

FACTORS DRIVING

the Gender Gap

IN AGRICULTURAL PRODUCTIVITY: UGANDA



United Nations Entity for Gender Equality
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IN AGRICULTURAL PRODUCTIVITY: **UGANDA**

This report is a joint product of UN Women Regional Office for Eastern and Southern Africa (ESARO) and the United Nations Development Programme–United Nations Environment Programme Poverty-Environment Initiative (UNDP–UN Environment PEI) Africa.

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Acknowledgements

The United Nations Entity for Gender Equality and Empowerment of Women (UN Women), in partnership with the Poverty-Environment Initiative (PEI) of the United Nations Development Programme (UNDP) and the United Nations Environment Programme (UN Environment) commissioned this study, *Factors Driving the Gender Gap in Agricultural Productivity in Uganda*.

UNDP–UN Environment PEI and UN Women in Uganda and the Eastern and Southern Africa Regional Office (ESARO) in Kenya would like to express their gratitude to the Government of Uganda through the Ministry of Agriculture, Animal Industry and Fisheries and the Ministry of Gender, Labour and Social Development for their consistent and valuable contributions of relevant information throughout the process of the study. Further appreciation goes to the local district governments of Bugiri, Gulu and Kabale where the fieldwork took place. In particular, we commend the district agricultural officers — Peter Ndamuzungu of Bugiri, Rhona Ayesiga of Kabale and Peter Lakor of Gulu — for the excellent support they provided.

We would like to acknowledge the efforts of Haroon Akram-Lodhi, Professor of Economics and International Development Studies at Trent University, in conducting the study. We would also like to acknowledge Mark Bernstein and Nita Congress for editing and design of the publication, respectively.

We are grateful to all the participants of the validation workshop held 19 October 2017 at the Protea Hotel in Kampala. The invaluable inputs of these representatives of governmental organizations, UN agencies, civil society organizations and researchers led to refinement of the document.

Finally, special appreciation goes to the staff members who provided strategic guidance and substantive inputs for production and publication of the final document, notably Jacinta Okwaro and Moa Westman, UNDP–UN Environment PEI; Anna Mutavati, Enock Mugabi and Joan Babirye, UN Women Uganda; and Fatmata Sesay-Kebbay, UN Women ESARO.

Executive summary

In Uganda, as elsewhere in the eastern and southern African region, women and men farmers do not always face the same production conditions, nor do they always make the same production choices. As a result they may not have identical levels of agricultural productivity.

This recognition was a key reason underlying 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*. This report showed that male farmers had higher productivity than female because they grow higher-value crops and employ better technologies.

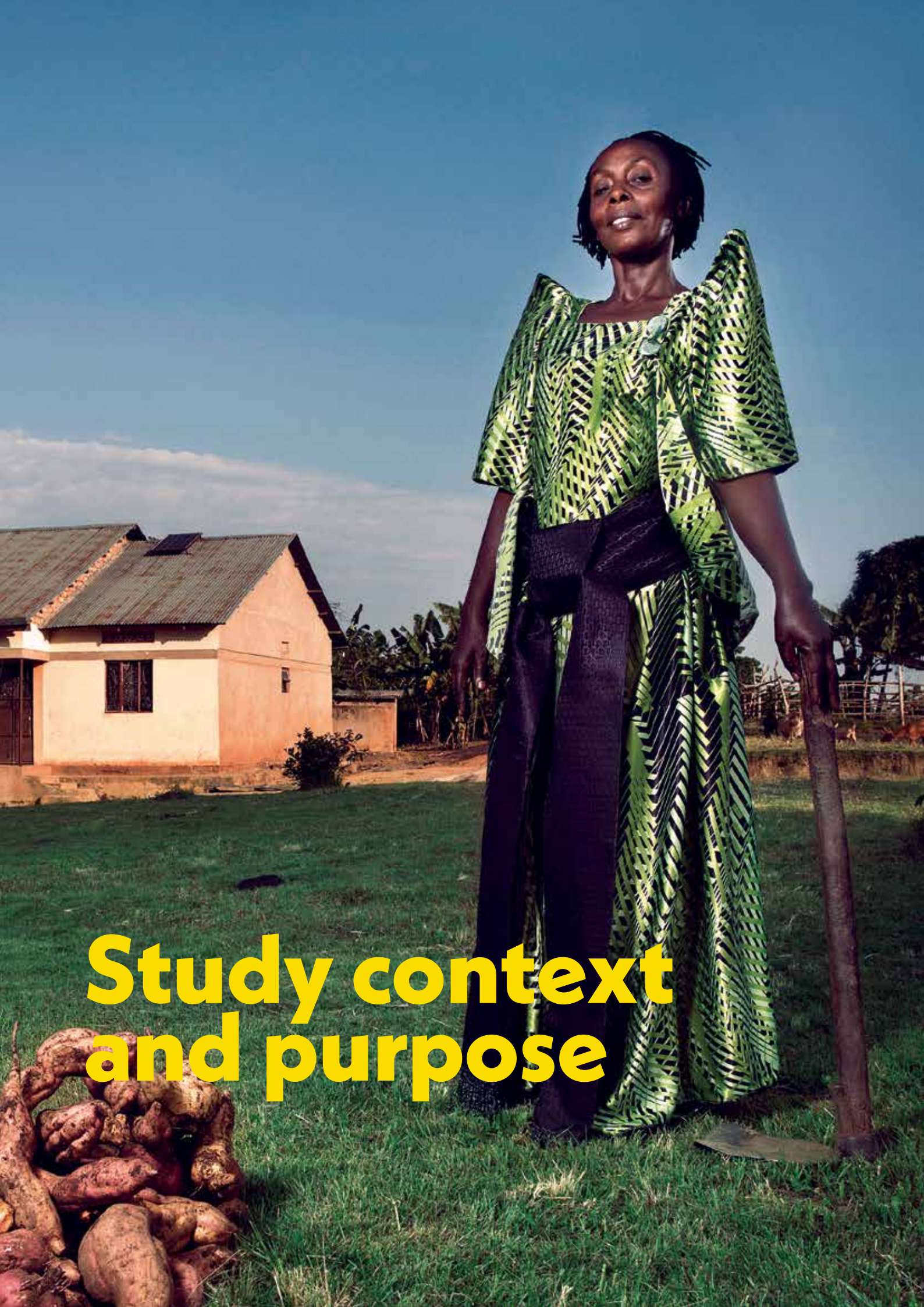
The current study affirms this result, but digs deeper to identify the key drivers of this gender gap. In Uganda, social norms — often reinforced by gender-based violence — assign women responsibility for providing household maintenance. This produces “time poverty” for most women relative to their own agricultural activities. Policies designed to alter the terms and conditions by which women operate in input and product markets may have a limited impact on their agricultural productivity, because such recommendations do not address the underlying forces that result in women’s lower agricultural productivity.

This study identifies policy proposals — consistent with Uganda’s Second National Development Plan, Public Finance Management Act and Agriculture Sector Strategic Plan — to confront gender stereotypes and address women’s time poverty and lack of assets, the lack of attention to gender-responsive climate-smart agricultural extension services, and the need to reform key statistical instruments to better capture gender relations.

The policy proposals put forward by the study are to:

- Provide every poor rural Ugandan household with at least a share in a rainwater harvesting storage jar
- Provide every poor rural Ugandan household with access to a solar cooker
- Provide the senior woman in every poor rural Ugandan household with an unconditional cash transfer
- Establish a pilot that identifies male advocates of gender equality and facilitates their ability to serve as a public voice for greater gender equality
- Continue to encourage formation of women’s groups at the community level

- Start pilot programmes in four districts to introduce “balanced tree” training to smallholder farmers aimed at demonstrating that women’s empowerment makes both men and women better off
- Establish a national pilot certificate of customary ownership registration programme, with both spouses’ names on the certificate and each spouse receiving a copy
- Implement Uganda’s 2016 National Agricultural Extension Policy, particularly its gender-responsive climate-smart dimensions, seeking active donor support for implementation
- Start a pilot gender-responsive climate-smart virtual farmer field school via a YouTube channel, focusing on maize and bean intercropping
- Mainstream the UN Women’s Gender and Equity Compact for the Agriculture and Food Security Sector to enhance government accountability for gender commitments
- Investigate the current deficiencies of Uganda’s statistical instruments in capturing gender relations and introduce needed reforms
- Undertake further research into the gender gap in Ugandan agricultural productivity



**Study context
and purpose**

Raising Ugandans' standard of living requires, foremost, that the country increase the productivity of its agricultural sector, which, together with forestry and fisheries, accounts for almost a quarter of its gross domestic product (GDP).¹ Between 2011 and 2016, Uganda's average annual growth was just 4.5 per cent, compared to 7 per cent in the 1990s and early 2000s.² Agricultural value added per worker, a key measure of agricultural productivity, fell from \$483 in 2011 to \$469 in 2015, in constant 2010 U.S. dollars.³ Moreover, the percentage of Ugandans engaged in agriculture is far greater than the sector's share in GDP. Almost three-quarters of Uganda's working-age population lives in rural areas, and 77 per cent of rural working women and 67 per cent of rural working men are engaged in the agriculture, forestry and fishing sector (UBOS, 2014). Further, agricultural productivity is closely tied

to the cost of food — which is itself a key factor in the general price inflation that affects the standard of living of all Ugandans.

This study focuses on the gender-based nature of this stagnation, which is a significant obstacle to increasing the agricultural productivity that would benefit all Ugandans. As this report details, the productivity of Ugandan women is diminished by a host of factors. These include, but are not limited to:

- The burden of uncompensated time women are expected to devote to gathering firewood and fetching water
- The burden of uncompensated time women are expected to devote to caring for the young, the ailing and the aging
- The burden of uncompensated time women are expected to devote to maintaining their home and their community

- The burden of uncompensated time women are expected to devote to working on plots owned by their husbands
- Women's lesser likelihood of being engaged in raising cash crops and their associated lesser control of financial resources
- Women's lower level of awareness of or access to improved seeds and other agricultural inputs, including practices that might counter the effects of climate change
- Gender-based violence, which maintains the social benefits of being a man

This study also presents a series of proposals to improve agricultural productivity by reducing gender-based gaps and, where feasible, identifies the financial costs of such proposals.

