

FACTORS DRIVING

the Gender Gap

IN AGRICULTURAL PRODUCTIVITY: MALAWI



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Author: A. Haroon Akram-Lodhi, Professor of Economics and International Development Studies, Trent University, and UNDP–UN Environment PEI Advisor

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Design: Nita Congress

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Executive summary

Agriculture is a critical industry in Malawi. Many of the country's men and women are self-employed, working primarily on subsistence-oriented family farms; in fact, subsistence farming is the single most important source of income in Malawi. Agriculture overall comprises 30 per cent of the country's gross domestic product, helping to drive economic growth.

The sector's importance makes the difference in agricultural productivity between men and women all the more critical to rectify. This gender gap was affirmed by a joint investigation by the United Nations and the World Bank, which in 2015 produced the report *The Cost of the Gender Gap in Agricultural Productivity in Malawi, Tanzania, and Uganda*. The report provided quantitative evidence of the links between agricultural productivity, economic growth and gender inequalities; and estimated the costs of growth opportunities lost to gender inequalities in agriculture in the three countries.

The report found that closing the gender gap in Malawi could result in an increase of \$100 million (MK 50 billion) in gross domestic product and lift 238,000 Malawians out of poverty each year over a 10-year period. Further, it determined that the gains in production, incomes and poverty reduction that would result from closing the gap would be even larger if the smaller size of women's farm plots was taken into account.

This study differs from its predecessor in that it takes a qualitative rather than quantitative approach to the subject. In its attempt to find the underlying causes of the gender gap, the study conducted extensive interviews with 273 people in 9 farming villages in rural Malawi. That is, it moves beyond merely establishing that a gender gap exists in Malawian agriculture to explain *why* it exists and what steps can be taken to reduce and eliminate this gap.

The study confirms the presence of a gender gap in agricultural productivity in rural Malawi. It confirms that women are unable to obtain adequate quantities of male family labour to work on their plots, but also that women's ability to work on their plots is constrained by social expectations that they perform significant quantities of unpaid care and domestic work and contribute unpaid labour on their husband's plots while not controlling the output of that work. Together, these factors lead to a reduced ability of women plot operators to allocate adequate amounts of time to work on the plots of land they control.

Also, because women are expected to meet the food needs of their families, they focus on growing food crops, which explains why men grow higher-value crops.

Finally, women are expected to provide the cash needed for household maintenance. When cash is short, this requires women engaging in off-farm casual waged labour or petty trading — both of which further reduce

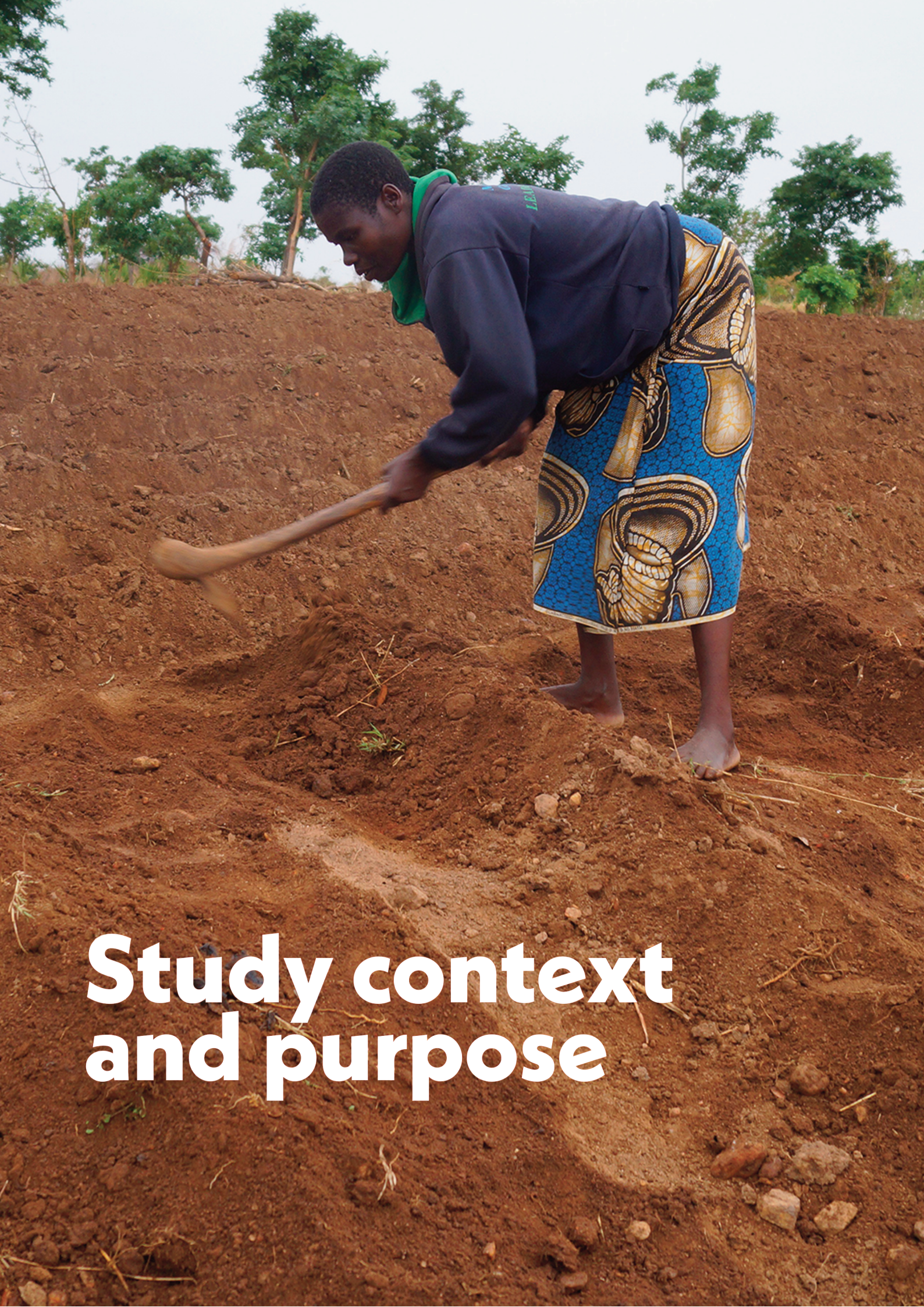
the amount of time women have to work on the plots of land they control. It also means women do not have the cash they need to buy the agricultural implements that would contribute to closing the gender gap in agricultural productivity.

Cumulatively, women experience “time poverty”; because labour is a key agricultural input, this serves to reduce production and productivity. It also reduces the amount of labour available for seasonal and time-consuming climate-smart agricultural techniques — and may contribute to the adoption of unsustainable agricultural practices and increase vulnerability to climatic variation. Together, these factors may further lower agricultural productivity, household food security and nutrition.

Finally, this study found that in many cases the constraints on women’s productivity is sustained by the use of gender-based violence, which also has economic consequences for the productivity of women’s plots.

The study makes policy recommendations that are designed to confront the gender stereotypes that continue to undermine policymaking, address women’s time poverty and lack of incomes, and facilitate the adoption of gender-responsive climate-smart agricultural practices. These recommendations are as follows:

- Improve women’s access to labour-saving technologies in the household and on the farm
- Enhance training in gender-responsive climate-smart agricultural extension services targeted at both male and female farmers
- Expand the certification of customary rights of occupancy over the use, but not ownership, of land, titled in the name of both wife and husband
- Develop a project to rapidly identify the most promising agricultural value chains in Malawi in which women feature prominently
- Develop programmes to educate husbands and wives on the economic benefits of cooperation in the use of family resources, so that agricultural productivity improvements at the farm level can be leveraged
- Revise Malawi’s key statistical instruments to enhance their gender responsiveness



**Study context
and purpose**

Agriculture is especially important for Malawi's people and their livelihoods. Eighty-five per cent of the population resides in the countryside, and 94 per cent of rural households engage in agricultural activities (Republic of Malawi, 2012); 70 per cent of employment is rural.¹ The bulk of this employment is on subsistence-oriented family farms. Some of the remainder of rural employment is as waged labour on export-oriented plantations, where typically men vastly outnumber women. Rural women, for their part, are more likely than rural men to supplement their incomes by performing seasonal part-time, low-paid waged labour.

The gendered character of Malawi's rural economy has important implications for the country's economic growth and efforts at poverty reduction. Agricultural output growth has a strong causal impact on economic growth more generally. For every \$1 (MK 500) of growth in agricultural output, economic growth increases by \$1.11 (MK 555) (UN Women, UNDP-UNEP PEI and World Bank, 2015).² At the same time, the elasticity of poverty reduction with respect to growth in agricultural output is negative, indicating that as the agricultural economy grows, poverty is

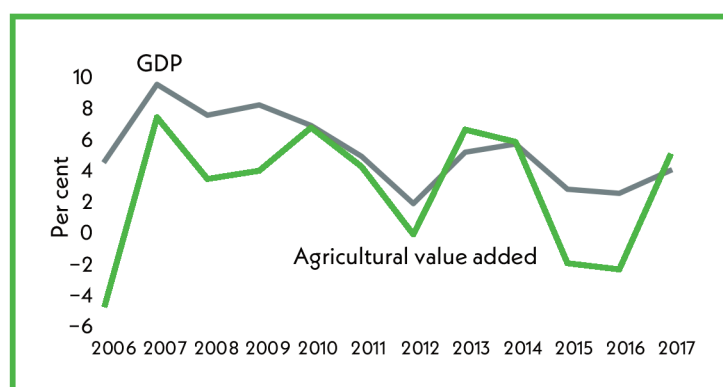
reduced (UN Women, UNDP-UNEP PEI and World Bank, 2015).

