390.7	-2.6	339.0	-0.6	325.6	-0.3	324.0
Mineral-rich countries	317.4	-3.8	282.8	303.1	2.8	378.6	4.4	381.0	-3.5	368.7
Lower middle-income countries	566.6	1.2	585.2	572.1	0.0	633.0	2.9	655.3	0.0	660.3
Upper middle-income countries	1,986.8	0.4	2,100.8	2,373.7	3.5	2,580.7	2.8	2,609.8	-3.7	2,516.0
CEN-SAD	497.3	1.2	512.6	503.3	0.0	537.6	1.7	551.2	0.0	554.6
COMESA	467.0	2.6	535.9	513.3	-1.7	477.8	-0.4	440.9	-1.2	437.7
EAC	386.6	3.1	429.4	416.9	-1.7	428.4	1.2	441.7	2.0	453.4
ECCAS	374.8	-0.4	364.8	366.6	0.4	383.8	2.3	429.9	2.4	440.2
ECOWAS	256.3	-0.8	248.0	254.0	1.6	263.2	-0.2	268.6	0.8	270.2
IGAD	415.8	2.7	480.9	446.2	-2.7	406.9	-0.7	377.6	-0.6	378.0
SADC	667.8	-0.7	641.2	630.4	-1.3	621.0	1.6	663.7	0.6	666.9
UMA	1,175.6	4.9	1,350.1	1,521.8	5.2	1,908.7	4.3	1,973.8	-2.9	1,929.6
CAADP Compact 2007-09 (CC1)	289.9	6.0	422.7	401.5	-2.8	322.3	-2.4	289.3	-1.6	283.3
CAADP Compact 2010-12 (CC2)	425.9	1.9	452.8	435.2	-1.8	440.7	0.9	448.3	1.3	456.0
CAADP Compact 2013-15 (CC3)	423.6	-0.4	411.4	379.1	-1.9	372.8	0.5	372.5	0.8	379.4
CAADP Compact not yet (CC0)	1,209.8	2.0	1,300.1	1,461.9	3.7	1,655.5	2.1	1,642.0	-2.6	1,602.1
CAADP Level 0 (CL0)	1,209.8	2.0	1,300.1	1,461.9	3.7	1,655.5	2.1	1,642.0	-2.6	1,602.1
CAADP Level 1 (CL1)	418.5	-0.3	407.3	375.0	-1.9	367.6	0.4	366.2	0.9	373.3
CAADP Level 2 (CL2)	663.4	-0.7	645.5	624.0	-1.4	622.3	0.4	617.0	-1.0	612.2
CAADP Level 3 (CL3)	444.2	-1.2	419.9	415.6	0.1	408.9	-0.2	424.9	0.8	427.0
CAADP Level 4 (CL4)	334.6	5.1	435.0	414.1	-2.9	367.8	-0.8	348.1	0.0	349.4
NAIP00 (N00)	910.6	2.2	999.9	1,102.4	3.0	1,232.4	2.2	1,234.1	-2.5	1,204.8
NAIP10 (N10)	443.3	-0.7	421.6	388.2	-2.2	386.2	1.5	407.9	2.2	419.8
NAIP11 (N11)	352.3	4.4	448.7	430.4	-2.3	381.6	-1.5	353.4	-0.7	352.0

Source: Source: ReSAKSS based on FAO (2019).

ANNEX 2j: Level 2—Agricultural Transformation and Sustained Inclusive Agricultural Growth, Indicator 2.2.1A

TABLE L2.2.1A—INTRA-AFRICAN AGRICULTURAL TRADE, EXPORTS (million, constant 2010 US$)

Region	Annual avg. level (1995–2003)	Annual avg. change (1995–2003)	2003	Annual avg. level (2003–2008)	Annual avg. change (2003–2008)	Annual avg. level (2008–2014)	Annual avg. change (2008–2014)	Annual avg. level (2014-2018)	Annual avg. change (2014-2018)	2018
Africa	632.8	-1.9	534.4	477.5	6.6	1,477.6	21.2	2,061.4	-10.3	1,707.2
Central	26.3	4.7	33.4	41.9	3.2	33.9	-7.0	27.6	-18.8	17.9
Eastern	305.2	-1.7	306.2	319.9	5.6	459.8	3.1	490.5	7.9	575.1
Northern	78.0	4.8	105.7	187.5	20.5	402.5	4.3	447.4	7.6	505.9
Southern	1,083.3	-1.3	950.7	853.0	5.1	2,697.7	19.8	3,510.9	-9.0	3,020.4
Western	156.1	7.8	174.1	161.5	4.9	256.9	9.2	319.7	7.9	363.4
Less favorable agriculture conditions	59.5	4.9	75.7	80.9	11.9	87.3	-9.7	101.7	21.4	127.7
More favorable agriculture conditions	288.2	-8.8	203.7	190.1	10.3	297.6	9.0	384.9	6.8	442.2
Mineral-rich countries	16.7	-4.8	22.5	25.7	-11.5	22.3	2.7	18.6	-26.7	11.7
Lower middle-income countries	208.5	4.8	225.0	237.9	6.1	364.1	7.0	433.1	5.2	472.9
Upper middle-income countries	1,166.6	-1.7	1,019.8	913.1	5.3	2,951.5	19.2	3,846.0	-8.1	3,345.7
CEN-SAD	186.2	3.4	200.6	213.8	7.8	347.9	5.6	404.8	7.8	457.1
COMESA	308.4	-3.6	260.2	280.2	6.9	458.3	6.0	497.7	1.6	517.6
EAC	375.1	-0.4	375.3	376.7	4.3	518.9	2.0	563.8	9.4	671.8
ECCAS	25.8	3.9	29.8	34.9	-0.9	27.7	0.5	26.4	-11.0	21.1
ECOWAS	156.1	7.8	174.1	161.5	4.9	256.9	9.2	319.7	7.9	363.4
IGAD	356.9	-1.5	354.0	384.1	6.9	566.2	2.7	626.5	12.2	770.1
SADC	1,041.6	-1.1	912.2	802.9	4.7	2,510.5	20.0	3,265.6	-10.3	2,733.2
UMA	74.7	0.6	78.3	126.8	22.3	275.0	7.8	340.7	6.2	361.9
CAADP Compact 2007-09 (CC1)	78.8	0.9	85.1	71.3	10.0	180.2	14.0	236.6	15.5	309.4
CAADP Compact 2010-12 (CC2)	291.7	4.3	310.5	328.5	4.1	444.2	5.1	470.1	-1.4	460.9
CAADP Compact 2013-15 (CC3)	273.5	-9.1	187.3	143.7	-0.9	122.0	9.8	156.1	0.4	150.1
CAADP Compact not yet (CC0)	1,094.5	-1.8	934.6	833.4	5.6	2,643.0	19.7	3,426.4	-9.5	2,910.9
CAADP Level 0 (CL0)	1,094.5	-1.8	934.6	833.4	5.6	2,643.0	19.7	3,426.4	-9.5	2,910.9
CAADP Level 1 (CL1)	304.7	-3.6	227.4	178.6	-5.2	146.7	10.5	212.7	0.3	204.9
CAADP Level 2 (CL2)	47.2	1.7	51.5	75.2	9.3	64.4	-2.8	68.2	-9.4	48.9
CAADP Level 3 (CL3)	102.1	15.0	162.7	218.2	15.1	420.4	12.9	583.3	7.0	655.9
CAADP Level 4 (CL4)	210.1	3.7	223.7	212.6	4.2	313.0	6.4	354.5	4.9	387.7
NAIP00 (N00)	988.9	-2.0	827.4	720.3	4.9	2,362.8	21.0	3,125.9	-9.7	2,643.7
NAIP10 (N10)	178.1	7.4	191.1	205.8	4.2	282.8	10.7	335.9	-6.2	298.6
NAIP11 (N11)	200.1	3.6	215.4	206.0	4.6	310.2	6.7	376.9	9.4	437.1

Source: ReSAKSS based on UNCTAD (2019) and World Bank (2019).

Note: For regions or groups, level is weighted average per country, where weight is country's share in intra-African total exports for the region or group. The value of intra-African agricultural exports and imports for Africa as a whole is expected to be equal. However, Tables TL2.2.1A and TL2.2.1B show exports to be greater than imports, due to differences in commodities categorized as agricultural by different countries, year of shipment of exports and arrival of imports, treatment of the origin of export versus shipment, and valuation of exports and imports (for details see UNCTAD: http://unctadstat.unctad.org/EN?FAQ.html).

ANNEX 2k: Level 2—Agricultural Transformation and Sustained Inclusive Agricultural Growth, Indicator 2.2.1B

TABLE L2.2.1B—INTRA-AFRICAN AGRICULTURAL TRADE, IMPORTS (million, constant 2010 US$)

Region	Annual avg. level (1995–2003)	Annual avg. change (1995–2003)	2003	Annual avg. level (2003–2008)	Annual avg. change (2003–2008)	Annual avg. level (2008–2014)	Annual avg. change (2008–2014)	Annual avg. level (2014-2018)	Annual avg. change (2014-2018)	2018
Africa	249.6	3.9	287.1	301.0	4.9	482.0	8.2	655.3	7.4	725.2
Central	125.7	-6.2	129.8	198.0	14.7	224.3	5.0	279.7	-5.7	258.8
Eastern	107.2	4.3	154.8	175.6	4.7	258.7	2.8	294.4	12.9	365.5
Northern	136.2	9.2	185.5	196.9	4.9	303.5	4.5	371.6	3.8	398.9
Southern	345.3	4.2	406.2	423.3	4.5	697.1	8.4	929.7	8.1	1,039.0
Western	142.6	11.0	170.6	183.2	4.3	284.3	4.8	304.3	2.0	312.9
Less favorable agriculture conditions	62.1	12.4	81.1	114.4	10.7	171.9	6.4	231.3	4.2	245.3
More favorable agriculture conditions	216.9	-3.7	255.2	379.7	18.5	410.4	-4.0	357.1	-4.1	322.8
Mineral-rich countries	187.5	-7.1	198.2	304.5	17.2	407.3	1.3	364.2	-4.2	379.9
Lower middle-income countries	252.0	8.3	290.9	250.9	-3.4	337.4	2.2	399.5	3.1	414.3
Upper middle-income countries	302.4	3.3	346.3	351.4	3.9	714.6	16.3	1,089.5	11.0	1,272.2
CEN-SAD	138.1	11.5	183.3	194.7	3.7	305.1	4.1	336.0	5.2	371.2
COMESA	255.2	0.8	307.1	373.6	10.6	438.6	-1.8	445.3	-0.1	445.0
EAC	105.2	4.7	161.5	192.4	6.0	268.9	2.2	294.1	8.2	352.8
ECCAS	311.5	9.2	324.3	263.9	-5.8	255.4	1.4	291.1	-4.7	270.9
ECOWAS	142.6	11.0	170.6	183.2	4.3	284.3	4.8	304.3	2.0	312.9
IGAD	126.6	9.0	195.5	226.1	5.4	332.8	1.2	364.2	14.2	467.9
SADC	328.5	3.4	379.1	398.2	4.9	654.2	8.5	876.3	7.8	976.8
UMA	122.9	9.2	162.1	157.4	2.3	274.0	9.4	344.6	-1.6	330.7
CAADP Compact 2007-09 (CC1)	166.6	10.5	187.7	180.6	0.2	289.2	5.6	277.0	-0.9	273.1
CAADP Compact 2010-12 (CC2)	188.3	4.0	229.1	243.7	3.1	313.1	4.3	402.5	1.7	408.6
CAADP Compact 2013-15 (CC3)	319.3	3.6	367.4	420.3	8.9	413.2	-5.1	381.2	-1.9	356.2
CAADP Compact not yet (CC0)	282.0	4.1	327.5	331.6	3.9	696.4	14.0	1,002.5	9.6	1,147.4
CAADP Level 0 (CL0)	282.0	4.1	327.5	331.6	3.9	696.4	14.0	1,002.5	9.6	1,147.4
CAADP Level 1 (CL1)	335.1	4.0	382.5	437.3	8.3	429.9	-4.1	395.3	-2.6	367.5
CAADP Level 2 (CL2)	142.7	-6.4	153.9	244.8	18.9	344.2	-0.3	294.0	-2.3	310.0
CAADP Level 3 (CL3)	147.0	12.5	213.1	201.7	-0.4	241.5	7.4	406.3	1.0	393.6
CAADP Level 4 (CL4)	160.7	7.4	193.1	198.7	1.5	307.8	5.9	350.8	3.3	366.5
NAIP00 (N00)	316.2	3.4	362.8	384.7	5.3	647.3	10.1	894.3	9.0	1,014.1
NAIP10 (N10)	216.0	4.2	251.9	246.2	1.0	304.3	4.1	418.4	1.0	411.7
NAIP11 (N11)	143.2	8.3	174.1	192.2	4.3	283.5	4.2	307.3	3.6	328.3

Source: ReSAKSS based on UNCTAD (2019) and World Bank (2019).

Note: For regions or groups, level is weighted average per country, where weight is country's share in intra-African total imports for the region or group. The value of intra-African agricultural exports and imports for Africa as a whole is expected to be equal. However, Tables TL2.2.1A and TL2.2.1B show exports to be greater than imports, due to differences in commodities categorized as agricultural by different countries, year of shipment of exports and arrival of imports, treatment of the origin of export versus shipment, and valuation of exports and imports (for details see UNCTAD: http://unctadstat.unctad.org/EN?FAQ.html).