The gender gap in agricultural productivity in Uganda

In Uganda, as elsewhere in the eastern and southern African region, women and men farmers do not always face the same production conditions, nor do they always make the same production choices. As a result they may not have identical levels of agricultural productivity.

This recognition was a key reason underlying 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 Uganda at 13 per cent. As shown in Figure 1, eliminating this gap would produce an increase of:

- 2.8 per cent in current crop output
- 1.6 per cent in agricultural GDP; or about \$58 million (U Sh 188 billion)^{4,5}
- 0.42 per cent in total GDP; or nearly \$67 million (U Sh 217 billion)⁶

When differences in land quantities and qualities are taken into account,⁷ the *conditional* gender gap is much larger: 28 per cent. Eliminating this gap would produce an increase of:

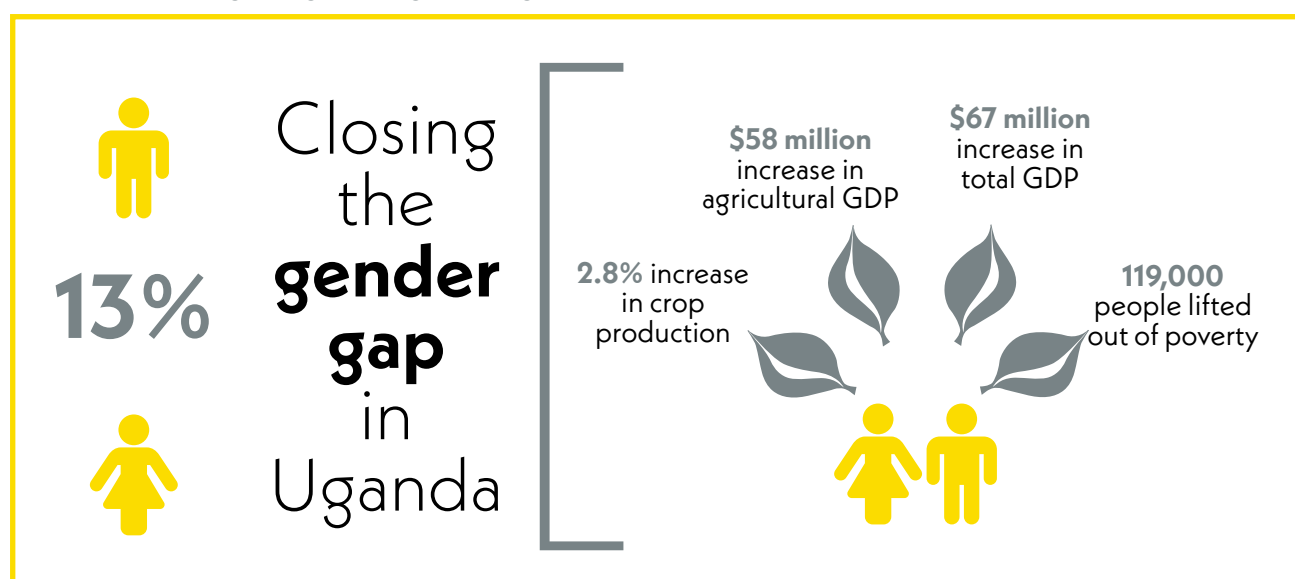
- 6.1 per cent in current crop production
- 3.6 per cent in agricultural GDP; or about \$126 million (U Sh 408 billion)

- 0.9 per cent in total GDP; or about \$145 million (U Sh 470 billion)⁸

Closing the unconditional gender gap would result in a 0.9 per cent reduction in poverty in Uganda. This would lift 119,000 people out of poverty each year over a 10-year period. Closing the conditional gender gap would result in a 2.0 per cent reduction in poverty, lifting 260,000 people out of poverty each year over 10 years.

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.⁹ Consideration was given to manager characteristics, household demographics, household wealth, plot characteristics, crop choice, use of fertilizer, farming techniques, and labour inputs, among others. The first finding was that women farmers grew high-value cash or export crops less often than did men. Overall, a 13 per cent gender gap existed in the share of land devoted to high-value cash or export crops. If this gap in crop

FIGURE 1
Results of closing the gender gap in Uganda

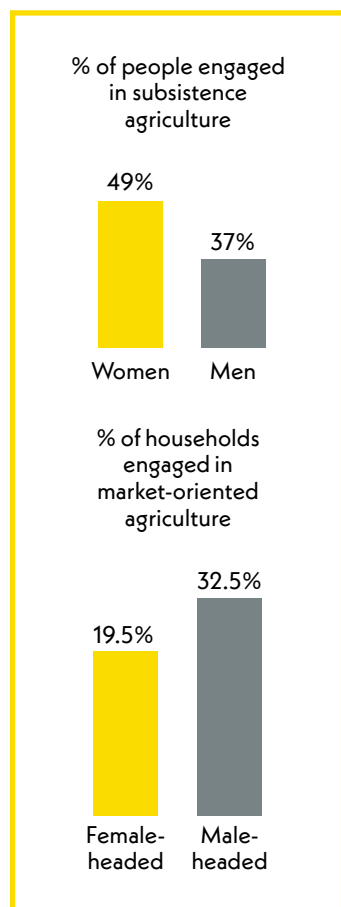


SOURCE: Adapted from UN Women, UNDP-UNEP PEI and World Bank, 2015.

cultivation was closed, Ugandan GDP would rise by more than \$8 million (U Sh 26 billion). The second finding was that women had significantly lower access to agricultural implements; this explains 9 per cent of the gender productivity gap. Further, women use lower levels of such technologies as pesticides and inorganic fertilizer. Lower use of inorganic fertilizer leads to a \$2 million (U Sh 6.5 billion) loss in Ugandan GDP. More generally, the gender gap in agricultural technology equates to lost national income of approximately \$11 million (U Sh 35.6 billion). These estimates, while important, require further investigation because Uganda's National Household Survey, while statistically representative, has some limitations (Serneels et al., 2011). For example, it does not investigate unpaid care and domestic work, which is a significant component of women's lives.

FIGURE 2

Women and men's participation in subsistence and market-oriented farming in Uganda



SOURCE: UBOS, 2012a.

Gender challenges in rural Uganda

Farming and poverty

Of the 77 per cent of working women and 67 per cent of working men employed in agriculture, forestry and fishing, most are engaged in subsistence farming, defined as a farm whose production is principally consumed by the farm household itself. Significant gender distinctions exist, however (Figure 2).

Most Ugandan farm plots are small — even in market-oriented commercial agriculture, the average holding is only 1.1 hectares (UBOS, 2010). Plots are highly fragmented, which is getting worse over time. Irrigation is rare, with less than 1 per cent of agricultural households making any use of irrigation (UBOS, 2012a). The vast majority of farms are rain-fed, which leaves them vulnerable to variable weather, extreme weather events and climate change. Because women are more likely to be engaged in subsistence production and less likely to undertake market-oriented commercial production, they generally lack control over cash income that might be used to supplement household requirements during periods of scarcity. Therefore, it is not surprising that a majority of agricultural households face food shortages at some point every year.

Rural Uganda 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. On balance, however, farming is an increasingly feminized occupation in Uganda. This underscores the importance of the role of gender-based factors in shaping Ugandan agricultural productivity.

In every household, cleaning and cooking must be done; water and firewood must be

fetches; the young, ill and old must be cared for. Such work is characteristically uncompensated, and draws on the time available for tasks that are economically rewarded. In rural Uganda, this work — for reasons tied to gender-based roles and expectations — falls heavily on women. The best estimates are that women devote an average of 5.2 hours a day to this unpaid care and domestic work, while men devote 1.6 hours (UBOS, 2015). This differential accounts for a generally heavier workload borne by women. In the 35- to 49-year-old age group, women, when unpaid work is included, work 11 hours a day, compared to 8 hours for men. Some 57 per cent of males — but only 25 per cent of females — do not engage in unpaid care and domestic work at all. Of course, these responsibilities result in women having less time to engage in productive activities such as farming, waged labour or enterprise development.

According to the Uganda National Household Survey, between 2012/13 and 2016/17, the percentage of the population living below the poverty line increased from 19.7 per cent to 27.0 per cent; these effects are disproportionately felt in rural Uganda. Poverty is most commonly experienced through nutritional and food insecurities, including chronic malnutrition and specific deficiencies, especially of Vitamin A and iron. An estimated 11 per cent of children are stunted at birth, and about 16 per cent are subject to wasting. Only 46 per cent of Ugandan children are breastfed up to the recommended age of two years (Kagolo, 2014). Wasting and being underweight peaks at 9–13 months; stunting peaks at 26 months (USAID, 2015). Both figures reflect nutritional deprivation in early childhood. These conditions increase the amount of unpaid care and domestic work that is expected of women.

Gender and farm production

A significant factor in rural poverty in Uganda is that the most important rural resource — access to land — is subject to four different forms of tenure: customary, freehold, leasehold and mailo. Customary land constitutes 40.6 per cent of the farmed area. Here, women's rights are mainly restricted to usufruct, derived mostly from their relationships with men as wives, mothers, sisters or daughters. That land which they do use is commonly fragmented. Similarly, mailo and freehold owners are much more commonly men; mailo owners may not use their property rights against customary tenants, who are deemed the lawful occupants, and who tend to be men. While 79 per cent of agricultural households own land (UBOS, 2012a), only 20 per cent is solely managed by women (Ali et al., 2015). When land is jointly owned by a husband and wife, most decisions are made by the husband (UBOS, 2012a).