Between 2011 and 2015, Malawi averaged economic growth of 4.1 per cent per year. Agriculture, which contributes 30 per cent of gross domestic product (GDP), has driven this performance (Figure 1). However, recent declines in the rate of growth of value added derived from agriculture have been accompanied by declining value added per agricultural worker, which indicates that the sector is not becoming more productive. Indeed, the government identified less-than-optimal agricultural performance as a central contributing factor in the country's inability to achieve the objectives of the recently completed second Malawi Growth and Development Strategy (MGDS II) (MFEPD, 2016). This is a disappointing finding, because agricultural productivity growth — defined as increases in value added per agricultural worker — is a key precondition of agricultural growth, and hence poverty reduction.

Agriculture has the potential to contribute to rapid change in Malawi's economy. However, it cannot be assumed that the benefits of increasing agricultural productivity, agricultural growth and poverty reduction — when they occur — will be equitably shared between women and men.

FIGURE 1

Growth of GDP and agricultural value added in Malawi, 2006–2017



SOURCE: World Bank, World Development Indicators, <http://databank.worldbank.org/data/source/world-development-indicators>.

The gender gap in agricultural productivity in Malawi

This recognition was an important rationale for a joint investigation by the United Nations and the World Bank, which in 2015 produced the report *The Cost of the Gender Gap in Agricultural Productivity in Malawi, Tanzania, and Uganda* (UN Women, UNDP-UNEP PEI and World Bank, 2015; hereafter referred to as the 2015 report). The report provided quantitative evidence of the links between

agricultural productivity, economic growth and gender inequalities. It assigned dollar values to the gender inequalities in agricultural productivity, thus providing a simple metric by which to gauge the importance of the gender gap. Not accounting for any differences in the quality and quantity of land farmed by men and women respectively, the report assessed the “unconditional gender gap” in agricultural productivity in Malawi at 28 per cent. As shown in Figure 2, eliminating this gap would produce an increase of:

- 7.3 per cent of current crop output
- 6.1 percent of agricultural GDP; or about \$90 million (MK 45 billion)
- 1.85 percent of total GDP; or approximately \$100 million (MK 50 billion), including the multiplier effects of benefits to other sectors in the economy³

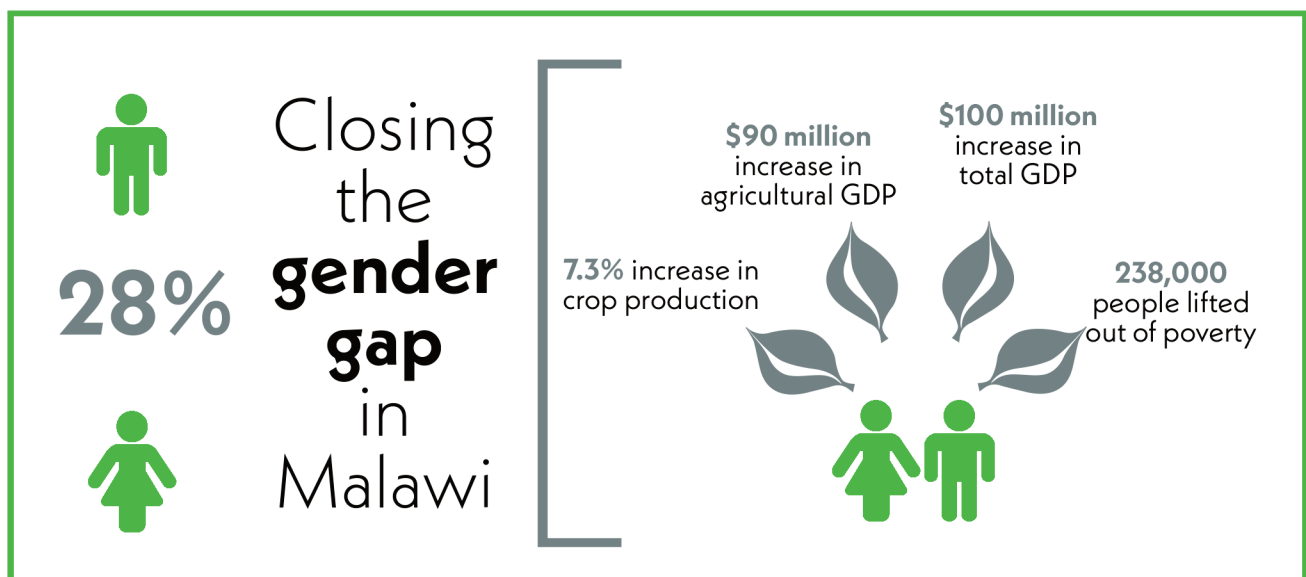
When differences in land quantities and qualities are taken into account, the *conditional* gender gap is somewhat larger: 31 per cent. Eliminating this gap would produce an increase of:

- 8.1 per cent in current crop production
- 6.7 per cent in agricultural GDP
- 2.1 per cent in total GDP; or about \$110 million (MK 55 billion)

In Malawi, closing the unconditional gender gap equates to a 2.2 percent reduction in the poverty headcount, which is equivalent to more than 238,000 people being lifted out of poverty each year for a 10-year period.

The Oaxaca-Blinder decomposition approach (Fortin, Lemieux and Firpo, 2010) was used to determine the shares of the gender gap attributable to women and men farmers having different levels of agricultural inputs and women receiving a lower return from similar inputs.⁴ It was found that the most important contributor to the gender gap in farm crop productivity was the lack of availability of male family labour to work on female-managed farm plots; this accounted for 45 per cent of the gender gap in farm productivity. The second most important contributor was the higher proportion of male plots devoted to high-value crops, which drove 28 per cent

FIGURE 2
Results of closing the gender gap in Malawi



SOURCE: Adapted from UN Women, UNDP-UNEP PEI and World Bank, 2015.

of the gap. Finally, it was found that women were less likely to have access to appropriate agricultural implements, which accounted for almost 18 per cent of the gender gap in farm crop productivity.

Gender challenges in rural Malawi

FIGURE 3

Malawi's reliance on agriculture



SOURCES: Republic of Malawi, 2012; ILOSTAT, <https://www.ilo.org/ilostat>, accessed September 2017.

Farming and poverty

Agriculture in general, and farming and crop production in particular, is critical to Malawi's population and livelihoods (Figure 3). Rural Malawi has a diversity of household structures, with male- and female-headed households, polygamy, early marriage, wife inheritance, divorced and widowed women and men, and rural-urban labour migration being common.

According to one estimate, women are responsible for performing between 50 and 70 per cent of all agricultural tasks in the country, thereby producing 70 per cent of local food (UMFULA, n.d.). Malawi's rural economy should thus be considered a gendered structure. This characteristic is reinforced by structural and institutional factors that continue to marginalize women. Girls are likely to be less educated than boys, with implications for skill development and access to productive work in the labour force. Institutional factors, such as less access to financial and agricultural extension

services, hinder women's entrepreneurship. These structural and institutional factors can reinforce and be reinforced by gender-based norms and expectations in the rural economy.

Considering both productive on-farm work for cash wages and unpaid care and domestic work, the average length of a Malawi woman's day is between 16 and 17 hours (Ngwira, Kamchedzera and Semu, 2003). Rural women are twice as likely to suffer "time poverty" as rural men, relative to the total amount of productive and unpaid work they perform, with 82 per cent of women involved in unpaid care and domestic work as opposed to 18 per cent of men (Republic of Malawi, 2012).

It is expected that women will be responsible for cleaning, cooking, fetching water and collecting firewood as well as for taking care of the sick, the young and the old, leaving them less time to farm or hold down a job. Women are also expected to feed their families and pay for household expenses, which requires taking on off-farm work or petty trading when cash is short. Engaging in these activities further diminishes the time women can spend working the plots of land they control. It also translates into a lack of cash for agricultural implements. Cumulatively, women have less free time than men. Because labour is a key agricultural input, this serves to reduce production and productivity. It also reduces the amount of labour available for seasonal and climate-smart agricultural techniques — and may contribute to the adoption of unsustainable agricultural practices and increase vulnerability to climatic variation. Together, these issues may lower productivity and household food security and worsen nutrition.

Poverty in Malawi is a predominantly rural phenomenon, with over 55 per cent of rural households falling below the government's poverty line (IFAD, 2016). Poverty is profoundly gendered in Malawi. Far more women are

poor than men, and female-only households are 50 per cent more likely to be poor (UN Women, 2015). Moreover, when women have access to a cash income they are more likely to spend it on their family's needs, whether it be for food, health expenses or household costs. That cash incomes are low is demonstrated by the fact that food shortages are all too common in rural Malawi. Gendered rural poverty is experienced through nutritional and food insecurities that are largely witnessed in chronic malnutrition as well as micronutrient deficiencies. Given women's socially ascribed responsibilities to provide a household's basic needs, rural women in the home are the first target of anti-poverty social protection in Malawi.

