Gender, Economic Productivity and Development in Uganda: Recent Evidence and Policy Conclusions

Africa Region Gender Innovation Lab

The World Bank

This paper was produced to feed into Uganda’s National Policy Dialogue session on May 20 2014. It presents summarized versions of three recent pieces of research, to which a number of people and agencies contributed.
1. Introduction

Gender equality is enshrined in Uganda’s constitution. Yet, gender-related norms, perceptions and practices continue to ensure that women’s and men’s opportunities remain unequal. This is unfair: life’s chances should not be pre-ordained at birth. It also holds back development and comes at an economic cost for Uganda, which would stand to realize productivity dividends by closing the opportunity gap between men and women.


Since then, additional gender-relevant research has been carried out in Uganda to help inform the NDP. This paper presents summarized versions of three pieces of recent evidence on women’s and girls’ economic opportunities in Uganda, and their specific policy conclusions.

Gender Equality in Uganda: New Impact Evaluation and Inferential Research

The 2005 Gender and Growth Assessment carried out by the World Bank concluded that:

(i) Women are marginalized in business ownership, skills development, access to financial resources, nonagricultural employment, and inheritance rights.

(ii) There is a marked gender gap in access to and control over productive resources. Women comprise a significant share of the work force in agriculture but have unequal access to and control over productive resources, such as land, limiting their ability to move beyond subsistence agriculture.

(iii) Women have lower access to health and education services. There are gender disparities in primary school completion as well as secondary school enrollment. Only a third of girls
enrolled in primary education continue in school to the age of 18, compared to half of boys; and

(iv) Early marriages and low girl primary school completion and secondary school enrollment are principal contributors to a high fertility rate and a high maternal mortality rate.

Things have evolved in Uganda since then, yet many of these findings continue to hold true. Women’s productivity in agriculture still lags significantly behind men’s, and adolescent girls often fail to successfully transition from schooling to employment and/or entrepreneurship—posing serious challenges for efforts to reduce youth unemployment. But even the women who manage that transition face additional challenges: their salaries or revenues remain much lower than that of their male counterparts.

To better understand why this is still the case, what the costs of these inequalities are in terms of foregone productivity, efficiencies and earnings, and what, specifically, Uganda can do to address these issues, the World Bank launched three studies:

1. **Youth employment**: An impact evaluation, using a randomized control trial, of a project run by the NGO BRAC, The Empowerment and Livelihood for Adolescents (ELA) program, looked into the most effective ways to design interventions to address both economic and reproductive health challenges faced by adolescent girls in Uganda\(^2\).

2. **Women’s economic empowerment**: Using data from quantitative and qualitative surveys from 2011 and 2012, a Gender Innovation Lab research project looked into differences in pay between men and women in Uganda, and examined possible explanations for why more women don’t cross over into male-dominated sectors, which both pay better and currently have no significant differences between men’s and women’s level of earnings.

3. **Women farmers’ productivity**: The Uganda country study from a region-wide research report launched in March 2014 “*Levelling the Field: Improving Opportunities for Women Farmers in Africa*” examines the scale and causes of the dramatic differences between how much men and women farmers produce\(^3\).

\(^2\) In addition to the implementation of the ELA program, the BRAC Research Department was a partner with the Gender Innovation Lab and the London School of Economics and University College London on the impact evaluation.

\(^3\) This is work by D. Ali, D. Bowen, K Deininger, and M. Duponchel.
Full reports on the first two studies, on adolescent girls and on women crossing over into male-dominated sectors, will be published during 2014.