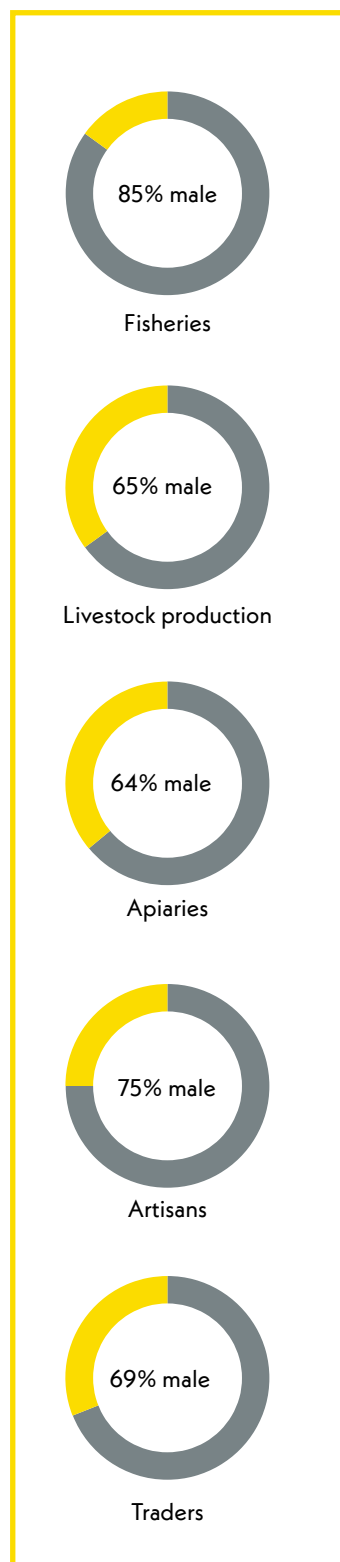
Livestock is predominantly owned by men. Four-fifths of 2 million agricultural households that rear livestock are headed by males (UBOS, 2012a). Because women have socially prescribed responsibilities for collecting wood, fetching water and caring for children, the ill and ailing, they are more dependent on farm self-employment and far less likely to be engaged in agricultural marketing. Thus, women's work is largely for household subsistence and maintenance.

Women spend more labour days than men to perform specific agricultural tasks (UBOS, 2010). For example, they need 45 per cent more labour days for seedbed preparation and sowing, 75 per cent more labour days for weeding or pruning, and 121 per cent more labour days for harvesting.

While 79 per cent of Ugandan agricultural households own land, only 20 per cent is solely managed by women.

Seeds used may be either self-provided locally or commercially produced and purchased. The former predominates: 92 per cent of households use local seed, and only 31 per cent use improved purchased seed (UBOS, 2010).

FIGURE 3
Gender performance of market-oriented work



SOURCE: UBOS, 2012a.

Among men, 33 per cent use improved seed, compared to 24 per cent of women (UBOS, 2010). While women are less likely to use modern inputs, only a minority of either men or women use such inputs (UBOS, 2012a).

Men are much more likely to engage in market-oriented work (Figure 3). More men than women are engaged in agribusiness: 52 per cent versus 18 per cent. While both men and women may obtain off-farm employment, women are paid 34 per cent less than men (UBOS, 2014). All these factors restrict women's access to cash that could be used to purchase key agricultural goods or ensure household food security during periods of scarcity.

Gender differences exist in crops raised. Female managers cultivate crops for household self-consumption — roots, pulses and oilseeds. Male managers cultivate cereals and bananas, as well as cash crops (Ali et al., 2015). Half of all food consumed in rural households is from its own production (UBOS, 2014).

More than 30 per cent of the population faces some level of chronic food

insecurity.¹⁰ Those agricultural households that report food insecurity attribute it to drought (91.5 per cent), pests and diseases (66.0 per cent) and the inability to afford their food of choice (56.7 per cent) (UBOS, 2010). During periods of scarcity, agricultural households use their limited savings to buy food or seek assistance from relatives (UBOS, 2010).

Gender and climate change

Much arable land in Uganda is degraded by unsustainable and changing land use practices and climatic variability, both of which reduce productivity (Olson and Berry, 2003). Pollution is caused by even the limited use of chemical fertilizers and pesticides (Bonabana-Wabbi and Taylor, 2008). While the agricultural sector can play an important role in climate change adaptation and mitigation, environmentally sustainable and climate-smart approaches to farming are not yet mainstream in Uganda.

Women in Uganda are less likely to have knowledge and experience with climate-related hazards to productivity. Men, through land ownership and control of resources, are likely better able to adapt to climate variation and natural disasters. Women characteristically manage more fragile land, subject to floods, landslides, degradation and erosion. Their limited financial resources prevent purchase of soil-replenishing fertilizers, and their low level of access to extension workers affects their general knowledge of what measures they may take.

Due to unequal bargaining power, men are more likely to influence the adaptation strategies within male-headed farming households. Frequent and prolonged dry periods may prompt farms to move away from traditional cash crops such as coffee, tobacco and cotton and towards more reliable, drought-resistant, early maturing food crops such as cassava, sesame and beans (MRFJC, 2013). These latter can be sold for cash and are traditionally

cultivated by females. The sale of crops previously directed at household use can potentially contribute to food insecurity.

Because of climate change, men may travel further to find pasture for livestock, while women may have to walk longer for water and firewood, further limiting their time for agricultural and food production (Republic of Uganda, 2015). Women may try to improve the efficiency of their unpaid work, for example, through use of energy-saving stoves and rain-water harvesting. While improved cooking technology may be fuel efficient, it often results in longer cooking times. It takes 2.7 hours to cook using a traditional three-stone stove, but 4.6 hours using a sawdust stove (UBOS, 2015).

Government institutions and gender policy

While Uganda's rural economy is pervasively gendered, the country offers a relatively enabling environment for promoting gender equality and women's rights in the agricultural sector. Uganda's 1995 Constitution embodies the principle of equality between women and men, provides for gender balance and fair representation, and includes affirmative action in favour of historically marginalized, equity-seeking groups in society.

Vision 2040 underpins the formulation of public policies in Uganda, as well as investment programmes for development partners and civil society organizations. Vision 2040, which takes the view that reducing gender inequality is a prerequisite to accelerating economic transformation, is implemented through five-year national development plans. The Second National Development Plan (NDP II), covering 2015/16 to 2019/20, defines nine key strategies, one of which is the mainstreaming of key cross-cutting issues, including gender (Republic of Uganda, 2015). NDP II acknowledges that gender inequalities

in access to and ownership of factors of production have played a role in the poor performance of the agricultural sector.

Multiple instruments exist to promote gender equality and women's empowerment in the agriculture sector. Most powerfully, the 2015 Public Finance Management Act obliges all ministries, departments and agencies to prepare gender- and equity-responsive budget framework papers as a basis for sector-specific ministerial policy statements. Moreover, the act provides that the Ministry of Finance, Planning and Economic Development, in consultation with the Equal Opportunities Commission, issue a Gender and Equity Certificate specifying that the national budget framework paper is gender and equity responsive.

Another important institutional support for gender equality includes the Ministry of Gender, Labour and Social Development, which has a 2007 National Action Plan on Women outlining women's concerns for priority attention. However, this ministry lacks the capacity to effectively execute its mandate and suffers a chronic lack of resources.

The 2015/16–2019/20 Agriculture Sector Strategic Plan, developed by the Ministry of Agriculture, Animal Industry and Fisheries, categorizes gender as a cross-cutting concern to be taken into account in the formulation, implementation and evaluation of agricultural sector policies, strategies, programmes and projects (MAAIF, 2016). The plan highlights the fact that women provide more than 70 per cent of rural labour but control only 20 per cent of rural output. Responsibility for engendered service delivery in agriculture lies with subnational district and local

Uganda has a relatively enabling environment for promoting gender equality and women's rights in the agricultural sector.

governments. However, these governments lack sufficient capacity to deliver services responsive to women's and men's different needs; also, those responsible for delivering gender-responsive services need adequate incentives to fulfil this responsibility.

In sum, the national policy landscape and institutional commitments have progressively incorporated a gender dimension. However, these policies have been far too inadequately implemented to protect women's rights and gender equality in agriculture. This is, in many ways, not surprising. The agricultural sector received only 3 per cent of the budget for fiscal year 2015/2016, down from 4.3 per cent in 2009/2010 (MFPED, 2015), and well below the government's commitment to allocate at least 10 per cent of national budgetary resources to the sector under the 2003 Maputo Declaration on Agriculture and Food Security.

National commitments to gender equality — in agriculture and elsewhere — have thus not been translated into gender-inclusive policies or projects for women's empowerment. Nonetheless, the NDP II and the Public Finance Management Act provide critical strategic entry points for ensuring that agricultural policies and development investment plans, at the national, district and local government levels, are more responsive to the different needs of women and men and that adequate resources are allocated to ensure implementation.