Gendered rural poverty in Malawi affects and is affected by other dimensions of gender inequality. Customary norms governing land rights mean that only a third of agricultural holdings in Malawi are held by women (UMFULA, n.d.). Women's farms are often less than half the size of men's. At the same time, women are more likely to operate more marginal land and are far less likely to have irrigated land (FAO, 2011). Similarly, women's access to other resources, notably livestock, are also limited; where women do have control of livestock, their herds are smaller than men's (FAO, 2011). Moreover, because women have lower levels of education, their capacity to adopt improved labour-saving production practices and technologies is limited, particularly as they typically lack the cash to access these farm inputs — including improved seeds, fertilizers and ploughing machinery. Thus, a lack of adequate access to financial resources, on manageable terms and conditions, further hampers women's subsistence production.

Gender and climate change

Much of the arable land in Malawi is subject to soil degradation, driven by unsustainable and

changing land use practices (USAID, 2006). This further hampers subsistence production, which is in turn additionally challenged by environmental hazards, particularly climatic variability. The unsustainable and inefficient use of even the limited chemical fertilizers and pesticides that are applied can cause pollution (Bonabana-Wabbi and Taylor, 2008). The agricultural sector can play an important role in climate change adaptation and mitigation, but environmentally sustainable and climate-smart approaches to farming are not yet mainstream in Malawi.

As a result of gender-differentiated farm activities, women and men have distinct engagements with the environment, natural resources and climate change (UMFULA, n.d.). It should not be assumed that they share the same knowledge and experience of the natural environment, resources and their management. Indeed, gender-differentiated farm activities would suggest otherwise. As a result, ongoing processes of climate change are likely to have different effects on men and women farmers, who then may adopt differential coping and adaptation strategies in response.

As a consequence of differences in the knowledge, ownership and control of resources — particularly land — men are more likely to be able to adapt to risks emerging from climate variability and its associated natural disasters than are women. Women's limited time, limited explicit and implicit rights arising out of institutional and social norms, and limited access to resources can increase their vulnerability to climate change. Women manage more fragile lands; their plots are thus more likely to be affected by floods, landslides and the resulting soil degradation and erosion. Yet, because of their limited

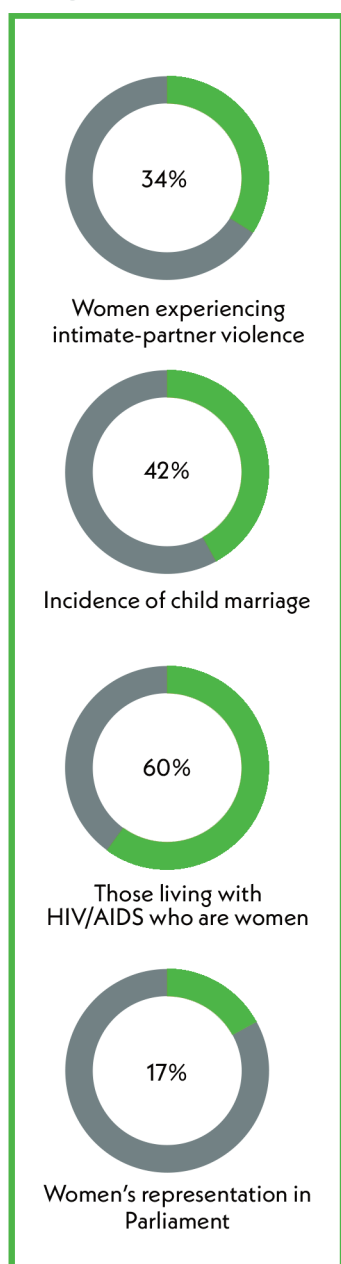
Women's farms are often less than half the size of men's, and they are more likely to be on more marginal land.

incomes, they can even less than men afford the fertilizers that might partially compensate for soil degradation. At the same time, women may experience restricted access to the agricultural information they need to adapt to climate change because of their limited interaction with extension workers — with negative consequences for agricultural production and productivity. As a result,

women are less likely to have the adaptive capacities necessary to cope with the risks and negative impacts of climate change as compared to men.

FIGURE 4

Malawian gender issues at a glance



SOURCES: UN Women, Global Database on Violence against Women; O'Neil et al., 2016.

Gender and social norms

Though the position of rural women has significantly improved over the last 25 years, men often still use force to dictate the structure of women's lives. Thirty-four per cent of Malawian women can be expected to experience intimate-partner violence during their lives (Figure 4); in 2015, 24 per cent reported experiencing such violence within the past 12 months.⁵ The economic costs of gender-based violence, while recognized within the UN system (Puri, 2016), are only starting to be quantified (Duvvury and Carney, 2013; GIZ, 2014). Structural imbalances of power and agency have negative social, political and economic consequences for women and men, girls and boys, and prevent women and girls from realizing their fundamental human rights.

Malawi has, at 42 per cent, a high incidence of child marriage,⁶ resulting in a high rate of early pregnancy and a lower rate of secondary school completion. Reproductive health services do not adequately target young women, and 60 per cent of adults living with HIV/AIDS are female.⁷ Finally, despite a female president coming into power in 2012, in 2014 women's representation in Parliament declined to 16.6 per cent from a previous high of 22.3 per cent in 2009 (O'Neil et al., 2016).

Women's lesser status is evidenced by Malawi's low ranking in the Social Institutions and Gender Index of the Organisation for Economic Co-operation and Development. It also fares poorly in the Gender Inequality Index of the United Nations Development Programme, ranking 145 out of 156 countries.⁸

Government institutions and gender policy

Malawi offers a relatively enabling environment for promoting gender equality and women's rights in the agricultural sector and is consistent with the aim of the United Nations' Sustainable Development Goals (SDGs), to which Malawi is formally committed.

Further, the Constitution of the Republic of Malawi of 1994, as amended in 2010, contains a series of sections that form the juridical basis for the promotion of gender equality in Malawi.⁹ The aspirations of Vision 2020 — a document that defines national goals, policies and strategies — are anchored in five-year development plans, with MGDS II for 2011–2016 being the most recently completed.¹⁰ At present, the government is in the process of finalizing MGDS III, which will run from 2017 to 2022.¹¹ At this stage of its development, MGDS III groups gender equality under "other development areas," and equality is not included in its general objectives.

Malawi's Gender Equality Act was passed in 2013. The National Gender Policy of 2015 seeks to reduce gender inequalities and enhance the participation of women and men in socioeconomic development processes by providing guidelines for the integration of gender equality into policies, plans and development strategies in all sectors and at all levels of government. It specifically highlights some of the main problems facing women in Malawian agriculture (Republic of Malawi, 2015). The National Agricultural Policy of 2016 seeks to energize the performance of the rural economy in the period to 2020 in a way that recognizes the impact of gender inequality on agricultural performance.¹² The objective of the National Resilience Strategy, which has yet to be finalized, is particularly impressive in this context because of the extent to which it has been gendered in terms of the analysis underpinning it, its goals, outcomes, activities and associated indicators.

Overall, then, Malawi's legal and policy landscape for the agricultural sector has progressively incorporated a gender dimension — albeit with varying levels of responsiveness. Historically and contemporaneously, there has been far too inadequate implementation and enforcement of the laws and policies that uphold and protect women's rights and equality.

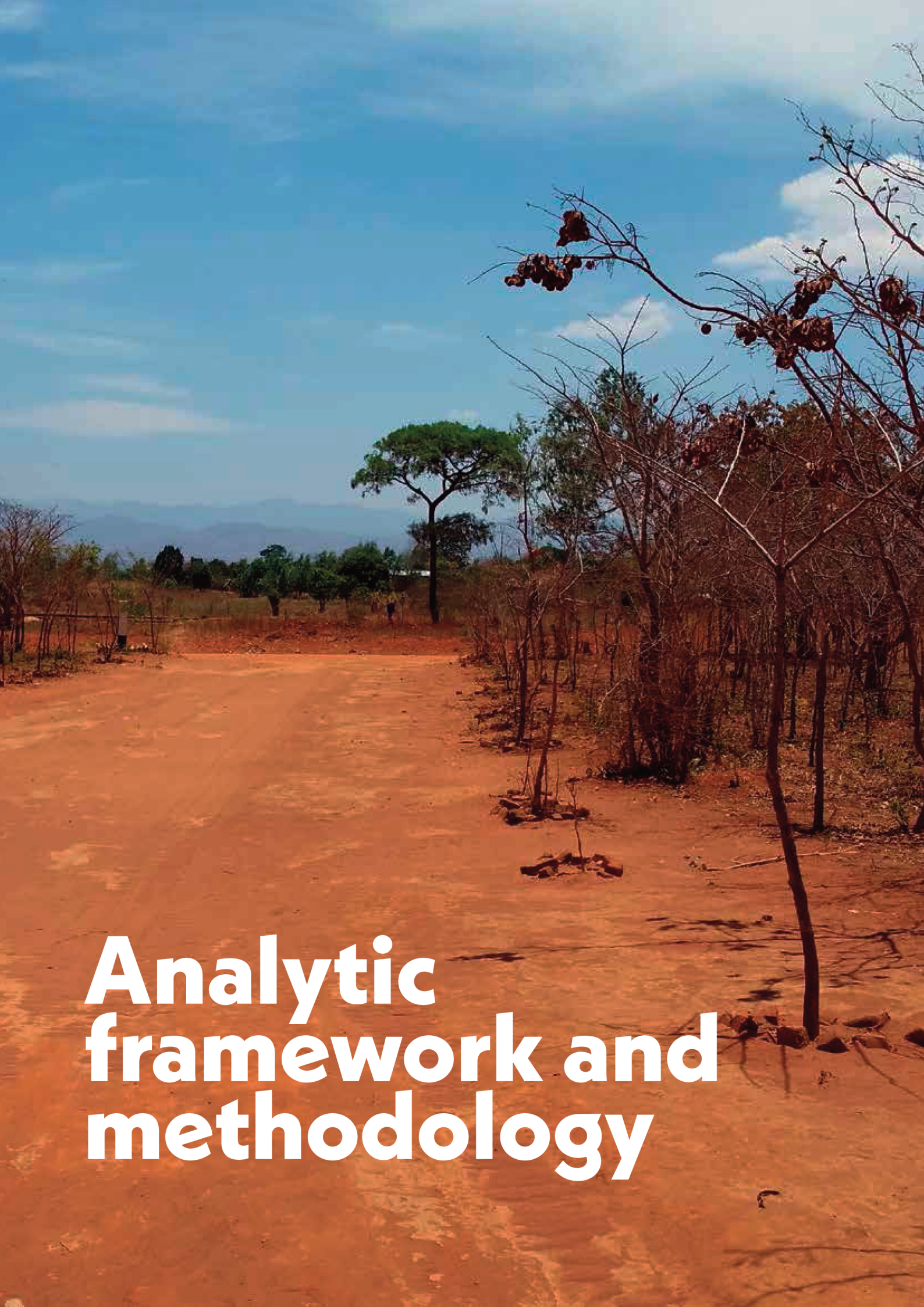
There is an inadequate amount of available data broken down by sex and gender that would facilitate a better understanding of women's issues; provide the foundation for the development of evidence-based policies, programmes and projects; and underpin a rigorous monitoring and evaluation framework to be used to build the case for the inclusion of gender-responsive planning, budgeting and implementation.