ANNEX 2l: Level 2—Agricultural Transformation and Sustained Inclusive Agricultural Growth, Indicator 2.2.2

TABLE L2.2.2—DOMESTIC FOOD PRICE VOLATILITY (index)

Region	2003	Annual avg. level (2003–2008)	Annual avg. change (2003–2008)	Annual avg. level (2008–2014)	Annual avg. change (2008–2014)	2014
Africa	11.7	12.7	3.6	11.5	-10.0	8.6
Central	10.9	11.3	-3.7	12.0	-7.0	9.1
Eastern	11.5	13.6	6.7	12.6	-12.7	8.9
Northern	8.7	10.2	7.4	10.4	-7.5	8.2
Southern	8.9	8.0	6.4	13.0	-15.5	8.1
Western	14.8	15.8	0.9	11.3	-5.7	9.6
Less favorable agriculture conditions	13.2	16.9	0.6	14.0	-11.3	9.3
More favorable agriculture conditions	12.9	13.8	3.8	12.9	-6.3	10.9
Mineral-rich countries	15.7	13.5	-7.4	7.8	-17.6	4.8
Lower middle-income countries	12.0	12.9	3.3	10.6	-8.7	8.2
Upper middle-income countries	7.5	8.2	8.3	13.0	-16.7	7.2
CEN-SAD	12.5	14.0	3.6	11.3	-9.6	8.5
COMESA	11.1	13.2	7.4	13.7	-9.8	10.2
EAC	13.2	16.3	6.3	14.2	-15.0	9.2
ECCAS	12.1	10.8	-3.7	10.7	-2.6	10.2
ECOWAS	14.8	15.8	0.9	11.3	-5.7	9.6
IGAD	11.9	15.5	9.7	15.2	-12.1	10.9
SADC	9.6	8.5	4.0	11.3	-16.1	7.0
UMA	8.6	9.3	4.0	8.7	-8.6	6.4
CAADP Compact 2007-09 (CC1)	14.2	15.2	0.7	11.3	-5.2	9.7
CAADP Compact 2010-12 (CC2)	13.3	15.0	6.1	13.3	-12.5	9.3
CAADP Compact 2013-15 (CC3)	10.3	8.2	-3.2	8.6	-0.9	8.3
CAADP Compact not yet (CC0)	8.0	9.4	8.3	11.6	-12.5	7.9
CAADP Level 0 (CL0)	8.0	9.4	8.3	11.6	-12.5	7.9
CAADP Level 1 (CL1)	12.3	8.5	-5.8	8.6	-2.4	8.2
CAADP Level 2 (CL2)	9.5	9.2	-3.0	8.1	-4.6	7.7
CAADP Level 3 (CL3)	14.9	17.7	2.8	15.2	-6.3	11.8
CAADP Level 4 (CL4)	13.6	14.7	2.9	11.4	-9.1	8.7
NAIP00 (N00)	8.4	9.2	6.8	11.2	-11.9	7.9
NAIP10 (N10)	11.0	9.9	-1.2	8.6	-8.3	6.7
NAIP11 (N11)	14.1	15.8	3.2	12.5	-7.7	10.1

Source: ReSAKSS based on FAO (2017), FAO (2019), and ILO (2019).

Note: Data are only available from 2000 to 2014. For regions or groups, level is weighted average, where weight is country's share in total food production for the region or group.

ANNEX 3a: Level 3—Strengthening Systemic Capacity to Deliver Results, Indicator 3.5.1

TABLE L3.5.1—GOVERNMENT AGRICULTURE EXPENDITURE (million, constant 2010 US$)

Region	Annual avg. level (1995–2003)	Annual avg. change (1995–2003)	2003	Annual avg. level (2003–2008)	Annual avg. change (2003–2008)	Annual avg. level (2008–2014)	Annual avg. change (2008–2014)	Annual avg. level (2014-2018)	Annual avg. change (2014-2018)	2018
Africa	591.5	10.5	765.3	856.3	7.2	1,000.9	0.5	1,000.1	0.9	1,036.4
Central	162.0	-26.4	47.4	66.6	14.6	123.3	9.4	167.2	0.9	171.3
Eastern	240.1	2.7	343.2	485.0	12.7	500.8	-1.3	428.9	-4.2	409.1
Northern	1,396.6	4.0	1,446.8	1,293.3	-5.3	1,493.7	8.5	2,284.1	8.8	2,568.2
Southern	441.7	20.3	730.6	966.9	12.1	973.1	-5.2	811.2	-3.8	728.3
Western	447.7	19.6	685.7	862.9	16.6	1,121.1	-1.7	807.4	-7.1	771.4
Less favorable agriculture conditions	72.0	4.0	94.6	117.3	3.8	131.8	6.8	199.0	6.9	216.6
More favorable agriculture conditions	138.1	9.0	221.0	342.9	15.9	507.0	6.2	567.4	-4.7	540.2
Mineral-rich countries	217.4	-34.5	30.0	35.7	7.7	37.5	-1.6	43.1	3.2	45.3
Lower middle-income countries	699.3	8.4	828.3	916.4	7.9	1,034.4	-1.5	876.0	-1.7	892.2
Upper middle-income countries	736.4	25.6	1,350.0	1,660.8	7.4	2,307.1	6.3	3,164.8	6.4	3,410.2
CEN-SAD	681.6	8.2	804.2	877.7	7.2	983.9	-1.3	841.4	-1.8	854.2
COMESA	800.2	4.8	861.5	819.1	-3.3	666.5	-1.1	711.8	3.7	760.3
EAC	170.6	2.1	201.5	209.9	4.5	320.9	0.3	313.2	3.1	319.8
ECCAS	151.2	-20.2	61.5	133.5	31.3	199.0	-3.9	167.8	-2.9	160.6
ECOWAS	447.7	19.6	685.7	862.9	16.6	1,121.1	-1.7	807.4	-7.1	771.4
IGAD	278.7	2.2	400.2	580.2	13.6	572.1	-1.3	467.1	-5.4	445.0
SADC	341.5	11.1	496.2	642.8	11.4	654.9	-6.1	550.6	-4.1	483.7
UMA	738.4	9.0	1,021.9	1,082.0	2.4	1,800.9	11.8	2,784.8	7.7	3,084.5
CAADP Compact 2007-09 (CC1)	468.1	20.9	730.1	925.8	16.3	1,190.9	-1.1	889.1	-7.2	848.0
CAADP Compact 2010-12 (CC2)	187.6	-6.5	160.7	179.1	6.5	267.1	3.4	298.8	1.7	300.7
CAADP Compact 2013-15 (CC3)	225.3	-1.0	298.5	455.9	15.4	313.2	-15.8	149.8	-5.9	134.6
CAADP Compact not yet (CC0)	1,254.7	6.9	1,423.3	1,368.9	-2.0	1,560.4	6.4	2,247.1	7.7	2,472.2
CAADP Level 0 (CL0)	1,254.7	6.9	1,423.3	1,368.9	-2.0	1,560.4	6.4	2,247.1	7.7	2,472.2
CAADP Level 1 (CL1)	243.3	-1.4	321.3	488.8	15.0	301.9	-20.0	102.9	-11.1	81.4
CAADP Level 2 (CL2)	234.6	-16.0	123.7	131.9	3.5	162.3	5.7	199.6	-0.8	200.1
CAADP Level 3 (CL3)	68.9	11.3	100.4	133.5	10.2	169.1	2.7	249.7	6.1	266.7
CAADP Level 4 (CL4)	422.0	18.1	652.3	820.4	16.1	1,062.7	-1.2	790.1	-7.4	743.0
NAIP00 (N00)	1,113.2	7.3	1,273.4	1,227.1	-1.8	1,365.3	5.2	1,900.2	8.3	2,114.4
NAIP10 (N10)	241.8	-4.1	284.3	383.3	9.4	273.9	-10.4	204.0	-1.7	189.3
NAIP11 (N11)	402.1	18.0	625.7	787.8	16.2	1,020.6	-1.2	762.3	-7.1	723.8

Source: ReSAKSS based on IFPRI (2015), World Bank (2019), and national sources.

Note: For regions or groups, level is weighted average per country, where weight is country's share in total agriculture value added for the region or group.

ANNEX 3b: Level 3—Strengthening Systemic Capacity to Deliver Results, Indicator 3.5.2

TABLE L3.5.2— SHARE OF AGRICULTURE EXPENDITURE IN TOTAL GOVERNMENT EXPENDITURE (%)

Region	Annual avg. level (1995–2003)	Annual avg. change (1995–2003)	2003	Annual avg. level (2003–2008)	Annual avg. change (2003–2008)	Annual avg. level (2008–2014)	Annual avg. change (2008–2014)	Annual avg. level (2014-2018)	Annual avg. change (2014-2018)	2018
Africa	3.5	4.6	3.8	3.6	-2.3	3.1	-0.8	3.2	1.3	3.2
Central	2.9	11.4	2.7	2.9	-3.3	2.5	-0.6	2.4	1.7	2.6
Eastern	5.4	2.1	6.1	6.4	1.2	5.9	-4.2	4.2	-5.9	3.8
Northern	5.2	-0.7	4.5	3.7	-9.9	3.0	2.6	3.7	6.4	4.1
Southern	1.6	10.1	2.2	2.5	3.6	2.1	-4.8	1.9	-3.6	1.8
Western	3.9	-3.6	3.8	4.2	5.3	4.2	1.5	4.3	-1.4	4.3
Less favorable agriculture conditions	10.3	-4.7	8.9	8.7	-2.9	6.3	3.2	7.7	7.6	8.6
More favorable agriculture conditions	7.3	-2.3	7.6	9.2	6.6	9.4	-4.4	7.3	-7.8	6.5
Mineral-rich countries	5.3	18.3	3.8	3.0	-6.7	2.8	0.8	3.8	15.2	4.6
Lower middle-income countries	4.5	-2.0	4.0	3.5	-4.1	2.9	-2.4	2.9	3.0	3.0
Upper middle-income countries	1.9	12.5	2.8	2.9	-2.1	2.6	1.2	2.6	0.9	2.6
CEN-SAD	5.4	-2.7	4.6	3.9	-5.8	3.1	-0.7	3.3	2.7	3.4
COMESA	5.2	9.8	5.4	4.6	-5.7	3.5	-3.9	3.4	2.3	3.5
EAC	5.1	-0.4	4.6	3.9	-3.3	4.2	-6.3	3.0	0.0	2.9
ECCAS	1.9	4.6	1.6	2.2	8.0	2.0	-6.9	1.7	6.5	1.9
ECOWAS	3.9	-3.6	3.8	4.2	5.3	4.2	1.5	4.3	-1.4	4.3
IGAD	5.3	3.5	6.4	6.9	1.8	6.3	-2.1	4.5	-7.9	4.1
SADC	1.9	11.5	2.4	2.6	2.6	2.3	-5.9	2.0	-3.1	1.8
UMA	4.8	-1.8	4.3	3.9	-4.5	3.9	4.2	4.7	4.3	5.0
CAADP Compact 2007-09 (CC1)	3.6	1.3	4.3	5.2	6.7	4.9	0.7	4.8	-3.1	4.7
CAADP Compact 2010-12 (CC2)	6.6	7.8	5.3	5.0	0.5	4.8	-4.4	4.1	-3.0	3.9
CAADP Compact 2013-15 (CC3)	2.6	-3.2	2.8	3.4	3.9	2.4	-11.5	1.7	3.4	1.8
CAADP Compact not yet (CC0)	3.2	5.1	3.5	3.0	-7.3	2.6	1.9	2.9	3.4	3.0
CAADP Level 0 (CL0)	3.2	5.1	3.5	3.0	-7.3	2.6	1.9	2.9	3.4	3.0
CAADP Level 1 (CL1)	2.6	-3.4	2.8	3.4	2.6	2.0	-16.5	1.1	2.9	1.1
CAADP Level 2 (CL2)	11.0	14.0	5.7	4.9	-4.4	3.5	-6.2	2.8	-2.8	2.7
CAADP Level 3 (CL3)	6.0	0.6	6.4	7.7	7.1	7.5	-1.5	8.9	3.3	9.3
CAADP Level 4 (CL4)	4.0	-1.3	4.2	4.8	5.9	5.0	-0.7	4.3	-5.7	3.9
NAIP00 (N00)	3.1	4.1	3.3	2.9	-6.2	2.4	0.0	2.7	4.1	2.8
NAIP10 (N10)	5.7	10.7	5.3	5.3	-1.1	3.9	-7.0	3.3	-1.9	3.2
NAIP11 (N11)	4.4	-2.3	4.4	5.0	6.0	5.2	0.3	4.9	-3.6	4.7

Source: ReSAKSS based on IFPRI (2015), World Bank (2019), and national sources.