Gender and social norms in Uganda

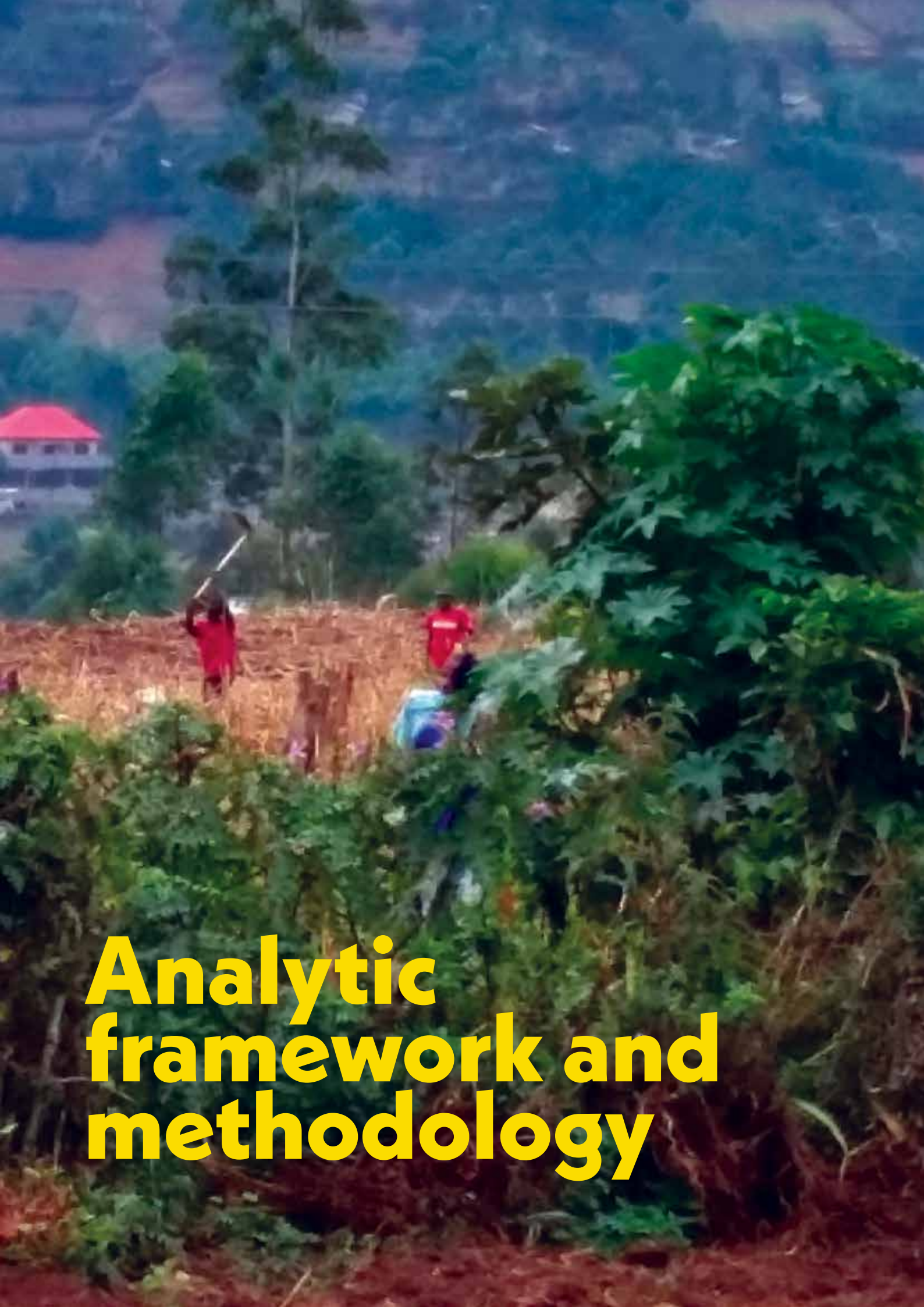
Notwithstanding Uganda's commitments under international and regional human rights instruments, almost half of married women and over a quarter of all married men have experienced intimate-partner violence that was physical; 31 per cent of women have also experienced sexual violence, and the prevalence is greater in rural areas than urban (UBOS, 2013). Thus, gender norms in rural Uganda are underpinned by gender-based

violence within the household. Women's legal rights are not clearly supported. For example, according to the Uganda Social Institutions and Gender Index Country Report, 27 per cent of Ugandans do not believe that women should own land or other forms of property (OECD, 2015).

Purpose and scope of this study

This study aims to better and more deeply understand the gender gap in Ugandan agriculture. It builds on the 2015 report, presenting an in-depth qualitative analysis of what drives the gender gap in Ugandan 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



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

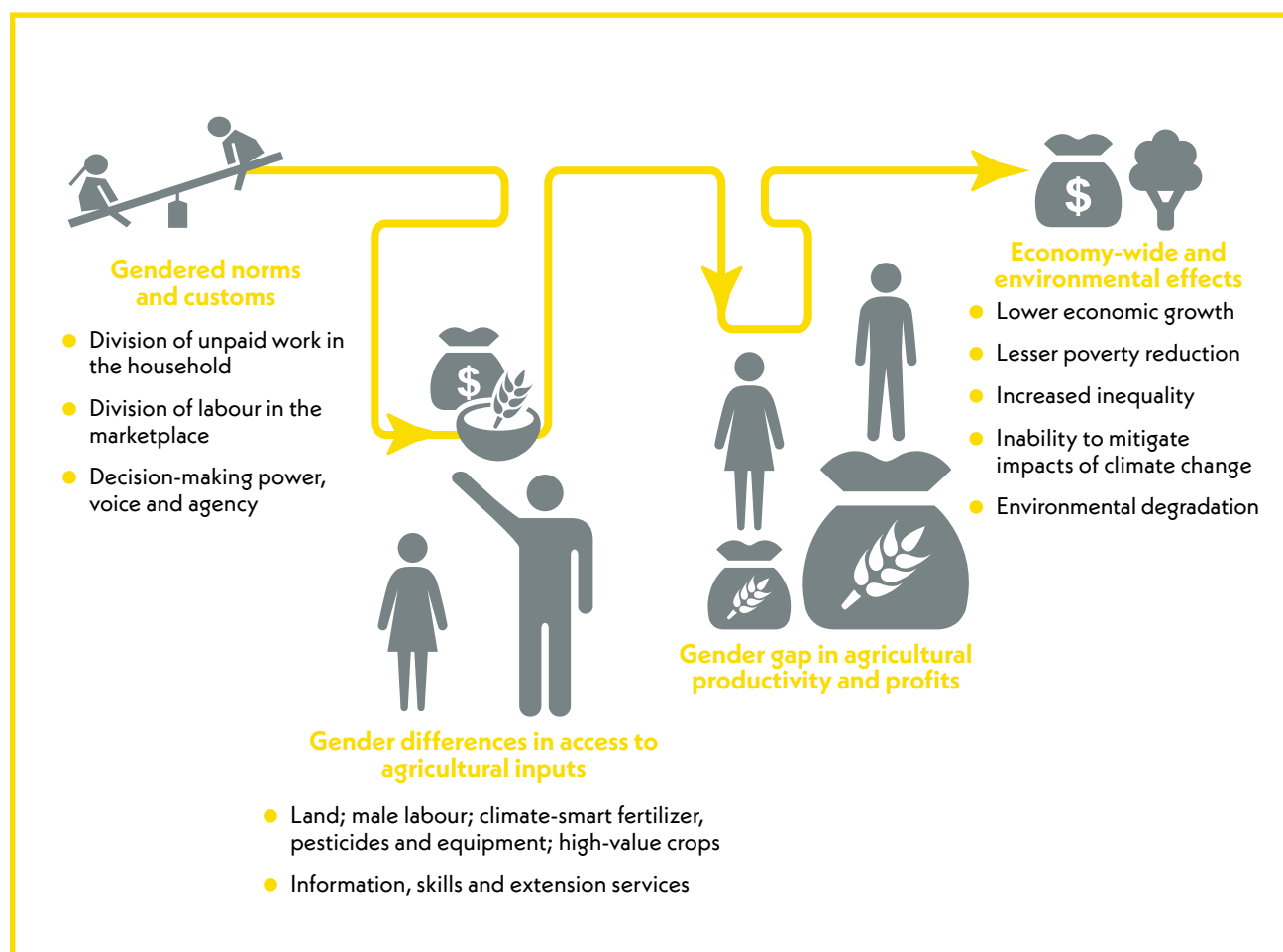
undertake economic production — which has a direct impact on agricultural productivity and important implications for gender equality and women’s economic empowerment. Gender differences in access to key farm inputs are a direct consequence of social norms and values. The resulting gender gaps in agricultural productivity and income only serve to reinforce the imbalance of power that underlies it. This way of understanding agricultural productivity is illustrated in Figure 4.

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 Uganda, 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 4
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 Uganda'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 Uganda. 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 research, undertaken in August–September 2017, was designed to go beyond the proximate econometric drivers of the gender gap to unpack any deeper, on-the-ground trends and patterns that might be observed. The qualitative field work went beyond the 2015 report by focusing on how climate-smart agricultural practices might affect the gender gap, a matter not examined in the 2015 report.

Qualitative fieldwork was undertaken in Gulu (northern region), Kabale (southwestern region) and Bugiri (eastern region). These districts are typical of Uganda in that they all undertake hoe-based rain-fed cultivation of fragmented yet nonetheless somewhat stratified small farms held under customary forms of tenure and producing primarily for subsistence.

Three villages were visited in each district. The key participatory methodologies used were semi-structured focus group discussions and key informant interviews. In total, 270 people took part in focus groups, including 122 in women's-only discussions. 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 270 participants from 2,805 households; these were both female and male plot managers, farmers of various ages, and women-only groups, as well as specific groups such as cooperative societies. Following each focus group discussion, women farmers were asked to remain to answer an additional set of questions to confirm the validity of the information received in the wider focus group discussion. In the women-only discussions, attention was paid to gender-differentiated access to and quantities of key factors of production: land, labour, seeds, fertilizers, water, tools and equipment. Where such factors were identified, the drivers of these gender differences were explored, as well as their relative magnitude. The women-only discussions also 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 2015 report, the hypotheses guiding the qualitative fieldwork and the preliminary findings of the fieldwork. These stakeholders included national and local planners and policymakers, United Nations system organizations, donor agencies and development partners, research and academic institutions, and national and international civil society organizations, as well as the local governments of Bugiri, Gulu and Kabale.