The rest of this paper is organized as follows: Section two looks at youth employment, and lays out the challenge faced by Uganda in a demographic youth bulge, with a particular emphasis on adolescent girls—most of which are out of the labor force. We look at a specific intervention designed to promote young women’s transition from schooling to employment or entrepreneurship and present its impact along with specific policy advice on how to design and scale such initiatives successfully. In the following section we turn to women’s economic empowerment, looking at ways to increase women’s earnings and, in particular, how to promote female participation in male-dominated sectors of the economy, where we find no significant income gap between men and women. Finally, in section four, we examine the factors that drive the stark gender gap in agricultural productivity in Uganda, with a new combined set of data analyzed through the novel application of a method known as Oaxaca-Blinder decomposition. We also identify key policy proposals for Uganda to realize better productivity dividends in agriculture by improving opportunities for women farmers.

Summaries of the three studies, their results and specific policy conclusions follow here:

**Summary: Youth employment—adolescent girls**
- Uganda has one of the most youthful populations in Sub-Saharan Africa, and one of the highest rates of young women out of the labor force (86 percent vs. 58 percent in 14 Sub-Saharan countries), with high gender disparities in youth unemployment rates.
- This poses a challenge that is aggravated by the small size of the formal wage sector, making it critical to ensure that female youth have the skills to allow them to succeed in the informal economy and as entrepreneurs.
- Very cost-efficient and effective programs exist to meet this challenge, designed with the following policy advice in mind:
  - **Avoid training for jobs that do not exist**: in a context of few formal wage sector opportunities, focus on developing skills for self-employment
  - **Combine vocational training with life skills training**: doing so allows an intervention to take advantage of the linkages between human capital development, labor market outcomes, and risky sexual behavior.
• **Long-standing social norms are not insurmountable** barriers to women's economic and reproductive empowerment - as demonstrated by ELA's quick impacts on adolescent girls’ aspirations and actions

• **Interventions such as these can help break inter-generational cycles of poverty** - as illustrated by the impacts on girls' changed preferences in number of children to have, and when, as well as in the aspirations for their daughters

• Experience shows that these types of interventions that target adolescent girls are highly scalable.

**Summary: Women breaking the metal ceiling to cross over into male-dominated sectors**

• Firms owned by women who “cross over” to male-dominated sectors are three times more profitable than firms owned by women operating in traditionally female sectors.

• Businesses owned by women who cross over are just as profitable as businesses owned by men.

• Policies providing accurate information about the earning potential in different sectors, in conjunction with programs facilitating active exposure to work experience in male-dominated sectors, could support more female entrepreneurs in achieving higher profits.

  The following policy advice summarizes the findings to date:

• **Provide information early to youth about the profitability of certain sectors**, perhaps through informational campaigns or career guidance in schools that highlights the fact that traditionally male dominated sectors are often more profitable.

• **Offer supportive engagement with individuals who can guide female entrepreneurs** as they seek to operate a business in a male-dominated sector. This is ideally done by drawing from the entrepreneur’s existing network of friends and family, perhaps in combination with a youth mentorship program.

• **Facilitate active exposure to the sector through apprenticeships** or other work experience programs. It is important to target young women who are just entering the labor force, as well as older women without previous experience in a female-dominated sector.

• **Engage figures of influence within communities to avoid potential opposition** and to gain support in changing social perceptions of which sectors are appropriate for women.
• **Support crossovers in maintaining their businesses**, such as by facilitating access to networks or by creating business organizations dedicated to crossovers.

**Summary: Improving opportunities for women farmers in Uganda**

• Plots managed by women produce 17 percent less (in terms of gross value of output) per acre on average than plots managed by men or jointly by other family members in Uganda.

• Relative to men, women’s childcare responsibilities, access and returns to hired labor, application of non-labor inputs on their plots, and lower levels of schooling widen the gender gap.

• Policies aimed at easing women’s childcare responsibilities (e.g. through community based childcare), improving access and quality of farm labor (e.g. through labor cooperatives or labor vouchers), securing equal access to and use of non-labor inputs, and supporting women’s education and training will help to alleviate gender inequality in the sector and enhance productivity.
2. Helping Adolescent Girls Transition from Schooling to Employment and Entrepreneurship

Main message

- Uganda has one of the most youthful populations in Sub-Saharan Africa, and one of the highest rates of young women out of the labor force (86 percent vs. 58 percent in 14 Sub-Saharan countries), with high gender disparities in unemployment rates for youth.