Purpose and scope of this study

This study aims to better and more deeply understand the gender gap in Malawian agriculture. It builds on the 2015 report, presenting an in-depth qualitative analysis of what drives the gender gap in Malawian agricultural productivity. Both primary data, collected through stakeholder consultations and interviews at the community and household level, and secondary data, are used, as detailed in the next section. Specifically, this study:

- Explores factors underpinning the gender gap not highlighted in the 2015 report
- Seeks a better understanding of how each factor might be addressed in policy and programming
- Deepens understanding of women's and men's vulnerability to climatic variations and environmental degradation
- Explores how gender gaps in agriculture might influence unsustainable agricultural practices, environmental degradation and poverty
- Provides further context and amends as necessary policy solutions highlighted in the 2015 report
- Provides recommendations on the most cost-effective solutions to closing gender gaps in agricultural productivity through climate-smart agricultural practices

Implementation and enforcement of laws and policies protecting women's rights and equality have been inadequate.



Analytic framework and methodology

Conventional approaches to analysing gender gaps in agriculture — and that used by the 2015 report — assess differences between women and men regarding factors of production (land, labour, seeds, fertilizers, pesticides, tools, etc.), farming practices, the impacts of climate change and mitigation, and climate-smart agricultural techniques. This study additionally focuses on how social norms and expectations — that is, the differing social contexts in which women and men work — influence their relative agricultural productivity.

Analytic framework

The 2015 report, in line with the United Nations System of National Accounts definition, considered “work” to be anything individuals could theoretically pay another individual to do for them. However, labour that is performed for other household members is not counted as work. As a result, it is not considered in standard metrics of economic production or employment.

Productivity depends upon individuals being ready and able to work. Before people can become useful as labourers, they must be born, raised, fed, sheltered, clothed, kept in good health and educated. They must be taught requisite knowledge and skills to perform their labour. These preparatory tasks fall predominately on women. The Organisation for Economic Co-operation and Development has found that in all countries for which evidence exists, women do far more unpaid care and domestic work than do men. In terms of creating productive labour, these tasks are vital. Yet none of this necessary effort — most of it done by women — meets the standard definition of work. As a result, very few investigations into agricultural productivity pay attention to the burden of unpaid

work that is primarily borne by women and its implications for agricultural productivity.

Here lies this study’s crucial distinction from its predecessor. It offers a deeper insight into the underlying drivers of gender gaps in agricultural productivity, first and foremost, because it incorporates the facts of women’s unpaid labour into the overall understanding of productivity.

Clearly, unpaid care and domestic work come at a cost. Hours spent in unpaid household labour are hours unavailable for raising food or cash crops. As this report describes, the burden of unpaid labour follows on from deep-seated inequalities stemming from social norms and household power hierarchies. Under these norms and hierarchies, men exercise control over women, determine the distribution of work, and control the incomes and assets that work generates. Far too commonly, these social norms and values are enforced through violence — often, through sexual violence — the economic costs of which are only beginning to be quantified.

These social norms and values create a major imbalance of power in male-female relationships. Not only do women have fewer hours in which to tend their farms, they also have more limited control over the use or misuse of household income and less access to improved methods of farming and the tools such methods require. Less cash allows for fewer expenditures on household maintenance and on the seeds, fertilizer, pesticides, and climate-smart agricultural techniques needed to grow more crops. Lower incomes mean less money to spend on the goods and services that grow a country’s economy. Less money translates to less investment in personal skills, which also grow the economy.

In this way, social norms and values limit the capacity of female household members to

undertake economic production — which has a direct impact on agricultural productivity and important implications for gender equality and women’s economic empowerment. Gender differences in access to key farm inputs are a direct consequence of social norms and values. The resulting gender gaps in agricultural productivity and income only serve to reinforce the imbalance of power that underlies it. This way of understanding agricultural productivity is illustrated in Figure 5.

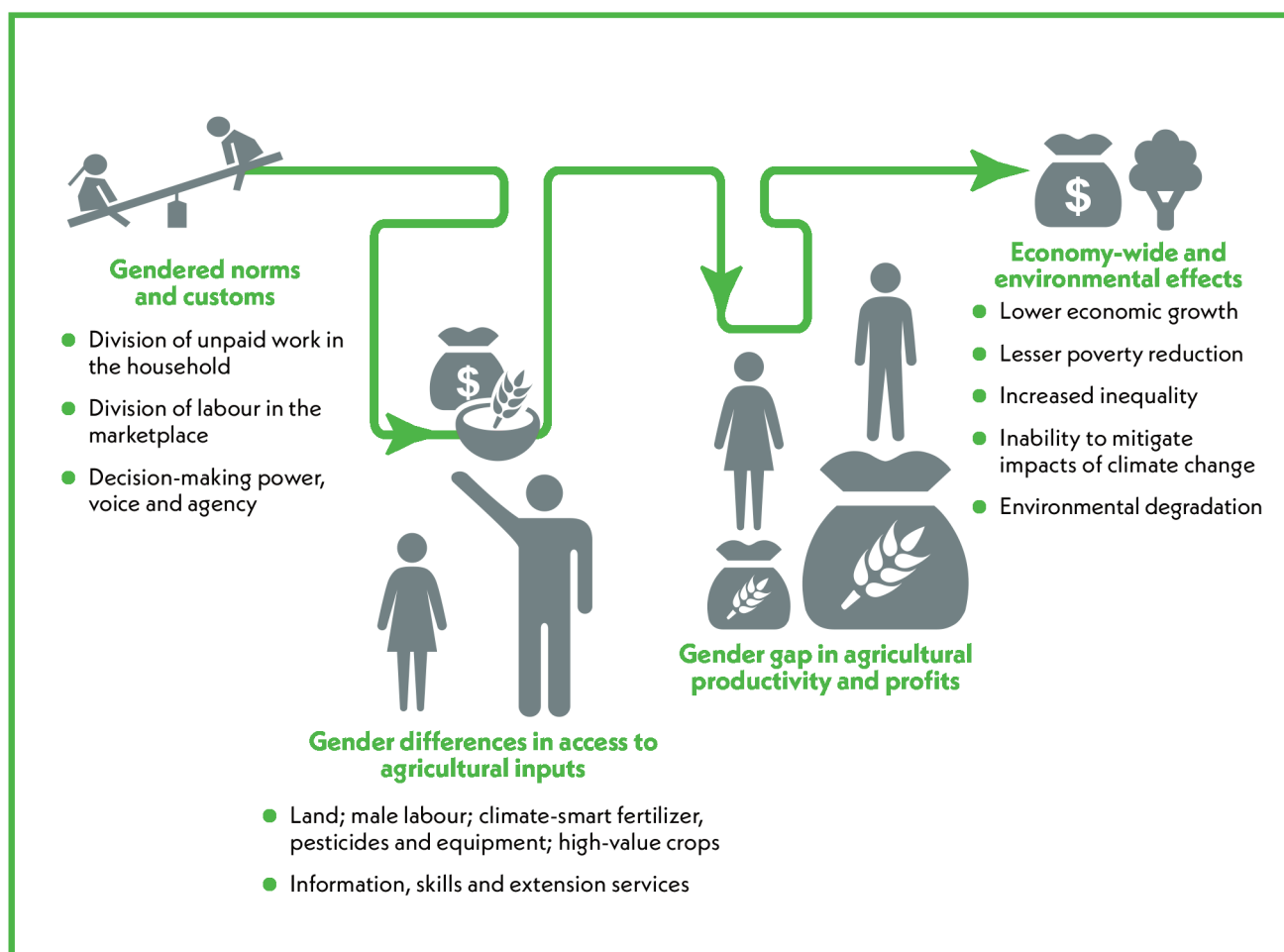
Gender-based differences in the undertaking of unpaid care and domestic work give rise to differences between women and men in the amount and type of productive labour that is done. As a result, women and men have distinctly different engagements with the

environment, natural resources and climate change, stemming from differences in knowledge and experience. Ongoing processes of climate change affect men and women farmers differently, and they may adopt differential coping and adaptation strategies in response. These choices in turn can have implications for agricultural productivity, household food security and cash incomes.