**Findings from
the field**

Farming system characteristics

Rural farm households in Gulu, Kabale and Bugiri share fundamental features.¹¹ Their ecological landscape is similar, as is their decision-making process in response to climate change. Their key economic activity is crop production, which employs more than 80 per cent of the districts' respective populations. Crops grown include beans, maize, potatoes, sweet potatoes, sorghum, rice, groundnuts, cotton and peas. To make ends meet, many farmers supplement their crops with a few cattle, goats or chickens.

Farms in the districts typically range from 0.2 to 2.4 hectares of often-fragmented cultivated land, although a small minority of households have larger land holdings.

"Land is for the

men." — Kabale villager

Land and other assets are distributed unevenly, in favour of men; women who marry rely on their husband or their husband's family for any land on which they work. Patriarchal asset ownership predominates, as does polygamous marriage. The land is customarily held over the generations by the household's senior men, who say they "own" the land, even though they have no formal title to it. As one man in a Kabale village said, "Land is for the men." Moreover, when land is rented, as in Bugiri, it is usually rented by men. Although a few women rented land in Kabale, one female respondent noted that "It looks queer" for women to rent land. A basic foundation of rural Ugandan society is that the only asset a woman brings into a marriage is her labour.

Land is usually prepared by hoe. Most women and men plot operators in the three districts plant low-yielding local varieties of seed, although some men use improved seed for maize. Only in Kabale do some male farmers apply animal manure to fertilize their fields; otherwise, no organic or industrial fertilizers

are used. Modern tools and equipment are very rare.

Most farmers rely on rain rather than irrigation — an increasingly hazardous risk in a new era of erratic rains and abundant droughts.

In Bugiri, men devote 6.9 hours to production daily; women spend 9.1 hours and devote additional time to collecting water and firewood and other household chores. The Gulu District Development Plan notes that women have heavy workloads, in part because they provide the bulk of agricultural labour, but principally because of their unpaid care and domestic work responsibilities, in which men will simply not take part.

Farms produce cash crops for sale, subsistence crops for household use and flexible ("flex") crops that can either be used for food or sold. Certain cash and flex crops are grown only by men on their plots; certain horticultural crops, grown for sale, are only grown by women. Almost invariably, the food crops that feed the family are the women's to grow.

All the districts report low and erratic yields due to the changing climate, which has brought increased drought and thus water shortages. A minority of farms — both male- and female-managed — have responded by planting shorter-maturing and more drought-resistant crops, halting tree cutting, planting trees and using watering cans. This demonstrates an implicit recognition of the need for climate-smart agricultural practices. Such strategies, however, are not coordinated. One villager said that Kabale as a whole had not responded to climate change, but had simply "accepted the drought." No differences were noted between male and female plot operators in adopting climate-smart agricultural practices.

The inability to respond to climate change highlighted the point commonly made in

focus group discussions that agricultural extension services were insufficient. While most male and female farmers knew who their agricultural extension officer was, service provision was limited and inadequate. One villager said the agricultural extension worker only visited friends. Kabale was an exception: in two villages, the agricultural extension worker was active, services were regular, and both male and female farmers had the extension worker's telephone number. Many focus group participants, both men and women, stated that better agricultural extension services were needed to cope with increased climate-induced variability in the weather.

Meagre crops are further devalued upon harvest through negligent handling and inefficient transportation, to be finally offered in local markets as raw, unprocessed, low-priced products. The result is a lot of work for little pay.

Women farmers have little input in marketing; it is the husband who typically makes the marketing decisions and collects the profits. Money earned by husbands is not shared with their wives, nor is the decision on how it is spent. Such control is at times enforced through violence. In Bugiri, for example, some 60 per cent of women between the ages of 15 and 49 have experienced gender-based violence; the Gulu District Development Plan states that gender-based violence is "rampant" and "on the increase."

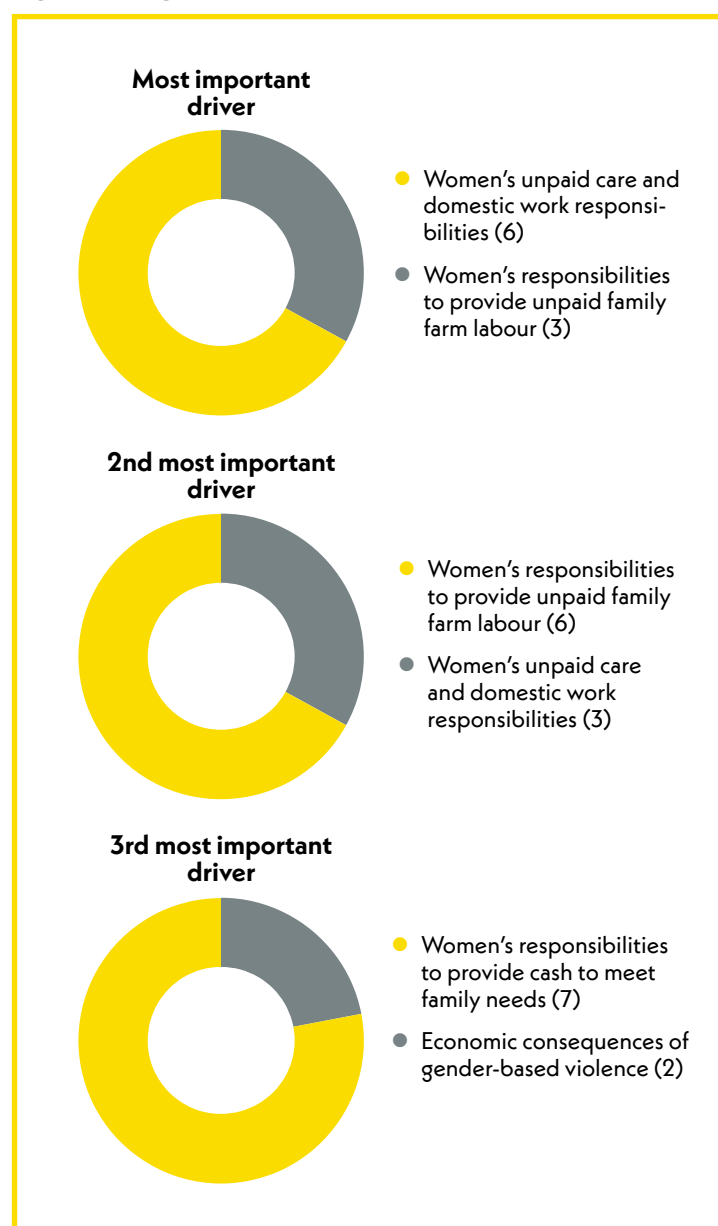
Kabale's District Development Plan identifies women's lack of control over productive assets, including land and livestock, as well as men's control of household cash, which intensifies the poverty women face, as a significant inhibitor of development. The Gulu District Development Plan notes that "gender relations...undermine the returns to assets owned by the poor." The Bugiri District Development Plan similarly recognizes that "gender disparities...hamper...agricultural productivity."

Drivers of the gender gap in agricultural productivity

Figure 5 summarizes the principal findings of this study's research into the most important drivers of the gender gap in Uganda's agricultural productivity, as identified by respondents

FIGURE 5

Most important drivers of the gender gap in Uganda'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.

across the nine villages visited. The following subsections expand on these findings.

Women’s unpaid care and domestic work responsibilities

In the nine villages in which fieldwork was conducted, unpaid care and domestic work was far and away the most significant constraint on women’s time. Consistently, women rise earlier; they work while men rest; they work while men pursue leisure activities. Further, women’s work in economic activities is more subject to interruption — for example, by an unexpected illness.

Women labour without pay not only on farm plots, but also in the home, where they are responsible for food preparation and delivery, household sanitation and cleaning, child care, home health care and informal intra-household education. They are also principally responsible for firewood collection and water collection. These latter tasks are time

consuming; in one village in Gulu, firewood and water collection take four hours a day, three days a week. In one Kabale village, firewood collection takes an entire day. Only in one village in Kabale where boreholes have been dug does water collection take less than an hour a day. A woman can thus spend five to seven hours on unpaid work, which severely constrains

their ability to work their own plots of land. One Gulu woman noted that she could not “spend enough time on my own garden” because of her “other responsibilities.”

The performance of unpaid care and domestic work has an opportunity cost: it limits women’s options by reducing labour availability for on- and off-farm work. This, in turn, reduces the cash and non-cash resources women

can generate. Not only is the time available to work on women’s plots reduced, so is its “timeliness.” Unpaid labour makes the timely application of good agronomic practices more difficult, including climate-smart agricultural practices, as well as limiting the time available for seasonal and time-consuming mitigation measures to reduce environmental vulnerability.

There are additional implications as well. The expectation that women will provide food for their families reduces their ability to grow higher-value crops. The income thus foregone reduces women’s purchasing power — notably their ability to hire casual labour, purchase pesticides and buy better agricultural implements. This increases women’s poverty and their lack of economic power relative to men.

Men have no incentive to perform additional unpaid work, because they benefit from its performance by women. Clearly, the social norms that require greatly more unpaid labour from women must be addressed if the productivity of women’s plots is to be increased.

Women’s responsibilities to provide unpaid family farm labour

The fieldwork for this study highlights a hitherto little-remarked aspect of farm production practices in Uganda: namely, that women’s ability to work their plots is significantly constrained by social norms that prescribe they work on plots operated with their husbands before undertaking work on their own plots.

In polygamous marriages, senior wives are assigned plots of land by their husband, who generally reside with the most junior wife. These plots provide food for the wives’ household, including the husband when he chooses to eat with them. In Gulu women’s-only

Men have no incentive to perform additional unpaid work, because they benefit from its performance by women.

discussions, it was noted that junior wives are assigned larger and better plots than senior wives. However, senior wives are expected to work on their husband's plots before working on their own, which constitutes a significant time demand on senior wives. Young wives in Gulu are expected to work first on their in-law's plots, next on their husband's plots, and only then on the plot assigned by their husband. At the same time, husbands are unwilling to work on land controlled by their senior wives, thus reducing the total time available to work on women's plots of land. This reduction in labour availability can exist at important times in the growing season, such as early harrowing, early planting and early weeding, thereby exacerbating women's vulnerability to climate change.