- This poses a challenge that is aggravated by the small size of the formal wage sector, making it critical to ensure that female youth have the skills to allow them to succeed in the informal economy and as entrepreneurs.

- The BRAC ELA program provides one example of a cost-efficient and effective program to meet this challenge.

Background

In many Sub-Saharan African countries, women suffer from low levels of economic and reproductive empowerment. These issues are particularly significant for adolescent girls, who life path is often decided at this critical juncture in their lives. Research highlights the vicious cycle between human capital development, labor market opportunities, early marriage, and risky sexual behavior for adolescent girls. Investing in interventions is a promising policy area helping break this cycle, which otherwise risks being perpetuated in intergenerational patterns.

Youth employment is a big issue for the developing world, with over one billion of the global population aged between 15 and 24 and living in a developing country. The issue is particularly acute in Sub-Saharan Africa where 60 percent of the population is younger than 25 years.

Uganda has one of the most youthful populations in Sub-Saharan Africa. According to the most recent data available, almost half of Uganda’s population is 14 years old or younger – only Niger has a greater proportion of its population in this age group – and nearly 60 percent of its population is below the age of 20 (Figure 1).
While a youthful population may present opportunities, it also poses serious challenges, including the need to provide employment opportunities. Uganda has one of the highest rates of young women out of the labor force (86 percent vs. 58 percent in 14 Sub-Saharan countries), with significant gender disparities in youth unemployment rates (Figure 2). Given this context and the small size of the formal wage sector, it is important to ensure that female youth have the skills that will allow them to succeed in the informal economy and as entrepreneurs.
Adolescence is a critical time for girls. This is the point in their lives that can define whether to continue to invest in human capital or not. In a context of limited future labor market opportunities, girls are less likely to invest in their human capital (Jensen 2012), leading to early marriage and childbearing, and potentially increasing their dependency on older men (Dupas 2011). In turn, teen pregnancy and early marriage are likely to have a decisive impact on the ability of young girls to accumulate human capital, and limit their future labor force participation (Field and Ambrus 2008, Bruce and Hallman 2008; Baird et al, 2011). Other research has shown that providing girls with incentives to stay in education (conditional cash transfers) can reduce early marriage, teen pregnancy, and sexual activity (Baird et al, 2010).

In summary, economic empowerment and control over the body interact in a powerful way during adolescence. Consequently, interventions targeted towards girls at this stage of their life cycle might have higher returns than later timed interventions.

The Project

The Empowerment and Livelihood for Adolescents (ELA) program, implemented by the NGO BRAC Uganda, is designed to address both the economic and reproductive health challenges faced by adolescent girls in Uganda. It is based on a similar BRAC program in Bangladesh, which was successfully scaled up to reach one million adolescent girls. The project should also be seen in the global context of an increasing focus by developing country policy makers on programs targeted at adolescent girls, including the World Bank’s Adolescent Girls Initiative (AGI) in eight low-income countries around the world.

The ELA program uses girl-only clubs to deliver livelihood vocational training and life skills training. The club sessions are led by young women who are slightly older than the participants and are provided with regular training to enable them to carry out their role effectively. The sessions are held outside of regular school hours so that both school drop-outs (who tend to be more vulnerable) and currently-enrolled girls can attend. The results of the evaluation demonstrate that the program did not cause girls to drop out of school or to reduce the time they spent studying.

While the classes on offer in the vocational training component could be applicable to both wage employment and entrepreneurship (e.g. hair-dressing, tailoring, agriculture, poultry rearing), there is a
focus on the latter, and the modules are complemented by several financial literacy courses. The assignment of girls into different vocational modules is driven by the girls’ interests, skills, and education level, as well as by local market demand. The life skills training covers: (1) reproductive and sexual health and behavior; (2) negotiation and conflict resolution; (3) leadership; and (4) the legal aspects of women’s issues.