By focusing on the impact gender differences have on agricultural productivity in Malawi, this study offers a new and important context in which the problems may be understood, and the steps needed to ameliorate these problems may be identified.

FIGURE 5

Path model of the gender gap in agricultural productivity



Methodology

The purpose of this study was to build on the findings of the 2015 report. To this end, qualitative primary data were collected through stakeholder consultations and interviews at the community and household levels in order to obtain a better understanding of the factors driving the quantitative gender gap in agricultural productivity.

The qualitative data collected were complemented by an extensive and rigorous desk review of available policy documents and research literature to situate the data within Malawi's broader policy environment. The desk study described and explained the socioeconomic, institutional, and policy constraints that influence the gender gap in agricultural productivity in Malawi. The documentary review of key secondary materials included national strategies, programmes and policies on both gender and agriculture, as well as laws providing the legal basis on which women's equality issues are addressed in the country.

The qualitative fieldwork locations were randomly and purposefully selected to represent Malawi's agro-ecological zones and reflect districts where the impact of climate change has been recently noted. The locations included the northern region, represented by the Mzimba district; the central region, represented by the Salima district; and the southern region, represented by the Nsanje district. The study could not cover all of Malawi's agro-ecological zones because of resource limitations. Although no attempt has been made to ascertain the extent to which the three districts may be statistically representative of Malawi as a whole, certain factors make them typical of rural Malawi.

The fieldwork for this study took place in October 2017. In each district, three villages were visited during the fieldwork, for a total of

nine village visits encompassing 4,730 farming households.¹³ The key participatory methodologies used were semi-structured focus group discussions and key informant interviews. Checklists for each were developed to understand gender gaps in agricultural productivity. The discussions and interviews allowed identification of the impact of climatic variations and environmental degradation on agricultural productivity, along with the key drivers of those gendered impacts.

The focus group discussions involved groups of both male and female plot managers, as well as young, middle-aged and elderly farmers; women-only farmers groups; and groups of individuals representing specific sets of farmers, such as various types of cooperative societies. In all, 273 people took part in these discussions. Following each session, women were asked to remain and answer an additional set of questions to confirm the validity of the information that had been received in the wider focus group discussion. Where gender-differentiated access to and quantities of key factors of production were identified, the drivers of these gender differences was explored, as well as their relative magnitude. At the same time, the women-only discussions identified whether decision-making over crop disposal was gendered and the extent to which flows of income into households were shared among senior household members. Finally, the women-only discussions explored the extent and effect of unpaid care and domestic work and the prevalence of and impacts caused by gender-based violence.

Stakeholder consultations were conducted to review the findings of the report and the null hypotheses guiding the qualitative fieldwork, and to preview the preliminary findings of the study. These stakeholders included national planners and policymakers, United Nations system organizations, donor agencies and development partners, research

and academic institutions, and national and international civil society organizations — notably, the Ministry of Agriculture, Irrigation and Water Development; the Department

of Finance, Planning and Economic Development; the Ministry of Gender, Children, Disability and Social Welfare; and the World Bank.



**Findings from
the field**

Farming system characteristics

In all three districts, crop production and the keeping of livestock are the key economic activities supporting people's livelihoods.¹⁴ In the three districts, the bulk of agricultural production comes from subsistence-oriented smallholders, who are significantly constrained in their productive activities. Plot sizes range from 0.2 to 4.0 hectares across the districts. Crops raised include maize, sweet potato, tobacco, sugar cane, cassava, groundnut, sorghum, rice and legumes.

In all three districts, polygamous marriage practices and patriarchal asset ownership predominate, although Salima has matrilineal communities. In Mzimba and Nsanje, women do not bring resources other than their labour into the family and thus rely on their husband or their husband's family for any land on which they work.

Even in matrilineal societies, men still "own" the land.

That land is customarily held by senior men within households over the generations; men say that they "own" the land, even though they may not yet have formal title

to it. When women marry in Salima's matrilineal communities, they bring land into the marriage and the husband relies on their wives or their wives' families for any land on which they work. However, although the land is customarily held by women, the wife's brother ultimately controls it. Thus, even in matrilineal societies, men still "own" the land. Moreover, they make the majority of decisions about land issues.

Cultivation practices across the three districts tend towards the traditional, with the vast majority of farmers using hoes and machetes to clear land and plant and weed their crops. Only a very few use ox-drawn ploughs and ridgers, and modern machinery is virtually absent. Most male and female plot

operators use lower-yielding varieties of seed for planting, although improved varieties of maize were used on a few farms in all districts, along with improved varieties of sorghum and millet in Nsanje. There is some use of irrigation across the districts, but rainfed cultivation dominates.

Chemical fertilizers are used in the districts, but the majority of farmers tend to rely on local manures alone. Pesticides are more widely used, with 34 per cent of farming families in Mzimba using pesticides, and Nsanje respondents reporting widespread use of pesticides for plant protection. Hired labour was used to supplement family labour at critical points of the cropping cycle, but to different degrees across the three districts.

Farming in the three districts produces cash crops for sale, subsistence crops for a household's own use and flexible ("flex") crops that can either be used for food or sold. Some crops — which tend to be either cash or flex — are grown only by men on the plots they manage. Although women take principal responsibility for the production of food crops for household subsistence, they also produce some cash crops.

Post-harvesting handling processes, inadequate transport and a lack of access to reliable markets reduce the value of agricultural surpluses. The result is relatively low cash revenues from crop and livestock marketing. In the vast majority of cases, husbands make marketing decisions about livestock, cash crops and flex crops. Money earned from marketing by husbands is not shared with their wives; the husband controls the money and decides how it is used.

Low revenues from agricultural activities are accentuated by farming-induced soil erosion and the variable rains arising from climate change, which together drive environmental degradation in the three districts. Mzimba's

district council has identified eight climate-related disasters over the last 10 years that have affected over 2,000 households and placed a significant strain on district resources. Cumulatively, environmental degradation and climate change have contributed to low crop yields and food insecurity in the three districts.

In their planning documents, all the district councils note the specific and unique characteristics of female farmers. However, only Mzimba’s socioeconomic profile details some of the disadvantages female farmers face, notably:

- Women spend 10 times as much time as men on housework.
- On average, women sleep two hours less than men.
- Women have five minutes of leisure per day, compared to two hours for men.

These facts highlight the disproportionate burden of unpaid care and domestic work performed by women and the implications of such work for women’s ability to work on their plots of land.

Drivers of the gender gap in agricultural productivity

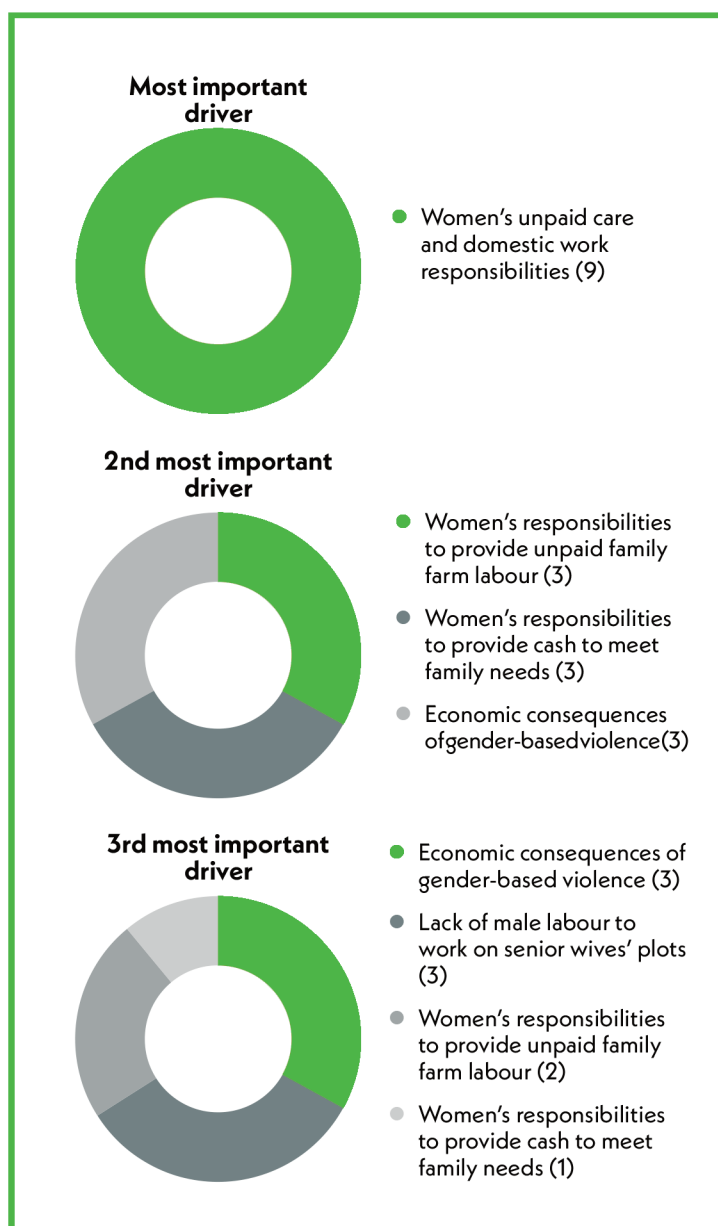
Figure 6 summarizes the principal findings of this study’s research into the most important drivers of the gender gap in Malawi’s agricultural productivity, as identified by respondents across the nine villages visited. The following subsections expand on these findings.