ANNEX 3c: Level 3—Strengthening Systemic Capacity to Deliver Results, Indicator 3.5.3

TABLE L3.5.3—GOVERNMENT AGRICULTURE EXPENDITURE AS SHARE OF AGRICULTURE GDP (%)

Region	Annual avg. level (1995–2003)	Annual avg. change (1995–2003)	2003	Annual avg. level (2003–2008)	Annual avg. change (2003–2008)	Annual avg. level (2008–2014)	Annual avg. change (2008–2014)	Annual avg. level (2014-2018)	Annual avg. change (2014-2018)	2018
Africa	5.4	-0.1	5.3	5.9	4.0	5.8	-0.6	5.5	-1.6	5.4
Central	3.1	-13.2	2.2	2.9	8.7	4.0	3.9	4.0	-3.8	3.8
Eastern	3.6	1.3	4.6	5.5	5.7	4.5	-8.0	3.0	-6.6	2.7
Northern	12.6	-3.1	11.1	10.2	-3.2	9.9	3.4	11.1	1.2	11.4
Southern	8.8	9.2	11.5	15.7	10.1	15.6	-3.1	14.0	-3.5	12.9
Western	2.3	-1.7	2.0	2.5	9.6	2.7	1.5	2.6	-1.4	2.6
Less favorable agriculture conditions	5.6	-2.4	5.5	5.7	-3.1	4.7	3.2	5.2	-0.9	5.1
More favorable agriculture conditions	4.1	4.3	5.3	6.3	5.4	6.2	-2.6	5.7	-6.1	5.2
Mineral-rich countries	4.8	-18.4	2.0	1.9	-0.2	2.1	3.6	2.6	4.8	2.8
Lower middle-income countries	4.8	-1.8	4.1	4.4	3.0	4.0	-1.6	3.7	-0.7	3.7
Upper middle-income countries	12.3	0.7	14.3	18.1	7.3	20.1	0.7	18.2	-3.2	17.1
CEN-SAD	4.9	-2.7	4.1	4.1	0.3	3.7	-0.2	3.5	-0.2	3.6
COMESA	5.9	-0.4	5.8	6.0	0.9	4.8	-4.6	4.3	-1.9	4.2
EAC	3.1	4.0	3.7	3.6	1.9	3.9	-6.0	2.8	-3.5	2.6
ECCAS	3.5	-8.6	2.7	4.7	20.3	5.2	-6.8	3.6	-2.6	3.6
ECOWAS	2.3	-1.7	2.0	2.5	9.6	2.7	1.5	2.6	-1.4	2.6
IGAD	3.6	1.2	4.7	5.9	7.1	4.4	-7.7	2.8	-9.0	2.5
SADC	6.7	6.0	8.3	10.9	9.0	10.6	-5.1	8.9	-5.3	7.8
UMA	16.3	-7.1	13.4	13.5	2.6	15.0	2.0	15.2	-0.4	15.2
CAADP Compact 2007-09 (CC1)	2.0	6.1	2.2	2.9	9.8	2.9	0.4	2.6	-4.0	2.5
CAADP Compact 2010-12 (CC2)	6.1	-3.9	5.6	6.0	4.3	5.9	-2.5	5.4	-5.2	4.9
CAADP Compact 2013-15 (CC3)	3.4	-5.4	3.6	5.6	17.1	4.7	-15.2	2.5	-2.6	2.5
CAADP Compact not yet (CC0)	10.9	1.1	11.2	11.3	0.0	11.6	3.1	12.4	-0.6	12.2
CAADP Level 0 (CL0)	10.9	1.1	11.2	11.3	0.0	11.6	3.1	12.4	-0.6	12.2
CAADP Level 1 (CL1)	3.7	-6.4	3.7	5.8	16.0	4.1	-20.4	1.7	-3.9	1.6
CAADP Level 2 (CL2)	10.8	-3.6	9.6	9.1	-2.3	6.8	-3.5	5.5	-5.1	5.2
CAADP Level 3 (CL3)	3.9	5.5	4.9	5.9	6.4	6.0	0.3	8.6	4.4	9.0
CAADP Level 4 (CL4)	2.4	1.1	2.4	3.0	10.5	3.4	0.1	2.9	-6.0	2.7
NAIP00 (N00)	10.3	0.9	10.4	10.9	1.4	10.8	0.6	10.8	0.0	10.7
NAIP10 (N10)	5.2	-4.0	5.3	6.2	4.7	4.7	-7.9	4.1	-3.2	3.8
NAIP11 (N11)	2.6	-0.1	2.5	3.2	9.9	3.5	0.6	3.1	-4.0	3.0

Source: ReSAKSS based on IFPRI (2015), World Bank (2019), and national sources.

ANNEX 3d: Level 3—Strengthening Systemic Capacity to Deliver Results

TABLE L 3(a)—PROGRESS IN CAADP IMPLEMENTATION PROCESS AS OF SEPTEMBER 2019

Country/Region	JSR assessment conducted/ initiated	First generation NAIP drafted, reviewed, and validated	Second generation investment plan				Inaugural biennial review (BR) process		Second biennial review (BR) process
			Malabo domestication event held	Malabo status assessment and profile finalized	Malabo goals and milestones report finalized	Malabo compliant NAIP drafted, reviewed, and/or validated	BR report drafted, validated, and submitted to REC	Country on track to meet Malabo Commitments	BR report drafted, validated, and submitted to REC
AFRICA*	**31**	**36**	**25**	**29**	**22**	**19**	**47**	**20**	**49**
Central Africa*	***2***	***6***	***2***	***1***	***1***		***9***	***1***	***8***
Burundi	Initiated	Yes					Yes	On track	Yes
Cameroon		Yes					Yes		Yes
Central African Republic		Yes					Yes		Yes
Chad							Yes		Yes
Congo, Dem. Republic	Yes	Yes	Yes				Yes		Yes
Congo, Republic		Yes					Yes		Yes
Equatorial Guinea							Yes		Yes
Gabon			Yes	Yes	Yes	In progress	Yes		Yes
Sao Tome and Principe		Yes					Yes		
Eastern Africa*	***9***	***9***	***5***	***6***	***1***	***4***	***10***	***6***	***13***
Comoros									
Djibouti	Initiated	Yes					Yes		Yes
Eritrea									Yes
Ethiopia	Yes	Yes	Yes	Yes	In progress	Yes	Yes	On track	Yes
Kenya	Yes	Yes	Yes	Yes	Yes	Yes	Yes	On track	Yes
Madagascar	Drafted						Yes		Yes
Mauritius	Yes						Yes	On track	Yes
Rwanda		Yes	Yes	Yes		Yes	Yes	On track	Yes
Seychelles	Yes	Yes		Yes	In progress	In progress	Yes	On track	Yes
Somalia									Yes
South Sudan		Yes					Yes (after continental BR)		Yes
Sudan	Initiated	Yes					Yes		Yes
Tanzania	Yes	Yes	Yes	Yes	In progress	In progress	Yes		Yes
Uganda	Yes	Yes	Yes	Yes	In progress	Yes	Yes	On track	Yes

ANNEX 3d: Level 3—Strengthening Systemic Capacity to Deliver Results, continued

TABLE L 3(a)—PROGRESS IN CAADP IMPLEMENTATION PROCESS AS OF SEPTEMBER 2019 *continued*

Country/Region	JSR assessment conducted/ initiated	First generation NAIP drafted, reviewed, and validated	Second generation investment plan				Inaugural biennial review (BR) process		Second biennial review (BR) process
			Malabo domestication event held	Malabo status assessment and profile finalized	Malabo goals and milestones report finalized	Malabo compliant NAIP drafted, reviewed, and/or validated	BR report drafted, validated, and submitted to REC	Country on track to meet Malabo Commitments	BR report drafted, validated, and submitted to REC
Northern Africa*		***1***					***4***	***2***	***3***
Algeria									
Egypt							Yes		
Libya									
Mauritania		Yes					Yes	On track	Yes
Morocco							Yes	On track	Yes
Tunisia							Yes		Yes
Saharawi Arab Dem. Republic									
Southern Africa*	***10***	***5***	***9***	***7***	***5***	***1***	***10***	***6***	***10***
Angola	Yes		Yes	Yes	Yes	In progress	Yes		Yes
Botswana	Yes		Yes	In progress	In progress	In progress	Yes	On track	Yes
Eswatini	Yes	Yes	Yes	Yes	Yes	In progress	Yes	On track	Yes
Lesotho	In progress		Yes	Yes	Yes	In progress	Yes		Yes
Malawi	Yes	Yes	Yes	Yes	Yes	Yes	Yes	On track	Yes
Mozambique	Yes	Yes	Yes	In progress	In Progress	In progress	Yes	On track	Yes
Namibia	Initiated		Yes	Yes	Yes	In progress	Yes	On track	Yes
South Africa	Initiated						Yes	On track	Yes
Zambia	Yes	Yes	Yes	Yes	In progress	In progress	Yes		Yes
Zimbabwe	Yes	Yes	Yes	Yes	In progress	In progress	Yes		Yes
Western Africa*	***10***	***15***	***9***	***15***	***15***	***14***	***14***	***5***	***15***
Benin	Yes	Yes	Yes	Yes	Yes	Yes	Yes	On track	Yes
Burkina Faso	Yes	Yes	Yes	Yes	Yes	Yes	Yes	On track	Yes
Cabo Verde	In progress	Yes		Yes	Yes	Yes	Yes	On track	Yes
Côte d'Ivoire	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes
Gambia		Yes		Yes	Yes	In progress	Yes		Yes
Ghana	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes
Guinea	In progress	Yes		Yes	Yes	Yes	Yes		Yes
Guinea Bissau		Yes		Yes	Yes	Yes			Yes

TABLE L 3(a)—PROGRESS IN CAADP IMPLEMENTATION PROCESS AS OF SEPTEMBER 2019 *continued*

Country/Region	JSR assessment conducted/ initiated	First generation NAIP drafted, reviewed, and validated	Second generation investment plan				Inaugural biennial review (BR) process		Second biennial review (BR) process
			Malabo domestication event held	Malabo status assessment and profile finalized	Malabo goals and milestones report finalized	Malabo compliant NAIP drafted, reviewed, and/or validated	BR report drafted, validated, and submitted to REC	Country on track to meet Malabo Commitments	BR report drafted, validated, and submitted to REC
Western Africa* *cont'd*	***10***	***15***	***9***	***15***	***15***	***14***	***14***	***5***	***15***
Liberia		Yes		Yes	Yes	Yes	Yes		Yes
Mali	Yes	Yes	Yes	Yes	Yes	Yes	Yes	On track	Yes
Niger	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes
Nigeria		Yes	Yes	Yes	Yes	Yes	Yes		Yes
Senegal	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes
Sierra Leone		Yes		Yes	Yes	Yes	Yes		Yes
Togo	Yes	Yes	Yes	Yes	Yes	Yes	Yes	On track	Yes
RECS**	***2***	***3***							
CEN-SAD									
COMESA									
EAC	Yes								
ECCAS		Yes							
ECOWAS	Yes	Yes							
IGAD		Yes							
SADC									
UMA									

Source: Authors' compilation based on NEPAD (November 2015) and ReSAKSS (2019).
Note: * The items in this row are the number of countries in Africa of the subregion that have achieved the milestone. ** The items in this row are the number of RECs that have achieved the milestone.
GAFSP=Global Agriculture and Food Security Program; JSR=Joint Sector Review. NAIP= National Agriculture Investment Plan (NAIP).

ReSAKSS-ECA

Burundi (COMESA, EAC, ECCAS)
Central African Rep. (CEN-SAD, ECCAS)
Comoros (CEN-SAD, COMESA)
Congo, D.R. (COMESA, ECCAS, SADC)
Congo, R. (ECCAS)
Djbouti (CEN-SAD, COMESA, IGAD)
Egypt (CEN-SAD, COMESA)
Eritrea (COMESA, IGAD)
Ethiopia (COMESA, IGAD)
Gabon (ECCAS)
Kenya (CEN-SAD, COMESA, EAC, IGAD)
Libya (CEN-SAD, COMESA, UMA)
Rwanda (COMESA, EAC, ECCAS)
Seychelles (COMESA, SADC)
South Sudan (IGAD)
Sudan (CEN-SAD, COMESA, IGAD)
Tanzania (SADC)
Uganda (COMESA, EAC, IGAD)

ReSAKSS-SA

Angola (ECCAS, SADC)
Botswana (SADC)
Eswatini (COMESA, SADC)
Lesotho (SADC)
Madagascar (COMESA, SADC)
Malawi (COMESA, SADC)
Mauritius (COMESA, SADC)
Mozambique (SADC)
Namibia (SADC)
Swaziland (COMESA, SADC)
Zambia (COMESA, SADC)
Zimbabwe (COMESA, SADC)

ReSAKSS-WA

Benin (CEN-SAD, ECOWAS)
Burkina Faso (CEN-SAD, ECOWAS)
Cameroon (ECCAS)
Cabo Verde (ECOWAS)
Chad (CEN-SAD, ECCAS)
Côte d'Ivoire (CEN-SAD, ECOWAS)
Gambia (CEN-SAD, ECOWAS)
Ghana (CEN-SAD, ECOWAS)
Guinea (CEN-SAD, ECOWAS)
Guinea-Bissau (CEN-SAD, ECOWAS)
Liberia (CEN-SAD, ECOWAS)
Mali (CEN-SAD, ECOWAS)
Mauritania (CEN-SAD, UMA)
Niger (CEN-SAD, ECOWAS)
Nigeria (CEN-SAD, ECOWAS)
Senegal (CEN-SAD, ECOWAS)
Sierra Leone (CEN-SAD, ECOWAS)
Togo (CEN-SAD, ECOWAS)

ANNEX 3d: Level 3—Strengthening Systemic Capacity to Deliver Results

TABLE L 3(b)—PROGRESS IN STRENGTHENING SYSTEMIC CAPACITY

Country/region	L2.4.2-Existence of food reserves, local purchases for relief programs, early warning systems and school feeding programs**	L3.1.1-Existence of a new NAIP/NAFSIP developed through an inclusive and participatory process	L3.2.1-Existence of inclusive institutionalized mechanisms for mutual accountability and peer review	L3.3.1-Existence of and quality in the implementation of evidence-informed policies and corresponding human resources	L3.4.1-Existence of a functional multisectoral and multistakeholder coordination body	L3.4.2-Cumulative number of agriculture-related public-private partnerships (PPPs) that are successfully undertaken	L3.4.3-Cumulative value of investments in the PPPs	L3.4.6-Existence of an operational country SAKSS
AFRICA*	**42**	**19**	**28**	**36**	**30**	**25**	**25**	**14**
Central Africa*	***4***	***0***	***2***	***3***	***1***	***2***	***2***	***1***
Burundi	Yes		Yes	Yes	Yes	Several PPPs	€ 18 million	
Cameroon								
Central African Republic	Yes							
Chad								
Congo, Dem. Rep.	Yes		Yes	Yes		Several PPPs	Not stated	Yes
Congo, Rep.	Yes			Yes				
Equatorial Guinea								
Gabon		In progress						
Sao Tome and Principe								
Eastern Africa*	***14***	***4***	***6***	***12***	***7***	***8***	***8***	***4***
Comoros	Yes			Yes				
Djibouti	Yes			Yes		Several PPPs	Not stated	
Eritrea	Yes							
Ethiopia	Yes	Yes	Yes	Yes	Yes	Several PPPs	Over US$ 10 million	
Kenya	Yes	Yes		Yes	Yes	Several PPPs	Over US$ 200 million	Yes
Madagascar	Yes		Yes	Yes	Yes	Four	Not stated	
Mauritius	Yes		Yes	Yes	Yes	One	Not stated	
Rwanda	Yes	Yes	Yes	Yes	Yes	Several PPPs	Over US$ 30 million	Yes
Seychelles	Yes	In progress		Yes				
Somalia	Yes							
South Sudan	Yes			Yes				
Sudan	Yes			Yes				