In addition to hosting the training, the clubs also host a variety of recreational activities and serve as a safe socializing space for girls. Thus, the results discussed below may not only demonstrate the effectiveness of the combined training interventions, but also the impact of simply providing a safe space for girls to gather outside of school hours.

**The Results**

A randomized controlled trial of the ELA program sought to test the effectiveness of using vocational and life skills training in jump-starting women’s human capital accumulation during the critical period of adolescence. The results indicate that the program had major impacts on: (1) participants’ economic empowerment via business skills and income generation; (2) control over their bodies via childbearing, marriage and sex; and (3) aspirations with regard to marriage and childbearing.

The project changed participants’ perceptions of men’s and women’s roles in society. The evaluation measured the impact of the project on a gender empowerment index. This index measures the number of times a respondent indicated that various household tasks should be the responsibility of both men and women. The score on this index was 9 percent higher for girls in treated communities.

An index of self-perceived entrepreneurial skills was 8 percent higher for girls in treatment communities. Compared to the baseline mean, girls in treatment communities perceived themselves as having better entrepreneurial skill than girls in control communities on dimensions as diverse as running a business, spotting business opportunities, obtaining and managing capital, managing employees, bargaining over input and output prices, protecting assets and collecting debts.

The increase in girls’ self-assessed skills translates into actual economic activity. Girls in treatment communities were 72 percent more likely to be engaged in income generating activities. This increase is driven entirely by an increase in self-employment, with girls in treatment communities 98 percent more
likely to be self-employed, and with their reported earnings from self-employment up three times compared to the baseline mean. These impacts are consistent with the program's emphasis on entrepreneurial skills and result in significant welfare gains, including a 41 percent increase in girls’ monthly expenditure.

The program also appears to increase girls’ control over their own bodies. Compared to the baseline mean, girls in treatment communities are 26 percent less likely to have a child and 58 percent less likely to be married or cohabiting. These girls are also 44 percent less likely to have had sex against their will over the past 12 months and 25 percent more likely to report always using a condom during sexual intercourse.

The changes in girls’ control over their bodies are also reflected in girls’ aspirations with regard to marriage and childbearing, suggesting that the impact of the program may persist over the long term by influencing deep-rooted social norms. In the treatment communities, the age at which women consider it appropriate to get married increases by a quarter of a standard deviation, while the age at which currently unmarried girls expect to get married increases by one year. Girls’ preferred number of children also decreases by 0.28 children (a 7 percent decrease from the baseline) and there is an increase of 0.62 years in the age at which they think it is suitable for women to have their first child.

Finally, girls who took part in the ELA program expressed their desire that their own daughters would have their first child 4.58 years later, suggesting that positive impacts may reach beyond the initial cohort of participants to future generations. Judging by the standard development literature, and experience in other countries, it would be normal to expect that all of these would contribute to lowering the maternal mortality rate in Uganda.

An initial cost-benefit analysis suggests that the per-girl cost of the program is more than off-set by the resulting increase in girls’ incomes. Based on the impacts on girls’ expenditures, the benefits per girl are estimated at US$32.8, while the second year costs per girl are estimated at $17.9. The benefits would likely be even larger if we were able to take into account the less easily monetized impacts on early childbearing, early marriage, unprotected sex, sex against one’s will, and girls’ aspirations. The ELA program appears to be more cost effective than alternatives, such as several single-pronged interventions which have shown very mixed results, or the “Jovenes” programs in Latin America, which had similar impacts to ELA but cost $600-$2,000 per participant.
The Policy Implications

The results of the evaluation suggest that vocational skills and/or life-skills are a binding constraint for adolescent girls’ empowerment in Uganda, and that training interventions aimed at these girls can have major impacts on their economic empowerment and their control over their own bodies. This is especially significant for Uganda, given its “youth bulge” and the lack of formal sector wage opportunities.