Many women respondents stated that men worked less than they claimed to be working on their plots of land, and that women worked significantly longer on their husband's plots than did the husbands themselves. In one women's-only group in Bugiri, one respondent spoke for many in saying, "Most farm work is done by women." A Kabale respondent stated, "Men own, but don't work. Women work, but don't own."

Something similar is found in monogamous marriages, where wives' work on jointly operated plots is typically greater than the work performed by their husbands. Indeed, a Kabale woman noted that "Men do not go to the fields unless they are working for money."

It appears that men consistently over-report their labour contribution on the plots they work and consistently under-report the labour contribution of their wives on the plots they work. Thus, in many instances it is far more useful to understand husbands as being effectively managers of wives' labour, which is mobilized through marriage and performed to increase the income available for the husband.¹² Moreover, it is the husband who

controls the crops produced, apportioning it between household requirements and commercial sale, and keeping all or most of the proceeds from any sales.

Bringing these findings together, and as confirmed in focus group and women's-only discussions, women's time-consuming and unpaid family and farm responsibilities create "time poverty" — a critical reason why women experience lower agricultural productivity. As participants in one Kabale women's-only group explained, "Women know how to work for their family's development," but they are ultimately "the property of men." A Bugiri woman noted that women are "weighed down by housework"; they want "freedom...independence... and support."

"Men own, but don't work. Women work, but don't own."

— Female Kabale villager

Women's responsibilities to provide cash to meet family needs

Since women are responsible for ensuring that food is available and prepared, it means that when a woman's plots fail to produce sufficient food, they must obtain money to purchase the food needed. Women must also pay for clothing, health care, school fees and related items. One Kabale woman stated, "The wife must take care of everything."

While women may address this problem by taking on casual on- and off-farm waged labour, such labour itself has a further opportunity cost in that it reduces the time available to women to work their own plots. Women may also sell flex crops to meet cash needs. By common consent among women's-only groups in Bugiri and Kabale, when women sell flex crops the money earned is hidden from their husbands. Such secrecy is practiced because cash and flex crop marketing decisions are supposed to be made primarily by husbands. If a woman sells crops without her

husband's permission, noted one participant, "he will finish you." Women are further disadvantaged by lacking equal information about marketing practices and prices, as well as by men owning the available means of transport. Thus, if women do opt to sell crops, they likely receive a lower price.

Men also do casual labour for cash, but a women's-only discussion in Bugiri stated that men do less casual labour for cash than women. Money earned by men is not shared with their wives, as the husband is the "sole spender" of money earned from cash and flex crops, and the women's-only groups consistently noted that wives have no idea how their

husband's money is spent. In a women's-only group in Gulu, it was stated that questioning a husband's marketing decisions would result in intimate-partner violence.

Further, some respondents said husbands — without consulting the wife who grew the food — would take food crops and give them to

another wife for her to use, or sell them for cash for himself. In Kabale, a women's-only group said husbands hide sorghum grown by their wives in their boots and then sell it: this literally amounts to theft. Resisting such sales, women said, prompted intimate-partner violence. Given that men do not redistribute cash income, such theft increases the wife's need to undertake casual waged labour to meet household needs. In a women's-only group discussion in Bugiri, one participant said, "Men get support from their wives and children, but women are not supported by their husbands."

An exception should be noted. In Gulu, a seed business is jointly owned by nearly 50 households and operates about 32 hectares. Managed by a charismatic and educated local

farm entrepreneur, this business boosted revenues, managed costs and sustained profits, which were either distributed to members or reinvested in the business. The income of members was far above district rural norms. As part of the business, the manager created mechanisms to incentivize joint decision-making by husbands and wives. These mechanisms were seen by business members as contributing to increasing profits — with the result that more joint decisions were made about the household's role in the business and the use of the income streams received by the household.

Economic consequences of gender-based violence

Bugiri, Gulu and Kabale show similarities in the forms of gender-based violence that are reported, such as female genital mutilation, early marriage, early pregnancy and widespread gender-based violence. Often aggravated by alcohol consumption, some men use gender-based violence to ensure their choices are enforced within the household; to take cash and non-cash resources generated by women and to enforce labour allocation decisions regarding their wives' work on farm plots. Further, some men use gender-based violence to enforce unpaid care and domestic work by women (especially food preparation for men); to coerce women into having intimate relations; and to discipline women, most notably when they return from collecting firewood or water or from marketing their crops. All forms of gender-based violence assert husbands' power over their wives. That power is greater in polygamous marriages, but ever-present in all marriages. Men who do not deploy gender-based violence are in the minority.

Gender-based violence is usually viewed as a violation of civil and political rights. This study extends that view to focus on the central importance gender-based violence plays in

"Men get support from their wives and children, but women are not supported by their husbands."

— Female Bugiri villager

explaining the gaps in agricultural productivity. Because of gender-based violence, women may be less able to work for periods of time. When women are less able to work, agricultural productivity is likely to be reduced. And when, due to gender-based violence, women cannot undertake casual waged labour, less income is available for household maintenance needs — which, in turn, can trigger further gender-based violence. At the same time, because some husbands use gender-based violence to seize resources produced by their wives, women have less incentive to produce such resources. In sum, gender-based violence reduces women's labour supply, cash incomes and incentive to save and to invest. All of these have direct, negative economic consequences for women, yet standard economic analysis fails to consider or investigate them.

To be clear, is not being suggested here that an elimination of gender-based violence will lead to a gendered equalization of agricultural productivity. It does suggest, however, that gender-based violence is at least connected with the lesser productivity of women farmers, and that social norms and values that render gender-based violence acceptable to too many men within communities must be addressed if the productivity of women's plots of land 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.

Cumulatively, men's control of women's time and labour, of marketing decisions and of the income flowing from those decisions limit women's access to key agricultural inputs and technologies, thereby lowering the productivity of women's plots. The economic consequences of gender-based violence, the social expectation that women perform significant quantities of unpaid care and domestic work, and the social expectation that women contribute unpaid family farm labour but

do not control the output of the work all reduce a woman's ability to allocate time to the plots they control. The time poverty from which women consequently suffer must be addressed if the productivity of women's plots of land is to be improved.

Agricultural productivity, climate change and extension services

Women's shortage of cash income makes them less able to use the improved agricultural technologies that some men are able to use — including tools and equipment; improved seeds; and chemical fertilizers, pesticides and herbicides. Thus, social norms and values limit the technological choices available to women plot operators, contributing to lower agricultural productivity. This extends to such climate-smart agricultural practices as conservation agriculture that sustains soil micronutrients; crop variety selection of early maturing, drought-resistant and high-yielding crops; manuring; rainwater harvesting; and agroforestry, which helps sustain soil structure, composition and biodiversity.

In the three districts studied, many farmers — both women and men — already practice aspects of climate-smart agriculture, including intercropping maize and beans, planting more drought-tolerant crops, using faster-maturing seeds, manuring and tree planting. Lack of knowledge, however, limits the effectiveness of these steps. For example, integrated agroforestry practices would reduce the time required for women to collect firewood, improve water sources and increase soil fertility.

Because some husbands use gender-based violence to seize resources produced by their wives, women have less incentive to produce such resources.

It is hardly surprising that women have lower agricultural productivity, even when controlling for the poor quantities and qualities of land they operate.

Agricultural extension services are critical to the effective adoption of climate-smart agriculture. In the three districts studied, however, both farmers and district agricultural officials displayed very little knowledge of climate-smart agriculture, due to a lack of both extension services for farmers as well as the infrastructure needed to facilitate delivery of extension services. Indeed, budgetary restrictions mean many villages do not even know who their extension officer is. Across the villages where fieldwork was conducted, agricultural extension officers were absent, making the introduction of climate-smart agricultural practices inadvertent, haphazard and uncoordinated.

Agricultural extension officers could make a much more useful contribution, but this would require significantly greater budgetary resources. Even with increased budgets, women would be disadvantaged. Their unpaid labour reduces the time available for learning about climate-smart techniques, and their lack of cash income reduces their access to climate-smart technologies.

Study findings in light of the 2015 report

The 2015 report identified these inequalities in Uganda:

- Male plot operators produce higher-value crops.
- Male plot operators use higher quantities of pesticides.
- Women plot operators use inferior tools and equipment.

Women do not grow higher-value crops because of the social expectation that they will provide the food and cash needed to maintain the household. Women therefore lack the cash incomes to buy agricultural technologies. This inequality reflects social norms that meeting household needs is first and foremost a woman's responsibility. Consequently, wives have less capacity to work on- and off-farm, which reduces their access to services and technologies. These social norms are enforced through men's widespread use of gender-based violence. Such violence has economic consequences, reducing women's labour availability, cash incomes and incentives to save and invest. Consequently, it is hardly surprising that women have lower agricultural productivity, even when controlling for the poor quantities and qualities of land they operate.

Agrarian life turns on four key questions (Bernstein, 2010):

- Who owns what?
- Who does what?
- Who gets what?
- What do they do with it?

Land — the principal agrarian asset — is customarily “owned” by men, with wives' access mediated by husbands. Wives work on joint plots, but do not control the output from those plots. In polygamous households, wives work on land provided by their husbands; husbands work only on their own plots. Husbands generally work significantly less than their wives, even though wives are expected to perform unpaid care and domestic work to maintain the household. These two factors — wives working on husband's plots and wives undertaking unpaid care and domestic work — reduce the amount of time wives have to work their own plots, thus helping to explain the gender gap in agricultural productivity.