ANNEX 3d: Level 3—Strengthening Systemic Capacity to Deliver Results, continued

TABLE L 3(b)—PROGRESS IN STRENGTHENING SYSTEMIC CAPACITY *continued*

Country/region	L2.4.2-Existence of food reserves, local purchases for relief programs, early warning systems and school feeding programs**	L3.1.1-Existence of a new NAIP/NAFSIP developed through an inclusive and participatory process	L3.2.1-Existence of inclusive institutionalized mechanisms for mutual accountability and peer review	L3.3.1-Existence of and quality in the implementation of evidence-informed policies and corresponding human resources	L3.4.1-Existence of a functional multisectoral and multistakeholder coordination body	L3.4.2-Cumulative number of agriculture-related public-private partnerships (PPPs) that are successfully undertaken	L3.4.3-Cumulative value of investments in the PPPs	L3.4.6-Existence of an operational country SAKSS
Eastern Africa* *cont'd*	***14***	***4***	***6***	***12***	***7***	***8***	***8***	***4***
Tanzania	Yes	In progress	Yes	Yes	Yes	Several PPs across the country and many of them in SAGCOT region with several projects	US$ 3.2 billion by 2030	Yes
Uganda	Yes	Yes	Yes	Yes	Yes	Several PPPs	Over US$ 218 million	Yes
Northern Africa*	***2***			***2***	***1***	***1***	***1***	
Algeria								
Egypt	Yes			Yes	Yes	Several PPPs	Over US$ 30 million	
Libya	Yes			Yes				
Mauritania								
Morocco								
Tunisia								
Saharawi Arab Dem. Republic								
Southern Africa*	***10***	***1***	***10***	***10***	***9***	***10***	***10***	***2***
Angola	Yes	In progress	Yes	Yes	Yes	Five	Not stated	
Botswana	Yes	In progress	Yes	Yes	Yes	Three	Not stated	
Eswatini	Yes	In progress	Yes	Yes	Yes	Four	Not stated	
Lesotho	Yes	In progress	Yes	Yes		Four	Not stated	
Malawi	Yes	Yes	Yes	Yes	Yes	Four	Not stated	
Mozambique	Yes	In progress	Yes	Yes	Yes	Four	Not stated	Yes
Namibia	Yes	In progress	Yes	Yes	Yes	One	Not stated	
South Africa	Yes		Yes	Yes	Yes	Six	Not stated	
Zambia	Yes	In progress	Yes	Yes	Yes	Four	Not stated	
Zimbabwe	Yes	In progress	Yes	Yes	Yes	Three	Not stated	Yes

ANNEX 3d: Level 3—Strengthening Systemic Capacity to Deliver Results, continued

TABLE L 3(b)—PROGRESS IN STRENGTHENING SYSTEMIC CAPACITY *continued*

Country/region	L2.4.2-Existence of food reserves, local purchases for relief programs, early warning systems and school feeding programs**	L3.1.1-Existence of a new NAIP/NAFSIP developed through an inclusive and participatory process	L3.2.1-Existence of inclusive institutionalized mechanisms for mutual accountability and peer review	L3.3.1-Existence of and quality in the implementation of evidence-informed policies and corresponding human resources	L3.4.1-Existence of a functional multisectoral and multistakeholder coordination body	L3.4.2-Cumulative number of agriculture-related public-private partnerships (PPPs) that are successfully undertaken	L3.4.3-Cumulative value of investments in the PPPs	L3.4.6-Existence of an operational country SAKSS
Western Africa*	***12***	***14***	***10***	***9***	***12***	***4***	***4***	***7***
Benin	Yes	Yes	Yes		Yes			Yes
Burkina Faso	Yes	Yes		Yes	Yes			Yes
Cabo Verde		Yes						
Côte d'Ivoire		Yes		Yes	Yes	Two	Not stated	
Gambia	Yes	In progress	Yes	Yes	Yes			
Ghana	Yes	Yes	Yes	Yes	Yes			Yes
Guinea	Yes	Yes	Yes	Yes				
Guinea-Bissau		Yes						
Liberia	Yes	Yes			Yes			
Mali	Yes	Yes	Yes	Yes	Yes	Three	More than 50 billion FCFA	Yes
Niger	Yes	Yes	Yes	Yes	Yes			Yes
Nigeria	Yes	Yes	Yes		Yes			
Senegal	Yes	Yes	Yes	Yes	Yes	Two	US$ 798	Yes
Sierra Leone	Yes	Yes	Yes		Yes			
Togo	Yes	Yes	Yes	Yes	Yes	Four	Not stated	Yes

Note: * The items in this row are the number of countries in Africa of the sub region corresponding to each indicator.
** This indicator is from level 2 of the CAADP Results Framework
SAKSS = Strategic Analysis and Knowledge Support System
NAIP = National Agricultural Investment Plan
NAFSIP = National Agriculture and Food Security Investment Plan

ANNEX 4: Country Categories by Geographic Regions, Economic Classification, and Regional Economic Communities

TABLE 4.1-GEOGRAPHIC REGIONS

Western Africa	Eastern Africa	Southern Africa	Central Africa	Northern Africa
Benin	Comoros	Angola	Burundi	Algeria
Burkina Faso	Djibouti	Botswana	Cameroon	Egypt
Cabo Verde	Eritrea	Eswatini	Central African Republic	Libya
Côte d'Ivoire	Ethiopia	Lesotho	Chad	Mauritania
Gambia	Kenya	Malawi	Congo, Dem. Rep.	Morocco
Ghana	Madagascar	Mozambique	Congo, Rep.	Sahrawi, Arab Dem. Rep.
Guinea	Mauritius	Namibia	Equatorial Guinea	Tunisia
Guinea-Bissau	Rwanda	South Africa	Gabon	
Liberia	Seychelles	Zambia	Sao Tome and Principe	
Mali	Somalia	Zimbabwe		
Niger	Sudan			
Nigeria	Tanzania			
Senegal	Uganda			
Sierra Leone	South Sudan			
Togo				

ANNEX 4: Country Categories by Geographic Regions, Economic Classification, and Regional Economic Communities

TABLE 4.2- ECONOMIC CLASSIFICATIONS

Mineral-rich countries	Less favorable agriculture conditions	More favorable agriculture conditions	Lower middle-income countries	Upper middle-income countries
Central African Republic	Burundi	Benin	Angola	Algeria
Congo, Dem. Rep.	Chad	Burkina Faso	Cameroon	Botswana
Guinea	Comoros	Ethiopia	Cabo Verde	Equatorial Guinea
Liberia	Eritrea	Gambia	Congo, Rep.	Gabon
Sierra Leone	Mali	Guinea-Bissau	Côte d'Ivoire	Libya
South Sudan	Niger	Madagascar	Djibouti	Mauritius
	Rwanda	Malawi	Egypt	Namibia
	Somalia	Mozambique	Eswatini	South Africa
		Tanzania	Ghana	Seychelles
		Togo	Kenya	
		Uganda	Lesotho	
		Zimbabwe	Mauritania	
			Morocco	
			Nigeria	
			Sahrawi, Arab Dem. Rep.	
			Sao Tome and Principe	
			Senegal	
			Sudan	
			Tunisia	
			Zambia	

ANNEX 4: Country Categories by Geographic Regions, Economic Classification, and Regional Economic Communities

TABLE 4.3- REGIONAL ECONOMIC COMMUNITIES

CEN-SAD	COMESA	SADC	ECOWAS	ECCAS	IGAD	EAC	UMA
Benin	Burundi	Angola	Benin	Angola	Djibouti	Burundi	Algeria
Burkina Faso	Comoros	Botswana	Burkina Faso	Burundi	Eritrea	Kenya	Libya
Cent. African Republic	Congo, Dem. Rep.	Congo, Dem. Rep.	Cabo Verde	Cameroon	Ethiopia	Rwanda	Mauritania
Chad	Djibouti	Eswatini	Côte d'Ivoire	Cent. African Republic	Kenya	Tanzania	Morocco
Comoros	Egypt	Lesotho	Gambia	Chad	Somalia	Uganda	Tunisia
Côte d'Ivoire	Eritrea	Madagascar	Ghana	Congo, Dem. Rep.	Sudan	South Sudan	
Djibouti	Eswatini	Malawi	Guinea	Congo, Rep.	Uganda		
Egypt	Ethiopia	Mauritius	Guinea-Bissau	Equatorial Guinea	South Sudan		
Gambia	Kenya	Mozambique	Liberia	Gabon			
Ghana	Libya	Namibia	Mali	Rwanda			
Guinea	Madagascar	Seychelles	Niger	Sao Tome and Principe			
Guinea-Bissau	Malawi	South Africa	Nigeria				
Kenya	Mauritius	Tanzania	Senegal				
Liberia	Rwanda	Zambia	Sierra Leone				
Libya	Seychelles	Zimbabwe	Togo				
Mali	Sudan						
Mauritania	Uganda						
Morocco	Zambia						
Niger	Zimbabwe						
Nigeria							
Sao Tome and Principe							
Senegal							
Sierra Leone							
Somalia							
Sudan							
Togo							
Tunisia							
South Sudan							

Note: CEN-SAD = Community of Sahel-Saharan States; COMESA = Common Market for Eastern and Southern Africa; EAC = East African Community; ECCAS = Economic Community of Central African States; ECOWAS = Economic Community of West African States; IGAD = Intergovernmental Authority for Development; SADC = Southern African Development Community; UMA = Arab Maghreb Union.

ANNEX 5: Distribution of countries by year of signing CAADP compact and level of CAADP implementation reached by end of 2015

PERIOD WHEN CAADP COMPACT WAS SIGNED				LEVEL OR STAGE OF CAADP IMPLEMENTATION REACHED BY END OF 2015				
2007–2009	2010–2012	2013–2015	Not signed	LEVEL 0 Not started or pre-compact	LEVEL 1 Signed compact	LEVEL 2 Level 1 plus NAIP	LEVEL 3 Level 2 plus one external funding source	LEVEL 4 Level 3 plus other external funding source
CC1	**CC2**	**CC3**	**CC0**	**CL0**	**CL1**	**CL2**	**CL3**	**CL4**
Benin	Burkina Faso	Angola	Algeria	Algeria	Angola	Cameroon	Burundi	Benin
Burundi	Central Afr. Rep.	Cameroon	Botswana	Botswana	Chad	Cabo Verde	Gambia	Burkina Faso
Cabo Verde	Congo, Dem. Rep.	Chad	Comoros	Comoros	Congo, Rep.	Central Afr. Rep.	Liberia	Côte d'Ivoire
Ethiopia	Côte d'Ivoire	Congo, Rep.	Egypt	Egypt	Eswatini	Congo, Dem. Rep.	Mali	Ethiopia
Gambia	Djibouti	Eq. Guinea	Eritrea	Eritrea	Eq. Guinea	Djibouti	Niger	Ghana
Ghana	Eswatini	Gabon	Libya	Libya	Gabon	Guinea	Sierra Leone	Kenya
Liberia	Guinea	Lesotho	Morocco	Morocco	Lesotho	Guinea Bissau	Togo	Malawi
Mali	Guinea Bissau	Madagascar	Namibia	Namibia	Madagascar	Mauritania	Uganda	Mozambique
Niger	Kenya	Mauritius	Saharawi Arab Dem. Republic	Saharawi Arab Dem. Republic	Mauritius	Sao Tome and Principe	Zambia	Nigeria
Nigeria	Malawi	Sudan	Somalia	Somalia	Seychelles			Rwanda
Rwanda	Mauritania	Sao Tome and Principe	South Africa	South Africa	Sudan			Senegal
Sierra Leone	Mozambique	Zimbabwe	South Sudan	South Sudan	Zimbabwe			Tanzania
Togo	Senegal		Tunisia	Tunisia				
	Seychelles							
	Tanzania							
	Uganda							
	Zambia							
Count								
13	17	12	13	13	12	9	9	12
AgShare in GDP (%)								
25.9	22.4	15.1	7.5	7.5	15.1	18.3	25.5	25.1

Note: NAIP = national agricultural investment plan. There are three external funding sources considered—Grow Africa, New Alliance Cooperation, and the Global Agriculture and Food Security Program (GAFSP).
AgShare in GDP is the average share of agricultural GDP in total GDP for 2003-2018.

ANNEX 6: Distribution of countries in formulating first-generation investment plan (NAIP1.0) and second-generation investment plan (NAIP2.0) reached by September of 2019

PROGRESS IN NAIP FORMULATION		
NAIP00	NAIP10	NAIP11
Algeria	Burundi	Benin
Angola	Cameroon	Burkina Faso
Botswana	Central African Republic	Cabo Verde
Chad	Congo Rep.	Côte d'Ivoire
Comoros	Congo, Dem. Republic	Ethiopia
Egypt	Djibouti	Ghana
Equatorial Guinea	Eswatini	Guinea
Eritrea	Gambia	Guinea Bissau
Gabon	Mauritania	Kenya
Lesotho	Mozambique	Liberia
Libya	São Tomé and Principe	Malawi
Madagascar	Seychelles	Mali
Mauritius	South Sudan	Niger
Morocco	Sudan	Nigeria
Namibia	Tanzania	Rwanda
Saharawi Arab Dem. Republic	Zambia	Senegal
Somalia	Zimbabwe	Sierra Leone
South Africa		Togo
Tunisia		Uganda
Count		
19	17	19
AgShare in GDP (%)		
7.9	21.3	24.3

Note: NAIP00 = those that have neither NAIP1.0 nor NAIP2.0, NAIP10 = those that have a NAIP1.0 but do not have NAIP2.0, NAIP11 = those that have both NAIP1.0 and NAIP2.0. At present, there are no countries that do not have a NAIP1.0 but have NAIP2.0.