The following specific policy implications can be drawn from the results discussed above:

- Interventions targeting adolescent girls’ transition from school to work can offer a **cost-efficient and effective** tool for policy-makers
- Avoid training for jobs that do not exist: in a context of few formal wage sector opportunities, **focus on developing skills for self-employment**
- **Combine vocational training with life skills training** – doing so allows an intervention to take advantage of the linkages between human capital development, labor market outcomes, and risky sexual behavior. Providing a safe space for girls to socialize may also contribute to these outcomes.
- **Long-standing social norms should not be seen as an insurmountable barrier** to women’s economic and reproductive empowerment – as demonstrated by ELA’s quick impacts on adolescent girls’ aspirations and actions
- Interventions such as ELA can help **break inter-generational cycles of poverty** – as illustrated by the impacts on girls’ changed preferences in number of children to have, and when, as well as in the aspirations for their daughters
- Experience shows that ELA is **highly scalable**
3. Breaking the Metal Ceiling-- Female entrepreneurs who succeed in male-dominated sectors in Uganda

Main message

- Firms owned by women who “cross-over” to male-dominated sectors are three times more profitable than firms owned by women operating in traditionally female sectors.
- Businesses owned by women who cross over are just as profitable as businesses owned by men.
- Policies providing accurate information about the earning potential in different sectors, in conjunction with programs facilitating active exposure to work experience in male-dominated sectors, could support more female entrepreneurs in achieving higher profits.

Background

Across developed and developing countries, women are more likely to work in low-productivity sectors and in less profitable businesses.iii Value added per worker is lower in firms managed by women than in those managed by men across urban areas in Europe and Central Asia (34 percent lower), Latin America (35 percent), and Sub-Saharan Africa (6–8 percent).iv Female participation in entrepreneurial activities is higher in Africa than in any other region, but studies show that female-owned firms average 31 percent less in sales than male-owned firms.v

One factor that comes up again and again in trying to explain this gender difference is the choice of firm sector. In Africa, women entrepreneurs are concentrated in hotels and restaurants, wholesale and retail trade, garments, textiles, leather goods and other services.vi Men are engaged in a wider range of sectors, including construction and manufacturing. Is this because most women prefer to work in certain sectors, or because they are constrained in their choice of profession? And if the latter, what constraints are they facing?

Female Entrepreneurs Succeeding in Male-Dominated Businesses

This study in Uganda presents an opportunity to examine what obstacles might be preventing women from “crossing over” into the more profitable, male-dominated sectors (defined as sectors where over
75 percent of enterprises are male-owned). Businesses owned by men are 3.1 times larger and earn 2.5 times more than female-owned firms,\textsuperscript{viii} and yet only about 6 percent of Ugandan female entrepreneurs choose to work in male-dominated sectors.\textsuperscript{viii} We refer to these women as “crossovers,” and they are the focus of our study because they appear to confront social convention in pursuit of economic success. To our knowledge, no other research exists on this subject, despite the potentially important policy implications for spurring productivity and economic growth.

To examine possible explanations for why more women don’t cross over, we used quantitative data from 2011 sampling 735 entrepreneurs operating within and just outside of Kampala, most of who belonged to the Katwe Small Scale Industry Association (KASSIDA). In addition, a quantitative and qualitative survey was administered in 2012 to 63 crossovers and to 120 women working in traditional female sectors. Of the latter, half of the participants were randomly sampled, and half were matched to the crossovers based on a number of pre-business characteristics, such as similar age and completion of primary school. To get a better sense of community-wide perceptions about female entrepreneurs, we also conducted 17 focus group discussions with crossovers, non-crossovers, clients, suppliers and male employees, and interviewed 12 community leaders and credit providers.