Women’s unpaid care and domestic work responsibilities

In the three districts and nine villages, women’s responsibilities to provide unpaid care and domestic work was by far the most significant constraint on their time. Unpaid care and domestic work must usually be done at specific times and in specific locations in

FIGURE 6

Most important drivers of the gender gap in Malawi’s agricultural productivity



NOTE: Figures in parentheses are the number of villages, out of a total of 9, in which a majority of focus group participants cited the particular driver.

order to prepare household members for the work or school day.

Women are also responsible for collecting firewood — a time-consuming activity in the three districts, and a task that has been made more demanding by climate change. The collection of water has been made easier in most villages because of the installation of boreholes, but is still the principal responsibility of women. As a consequence, unpaid care and domestic work can easily absorb five hours of a woman's working day, acting as an important constraint on her ability to work on her plots of land.

“Women don't have time; they are always working.” — Key

informant

Due to the gender-specific assignment of intra-household and on-farm tasks, any change affecting the family, the farm or the environment can have different implications for how women and men use time. For example, an unexpected illness in a household will mean that a woman must devote often a substantive amount of time to care for the sick family member. As one key informant put it, “Women don't have time; they are always working.”

Economic consequences of gender-based violence

The women's-only discussion groups in the three districts unequivocally indicated that if women did not meet the household maintenance needs required of them, if they did not obey their husbands or if they were not prepared to have intimate relations with them, the result was gender-based violence. Gender-based violence is deployed by some men to ensure that their choices are enforced within the household. Men who use violence can take control of cash and non-cash resources generated by women, including loans women take out from village savings and loan groups.

In all three districts, some women noted that husbands steal the food stores maintained by their wives, selling it for cash in order to socialize with their friends. When women resist such theft, they can be subjected to violence. One woman noted, “Men take the money that women earn when they sell and then tell the women to work harder.” Men also use violence to enforce the labour allocation decisions they make regarding the use of their wives' labour on their farm plots. Men discipline women, largely when they return from collecting firewood or water or from marketing their crops.

In all instances when violence is used, the social power of husbands over wives is asserted. In polygamous marriages, that power is greater, but in monogamous marriages that power is ever-present. Surprisingly, that power is even present in the matrilineal households in Salima. The women's-only focus group there explained that husbands retain the power to exit the marriage, placing women in a subordinate position. Thus, a significant number of men use violence, or the threat of it, to enforce their intra-household power.

Gender-based violence helps explain gender gaps in agricultural productivity. The women's-only focus groups noted that, as a consequence of violence, women may be less able or unable to work for periods of time — whether in unpaid care and domestic work, on plots of land or in casual waged labour or petty trading — because of their injuries. When women are less able to work on plots of land, less labour is available for farm work, which can have implications for agricultural productivity, depending on the period in the crop cycle in which the violence takes place. When women are not able to undertake casual waged labour or petty trading because of gender-based violence, less income is available for household maintenance needs — which can trigger more violence from men.

Because some husbands may use violence to seize cash and non-cash resources produced by their wives, there is a disincentive on the part of wives to save such resources. Further, the use of violence by some husbands serves as a deterrent for wives to invest in improving the productivity of their plots of land. It can also affect the ability to hire casual men's labour to work on women's plots. All of these have economic consequences for agricultural productivity, while limiting households' ability to meet food security objectives and ameliorate the poverty they may face.

Gender-based violence is, at least, connected with the lower productivity of female Malawian farmers. It is not being suggested here that the elimination of violence will lead to an equalization of agricultural productivity, but the social norms and values that render violence acceptable to some community members need to be addressed if the productivity of women's plots is to be improved. In any event, the experience of gender-based violence should not be reduced to an issue of denial of economic rights.

Women's responsibilities to provide unpaid family farm labour

In monogamous marriages, husbands and wives work together, but often perform different tasks. Women often work more than their husbands on jointly owned plots; one woman in a focus group described men as "lazy" because they work less than three hours a day. Regardless, husbands control the crops produced and decide when production is surplus to household requirements, when and where the crop will be disposed of and how cash generated by crop disposal will be spent. Women may receive a fraction of that cash, but they do not know how much that is relative to the total amount, because their husbands do not tell them.

In polygamous marriages, senior wives are assigned plots of land by their husband, who usually resides with the most junior wife. This was also true in Salima, despite it being a matrilineal society. Thus, polygamous marriages have two types of farm plots: those controlled by husbands — which are commonly, if misleadingly, referred to as joint plots — and those controlled by wives, which tend to be inferior in terms of land quantity and quality. The plots of land controlled by wives are used to provide food for the wives' household, including the husband when he chooses to eat with them.

Senior wives are expected to work on their husband's plots before being able to work on their own plots of land, and can do so only when their tasks on their husband's plots are completed. This can reduce labour availability for women's plots at specific times of the crop cycle when climate-smart agricultural practices should be followed, such as early harrowing, early planting and early weeding, exacerbating women's vulnerability to climate change.

In all but one instance, female respondents stated that men worked less than they claimed to be working on their plots of land. There were some instances in which husbands did in fact concede this point. It appears that men consistently over-reported their labour contribution on their plots and consistently under-reported the labour contribution of their wives. As indicated in the 2015 report and found in some villages, husbands are not at all willing to work on the land their senior wives control, which reduces the total labour available to work on women's plots of land. Thus, in many instances, it is far more useful to understand husbands as effectively being managers of their wives' labour. In the longer

Gender-based violence is connected with the lower productivity of female Malawian farmers.

term, social norms need to be addressed if the productivity of women's plots of land are to be improved.

Agricultural productivity, climate change and extension services

With limited time and cash incomes, it is not surprising that female plot operators use different technical coefficients of production than men. With cash incomes devoted to household maintenance, women are less able to use the improved agricultural technologies men use. They use fewer improved tools and equipment; are less likely to use improved seeds; and are much less likely to use chemical fertilizers, pesticides and herbicides.

Women are less able to use the improved agricultural technologies men use.

Thus, intra-household responsibilities, as a result of social norms and values, have an effect on household budgetary allocations and the kinds of technological choices and number of productive inputs available to female farmers. This contributes to lower levels of agricultural productivity. Reducing "time poverty" and increasing cash incomes is a necessary — but not sufficient — condition for improving access to technologies.

The fieldwork demonstrated that the response of both male and female farmers to processes of climate change was shaped by the presence of agricultural extension officers in the villages. Across the villages, extension officers actively tried to enhance the agronomic skills of the communities within which they were embedded, particularly in response to the impact of climate change. The officers, who had received rudimentary courses in gender and climate-smart agriculture, provided regular if basic training to both male and female farmers; this was substantiated in the

women's-only group discussions. Respondents in Nsanje indicated that agricultural extension officers provided advice to villagers three to four times a month and on demand. However, it should be noted that the district council in Salima has indicated that agricultural extension workers do not adequately target female farmers.

The capacity-building provided by the extension officers is wide ranging. In terms of climate-smart agricultural practices, these techniques stand out:

- Crop variety selection, which emphasizes selections that are planted earlier and are early maturing, drought-resistant and high-yielding
- Use of cover crops to improve crop husbandry
- Preservation of grasses, trees and litter on uncultivated land
- Promotion of the use of manure, organic residues and soil organic matter
- Soil and water conservation, including rainwater harvesting and precision irrigation
- Crop rotation
- Planting trees and introducing agroforestry to integrate crops and/or animals with trees on parcels of land
- Use of contour ridging and contour markers
- Use of box ridges to catch and conserve rainwater to ensure adequate moisture for crops, especially in low-rainfall areas
- Introduction of conservation farming techniques, which is a set of soil management

techniques that minimize the disruption of the soil's structure, composition and natural biodiversity caused by farming in order to sustain soil micronutrients

Respondents from across the villages in the three districts reported that multiple individual components of climate-smart agricultural practices were being introduced at the behest of agricultural extension officers. The piecemeal character of this adoption limits its impact on productivity, and respondents were pessimistic about the capacity of communities to adequately cope with climate change — particularly as knowledge of climate-smart agricultural practices in communities remains limited. There is little doubt that agricultural extension officers are capable of doing much more to help male and female farmers respond to climate change — and that they are capable of doing so in a gender-responsive way, although this would require adequate and appropriate budgetary resources.