Looking at “who gets what,” men control marketing decisions and consequent cash flows. Moreover, husbands can seize and sell crops needed to meet household needs. Wives’ food crops are used to feed the household, because wives have the primary responsibility of meeting the full extent of household needs: the provision and cooking of food, cleaning and sanitation, caring for children, intra- and extra-household health care and school fees. The requirement that the wife provide all the money needed for household maintenance means that substantial parts of her time — again — cannot be allocated to her farm plot, further helping explain the gender gap in agricultural

productivity. Husbands, on the other hand, control the money they obtain and use it for personal ends.

A fifth question might be posed: “What do they do to each other?” The answer is that some husbands — too many — use intimate-partner violence to maintain the unequal social relations of which they are the principal beneficiary.



Policy recommendations

Gender-based constraints on agricultural productivity clearly exist in Uganda. Equally clearly, addressing these constraints could increase the productivity of women's plots of land. Such an increase in turn would help alleviate broader societal concerns about Ugandan standards of living and children's health. The constraints on women identified in this report are time poverty, lack of cash income, shortage of independently controlled assets and lack of access to climate-smart agricultural practices and services. This section provides policy recommendations aimed at addressing these constraints; the recommendations are clustered into three sets of activities:

- Transforming the material and cultural foundations of existing social norms and values
- Improving agricultural performance for both women and men
- Undertaking further research

All proposals made herein are consistent with NDP II, the 2007 Gender Policy and the Agriculture Sector Strategic Plan; they are therefore consistent with the existing Ugandan policy framework. Moreover, as responsibility for service delivery lies with subnational district and local governments that are obliged to promote gender equality, budgetary transfers to these district and local governments need to be strengthened. The proposals made cumulatively empower women's agency and voice.

Social norms and values

Confronting gender stereotypes

Recent research, including some done in Uganda, shows that increasing wives'

bargaining power and improving husband-wife cooperation raises total household income and consumption expenditures per capita (Ambler et al., 2017; Lecoutere and Jassogne, 2016; McCarthy and Kilic, 2017). It can therefore be asserted that development programmes that promote intra-household cooperation could lead to greater gains in income and household public goods provision in Uganda.

This finding was borne out by this study's fieldwork, which highlighted the economic consequences of gender-based violence — particularly, but not exclusively, in polygamous households (*The Economist*, 2017) — as contributing to gender gaps in agricultural productivity. Gender-based violence is thus not just a violation of civil and political rights, but also a violation of economic and social rights (Puri, 2016). It is rooted in socially constructed expectations that perpetuate stereotypes that cannot be significantly divorced from the lived realities women and men face. The mindsets of community members regarding existing negative norms and traditions can be changed through sensitization and creating awareness at the village level. The need to confront stereotypes has three dimensions, which together indicate the required policy and programme intervention.

MEN AS PARTNERS

Men must confront stereotypical masculine behaviour for that behaviour to be changed. Precedents for doing so exist. For example, the 2009 evaluation of South Africa's Sonke Gender Justice Network's One Man Can campaign found that, of the participants who accessed voluntary counselling and training after the campaign, half began to report acts of gender-based violence and four-fifths spoke with friends and family about HIV and AIDS, gender and human rights (Peacock et al., 2009). Identifying male advocates need not be a government-run effort; rather, the lead can

be taken by local, community-based organizations.

Non-costed policy proposal: Initiate a pilot programme to identify male advocates of gender equality and facilitate their ability to be public advocates for greater gender equality.

SUPPORT FOR WOMEN

Men and women working in partnership can begin to reconfigure husband/wife roles.

Forming women's groups at the village level would (i) allow private discussion of gender-based violence, (ii) inform women of their civil and political rights and (iii) educate women regarding their livelihood options. Evidence shows that such groups can empower individuals to challenge gender-based violence and stereotypes through collective support for individual and collective interventions (Agarwal, 2010). Moreover, women's groups can lead to the formation of viable gender-responsive cooperative movements that could facilitate better access to improved agricultural inputs and climate-smart technologies at affordable prices, access to markets, value addition to crops, and the acquisition of land for members.

Non-costed policy proposal: Encourage non-governmental organizations to sustain support for the formation of women's groups at the community level.

WOMEN AND MEN AS EQUAL PARTNERS IN DEVELOPMENT INTERVENTIONS

Men and women working in partnership can begin to reconfigure husband/wife roles and share in identifying and designing local agricultural development projects. This sharing is essential to ensuring that women will benefit

from these projects and that men will come to value the ideas of women in their communities. A successful example of this was a recent gender and agriculture intervention undertaken by the UN Women Malawi Country Office (UN Women, 2017). One component of the project sought to demonstrate that, rather than disenfranchising men, women's empowerment makes both men and women better off (a "balanced tree" approach). To this end, the project had smallholder farm couples develop "vision journeys" on how to improve their lives by acting collectively to adopt better farming techniques. The underlying assumption was that a household that works cooperatively can have better food security and income than a household that is in conflict — thus, lives can be improved by accomplishing collective life visions. To date, 93 household have taken part in the initiative. While initial monitoring reports success, final evaluation is yet needed.

Non-costed policy proposal: Introduce a balanced tree training programme to smallholder farmers in four districts of Uganda.

Dealing with time poverty

The construction of public infrastructure can relieve women's time poverty from unpaid care and domestic work in two key domains: water and energy. The fieldwork for this study found that, for many women, collecting water and fuel takes three to four hours every day. This both lengthens their work day and diminishes the time they have available to devote to agricultural pursuits. Public infrastructure addressing these concerns need not be provided solely by government, but by non-governmental organizations as well, and will benefit the entire community.

RAINWATER HARVESTING

Irrigation is rare in Uganda; crops are raised with rainwater, of which about 2 metres falls each year. Principal responsibility for water, including sanitation and hygiene, rests with the Ministry of Water and Environment. Cost constraints mean that public water infrastructure remains deficient in much of rural Uganda. A 2011 government study estimated the cost per beneficiary of a new water and sanitation scheme at \$44 (U Sh 111,000) (UBOS, 2012b). Further, many improved water systems are effective only when the water table is reasonably accessible or in urban areas.

An important alternative exists. Rainwater harvesting, using locally produced storage, is inexpensive. In addition to aiding agricultural production, rainwater harvesting contributes to reducing unpaid care and domestic work by women. Currently, only 1 per cent of Uganda's rural population is served by rainwater harvest tanks.

According to WaterAid, construction of a long-life, low-maintenance 1,500-litre storage jar using local materials and labour and shared among five households is U Sh 200,000 (\$56).¹³ So supplying all 1,550,000 poor rural households in Uganda (UBOS, 2016b; World Bank, 2016) with shared rainwater storage would cost U Sh 62 billion, or \$17.2 million. A six-year programme rollout would cost less than \$3 million (U Sh 10.8 billion) a year, equal to just 6.1 per cent of the central government's allocated expenditure for water for 2016/17. A more ambitious plan would provide every rural poor Ugandan household with its own 1,500-litre rainwater storage jar. This would require reallocating central government development expenditure of 1.2 per cent per year for six years.

Such a step should include transferring knowledge to community-based organizations and women's groups to ensure gender-equitable

access to water — thus providing women with enhanced access to a key rural asset and helping reshape social norms and values.

RURAL ENERGY

Energy use in rural Uganda has a strong gender bias, as it is typically women who are responsible for gathering firewood. This burden could be eased by making use of a key source of renewable energy. Uganda, with an average of 55 per cent of daylight hours being bright and clear, has an abundance of potential solar energy.¹⁴ Low-technology solar cookers may be readily and inexpensively constructed locally; their operating cost is 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.

Community-based education is needed in the use of solar cookers. Technical specifications are available for free on the Internet. The cost of producing a low-maintenance stove that will last two years averages \$5 (U Sh 18,000).¹⁵ Supplying the senior female in each of Uganda's 1,550,000 poor rural households — and thereby reducing the demand for firewood and improving general health — would be \$7.75 million (U Sh 28 billion). To implement this programme over six years would entail an annual cost of \$1.3 million (U Sh 4.7 billion), or 0.22 per cent of the donor-funded central government development expenditure allocated to fuel and energy for 2016/17. It is unclear who would be responsible for implementation. Training targeting local women's

Currently, only 1 per cent of Uganda's rural population is served by rainwater harvest tanks.

groups in the use of solar cookers would incur additional cost.

LACK OF CASH

International development practice has shown the most effective way to aid people who lack cash is to provide them with cash, through either conditional or unconditional cash transfers. In Uganda, the most ambitious cash transfer initiative is the Senior Citizens Grant, which targets those aged 65 or older with a monthly pension of U Sh 25,000 (\$7). As of 2016, there were 125,000 Ugandans in 15 of the country's 112 districts enrolled in the pilot programme (Kidd, 2016). If made universal, the cash transfer programme would be among the least costly in the world, equal to 0.35 per cent of GDP (Kidd, 2016). The current programme is strongly gendered; 65 per cent of recipients are women.

A four-year randomized control trial, conducted through the Northern Uganda Social Action Fund, found that unconditional cash transfers in Uganda generated significant boosts to income, particularly among women, with the resources used to create assets. Mismanagement or misappropriation of public transfers was very limited (IPA, n.d.). The World Bank (2016) has urged that participation in Ugandan cash transfer programmes be raised above the current level of 10 per cent of households.

Supplying all senior women in the 1,550,000 poor rural households of Uganda with an unconditional cash transfer of U Sh 25,000 (\$7) would cost \$10.7 million annually. The administrative cost could be dramatically reduced if the unconditional cash transfer operated through a Ugandan mobile money network.

These three proposals that deal exclusively with the time poverty arising out of gender-biased social norms and values — rainwater storage, solar cookers and cash transfers — would represent a combined annual cost of \$15 million (U Sh 54.2 billion), and would benefit 7.6 million rural poor in 1,550,000 households. In short, easing the problems of time and cash poverty would cost less than \$2 (U Sh 7,200) per person per year.