Our quantitative analysis reveals two significant findings. First, firms owned by crossovers are about three times more profitable, on average, than firms owned by non-crossovers. Second, businesses owned by women who cross over are just as profitable as businesses owned by men. Thus the rationale for crossing over is clear, which begs the question: What allows certain women to cross over, and what prevents more women from doing so? We examine the following explanations:

**Factors not associated with crossing over:**

- **Skills and abilities:** Women who cross over do not seem to have an innate intelligence that supported them in making the switch in sector. The team investigated this hypothesis using several tests for working memory, problem-solving skills and entrepreneurial spirit, and found that crossovers do not uniformly score higher.

- **Human and financial capital:** Level of education – the most common measure of human capital – does not significantly affect the probability that a woman crosses over. Similarly, even though
male-dominated sectors tend to have higher capital requirements, this was not a consideration for entrepreneurs when selecting their sector.

Factors positively associated with crossing over:

- **Information about sectors:** Many female entrepreneurs are simply not aware that they could be earning higher profits in male-dominated sectors. About 75 percent of the non-crossovers we interviewed incorrectly believe that they make the same or more than crossovers when they do not.

- **Role models:** Most crossovers don’t come up with the idea of working in a male-dominated sector by themselves. Rather, that decision originates from someone else’s suggestion, observing others, and/or being offered a job in the sector by a friend or family member. Women who reported having a male role model in their youth were 20-28 percent more likely to be a crossover. Fathers and politicians are particularly strong role models for crossovers, either in introducing women to the sectors where they work, or by providing important contacts or financial support. On the other hand, non-crossovers are more likely to have been introduced to traditionally female sectors by mothers, and especially teachers. This suggests that the current education system actually reinforces the gender segregation of labor. Moreover, once women engage in a traditionally female sector, they are unlikely to make the switch to a male-dominated sector. Therefore early influence by a male role model is very important in shaping women’s professional path to a more profitable sector. A significant intermediary step in becoming a crossover is active exposure to the sector, either by becoming an apprentice, engaging in actively learning the trade, or being taken to observe the trade.

Ongoing constraints that crossovers face in sustaining their businesses:

- **Low technical skills:** This is the most common constraint mentioned by crossovers, even though these women do not report making significantly lower profits than their male counterparts, nor do they have any trouble finding customers. But clients do acknowledge that crossovers have limited technical skills, which could influence their decision about who to engage for a large contract.
Credit: Both Crossovers and non-crossovers commonly cite access to credit as a primary business issue. Crossovers are more likely to obtain credit from a bank or from a spouse, whereas non-crossovers most frequently borrow from a female friend or community member.

Policy Priorities

This paper explores an uncharted area in the literature on enterprises and gender. Based on our analysis, we provide policy recommendations for supporting women entrepreneurs in male-dominated sectors, but stress that experimentation and impact evaluations of these policies are critical for determining the most effective approaches. Policy options include:

- **Providing information** early to youth about the profitability of certain sectors, perhaps through informational campaigns or career guidance in schools. However, given teachers' current, strong role in preventing women from crossing over, any program using teachers requires significant training and sensitization of teachers.

- **Offer supportive engagement** with individuals who can guide female entrepreneurs as they seek to operate a business in a male-dominated sector. This is ideally done by drawing from the entrepreneur's existing network of friends and family, perhaps within the context of a youth mentorship program.

- **Facilitate active exposure** to the sector through apprenticeships or other work experience programs. It is especially important to target young women who are just entering the labor force, as well as older women without previous experience in a female-dominated sector.

- **Engage figures of influence** within communities to avoid potential opposition and to gain support in changing social perceptions of which sectors are appropriate for women.