Although male and female plot operators across the three districts use different technical coefficients of production, there did not appear to be any gender-differentiated responses to climate change. In part, this was because many conventional farming practices carried out in rural Malawi are, despite the increased variability of floods and droughts, climate-friendly; for example, intercropping maize with legumes or using organic manures to revitalize soil nutrients. Relatedly, farmers' "bounded rationality" — the rationality of individuals that is limited by the information they have, the cognitive limitations of their minds and the finite amount of time they have to make a decision — regarding climate-smart agricultural practices were reasonably equitably distributed among husbands and wives. This equitable dissemination of information largely reflects the fact that husbands manage wives' labour on the plots the husbands control, and consequently must share with

their wives the limited knowledge they have about climate-smart agricultural practices.

Nonetheless, women's time poverty and lack of cash affect their capacity to respond to climate change, because climate-smart agricultural techniques can be more labour intensive — which is precisely the input women plot operators may lack. Responses to climate change and the use of climate-smart agricultural practices, in terms of both adaptation and resilience, are thus both gendered, which has implications for agricultural productivity.

Respondents were pessimistic about the capacity of communities to adequately cope with climate change.

Study findings in light of the 2015 report

The 2015 report found that:

- Women plot operators lack access to sufficient male family labour
- Male plot operators produce higher-value crops than female
- Male plot operators have better agricultural technologies than female

This study has found that women do not have access to adequate quantities of male family labour for two reasons. First, in polygamous households husbands are not willing to work on the plots of land assigned to their senior wives and, moreover, expect their senior wives to work on their plots of land before any other on-farm operations are carried out. Second, men have shorter working days on the farm than do women.

This study has also found that women bear principal responsibility for providing the

food crops for their households; it is thus not surprising that male plot operators produce higher-value crops than their female counterparts.

Finally, this study has found that women do not have the cash incomes needed to purchase the superior agricultural technologies identified in the 2015 report as a driver of the gender gap in agricultural productivity. Because they hold primary responsibility to meet household cash needs, household

maintenance dominates the use of the cash incomes they generate from casual on-farm or off-farm labour or from petty trading.

These inequalities reflect social norms and values that generate the expectation that meeting household needs is the first and foremost responsibility of women. These same social norms and values result in a gender-bi-

ased distribution of unpaid care and domestic work. Cumulatively, with men's control of women's time and labour, men's control of marketing, and men's control of the income from marketing, the opportunity cost of the social norms and values that confront wives is a lowered capacity to work on- and off-farm — which in turn results in gender-based differences in access to assets, labour services and technologies, as identified in the 2015 report. It also makes it harder for women plot operators to adapt to the realities of climate change, even when their knowledge is similar to that of men, because of the time-consuming nature of some techniques, and because the

agricultural technologies that might support the adoption of these techniques are not easily accessible to cash-constrained women plot managers.

These gender-biased social norms and values are enforced through some men's use of gender-based violence, which has economic consequences in terms of reducing women's labour availability and cash incomes and serving as a strong disincentive to save or invest. These economic consequences all affect the agricultural productivity of women's plots.

This study has demonstrated that it is principally the gender-biased allocation of unpaid care and domestic work that is the underlying economic driver of the 2015 report's proximate findings. It has also shown that gender-based violence may be deployed to enforce the gender bias in the distribution of unpaid care and domestic work. As a consequence, it is not surprising that women plot operators have lesser levels of agricultural productivity even when controlling for poor quantities and qualities of the land they operate. Women face the barrier of time poverty and, with lower amounts of labour inputs on the land they operate, this generates lesser levels of agricultural productivity even before the issue of access to skills and other inputs arises.

The gender-biased allocation of unpaid care and domestic work is the underlying economic driver of the 2015 report's proximate findings.



Policy recommendations

This study indicates a series of gender-based constraints exist in Malawi that, if addressed by policy, could increase women's productivity on the plots of land they operate. These constraints are time poverty, which limits the availability of women to work on their plots; a lack of cash income, in light of heavy responsibilities for meeting household maintenance needs; a resulting lack of access to improved agricultural technologies; a lack of independently controlled assets; and the need to enhance the delivery of gender-responsive climate-smart agricultural extension services. All of these contribute to gender gaps in agricultural productivity and are addressed in four clusters of policy recommendations that focus on:

- Improving women's access to and use of labour-saving technologies in both agriculture and the household
- Improving gender-responsive climate-smart agricultural extension services
- Enhancing women's access to and control over land and other resources
- Confronting existing social norms and values in agricultural activities

A recommendation is also made regarding the need to revise Malawi's statistical instruments.

Access to labour-saving technologies

Time poverty is a material consequence of social norms and values and results in women having inadequate amounts of time to work on their plots of land. Policies that facilitate the construction of public infrastructure can relieve time poverty from unpaid care and domestic work. Examples of the possibilities

can be drawn from two important domains: water and energy. The fieldwork for this study found that, for many women, the collection of water and fuel occupies a minimum of three to four hours every day. Moreover, the whole community would benefit from practices such as rainwater harvesting and technologies such as solar cookers.

Rainwater harvesting

In Malawi, the Ministry of Agriculture, Irrigation and Water Development has principal responsibility for determining priorities in the development and management of the water, sanitation and hygiene (WASH) sector. The country's policy framework in this regard is provided by the 2005 National Water Policy. The WASH sector is a domain in which women have a unique presence, as service users for the home and as service providers in the home when public provision is absent. There are thus strong gender dimensions to the WASH sector, with implications for the allocation of unpaid care and domestic work.

One possible method for relieving the burden of time-consuming water collection is rainwater harvesting. Rainwater harvesting can use local, low-cost materials to build storage jars and tanks. The operating costs for rainwater harvesting have been shown to be low in other developing countries. As most agricultural practices in Malawi rely on rainwater, the yield women achieve on their plots ultimately depends on the frequency of rainfall. Malawi, with an average of 100 centimetres of rain a year in 70 per cent of the country, has an abundance of rainwater that is by and large not harvested. While there have been individual projects designed to do so, rainwater harvesting and storage in Malawi is a significantly under-utilized resource.

Therefore, the government of Malawi should undertake a comprehensive study to evaluate the costs and returns of rainwater harvesting

as a source of domestic water, with a view towards reducing the time that women spend fetching water so more time can be directed towards working on their farms. If it is deemed that rainwater harvesting has this potential, the government should develop a small pilot project to evaluate the effectiveness of the intervention, possibly using a randomized control trial, to assess the extent to which it reduces the agricultural productivity gap.

Solar cookers

In Malawi, the Ministry of Natural Resources, Energy and Mining has principal responsibility for determining priorities in the development and management of rural energy. The policy framework with special relevance to the rural sector is Malawi's 2003 National Energy Policy. This policy has an implicit gender dimension.

Women's role in the use of firewood and charcoal for cooking gives them a unique presence in the rural energy sector as providers for the home when the public provision of energy services is absent — as is most usually in rural Malawi. There are thus strong gender dimensions to the rural energy sector, with implications for the allocation of unpaid care and domestic work.

One practice that can relieve the burden of collecting firewood is the use of solar cookers. Local, very low-cost materials can be used to construct simple, low-technology equipment that relies on the sun.¹⁵ Operating costs are negligible. The key limitations of solar cookers are that their energy yield relies on sunlight, that they perform optimally at mid-day and that some foods take longer to prepare. These limitations, however, must be weighed against the time otherwise devoted to collecting firewood and the health benefits of using clean, smokeless energy. In Malawi, an average of more than one-third of the day is bright and clear, so the country has an

abundance of sunshine that is not utilized by rural households as an energy source.

The government should undertake a comprehensive study to evaluate the costs and benefits of solar cookers as a source of rural energy, with a view towards reducing the time women spend on firewood collection. If it is determined that solar cookers have potential, the government should develop a small pilot project to evaluate the effectiveness of the practice, possibly using a randomized control trial, in order to assess the extent to which it reduces the agricultural productivity gap.

Gender-responsive climate-smart agricultural extension services

Malawi is already experiencing the negative impacts of climate change, as shown by unpredictable changes in weather patterns, frequent flooding, droughts and erratic rainfall patterns, all of which affect farm productivity. It is imperative that farmers in Malawi adopt climate-smart agricultural practices as a significant way of coping with the adverse impacts of climate change. Moreover, these practices need to be gender responsive, taking into account the differences between men and women farmers.

As the research shows, many climate-smart agricultural practices are already in use in villages in Malawi. While the approach across districts may not be uniform or cohesive, villagers have been educated by agricultural extension officers about the impacts of climate change and the range of responses, in terms of alterations in agronomic practices, that are needed to mitigate and adapt to its onset. Resource constraints prevented any quantitative analysis of the precise impact

It is imperative that farmers in Malawi adopt climate-smart agricultural practices.

of the different types of climate-smart agricultural practices on Malawi's agricultural productivity.

Tailoring climate-smart agricultural practices to gender requires recognizing the gender split of cropping decisions and on-farm tasks and putting in place practices that promote cooperative on-farm decision-making and task allocations in order to maximize yields in efficient, climate-friendly ways. Many farmers, whether women or men, already practice elements of climate-smart agriculture. What is required is further training of agricultural extension officers so they can integrate climate-smart agronomic practices into gender-responsive training and capacity-building at the village level.

Mechanisms need to be put in place to ensure that the law granting husbands and wives joint ownership is enforced.