AgShare in GDP is the average share of agricultural GDP in total GDP for 2009-2018..

ANNEX 7: Supplementary Data Tables

TABLE O.1.1A—AGRICULTURAL ODA (% total ODA)

Region	2003	Annual avg. level (2003–2008)	Annual avg. change (2003–2008)	Annual avg. level (2008–2014)	Annual avg. change (2008–2014)	Annual avg. level (2014-2017)	Annual avg. change (2014-2017)	2017
Africa	3.8	3.7	3.5	5.7	5.2	6.9	0.7	7.0
Central	2.1	2.1	20.7	3.2	16.8	4.0	-2.8	4.1
Eastern	4.7	4.3	-1.9	6.0	4.4	7.7	0.4	7.7
Northern	3.8	3.6	-3.0	4.8	8.6	5.7	-1.5	5.6
Southern	2.9	3.5	3.7	5.4	6.3	6.6	5.0	6.8
Western	5.3	4.5	2.5	7.3	1.6	8.2	0.1	8.3
Less favorable agriculture conditions	6.3	5.7	-0.5	8.3	4.9	9.0	3.5	9.5
More favorable agriculture conditions	5.0	5.1	-2.9	6.9	4.3	8.2	2.7	8.6
Mineral-rich countries	1.4	1.9	30.8	2.7	4.7	2.6	3.9	2.7
Lower middle-income countries	3.6	3.0	3.8	5.5	6.3	6.9	-3.8	6.5
Upper middle-income countries	3.3	3.0	-9.9	2.0	4.3	1.8	-8.3	1.7
CEN-SAD	4.9	4.0	-0.8	6.2	4.4	7.0	-1.2	7.0
COMESA	3.2	3.4	7.1	5.6	8.5	7.7	-3.0	7.3
EAC	4.3	5.0	6.2	6.1	0.4	7.1	5.1	7.3
ECCAS	1.9	2.3	25.4	4.0	11.8	5.3	2.0	5.4
ECOWAS	5.3	4.5	2.5	7.3	1.6	8.2	0.1	8.3
IGAD	4.4	3.8	-2.3	6.0	8.2	7.6	-4.3	7.3
SADC	2.7	3.4	10.4	4.8	3.8	6.0	4.7	6.3
UMA	5.0	3.9	-10.5	4.9	8.3	4.6	19.0	5.5
CAADP Compact 2007-09 (CC1)	4.3	3.7	0.6	7.1	4.8	8.3	1.1	8.4
CAADP Compact 2010-12 (CC2)	3.8	4.5	10.9	5.7	1.8	7.2	2.3	7.3
CAADP Compact 2013-15 (CC3)	3.7	2.7	-4.4	5.4	15.5	6.1	-9.2	5.7
CAADP Compact not yet (CC0)	3.5	3.2	-6.7	3.9	13.2	4.8	-2.4	4.6
CAADP Level 0 (CL0)	3.5	3.2	-6.7	3.9	13.2	4.8	-2.4	4.6
CAADP Level 1 (CL1)	3.8	2.9	-3.7	5.6	14.7	6.0	-13.3	5.3
CAADP Level 2 (CL2)	2.7	2.7	13.6	3.1	3.1	3.6	8.2	4.0
CAADP Level 3 (CL3)	4.2	5.0	7.1	7.6	4.9	7.8	0.5	8.0
CAADP Level 4 (CL4)	4.6	4.2	1.6	6.6	2.3	8.4	1.6	8.5
NAIP00 (N00)	3.9	3.5	-4.7	4.5	8.7	4.9	-1.9	4.9
NAIP10 (N10)	2.6	2.8	10.7	4.6	8.4	6.0	-2.4	5.8
NAIP11 (N11)	5.0	4.6	2.3	7.1	2.4	8.4	1.7	8.6

Source: ReSAKSS based on OECD (2019) and World Bank (2019).
Note: Data are only available from 2002 to 2017. ODA refers to gross disbursements.

TABLE O.1.1B—AGRICULTURAL ODA DISBURSEMENTS (as % of agricultural ODA commitments)

Region	2003	Annual avg. level (2003–2008)	Annual avg. change (2003–2008)	Annual avg. level (2008–2014)	Annual avg. change (2008–2014)	Annual avg. level (2014-2017)	Annual avg. change (2014-2017)	2017
Africa	91.1	84.9	-6.1	80.3	2.1	80.0	-5.8	75.0
Central	88.1	102.0	12.9	86.9	-1.0	79.5	-15.1	73.7
Eastern	78.7	84.6	-2.7	81.6	3.3	74.8	-7.6	69.3
Northern	138.9	83.6	-19.8	82.8	16.6	90.6	-3.8	79.1
Southern	100.9	98.2	-4.7	93.6	0.7	104.6	-14.4	97.2
Western	95.0	85.0	-9.0	79.3	-2.5	78.5	1.5	78.9
Less favorable agriculture conditions	96.1	92.4	-8.9	78.4	3.0	69.8	3.4	69.6
More favorable agriculture conditions	90.9	94.8	-2.9	89.0	-0.9	78.7	-7.7	78.5
Mineral-rich countries	86.9	103.5	10.9	144.4	-5.9	120.1	-39.6	51.7
Lower middle-income countries	90.5	72.8	-9.4	74.2	4.3	89.1	-2.3	82.4
Upper middle-income countries	141.9	176.5	7.1	155.8	6.2	154.9	-44.2	74.8
CEN-SAD	95.9	76.0	-9.4	75.7	3.9	78.5	-3.0	73.8
COMESA	81.3	84.6	-4.8	75.6	2.6	73.1	-11.4	64.3
EAC	64.1	89.6	15.9	90.1	-0.4	74.2	-3.3	69.4
ECCAS	89.7	94.9	4.0	85.2	0.7	80.4	-10.7	66.9
ECOWAS	95.0	85.0	-9.0	79.3	-2.5	78.5	1.5	78.9
IGAD	70.6	80.0	-5.5	79.2	6.6	75.3	-6.3	72.9
SADC	94.3	96.5	0.6	97.9	-0.6	93.3	-16.9	80.3
UMA	133.2	107.6	-23.6	149.8	44.6	143.9	-27.8	89.1
CAADP Compact 2007-09 (CC1)	85.8	82.0	-11.8	79.1	-1.5	72.7	3.5	74.2
CAADP Compact 2010-12 (CC2)	84.8	94.5	6.3	89.2	-1.2	89.4	-9.8	82.6
CAADP Compact 2013-15 (CC3)	103.7	97.0	-11.2	78.6	8.9	74.9	-20.5	66.4
CAADP Compact not yet (CC0)	145.3	101.8	-24.8	80.6	20.2	95.9	-7.4	77.5
CAADP Level 0 (CL0)	145.3	101.8	-24.8	80.6	20.2	95.9	-7.4	77.5
CAADP Level 1 (CL1)	91.1	88.4	-12.0	87.0	15.4	77.5	-28.3	57.1
CAADP Level 2 (CL2)	112.8	121.8	7.9	110.2	-13.3	84.7	-18.4	68.2
CAADP Level 3 (CL3)	80.8	102.3	0.3	82.1	-0.1	70.7	1.7	70.8
CAADP Level 4 (CL4)	86.5	77.9	-3.6	83.5	-2.0	85.9	-2.0	87.2
NAIP00 (N00)	126.5	100.4	-17.4	81.9	12.4	78.0	-10.1	66.8
NAIP10 (N10)	83.0	85.0	2.7	89.3	4.8	98.8	-13.0	83.1
NAIP11 (N11)	84.7	84.7	-5.4	79.8	-1.6	76.1	-1.9	75.8

Source: ReSAKSS based on OECD (2019) and World Bank (2019).
Note: Data are from 2002 to 2017.

ANNEX 7: Supplementary Data Tables

TABLE O.1.1C—EMERGENCY FOOD AID (% of total ODA)

Region	2003	Annual avg. level (2003–2008)	Annual avg. change (2003–2008)	Annual avg. level (2008–2014)	Annual avg. change (2008–2014)	Annual avg. level (2014-2017)	2017
Africa	4.5	4.9	-0.9	4.4	-11.0	3.8	4.4
Central	1.7	3.0	27.5	5.1	0.3	5.5	6.1
Eastern	10.4	11.1	-9.2	8.0	-14.0	5.4	5.6
Northern	1.1	1.6	9.5	1.5	-15.3	0.9	0.8
Southern	4.3	3.7	3.0	2.6	-17.2	2.7	4.1
Western	0.9	0.8	-6.0	1.6	24.1	3.1	3.9
Less favorable agriculture conditions	4.5	5.3	-15.1	6.6	8.6	5.6	5.1
More favorable agriculture conditions	5.8	6.2	-7.5	4.5	-16.5	3.9	4.9
Mineral-rich countries	2.3	3.2	14.2	3.1	0.0	4.0	4.7
Lower middle-income countries	4.9	5.4	4.7	4.7	-15.0	3.2	3.5
Upper middle-income countries	0.6	0.6	7.3	0.8	-5.1	2.3	4.1
CEN-SAD	3.8	5.1	8.4	5.2	-10.2	3.8	4.0
COMESA	7.3	9.4	4.2	7.9	-13.2	5.9	6.4
EAC	3.4	3.8	-3.4	3.2	-7.7	2.5	2.8
ECCAS	3.9	3.3	1.7	4.3	0.1	4.6	5.1
ECOWAS	0.9	0.8	-6.0	1.6	24.1	3.1	3.9
IGAD	15.4	16.5	-9.3	11.3	-14.0	7.8	7.9
SADC	2.7	2.6	11.5	2.5	-12.4	2.6	3.6
UMA	1.1	1.6	9.5	1.5	-15.3	0.9	0.8
CAADP Compact 2007-09 (CC1)	5.7	4.8	-14.2	4.4	-6.2	5.3	6.4
CAADP Compact 2010-12 (CC2)	1.6	2.2	9.9	2.6	-1.9	2.8	3.3
CAADP Compact 2013-15 (CC3)	12.0	12.5	5.4	13.1	-12.4	7.2	7.1
CAADP Compact not yet (CC0)	5.4	4.2	-46.1	0.5	-15.9	0.3	0.4
CAADP Level 0 (CL0)	5.4	4.2	-46.1	0.5	-15.9	0.3	0.4
CAADP Level 1 (CL1)	15.4	15.5	5.6	14.8	-11.8	8.2	8.4
CAADP Level 2 (CL2)	1.3	2.2	20.9	3.3	1.0	4.3	4.7
CAADP Level 3 (CL3)	3.0	2.9	-8.6	3.1	11.9	4.2	4.3
CAADP Level 4 (CL4)	3.8	3.7	-9.9	3.4	-10.5	3.6	4.6
NAIP00 (N00)	7.8	6.5	-3.6	4.5	-25.5	2.0	2.5
NAIP10 (N10)	3.9	5.8	12.1	5.1	-8.4	4.0	4.1
NAIP11 (N11)	4.3	4.1	-9.9	3.9	-6.3	4.3	5.1

Source: ReSAKSS based on OECD (2019) and World Bank (2019).
Note: Data are from 2002 to 2017. ODA and food aid refer to gross disbursements.

ANNEX 7: Supplementary Data Tables

TABLE O.1.2A—GENERAL GOVERNMENT GROSS DEBT (% of GDP)

Region	Annual avg. level (1995–2003)	Annual avg. change (1995–2003)	2003	Annual avg. level (2003–2008)	Annual avg. change (2003–2008)	Annual avg. level (2008–2014)	Annual avg. change (2008–2014)	Annual avg. level (2014-2018)	Annual avg. change (2014-2018)	2018
Africa	62.3	-2.9	52.2	36.6	-14.4	27.9	3.0	39.4	11.0	45.6
Central	103.0	-0.4	93.3	60.4	-19.1	23.8	-6.9	32.0	7.5	34.3
Eastern	107.9	-6.9	83.6	56.1	-18.7	48.8	7.8	68.0	11.1	79.2
Northern	55.4	-6.2	44.3	31.2	-15.6	19.9	0.4	29.0	20.6	39.3
Southern	48.0	-2.8	39.3	31.6	-4.2	37.1	6.2	54.3	5.9	57.6
Western	60.4	3.4	55.0	34.9	-20.6	17.9	-2.1	22.9	11.0	26.5
Less favorable agriculture conditions	93.3	-2.2	75.8	48.0	-20.7	31.1	2.4	38.4	5.4	41.3
More favorable agriculture conditions	87.9	-5.6	76.0	56.1	-16.8	37.8	2.6	51.1	4.2	52.6
Mineral-rich countries	108.9	15.7	150.7	119.2	-12.5	41.2	-20.5	26.4	4.1	27.6
Lower middle-income countries	70.7	-3.2	58.1	38.9	-17.6	25.6	1.8	38.7	17.1	48.4
Upper middle-income countries	41.4	-4.0	32.2	24.1	-6.1	28.7	7.5	38.1	2.9	39.7
CEN-SAD	63.6	-1.3	56.4	39.7	-15.7	26.3	1.0	36.9	16.9	46.9
COMESA	75.9	-3.5	69.6	50.2	-15.7	35.1	1.9	51.9	18.1	66.6
EAC	73.3	-7.1	59.7	40.9	-19.4	31.4	6.3	45.1	7.2	49.2
ECCAS	107.7	-4.9	80.7	49.6	-21.5	23.7	-2.3	36.7	10.8	40.1
ECOWAS	60.4	3.4	55.0	34.9	-20.6	17.9	-2.1	22.9	11.0	26.5
IGAD	113.7	-5.4	92.6	62.0	-18.5	51.2	6.9	73.3	14.1	88.7
SADC	53.0	-3.0	44.1	34.9	-6.2	37.9	5.2	53.2	5.2	55.9
UMA	64.6	-6.4	46.8	29.7	-18.2	21.0	3.4	26.6	5.7	29.0
CAADP Compact 2007-09 (CC1)	48.6	6.6	48.8	29.0	-25.6	13.9	2.7	21.2	11.3	24.4
CAADP Compact 2010-12 (CC2)	109.3	-2.2	95.4	66.8	-15.9	41.7	-2.4	53.0	8.0	57.5
CAADP Compact 2013-15 (CC3)	118.6	-7.4	82.9	53.5	-18.4	42.1	5.5	64.6	14.4	76.8
CAADP Compact not yet (CC0)	43.2	-3.9	36.4	28.8	-7.1	27.7	4.6	38.5	10.4	45.3
CAADP Level 0 (CL0)	43.2	-3.9	36.4	28.8	-7.1	27.7	4.6	38.5	10.4	45.3
CAADP Level 1 (CL1)	120.9	-7.2	85.3	56.1	-17.2	45.8	5.0	69.0	14.6	82.2
CAADP Level 2 (CL2)	98.6	3.2	101.5	72.1	-16.5	31.6	-9.8	31.5	4.5	33.1
CAADP Level 3 (CL3)	128.1	1.1	119.0	68.9	-26.3	30.2	0.6	53.0	12.9	58.7
CAADP Level 4 (CL4)	62.0	-0.4	53.6	34.2	-21.0	20.2	1.7	28.9	10.6	32.9
NAIP00 (N00)	48.8	-4.9	39.0	29.8	-8.8	28.3	4.7	39.8	9.6	45.8
NAIP10 (N10)	145.0	-4.5	116.7	76.7	-18.6	49.2	1.9	74.2	15.6	89.1
NAIP11 (N11)	61.7	2.2	57.0	36.2	-21.3	20.0	0.5	27.1	10.0	30.8

Source: ReSAKSS based on AfDB (2019) and World Bank (2019).