Improving agricultural productivity

Gender and land rights

As most arable farmland is held under customary tenure, most Ugandans have no formal legal document to support their rights of ownership. The 2013 Uganda National Land Policy has been generally unsuccessful in protecting ownership and inheritance rights of women and children. Despite policy and regulatory initiatives, key issues in land management remain unresolved. For example, as customary land evolved into de facto private ownership, overlapping rights were created; further, the country's Land Act is not as clear as it could be on how the government can acquire land. A 2010 amendment sought to enhance the security of bona fide occupants and ensure the rights of tenants in the event of land ownership changes. Problems remain. Moreover, the Land Act was buttressed by the Uganda National Land Policy of 2013, which differs from the Constitution and Land Act in categorizing land as either private, public or government. Resolution of disputes around customary land is vested in customary institutions, but these may not successfully resolve disputes if they are perceived as biased.

Regarding gender relations, "there is no clear presumption of co-ownership of land by husbands and wives in either the Land

Most Ugandans have no formal legal document to support their rights of ownership.

Act or elsewhere; the Marriage Act 2000 and the Succession Amendment Decree 22/72 of 1972 are silent as to the disposition of property acquired during a marriage” (Hannay, 2014). In practice, customary land is deemed to be “owned” by the senior male in a household, and the inheritance passes through the male lineage — to the severe disadvantage of women.

The Land Act of 1998 states that “Any person, family or community that holds land under customary tenure on former public land may acquire a certificate of customary ownership (CCO) in respect of that land.” A CCO is “conclusive evidence...that the land it refers to continues to be occupied, used and regulated, and that any transactions in respect of the land undertaken and any third-party rights over the land are exercised in accordance with customary law.” In one pilot project, the CCOs name both husband and wife, thus formally establishing joint “ownership” of customary land and encouraging women to believe they could formally own land. The pilot found CCOs reduced land-related conflicts both between and within households. However, CCOs were difficult to introduce in polygamous households.

Clearly, the Marriage Act requires revision to provide legal recognition of gender equality in asset ownership. In addition, “mechanisms need to be put in place to ensure that the law granting spouses joint ownership is enforced” (ICRW, 2011). At present, women’s inheritance of land is often challenged upon the death of the husband of the household. Government and private stakeholders must work to ensure that both husband and wife are named on the CCO, and that each receives a copy. “Having one’s name on land documentation is associated with significantly stronger decision-making over land” (ICRW, 2011). Enforcement of joint ownership will enhance the legal position of women, further their understanding of their legal position, and

allow them to assert control of customary land when their husband dies.

Non-costed policy proposal: Initiate a national pilot CCO registration programme that places the names of both spouses operating land jointly on the CCO and provides a copy of the CCO to both spouses.

Gender-responsive climate-smart agricultural extension services

Decentralization of agricultural extension services in Uganda has occurred without a budget increase. Because staffing levels are well below those of the late 1990s (Bashaasha, Mangheni and Nkonya, 2011), farmers’ contact with their district agricultural extension officer is highly uneven across the country. Officers frequently execute their duties at their own expense, having no travel budgets. Further, they typically receive little training, particularly in gender-responsive or climate-smart agricultural practices.

Easy access to agricultural services is vital to the adoption of better farming methods. Against a backdrop of climate change, these methods of necessity must include climate-smart agricultural practices. Such practices focus on five domains:

- Conservation agriculture to minimize disruption of soil structure, composition and natural biodiversity
- Emphasis on early maturing, drought-resistant, high-yielding plants in crop variety selection
- Use of animal waste rather than fertilizers to maintain soil micronutrients

Uganda’s Marriage Act requires revision to provide legal recognition of gender equality in asset ownership.

- Rainwater harvesting
- Agroforestry, to contribute to soil structure, composition and biodiversity

While many plot operators use elements of such practices, they usually do not recognize them as being climate smart. Moreover, their approach is generally not gender responsive. Making climate-smart agricultural practices gender responsive means recognizing the gender segmentation 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 climate-friendly ways. It also means building the capacities of women farmers in climate-smart agricultural practices.

Effective promotion of climate-smart techniques requires the whole-scale reconstruction of Uganda’s agricultural extension system.

Effective promotion of climate-smart techniques requires the whole-scale reconstruction of Uganda’s agricultural extension system. This task is urgent, given how climate change is disrupting agricultural performance. This effort must be gender responsive, enhancing women’s access to appropriate technologies.

Reconstructing extension services will not be inexpensive: the 2016 National Agricultural Extension Policy estimates the total cost at almost U Sh 900 billion over five years, or \$250 million.

Non-costed policy proposal: Implement the 2016 National Agricultural Extension Strategy, seeking active donor support for its implementation.

Communications-based agricultural extension services

The relatively low-cost use of smartphones — which a small number of people in rural

villages may have — offers strong potential for improving access to accurate and reliable information regarding gender-responsive climate-smart agricultural practices. To date, this potential is largely unrealized, despite promising pilots, particularly around marketing platforms.

Smartphones can provide visual instructions in local languages around best practices, serving as a virtual farmer field school. In practice, three- to four-minute videos, shot on a smartphone, could present each stage of production for a particular crop. For key crops, 10–12 short videos could be made, incorporating gender-responsive climate-smart best practices. Videos would be made in all appropriate languages. The cost is expected to be modest: \$150 (U Sh 542,000) per segment; perhaps \$1,500 to \$2,000 (U Sh 5.4–7.2 million) to complete.

Non-costed policy proposal: Initiate a pilot YouTube channel virtual farmer field school to provide gender-responsive, climate-smart agricultural practices in a single language, focusing on maize and bean intercropping. If successful, the pilot can be scaled up.

Promoting accountability for government gender commitments in agriculture

While Uganda has a firm policy framework for better engendering programmes and projects, implementation remains weak. UN Women has developed a Gender and Equity Compact for Uganda’s Agriculture and Food Security Sector designed to identify and prioritize gender and equity expenditures in budget framework papers. The compact also provides performance indicators at the output and outcome levels, making it a powerful tool to promote government accountability for its commitments to gender in agriculture.

Non-costed policy proposal: Mainstream the use of the Gender and Equity Compact across all ministries, departments and agencies — notably the Ministry of Agriculture, Animal Industry and Fisheries — with regard to gender expenditures in rural Uganda.

Value addition to women's agricultural products

Women may benefit from agricultural production at different stages of the value chain than men. A comprehensive gender-responsive value chain analysis is needed to determine where women most benefit. Such analysis can help design projects that generate benefits for both men and women by enhancing their access to markets.

Non-costed policy proposal: Develop a pilot scheme to create a gender-responsive value chain analysis to identify opportunities for women's groups to mobilize to enhance value addition of their products.

Further research

Uganda's existing statistical instruments do not adequately capture gender relations. For example, the impact of unpaid care and domestic work was missing from the 2015 report because of the structure of the Ugandan National Household Survey. Further, the unpaid labour of women working male-controlled farm plots was probably undercounted in successive surveys. Revisions needed to the survey are as follows:

- Develop and integrate time use modules into one of the key statistical instruments deployed by the Uganda Bureau of Statistics, ensuring that these are consistent with the National Household Survey.

- Include both senior males and senior females in households as principal respondents to Uganda Bureau of Statistics 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.

Non-costed policy proposal: Investigate the current deficiencies of Uganda's statistical instruments in capturing gender relations and institute any needed reforms.

It would also be useful to research the following:

- Re-estimate the gender gap in agricultural productivity in Uganda using a more recent National Household Survey but explicitly incorporating into the analysis unpaid care and domestic work, in order to properly capture the key driver of the gender gap established in the fieldwork.
- Undertake quantitative research at the micro-level to incorporate the economic dimensions of gender-based violence and unpaid care and domestic work into estimates of the gender gap in agricultural productivity.

Value chain analysis can help in designing projects to generate benefits for both men and women.

Notes

1. Agriculture, forestry and fisheries accounted for 23 per cent of Uganda's GDP in the first quarter of 2016/17 (UBOS, 2016a).
2. World Bank, the World Bank in Uganda, www.worldbank.org/en/country/uganda, accessed on 30 July 2017.
3. The GlobalEconomy.com, Uganda: agriculture productivity, https://www.theglobaleconomy.com/Uganda/Agriculture_productivity/, accessed July 2017.
4. All currency conversions are based upon the prevailing average exchange rate in the relevant year, as reported by the International Monetary Fund. Source: <http://data.imf.org/regular.aspx?key=61545850>.
5. Crop production accounts for 59 per cent of agricultural GDP in Uganda.
6. 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 Uganda.
7. In Uganda, women cultivate plots that are on average 23 per cent smaller than those of male farmers.
8. Spillover and economy-wide effects are taken into account in estimating this GDP benefit.
9. This analysis builds on work by Ali et al. (2015); Kilic, Palacios-Lopez and Goldstein (2015); and Slavchevska (2015).
10. United States Agency for International Development (USAID), Uganda: Nutrition Profile, <https://www.usaid.gov/sites/default/files/documents/1864/Uganda-Nutrition-Profile-Apr2018-508.pdf>, updated April 2018.
11. District data are drawn from the respective district's most recent development plans.
12. This finding was confirmed by participants in the validation workshop held to review and evaluate the findings from the fieldwork. They noted that, in their experience, this was the first time this issue had been raised in discussions about land and labour in rural Uganda.
13. The estimate in the brief (WaterAid, 2013) has been increased to reflect Uganda's inflation and exchange rates between 2013 and 2017.
14. World Weather and Climate Information, <https://weather-and-climate.com/average-monthly-hours-Sunshine,kampala,Uganda>, accessed September 2018.
15. Solar Cookers International, Solar cooking wiki, <http://solarcooking.wikia.com/wiki/CooKit>, accessed September 2017.

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