Training agricultural extension officers who are knowledgeable in both climate-smart agricultural practices and the specific gender context of rural Malawi can allow extension messages to be more gender responsive, which is necessary if female farmers are to maximize their yields by integrating climate-smart agricultural practices into their

existing farm enterprises. The task is urgent, given the extent to which climate change is disrupting the performance of the agricultural sector, with very strong implications for the country's capacity to foster economic growth, reduce poverty, accomplish the objectives of the upcoming third Malawi Growth and Development Strategy and achieve the Sustainable Development Goals.

Women's access to land and other resources

Gender and land rights

In Malawi, 85 per cent of land is held under customary tenure (Restuccia and Santa-Elia-Llopis, 2017). Malawian law has procedures that transform customary land rights into formal private land rights. In practice, the utility of these procedures is questionable, because women do not have adequate customary rights. Also questionable is the emphasis placed on privatization, when customarily held land can be shown to have no productivity differences with privately held land in the region.

The assignment of group rights to land can have a powerful impact on gender equality when embedded within a group mobilized around high levels of social capital. A certificate of customary rights of occupation (CCRO) could provide the basis by which group rights to land can be formally assigned to women's groups, without going through the process of privatization. In this light, there is a need to pilot the introduction of CCROs across the country.

To benefit the individual household level, government needs to work with local land boards and non-governmental and civil society stakeholders to encourage group formation so the operation of customary lands by households can be registered. This will ensure that both men and women have their names on the CCROs and that both men and women receive copies of the CCROs when land usage rights are assigned to households.

Mechanisms need to be put in place to ensure that the law granting husbands and wives joint ownership is enforced. This will ensure that claims of joint ownership can be substantiated and the rights associated with

ownership properly exercised. In this way, women's legal position will be enhanced, as will their knowledge of their legal position. Women will also be in a stronger position to assert control of customary land when their husbands die. Finally, having one's name on land documentation is associated with significantly stronger decision-making over land — and with reductions in gender-based violence, which can negatively affect agricultural productivity. In short, improving women's access to land can enhance the quantity and quality of the farms women operate.

Value addition to agriculture products produced by women

Discussions with the women's-only focus groups revealed that there was little or no value addition — or change in the physical state or manner in which an agricultural commodity is produced and aggregated — to the products of women's farms. This need not be the case. Women can benefit from inter-temporal and/or spatial value addition along the value chain of major staples in Malawi, as well as from processing that changes the original form of the farm product. For example, women may store maize if there are good warehouse receipt systems, or move maize into urban markets where they receive higher prices.

A comprehensive gender-responsive value chain analysis of specific products and activities in different regions of Malawi is needed to determine where women engage and benefit the most.¹⁶ This analysis can provide the basis for developing and designing programmes and projects that generate benefits for both men and women.

The Small and Medium Enterprises Division of Malawi's Ministry of Industry and Trade can, in collaboration with UN Women, play an important role in improving women's capacities to move into the processing of agricultural

products, particularly when women come together as a group. Adding value to farm produce is an important way of increasing productivity, as higher revenues and/or profits will allow greater investment in the purchase and application of more productive farm inputs as well as investment in soil fertility conservation measures — both of which can enhance farm productivity.

Social norms and values

Confronting gender stereotypes

This study has found possible linkages between gender-based violence and agricultural productivity, arising in part from the power relations between men and women in both monogamous and polygamous marriages as well as in patriarchal and matriarchal societies. Recent research in Malawi has shown that increasing wives' bargaining power and improving cooperation between husbands and wives can exert larger and statistically significant positive impacts on total household income and consumption expenditures per capita, as well as the share of household consumption devoted to public goods (McCarthy and Kilic, 2017). In actuality, however, cooperation between husbands and wives is often limited, prompting a lack of responsibility sharing that could engender agricultural productivity and enhance households' economic well-being.

Development programmes that promote intra-household cooperation could potentially lead to greater gains in agricultural productivity, income and household public goods provision in Malawi. Sensitization and awareness creation are important mechanisms that could change the mindset of village community members with regard

There was little or no value addition to the products of women's farms.

to negative norms and traditions. Malawi's Ministry of Gender, Children, Disability and Social Welfare, working together with UN Women and other relevant agencies, should develop programmes to educate households on the need for cooperation and coordination in the household balance of power and in the use of family resources. In this way, agricultural productivity improvements at the farm level could be leveraged through the enhanced pooling of assets, inputs and incomes.

Supporting women's groups

Women's groups need to be facilitated by government and development partners at the village level to come together to privately and collectively discuss and confront gender-based violence and other social norms limiting women's productivity. Simultaneously, these gatherings could inform women of their civil and political rights, transfer knowledge about their livelihood options and enhance collective skill sets. In many communities, women's lack of capacity to express their views on gender-based violence and other issues is a function of not knowing the choices available to them, as well as the use of intimate-partner violence to limit choices when they are known.

There is clear evidence that women's groups can empower individuals to challenge gender-based violence and gender stereotypes by providing collective support for individual and collective interventions, thus offering a fallback position individual women do not have (Agarwal, 2010). Moreover, supporting women within communities can result in more women being prepared to take on leadership roles at the village level.

Women and men as equal partners in development interventions

Supporting women can begin a process of reconfiguring relationships within communities and establishing a basis for women and men, in their roles as wives and husbands, to identify and design local agricultural development projects, as both individuals and as members of groups. Men can come to understand how long-held social norms and values that restrict women's choices not only limit their agricultural productivity but also directly reduce their own living standards. Local responsibilities for development interventions need to be explicitly shared between women and men if they are going to bring benefits to women and men, in terms of improved productivity, technical efficiency and living standards. By so doing, women in communities will become part of the decision-making process, and men should come to value the ideas of women in their communities.

Revisions to statistical instruments

Malawi's existing statistical instruments do not adequately capture gender relations — a point that became strongly evident during the fieldwork. The impact of unpaid care and domestic work on the gender gap in agricultural productivity could not be covered in the 2015 report. Moreover, unpaid contributing female family labour working on male-controlled plots of land, or land where husbands controlled crop disposal decisions and the cash incomes such disposal generates, was probably undercounted in successive Integrated Household Surveys. This undercounting was because the principal survey respondent typically was male.

Malawi's statistical instruments could usefully be revised to:

Men can come to understand how social norms and values that restrict women's choices directly reduce their own living standards.

- Develop and integrate time use modules into one of the country's key statistical instruments rather than being treated as a stand-alone survey.
- Include both senior males and senior females in households as principal respondents to survey instruments. This would mean having separate in-home closed-question interviews with both males and females, and then triangulating the results.
- Develop poverty measures that operate at the individual rather than household level, because household-level poverty measures assume a sharing of poverty risks — and that assumption may not be justified.

There is already extensive donor support for revisions to Malawi's statistical system. Such revisions are also consistent with global trends in identifying the shortcomings of living standards measurement surveys and labour force surveys, and introducing revisions designed to enhance the statistical reliability of such surveys, particularly around gender relations (Bardasi et al., 2010). In particular, the Evidence and Data for Global Equality project, a joint venture by the UN Statistics Division and UN Women, is seeking to ensure the gender sensitivity of data by improving gender disaggregation and gender responsiveness — especially with regard to assets, which has implications for understanding growth dynamics and their relationship to poverty reduction strategies.

Notes

1. International Labour Organization, ILOSTAT, <https://www.ilo.org/ilostat>, accessed September 2017.
2. In 2015, \$1 was worth MK 499.61. Source: International Monetary Fund exchange rates, <http://data.imf.org/regular.aspx?key=61545850>.
3. A multiplier of 1.11 is used, as the benefits of raising agricultural production also include spillovers to other sectors in the economy. It is also assumed that closing the gender gap influences all agricultural sectors equally in Malawi.
4. This analysis builds on work by Ali et al. (2015); Kilic, Palacios-Lopez and Goldstein (2015); and Slavchevska (2015).
5. UN Women, Global Database on Violence against Women, <http://evaw-global-database.unwomen.org/en/countries/africa/malawi>, accessed September 2017.
6. UN Women, Global Database on Violence against Women, <http://evaw-global-database.unwomen.org/en/countries/africa/malawi>, accessed September 2018.
7. UNAIDS, Malawi country profile, www.unaids.org/en/regionscountries/countries/malawi, accessed September 2017.
8. UN Women, Global Database on Violence against Women, <http://evaw-global-database.unwomen.org/en/countries/africa/malawi>, accessed September 2017.
9. The Constitution of Malawi, www.wipo.int/wipolex/fr/text.jsp?file_id=218796, accessed November 2017.
10. Malawi Vision 2020 can be found here: www.sdn.org.mw/malawi/vision-2020/.
11. The analysis of the MGDS III offered here is provisional, based on a draft of the MGDS III dated 16 August 2017.
12. Centre for Environmental Policy and Advocacy, <https://cepa.rmportal.net/Library/government-publications/national-agriculture-policy-2016/view>, accessed September 2018.
13. The number of households is based on respondent estimates of village populations and not official district data.
14. District data are drawn from the respective district council's most recent socioeconomic profile. For Mzimba, that is an undated report covering the years 2003–2013, albeit sporadically, by the M'mbelwa District Council. For Salima, the profile covers the period 2011/12–2015/16; this profile contains significantly less basic data than that of other Malawian district councils. The Nsanje profile covers the period 2009–2012, which is the most up-to-date information available.
15. Note that solar cookers are different from energy-efficient stoves, which because of their high cost have had limited uptake in rural Malawi.
16. Me-Nsope and Larkins (2014) provide a good example of gender analysis for the pigeon pea value chain.

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