ANNEX 7: Supplementary Data Tables

TABLE O.1.2B—GENERAL GOVERNMENT GROSS REVENUE (% OF GDP)

Region	Annual avg. level (1995–2003)	Annual avg. change (1995–2003)	2003	Annual avg. level (2003–2008)	Annual avg. change (2003–2008)	Annual avg. level (2008–2014)	Annual avg. change (2008–2014)	Annual avg. level (2014-2018)	Annual avg. change (2014-2018)	2018
Africa	25.7	2.7	27.5	29.3	1.4	27.8	-1.2	24.1	-2.1	23.8
Central	20.9	4.3	24.1	30.4	8.4	27.3	-0.1	22.3	-7.1	20.4
Eastern	17.4	3.1	20.3	22.1	1.4	19.6	-3.6	17.9	0.0	17.9
Northern	31.0	0.9	31.9	34.2	2.0	33.8	-1.3	30.5	-0.6	31.1
Southern	29.0	1.2	29.0	31.4	2.9	34.3	0.4	32.1	-1.6	31.5
Western	19.5	9.4	24.1	24.1	-3.5	18.2	-1.9	13.1	-5.3	12.5
Less favorable agriculture conditions	19.4	1.5	21.4	25.6	7.1	24.5	0.8	22.7	-0.7	22.9
More favorable agriculture conditions	18.6	2.5	21.0	21.7	0.4	21.3	-0.7	20.8	0.5	21.1
Mineral-rich countries	8.5	4.8	11.7	13.5	4.9	17.8	6.3	18.7	-8.2	16.3
Lower middle-income countries	23.5	4.0	25.5	27.2	0.9	24.7	-2.1	19.1	-4.9	18.2
Upper middle-income countries	31.3	1.6	32.8	35.2	2.0	35.8	0.0	35.0	1.1	36.1
CEN-SAD	22.0	4.0	24.4	25.1	-0.7	22.3	-1.9	18.4	-3.1	18.1
COMESA	22.4	0.7	23.6	24.6	0.4	23.9	-2.0	21.7	-2.8	21.2
EAC	20.5	1.9	22.7	23.1	-0.3	20.9	-1.0	20.7	-0.1	20.6
ECCAS	26.5	3.8	27.6	35.1	9.4	35.8	-2.0	23.7	-10.7	20.1
ECOWAS	19.5	9.4	24.1	24.1	-3.5	18.2	-1.9	13.1	-5.3	12.5
IGAD	17.2	3.5	20.5	22.3	1.3	19.3	-4.7	16.6	-1.4	16.3
SADC	27.1	1.4	27.5	29.9	2.9	32.4	0.3	30.3	-1.8	29.6
UMA	33.3	1.9	35.2	38.6	2.8	37.9	-1.0	34.1	0.9	35.3
CAADP Compact 2007-09 (CC1)	19.5	11.1	24.7	24.7	-3.8	18.1	-2.5	12.4	-6.1	11.8
CAADP Compact 2010-12 (CC2)	19.6	1.6	21.3	22.3	1.3	21.9	0.7	22.2	-1.8	21.6
CAADP Compact 2013-15 (CC3)	24.5	3.2	25.8	31.9	7.0	31.6	-2.5	21.3	-8.5	18.9
CAADP Compact not yet (CC0)	29.7	1.0	30.4	32.3	1.9	33.3	-0.2	32.2	0.1	32.8
CAADP Level 0 (CL0)	29.7	1.0	30.4	32.3	1.9	33.3	-0.2	32.2	0.1	32.8
CAADP Level 1 (CL1)	25.7	2.6	26.7	31.9	5.9	33.0	-2.7	21.9	-8.9	19.3
CAADP Level 2 (CL2)	13.6	6.4	16.8	23.6	10.1	19.2	2.9	19.4	-5.2	18.0
CAADP Level 3 (CL3)	21.8	2.0	23.7	25.0	1.3	20.7	-0.2	21.8	1.3	22.2
CAADP Level 4 (CL4)	19.9	8.1	24.1	24.1	-3.1	19.0	-1.9	14.5	-4.4	14.0
NAIP00 (N00)	29.9	1.0	30.4	32.8	2.5	34.1	-0.6	31.0	-1.1	31.1
NAIP10 (N10)	16.2	4.6	19.6	23.9	5.8	21.4	-0.3	19.5	-3.3	18.7
NAIP11 (N11)	19.9	7.9	24.1	24.3	-2.9	18.9	-2.1	14.6	-4.1	14.1

Source: ReSAKSS based on AfDB (2019) and World Bank (2019).

ANNEX 7: Supplementary Data Tables

TABLE O.1.3—ANNUAL INFLATION, GDP DEFLATOR (%)

Region	Annual avg. level (1995–2003)	Annual avg. change (1995–2003)	2003	Annual avg. level (2003–2008)	Annual avg. change (2003–2008)	Annual avg. level (2008–2014)	Annual avg. change (2008–2014)	Annual avg. level (2014-2018)	Annual avg. change (2014-2018)	2018
Africa	10.7	-2.5	9.0	9.8	0.7	8.3	-0.6	6.9	0.6	9.3
Central	4.9	-0.6	3.0	9.4	3.0	3.7	-2.2	-0.1	1.3	4.9
Eastern	14.9	-4.1	7.7	10.3	1.4	14.2	-0.2	10.4	-0.8	11.7
Northern	6.5	-1.3	5.8	8.4	1.1	7.6	-0.9	7.2	1.7	12.5
Southern	9.0	-0.7	8.7	7.2	0.5	7.1	-0.4	5.9	-0.2	5.5
Western	17.6	-6.0	14.7	14.0	-0.1	8.2	-0.5	6.9	0.6	8.7
Less favorable agriculture conditions	6.0	-1.8	3.3	7.2	1.6	4.4	-1.2	1.4	0.2	2.6
More favorable agriculture conditions	9.6	-1.6	7.9	8.2	1.3	11.3	-1.1	6.8	0.5	7.2
Mineral-rich countries	6.8	0.1	8.2	20.9	0.2	8.1	-1.6	4.2	-0.2	3.8
Lower middle-income countries	12.5	-3.8	10.3	10.8	0.5	9.1	-0.3	8.8	0.7	12.1
Upper middle-income countries	8.9	-1.0	7.6	8.6	1.0	6.4	-1.1	4.1	0.4	5.5
CEN-SAD	12.2	-3.8	10.1	10.8	0.5	9.1	-0.3	8.7	0.7	11.9
COMESA	9.6	-2.1	8.4	10.0	1.0	13.2	-0.1	12.5	0.7	17.2
EAC	12.2	-1.1	6.3	9.4	1.2	10.0	-1.1	5.9	-0.6	5.0
ECCAS	5.1	-0.7	3.3	9.6	2.8	3.9	-2.1	0.2	1.2	4.7
ECOWAS	17.6	-6.0	14.7	14.0	-0.1	8.2	-0.5	6.9	0.6	8.7
IGAD	15.1	-4.7	7.5	10.8	1.5	16.6	0.2	12.6	-1.0	14.7
SADC	9.4	-0.8	8.6	7.4	0.6	7.2	-0.5	5.8	-0.2	5.3
UMA	7.3	-1.7	4.9	7.7	1.1	4.5	-1.5	2.1	1.3	5.3
CAADP Compact 2007-09 (CC1)	19.1	-6.6	15.9	15.2	-0.1	9.3	-0.6	7.9	0.7	9.8
CAADP Compact 2010-12 (CC2)	11.2	-1.3	7.6	8.6	0.9	7.9	-1.0	5.2	-0.2	4.7
CAADP Compact 2013-15 (CC3)	11.0	-3.8	6.6	9.4	1.7	11.3	-0.2	8.3	0.5	14.3
CAADP Compact not yet (CC0)	7.3	-0.9	6.8	7.7	0.9	7.2	-0.7	6.5	0.8	9.2
CAADP Level 0 (CL0)	7.3	-0.9	6.8	7.7	0.9	7.2	-0.7	6.5	0.8	9.2
CAADP Level 1 (CL1)	12.5	-4.3	7.6	10.6	1.8	12.6	-0.1	9.6	0.7	16.4
CAADP Level 2 (CL2)	3.9	-0.3	3.4	8.0	1.0	4.2	-1.1	1.5	0.1	1.9
CAADP Level 3 (CL3)	10.9	-1.3	8.2	8.3	0.4	8.7	-0.8	5.1	0.3	5.5
CAADP Level 4 (CL4)	17.5	-5.3	14.1	13.6	0.2	9.0	-0.6	7.4	0.4	8.6
NAIP00 (N00)	7.1	-7.3	6.7	7.9	8.3	7.1	-6.9	6.2	26.7	9.1
NAIP10 (N10)	17.0	-21.1	8.4	9.2	4.1	12.4	12.6	9.9	4.7	12.7
NAIP11 (N11)	16.3	-9.7	13.6	13.5	-3.5	8.9	-3.2	7.1	13.6	8.5

Source: ReSAKSS based on World Bank (2019).

ANNEX 7: Supplementary Data Tables

TABLE O.2.1A—AGRICULTURAL EXPORTS (% of total merchandise exports)

Region	Annual avg. level (1995–2003)	Annual avg. change (1995–2003)	2003	Annual avg. level (2003–2008)	Annual avg. change (2003–2008)	Annual avg. level (2008–2014)	Annual avg. change (2008–2014)	Annual avg. level (2014-2018)	Annual avg. change (2014-2018)	2018
Africa	12.1	-4.4	10.0	8.0	-7.1	8.6	3.0	12.0	2.9	12.0
Central	5.1	-9.0	3.3	2.8	-5.2	2.9	-4.6	3.6	-0.8	3.2
Eastern	46.6	-6.3	34.4	28.9	-5.9	31.7	8.2	42.4	2.8	43.9
Northern	6.8	-10.2	4.7	4.5	-0.3	6.1	5.4	9.6	4.5	9.8
Southern	11.2	-1.7	10.2	7.9	-9.1	8.1	4.1	10.2	0.0	9.9
Western	14.4	0.5	14.2	10.6	-8.6	9.8	-2.4	14.7	4.2	14.1
Less favorable agriculture conditions	13.9	-5.0	9.7	6.6	0.5	7.7	-7.0	10.8	17.8	12.6
More favorable agriculture conditions	49.1	-2.7	41.1	37.1	-2.9	36.4	-0.2	36.6	-2.1	35.4
Mineral-rich countries	6.0	-11.4	5.1	4.7	-15.1	2.9	-5.4	3.8	12.1	3.5
Lower middle-income countries	13.6	-1.7	12.8	9.9	-8.5	9.5	0.9	13.8	3.6	13.6
Upper middle-income countries	6.5	-6.2	4.9	3.8	-5.9	5.1	7.2	7.4	1.8	7.3
CEN-SAD	15.6	-4.8	12.4	9.6	-7.5	9.9	1.7	15.1	4.0	14.8
COMESA	26.4	-10.8	14.7	11.3	-7.5	13.7	8.2	20.0	-0.8	18.7
EAC	56.8	-3.8	45.1	43.3	-0.7	41.9	0.1	44.5	0.0	45.3
ECCAS	3.0	-9.3	2.0	1.6	-8.4	1.5	-0.9	2.3	1.4	2.1
ECOWAS	14.4	0.5	14.2	10.6	-8.6	9.8	-2.4	14.7	4.2	14.1
IGAD	50.1	-7.8	33.2	26.5	-7.9	31.4	12.3	46.6	4.0	48.7
SADC	12.4	-2.1	11.5	9.1	-8.7	9.0	3.7	11.3	-0.1	11.0
UMA	6.4	-12.2	3.9	3.6	-0.8	4.6	7.3	7.9	5.6	8.1
CAADP Compact 2007-09 (CC1)	8.2	1.7	9.0	7.2	-8.0	7.2	-2.4	9.7	4.9	9.4
CAADP Compact 2010-12 (CC2)	41.9	-1.2	36.9	32.4	-4.0	29.1	-1.7	31.1	-2.0	29.4
CAADP Compact 2013-15 (CC3)	10.0	-5.5	7.6	4.6	-16.6	3.7	5.6	6.9	9.8	7.4
CAADP Compact not yet (CC0)	8.2	-5.5	6.7	5.7	-3.7	7.3	4.6	10.0	2.6	10.1
CAADP Level 0 (CL0)	8.2	-5.5	6.7	5.7	-3.7	7.3	4.6	10.0	2.6	10.1
CAADP Level 1 (CL1)	10.3	-5.0	7.8	4.8	-16.7	3.6	7.0	7.0	10.2	7.5
CAADP Level 2 (CL2)	16.8	-2.4	15.6	14.2	-5.5	13.2	-4.6	14.6	-1.9	12.8
CAADP Level 3 (CL3)	20.8	-0.8	21.2	20.8	-0.7	18.4	-5.6	18.7	4.5	19.5
CAADP Level 4 (CL4)	51.3	-1.9	47.5	43.0	-3.0	38.4	-3.7	38.2	-1.6	36.5
NAIP00 (N00)	8.3	-5.6	6.6	5.3	-6.3	6.3	5.3	9.1	3.1	9.2
NAIP10 (N10)	19.8	-4.8	15.4	12.8	-5.4	11.8	1.9	15.7	1.6	15.0
NAIP11 (N11)	18.9	-0.9	17.5	14.1	-5.6	13.8	-1.3	19.1	2.6	18.2

ReSAKSS based on UNCTAD (2019) and World Bank (2019).