- **Support crossovers in maintaining their businesses**, such as by facilitating access to networks or by creating business organizations dedicated to crossovers.
4. Leveling the Field—Improving Opportunities for Women Farmers in Uganda

Main message

- *Plots managed by women* produce 17 percent less (in terms of gross value of output) per acre on average than plots managed by men or jointly by other family members in Uganda.
- Relative to men, women’s childcare responsibilities, access and returns to hired labor, application of non-labor inputs on their plots, and lower levels of schooling widen the gender gap.
- *Policies aimed at easing women’s childcare responsibilities, improving access and use of farm labor, securing equal access to and use of non-labor inputs, and supporting women’s education and training will help to alleviate gender inequality in the sector and enhance productivity.*

Background

Most of Uganda’s 36 million inhabitants reside in rural areas and depend on the agricultural sector, which serves as the primary source of livelihoods for 73 percent of the labor force. The country has made impressive strides in poverty reduction, with 22 percent of the population living below the national poverty line in 2012–13 compared with 31 percent in 2005–06. Nevertheless, poverty remains concentrated among rural households that rely on women’s and men’s farm outputs for sustenance. Indeed, women play a vital role in Uganda’s rural agricultural sector, contributing 56 percent of crop labor. Increasing the productivity of all rural Ugandans will be central to any efforts to accelerate the country’s progress on reducing poverty.

Measuring the Gender Gap in Agriculture

Prior attempts to understand the gender gap in agriculture across sub-Saharan Africa have almost all relied on data from small-scale surveys that were not nationally representative. When analysis has relied on national data, datasets have lacked detailed information on individual and household activities and resources linked to individual farm plots, which is critical for a rigorous analysis of gender productivity.
gaps. This analysis overcomes many of these shortcomings, thanks to the availability of new data and new methods of analysis. This Uganda profile uses new data obtained through the World Bank’s Living Standards Measurement Study – Integrated Surveys on Agriculture (LSMS-ISA), which is a multi-country survey program aimed at improving household and agricultural statistics in sub-Saharan Africa.

In order to pinpoint the factors that drive the gender gap in agricultural productivity, this data is analyzed through the novel application of a method known as Oaxaca-Blinder decomposition. The analysis establishes the key issues that contribute to gender differences in Uganda, pointing towards policy solutions to address the relevant issues and reduce the gap. Most importantly, the method separates the factors contributing to the gender gap into two groups of differences between men and women: 1) quantity (or levels) of resources (e.g. hours of farm labor); and 2) returns to those resources (e.g. how much is produced per hectare by one hour of farm labor).

The analysis of the gender gap in agriculture in Uganda is based primarily on recent research by Ali, Bowen, Deininger, and Duponchel (forthcoming), who examine the role of gender in determining Uganda’s agricultural productivity. To do this, the authors use panel data from the multi-topic Uganda National Panel Survey (UNPS) rounds for 2009/10 and 2010/11, implemented by the Uganda Bureau of Statistics with support from the LSMS-ISA initiative. The sample includes 14,192 plots, of which 48 percent are female-managed.

**Accounting for Uganda’s Gender Gap**

On average in Uganda, plots managed by women produce 17 percent less per acre than plots managed by men or jointly by other family members. After accounting for farm plot size and region, the gap is 35 percent. The gap is driven primarily by differences in the returns that men and women receive from productive factors (contributing 26 percent to the gap), more so than the levels of these factors, suggesting that women face disadvantages in multiple socio-economic realms.

The gender gap also varies by region in Uganda. Women are particularly disadvantaged in the Western Region, a result that is corroborated by Peterman et al. (2010). The reason driving this significant difference in the gender gap between regions in Uganda is currently unexplained, but indicates that policies to reduce the gender productivity gap should be tailored to regional differences.

The following factors drive Uganda’s gender gap:
• **Childcare responsibilities:** Women typically assume a larger role in child-care and household responsibilities than men, and this is likely to restrict their ability to work on their own farms or manage their laborers. The constraints presented by childcare duties are a major factor in explaining the difference between male and female productivity in Uganda.

• **Effectiveness of extension services and technical information:** Female plot managers are slightly less likely to receive extension advice from Uganda’s National Agricultural Advisory Services (NAADS), which contributes to the gender gap. Making sure these extension workers reach female farmers, especially as extension is expanded, could thereby reduce the gap in productivity.