TABLE O.2.1B—AGRICULTURAL IMPORTS (% of total merchandise imports)

Region	Annual avg. level (1995–2003)	Annual avg. change (1995–2003)	2003	Annual avg. level (2003–2008)	Annual avg. change (2003–2008)	Annual avg. level (2008–2014)	Annual avg. change (2008–2014)	Annual avg. level (2014-2018)	Annual avg. change (2014-2018)	2018
Africa	15.1	-0.4	14.7	13.3	-3.3	13.9	1.2	14.3	3.5	14.8
Central	17.1	-1.4	16.8	17.1	-1.0	15.7	1.3	18.7	6.6	21.1
Eastern	14.9	0.4	14.6	12.9	-4.0	14.0	0.1	14.6	5.6	16.1
Northern	20.1	-3.1	17.7	15.6	-2.3	16.1	1.9	16.4	-0.9	16.2
Southern	9.4	1.1	9.6	8.5	-3.8	9.5	-0.4	10.1	6.2	10.7
Western	17.4	2.7	18.5	16.8	-4.6	16.8	2.0	16.6	0.7	17.1
Less favorable agriculture conditions	20.5	-0.4	19.0	19.3	-3.2	18.1	0.3	18.3	2.4	19.0
More favorable agriculture conditions	14.1	0.3	16.0	15.1	-2.7	13.8	-2.5	14.1	5.2	15.1
Mineral-rich countries	22.3	-1.3	21.9	20.0	-2.4	18.6	-2.2	18.8	7.2	21.2
Lower middle-income countries	17.0	0.4	16.6	14.7	-3.6	15.5	1.4	15.2	-0.6	15.2
Upper middle-income countries	12.2	-1.6	11.7	10.3	-3.6	11.2	2.5	13.1	5.8	14.2
CEN-SAD	16.7	-0.2	16.1	14.7	-2.9	15.7	2.0	15.8	-0.2	15.9
COMESA	17.2	0.1	17.2	15.4	-2.7	16.8	1.1	16.7	0.4	16.9
EAC	13.4	-3.0	12.1	11.4	-2.4	11.6	-0.1	12.2	4.5	13.5
ECCAS	20.3	-0.6	19.4	17.5	-3.9	16.2	1.7	18.3	5.5	19.9
ECOWAS	17.4	2.7	18.5	16.8	-4.6	16.8	2.0	16.6	0.7	17.1
IGAD	14.4	1.2	13.9	12.1	-4.5	13.8	-0.8	14.2	6.4	15.8
SADC	10.2	0.6	10.5	9.4	-3.5	10.2	-0.3	10.7	6.0	11.5
UMA	19.6	-3.9	16.5	14.8	-1.3	14.7	1.6	15.8	0.1	15.7
CAADP Compact 2007-09 (CC1)	16.0	3.1	16.9	15.3	-5.5	15.3	2.4	14.6	0.4	15.0
CAADP Compact 2010-12 (CC2)	17.8	-0.3	17.5	15.9	-2.9	14.7	-2.8	14.9	3.5	15.7
CAADP Compact 2013-15 (CC3)	17.2	0.7	17.5	15.7	-2.7	17.4	2.4	19.7	4.8	21.0
CAADP Compact not yet (CC0)	13.6	-1.8	12.8	11.5	-2.4	12.6	1.6	13.3	2.6	13.9
CAADP Level 0 (CL0)	13.6	-1.8	12.8	11.5	-2.4	12.6	1.6	13.3	2.6	13.9
CAADP Level 1 (CL1)	17.4	0.8	17.7	15.7	-3.0	17.5	2.7	19.7	4.4	21.0
CAADP Level 2 (CL2)	22.0	-0.3	21.8	21.3	0.3	20.7	-2.8	20.5	3.9	21.9
CAADP Level 3 (CL3)	15.8	-2.3	15.3	13.5	-4.6	11.7	-2.6	11.8	4.1	12.7
CAADP Level 4 (CL4)	16.2	2.3	16.8	15.1	-4.9	14.9	0.7	14.6	1.6	15.2
NAIP00 (N00)	14.3	-1.3	13.7	12.2	-2.7	13.2	1.6	13.9	2.4	14.4
NAIP10 (N10)	17.5	-0.3	16.7	14.9	-3.3	15.1	-0.9	15.8	4.3	17.0
NAIP11 (N11)	16.5	2.0	17.1	15.5	-4.6	15.4	0.9	15.2	1.7	15.9

Source: ReSAKSS based on UNCTAD (2019) and World Bank (2019).

ANNEX 7: Supplementary Data Tables

TABLE O.2.2—RATIO OF AGRICULTURAL EXPORTS TO AGRICULTURAL IMPORTS

Region	Annual avg. level (1995–2003)	Annual avg. change (1995–2003)	2003	Annual avg. level (2003–2008)	Annual avg. change (2003–2008)	Annual avg. level (2008–2014)	Annual avg. change (2008–2014)	Annual avg. level (2014-2018)	Annual avg. change (2014-2018)	2018
Africa	0.8	-1.9	0.8	0.7	-5.0	0.6	-1.1	0.7	1.5	0.7
Central	0.5	-6.7	0.4	0.3	-4.1	0.3	-10.6	0.2	1.6	0.2
Eastern	1.7	-4.8	1.4	1.2	-4.7	1.0	0.7	1.1	-0.4	1.1
Northern	0.3	0.1	0.3	0.4	1.1	0.3	-3.0	0.4	5.7	0.4
Southern	1.3	-2.9	1.1	1.0	-4.0	0.9	3.9	1.1	-2.8	1.0
Western	1.1	-1.5	1.2	0.9	-8.4	0.8	-4.2	0.9	3.2	0.9
Less favorable agriculture conditions	0.3	-5.6	0.3	0.3	6.3	0.3	-7.0	0.3	9.7	0.4
More favorable agriculture conditions	2.1	-3.5	1.5	1.2	-4.2	1.2	2.6	1.3	-3.4	1.2
Mineral-rich countries	0.3	-16.1	0.2	0.2	-13.0	0.1	-2.5	0.2	17.3	0.2
Lower middle-income countries	0.8	-1.2	0.9	0.7	-7.0	0.6	-2.5	0.7	3.9	0.7
Upper middle-income countries	0.6	-0.5	0.6	0.5	-2.2	0.5	0.3	0.5	-1.3	0.5
CEN-SAD	0.9	-1.8	0.9	0.7	-7.6	0.6	-3.9	0.7	4.3	0.7
COMESA	1.0	-3.6	0.8	0.7	-5.6	0.6	-0.7	0.7	1.2	0.6
EAC	2.3	-1.5	2.1	1.8	-6.6	1.4	-3.1	1.5	-0.5	1.4
ECCAS	0.3	-9.4	0.2	0.2	1.0	0.2	-6.4	0.2	4.8	0.2
ECOWAS	1.1	-1.5	1.2	0.9	-8.4	0.8	-4.2	0.9	3.2	0.9
IGAD	1.8	-6.3	1.4	1.2	-3.4	1.0	1.3	1.1	0.9	1.1
SADC	1.3	-2.9	1.1	1.0	-4.5	0.9	3.5	1.0	-2.6	1.0
UMA	0.4	-2.6	0.3	0.4	2.2	0.3	-2.4	0.4	6.9	0.4
CAADP Compact 2007-09 (CC1)	0.7	-1.0	0.8	0.7	-7.3	0.6	-4.5	0.6	4.8	0.6
CAADP Compact 2010-12 (CC2)	2.0	-2.6	1.7	1.5	-4.4	1.4	-0.5	1.5	-1.9	1.4
CAADP Compact 2013-15 (CC3)	0.8	-4.6	0.6	0.5	-9.7	0.3	-0.3	0.4	8.8	0.5
CAADP Compact not yet (CC0)	0.6	0.5	0.5	0.5	-2.7	0.5	-0.5	0.6	0.8	0.6
CAADP Level 0 (CL0)	0.6	0.5	0.5	0.5	-2.7	0.5	-0.5	0.6	0.8	0.6
CAADP Level 1 (CL1)	0.8	-3.7	0.7	0.5	-9.3	0.3	1.2	0.4	9.5	0.5
CAADP Level 2 (CL2)	0.9	-7.3	0.6	0.6	-5.2	0.5	-3.4	0.6	0.8	0.6
CAADP Level 3 (CL3)	0.9	-1.1	0.9	0.9	5.9	1.1	-0.3	1.0	0.3	1.0
CAADP Level 4 (CL4)	1.4	-3.1	1.4	1.1	-6.2	1.0	-2.8	1.1	1.0	1.1
NAIP00 (N00)	0.6	-1.1	0.5	0.5	-3.7	0.5	0.5	0.5	1.3	0.5
NAIP10 (N10)	1.1	-3.4	0.9	0.8	-1.8	0.7	-2.9	0.8	3.2	0.8
NAIP11 (N11)	1.3	-2.8	1.3	1.1	-6.1	1.0	-2.8	1.0	1.3	1.0

Source: ReSAKSS based on UNCTAD (2019) and World Bank (2019).

ANNEX 7: Supplementary Data Tables

TABLE O.3.1—TOTAL FERTILIZER CONSUMPTION (kilogram per hectare)

Region	2003	Annual avg. level (2003–2008)	Annual avg. change (2003–2008)	Annual avg. level (2008–2014)	Annual avg. change (2008–2014)	Annual avg. level (2014-2016)	2016
Africa	25.0	24.3	-0.9	25.0	1.4	26.7	26.6
Central	5.7	4.1	-1.6	4.7	7.6	6.5	6.9
Eastern	10.1	11.0	7.5	13.5	-0.2	12.3	11.6
Northern	100.4	103.5	-0.6	109.1	2.5	122.9	123.8
Southern	35.3	33.7	1.1	34.3	1.1	37.0	36.4
Western	6.6	7.4	-0.2	9.0	10.6	11.3	11.4
Less favorable agriculture conditions	4.7	6.4	41.1	6.2	14.0	9.7	10.2
More favorable agriculture conditions	9.4	9.9	5.7	13.2	4.4	13.5	12.7
Mineral-rich countries	0.6	0.6	22.4	1.3	14.0	2.2	2.3
Lower middle-income countries	36.7	37.3	-1.3	37.6	-0.8	38.6	39.0
Upper middle-income countries	42.4	40.3	0.1	41.0	2.6	43.7	42.6
CEN-SAD	30.9	30.8	-2.3	29.8	-0.2	31.2	31.5
COMESA	49.8	46.7	-1.2	43.1	-4.5	39.0	38.1
EAC	9.4	10.4	1.9	12.4	5.9	13.7	13.4
ECCAS	4.8	4.1	5.2	5.6	7.7	7.3	7.6
ECOWAS	6.6	7.4	-0.2	9.0	10.6	11.3	11.4
IGAD	12.5	13.7	9.7	16.4	-3.8	13.1	12.0
SADC	25.0	22.6	0.4	23.1	1.5	25.2	24.9
UMA	38.1	38.0	1.1	38.8	5.3	49.1	51.4
CAADP Compact 2007-09 (CC1)	6.2	7.4	9.0	10.7	8.6	11.3	10.6
CAADP Compact 2010-12 (CC2)	11.4	11.5	1.1	13.3	6.1	17.1	17.5
CAADP Compact 2013-15 (CC3)	13.6	12.3	-3.2	10.3	-8.4	9.0	9.2
CAADP Compact not yet (CC0)	82.3	83.7	0.1	87.8	2.1	97.1	97.2
CAADP Level 0 (CL0)	82.3	83.7	0.1	87.8	2.1	97.1	97.2
CAADP Level 1 (CL1)	15.8	14.3	-2.9	11.3	-12.9	8.6	8.7
CAADP Level 2 (CL2)	5.1	3.7	-2.4	4.1	6.9	5.3	5.7
CAADP Level 3 (CL3)	6.6	7.7	7.8	8.9	10.9	13.6	14.8
CAADP Level 4 (CL4)	9.3	10.4	4.2	14.1	7.1	15.1	14.3
NAIP00 (N00)	68.3	68.3	-0.5	69.4	1.6	75.8	75.7
NAIP10 (N10)	7.0	6.8	5.5	8.5	1.0	10.5	11.3
NAIP11 (N11)	8.7	9.7	3.6	12.4	7.8	13.8	13.2

Source: ReSAKSS based on World Bank (2019) and FAO (2019).
Note: Data are from 2002 to 2016.