• **Availability and use of farm labor:** Male-managed plots use greater amounts of hired labor, exacerbating the gender gap in agricultural productivity. Moreover, when women do have access to hired labor, they do not benefit from it as much as men do, suggesting that they either are unable to mobilize the labor or perhaps procure as high of quality labor as men. Household labor also affects the gender gap in a nuanced way: Women use a higher quantity of household labor than men, helping to close the gender gap.

• **Access to and use of non-labor inputs:** Overall, the use of many non-labor inputs is quite low for both men and women in Uganda. Yet plots managed by men or jointly with other family members are still more likely to use pesticides, herbicides, organic fertilizer, and improved seeds as plots managed by women. This imbalance increases the gender productivity gap. Therefore, any program promoting non-labor input adoption could actually substantially widen the gender gap if women’s access is not taken into consideration. Working to address potential disparities in access to these inputs is essential, as is ensuring that women apply appropriate quantities, in order to reduce the productivity gap and increase the supply of food available for Ugandan households.

• **Distance from major roads:** Access to major roads could allow women farmers to participate in village farming cooperatives, transport their harvest, or more easily obtain labor or non-labor inputs. In fact, the results show that women are particularly disadvantaged by the distance to a major road relative to men.

• **Level and quality of education:** Female plot managers complete on average 1.9 fewer years of schooling than male managers, and this difference explains a small portion of the gender gap. Promoting education for adult female farmers could reduce the gap, as women experience a higher rate of return from education that male farmers.
Policy Priorities

Future agricultural policy interventions in Uganda should consider the following policy priorities in order to decrease poverty further and achieve inclusive agricultural growth:

- **Take into consideration women’s child-care and other household responsibilities**: As the child dependency ratio is a large contributor to the gender gap, policies that enable women to devote a greater proportion of their time to managing their farms, such as community-based childcare, could further boost their agricultural productivity.

- **Help women overcome their labor disadvantages**: Facilitating women’s access to and use of hired labor, as well as labor-saving approaches could narrow the male/female farming gap throughout the country. Labor vouchers, labor-saving technologies, or other subsidies are examples of concrete policy options that could address this gap.

- **Re-examine the extension services model**: The current extension services model in Uganda could be strengthened to in order to assure that as many female farmers as possible are reached by extension agents, particularly as extension expands.

- **Expand women’s use of improved inputs**: Women’s lower levels of use of pesticide, organic fertilizer and improved seeds limit their productivity relative to men’s. Policy-makers should consider improving all farmers’ access to these inputs, with a focus on helping women overcome the specific barriers that currently limit their use of inputs.

- **Invest in adult education for women**: While Uganda has already achieved gender parity in national primary and secondary school enrolment; the effects of previous gender gaps in schooling persist. Investments in literacy and adult learning for female farmers may yield tangible benefits for their productivity.
This paper is based on three separate pieces of analytical work:

Section 3: F. Campos, M. Goldstein, L. McGorman, A. Munoz Boudet and O. Pimhidzai, "Breaking the metal ceiling: Female entrepreneurs who succeed in male-dominated sectors in Uganda" (mimeo)


Other References


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1. The authors define a plot manager as the individual within the household who is reported to control output from the crops planted on that plot. In the case of intercropped plots, if all the crop output is controlled by female household members, the plot is defined as female-managed. If all or part of the output is controlled by male managers, the plot is considered to be male- or jointly managed.

2. All the results described here are Intent-to-Treat (ITT) – i.e. they are based on changes across all girls in treatment communities, including those who did not receive any training. Therefore, the estimates presented are conservative, with results for impacts only on girls who actually received the ELA program considerably higher.

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The plot sample is drawn from households in which there is variation in the gender of the plot manager either between or within years, and in which there is at least one plot observation within each year.