ANNEX 7: Supplementary Data Tables

TABLE O.3.2—AGRICULTURAL VALUE ADDED (% GDP)

Region	Annual avg. level (1995–2003)	Annual avg. change (1995–2003)	2003	Annual avg. level (2003–2008)	Annual avg. change (2003–2008)	Annual avg. level (2008–2014)	Annual avg. change (2008–2014)	Annual avg. level (2014-2018)	Annual avg. change (2014-2018)	2018
Africa	17.2	-1.0	16.9	15.1	-3.7	14.5	-0.7	14.8	1.5	15.1
Central	21.7	-5.3	17.0	14.4	-6.9	13.2	-0.3	14.3	3.7	15.1
Eastern	33.9	-3.0	29.3	27.0	-2.8	28.0	2.5	29.2	0.2	29.4
Northern	14.0	-3.3	12.5	11.4	-4.2	11.1	0.2	11.7	1.9	11.9
Southern	5.6	-1.7	5.1	4.7	-2.1	4.4	-1.5	4.5	0.0	4.5
Western	28.3	2.0	31.7	27.2	-4.3	23.7	-4.0	21.6	0.7	21.7
Less favorable agriculture conditions	39.3	-1.8	35.7	34.1	-1.5	33.3	0.0	34.9	2.9	36.4
More favorable agriculture conditions	30.5	-4.2	26.8	27.9	1.5	28.7	-1.0	26.8	-1.2	26.4
Mineral-rich countries	37.5	-4.3	29.3	27.0	-1.0	26.9	-3.1	24.6	0.0	24.8
Lower middle-income countries	21.4	0.7	22.3	19.3	-5.0	17.4	-1.8	17.0	0.8	17.1
Upper middle-income countries	4.7	3.9	5.1	4.3	-5.5	4.2	1.0	5.1	5.2	5.4
CEN-SAD	23.8	0.8	24.8	21.8	-4.2	19.9	-1.8	19.3	0.8	19.5
COMESA	24.0	-2.2	21.4	19.9	-2.9	19.1	0.4	19.1	0.2	19.1
EAC	30.6	-4.3	26.0	24.6	-2.5	26.5	1.8	29.3	3.1	30.8
ECCAS	17.0	-5.5	13.2	11.2	-6.9	10.6	1.0	12.4	2.6	12.7
ECOWAS	28.3	2.0	31.7	27.2	-4.3	23.7	-4.0	21.6	0.7	21.7
IGAD	37.0	-2.1	32.1	29.2	-3.2	30.3	2.9	31.7	-0.1	31.8
SADC	8.4	-4.5	7.0	6.5	-2.0	6.4	-0.6	6.8	1.8	7.0
UMA	12.8	-5.1	10.9	9.8	-5.2	10.1	2.7	11.9	3.4	12.3
CAADP Compact 2007-09 (CC1)	30.4	1.5	33.4	28.9	-3.9	25.3	-3.9	23.0	0.5	23.0
CAADP Compact 2010-12 (CC2)	27.5	-3.2	24.0	22.3	-2.8	22.2	-0.4	22.6	1.8	23.3
CAADP Compact 2013-15 (CC3)	19.3	-1.0	17.5	14.7	-7.5	13.2	3.0	15.2	1.4	15.3
CAADP Compact not yet (CC0)	8.6	-0.6	8.3	7.5	-3.5	7.4	-0.4	7.8	2.4	8.0
CAADP Level 0 (CL0)	8.6	-0.6	8.3	7.5	-3.5	7.4	-0.4	7.8	2.4	8.0
CAADP Level 1 (CL1)	19.2	-0.9	17.5	14.6	-7.8	13.0	3.2	15.1	1.5	15.2
CAADP Level 2 (CL2)	27.4	-5.5	21.2	19.0	-3.5	18.0	-1.7	17.7	0.6	17.8
CAADP Level 3 (CL3)	31.2	-2.0	27.9	27.0	-1.1	25.8	-0.9	24.0	-1.6	23.5
CAADP Level 4 (CL4)	28.9	0.8	31.0	27.1	-3.8	24.5	-3.1	23.1	1.2	23.4
NAIP00 (N00)	9.1	-1.1	8.5	7.7	-4.1	7.4	-0.2	8.0	2.3	8.2
NAIP10 (N10)	29.6	-3.5	25.1	22.1	-4.3	21.4	1.4	21.8	0.1	21.8
NAIP11 (N11)	29.3	1.1	31.3	27.5	-3.7	24.9	-2.9	23.4	1.0	23.7

Source: ReSAKSS based on World Bank (2019).

ANNEX 7: Supplementary Data Tables

TABLE O.4.1—GROSS DOMESTIC PRODUCT (constant 2010 US$, billion)

Region	Annual avg. level (1995–2003)	Annual avg. change (1995–2003)	2003	Annual avg. level (2003–2008)	Annual avg. change (2003–2008)	Annual avg. level (2008–2014)	Annual avg. change (2008–2014)	Annual avg. level (2014-2018)	Annual avg. change (2014-2018)	2018
Africa	67.9	3.8	81.1	93.5	5.7	122.4	4.5	145.4	1.8	148.9
Central	12.3	-0.4	12.9	14.9	5.5	20.0	6.3	26.5	3.9	27.9
Eastern	16.6	4.1	19.6	23.6	7.9	33.3	5.8	45.2	6.2	49.1
Northern	97.5	4.6	115.1	130.8	5.4	165.4	3.1	197.4	3.7	206.8
Southern	107.7	2.4	119.6	133.8	4.8	155.3	2.1	166.5	0.3	167.1
Western	96.0	4.6	122.6	145.3	6.6	206.6	6.1	249.6	0.8	252.5
Less favorable agriculture conditions	3.7	5.2	4.6	5.5	6.1	7.3	5.0	9.3	2.9	9.5
More favorable agriculture conditions	10.5	3.9	12.2	14.7	8.3	22.6	8.1	32.8	7.3	36.3
Mineral-rich countries	11.7	-2.7	11.3	13.1	5.9	17.8	6.0	23.6	4.4	25.1
Lower middle-income countries	91.4	4.9	114.1	134.5	6.7	187.0	5.3	225.8	1.8	231.7
Upper middle-income countries	175.0	3.0	199.2	223.5	4.6	259.4	2.2	291.0	0.8	290.4
CEN-SAD	83.5	4.6	103.5	121.1	6.2	165.0	5.2	199.4	1.8	204.1
COMESA	38.4	3.7	43.9	50.2	6.1	65.4	3.6	80.3	4.6	85.4
EAC	15.9	3.6	18.6	21.6	5.9	28.6	5.4	37.2	5.5	40.2
ECCAS	15.1	1.7	17.1	21.1	8.9	29.9	5.8	37.4	1.8	38.4
ECOWAS	96.0	4.6	122.6	145.3	6.6	206.6	6.1	249.6	0.8	252.5
IGAD	18.5	4.1	21.7	26.2	8.1	37.1	5.8	50.5	6.1	54.7
SADC	65.5	2.1	71.9	80.1	4.6	93.3	2.3	102.0	0.8	103.2
UMA	71.1	3.9	83.8	94.2	4.2	112.9	3.0	133.7	2.4	136.6
CAADP Compact 2007-09 (CC1)	85.3	4.6	108.6	129.1	6.8	185.2	6.3	226.4	1.2	230.3
CAADP Compact 2010-12 (CC2)	13.5	2.1	15.1	17.4	5.9	23.6	6.0	31.5	5.5	34.0
CAADP Compact 2013-15 (CC3)	20.6	4.8	24.8	30.3	8.7	41.1	3.8	48.3	1.6	49.4
CAADP Compact not yet (CC0)	133.5	3.7	154.1	173.0	4.6	203.8	2.5	235.1	2.4	240.9
CAADP Level 0 (CL0)	133.5	3.7	154.1	173.0	4.6	203.8	2.5	235.1	2.4	240.9
CAADP Level 1 (CL1)	21.0	4.9	25.4	31.4	9.4	43.2	3.8	50.3	1.3	51.3
CAADP Level 2 (CL2)	13.0	-0.5	13.5	15.5	5.5	20.8	6.4	28.1	4.6	29.9
CAADP Level 3 (CL3)	6.2	4.6	7.5	8.9	7.0	12.7	5.8	16.1	4.6	17.2
CAADP Level 4 (CL4)	68.7	4.7	87.4	103.9	6.8	148.8	6.3	183.3	1.5	187.4
NAIP00 (N00)	107.0	3.6	122.6	138.4	5.1	167.8	2.5	191.6	2.1	196.1
NAIP10 (N10)	15.6	3.2	18.2	21.5	6.7	28.3	4.4	35.6	4.3	37.8
NAIP11 (N11)	65.2	4.5	82.5	97.8	6.7	139.7	6.3	171.4	1.4	174.9

Source: ReSAKSS based on FAO (2019) and World Bank (2019).

Note: For regions or groups, level is weighted average, where weight is country's share in total population for the region or group.

ANNEX 7: Supplementary Data Tables

TABLE O.5.1—GLOBAL HUNGER INDEX (GHI)

Region	Annual avg. level (1995–2003)	Annual avg. change (1995–2003)	2003	Annual avg. level (2003–2008)	Annual avg. change (2003–2008)	Annual avg. level (2008–2014)	Annual avg. change (2008–2014)	Annual avg. level (2014-2018)	Annual avg. change (2014-2018)	2018
Africa	36.9	-1.6	34.4	32.8	-1.9	29.1	-2.0	26.2	-1.7	25.5
Central	43.9	-1.5	41.2	39.6	-1.7	35.4	-1.7	32.4	-1.5	31.7
Eastern	47.3	-1.9	43.3	40.8	-2.3	35.3	-2.5	31.0	-2.3	29.9
Northern	15.9	-1.2	15.2	14.7	-1.2	13.6	-1.2	12.8	-1.0	12.6
Southern	38.0	-1.7	35.4	33.9	-2.0	29.8	-2.3	26.3	-2.4	25.4
Western	39.9	-1.7	37.0	35.2	-1.9	31.0	-1.9	28.2	-1.3	27.7
Less favorable agriculture conditions	52.9	-1.8	48.8	46.3	-2.1	40.5	-2.2	36.2	-1.9	35.1
More favorable agriculture conditions	47.1	-2.0	43.2	40.8	-2.3	35.3	-2.5	30.9	-2.4	29.8
Mineral-rich countries	47.7	-1.5	44.7	43.0	-1.7	38.3	-1.6	35.3	-1.1	34.7
Lower middle-income countries	32.7	-1.5	30.5	29.2	-1.7	26.1	-1.8	23.8	-1.3	23.4
Upper middle-income countries	18.5	-1.6	17.4	16.9	-2.0	14.9	-1.8	13.5	-2.1	13.1
CEN-SAD	33.9	-1.4	31.9	30.6	-1.6	27.6	-1.6	25.5	-1.2	25.0
COMESA	38.4	-1.6	35.7	33.9	-2.0	29.9	-2.2	26.6	-2.0	25.8
EAC	36.3	-1.5	33.8	32.1	-2.0	28.3	-2.1	25.5	-1.6	24.9
ECCAS	51.7	-2.1	46.9	43.8	-2.6	37.0	-2.9	31.7	-2.7	30.4
ECOWAS	39.9	-1.7	37.0	35.2	-1.9	31.0	-1.9	28.2	-1.3	27.7
IGAD	48.9	-2.1	44.5	41.6	-2.5	35.5	-2.8	30.6	-2.7	29.3
SADC	39.1	-1.5	36.7	35.1	-1.8	31.4	-2.0	28.3	-1.9	27.4
UMA	15.9	-2.0	14.6	14.0	-2.5	11.8	-2.1	10.5	-1.8	10.3
CAADP Compact 2007-09 (CC1)	44.2	-1.9	40.5	38.1	-2.3	34.6	-2.9	30.0	-2.3	28.4
CAADP Compact 2010-12 (CC2)	41.9	-1.8	38.9	36.9	-2.0	34.2	-2.3	29.9	-2.2	28.3
CAADP Compact 2013-15 (CC3)	38.2	-2.0	35.0	33.0	-2.3	30.1	-2.8	25.5	-2.8	23.8
CAADP Compact not yet (CC0)	19.1	-1.1	18.3	17.8	-1.3	16.9	-1.4	15.6	-1.4	15.1
CAADP Level 0 (CL0)	19.1	-1.1	18.3	17.8	-1.3	16.5	-1.3	15.4	-1.3	15.1
CAADP Level 1 (CL1)	48.0	-1.5	45.0	43.2	-1.8	38.6	-1.9	34.9	-1.8	34.0
CAADP Level 2 (CL2)	41.8	-1.9	38.3	36.2	-2.3	31.1	-2.4	27.5	-1.9	26.7
CAADP Level 3 (CL3)	45.2	-1.7	41.8	39.7	-2.0	34.9	-2.0	31.5	-1.5	30.8
CAADP Level 4 (CL4)	43.0	-1.9	39.4	37.2	-2.2	32.2	-2.4	28.5	-2.0	27.7
NAIP00 (N00)	20.6	-1.9	19.0	18.0	-2.0	16.7	-2.3	14.5	-2.4	13.7
NAIP10 (N10)	43.8	-1.7	40.6	38.5	-1.9	35.7	-2.3	31.4	-2.1	29.8
NAIP11 (N11)	49.8	-1.8	45.8	43.2	-2.2	39.4	-2.8	31.8	-9.3	24.1

Source: ReSAKSS based on Welthungerhilfe (WHH) and Concern Worldwide (2019), World Bank (2019), and ILO (2019).

Note: GHI Severity Scale: low (<=9.9), moderate (10.0-19.9), serious (20.0-34.9), alarming (35.0-49.9), and extremely alarming (>=50.0).

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ARRANGED BY CHAPTER

Chapter 1

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