



Agricultural productivity and rural household welfare distribution in sub-Saharan Africa

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Key messages

- Agricultural productivity has a significant correlation with household consumption and asset wealth inequality in both Nigeria and Uganda.
- Current policies improve agricultural productivity for wealthier farms, before supporting resource-poor, small-scale producers, leading to greater inequality.
- Smallholder farmers can be supported through access to credit for agricultural technology and information on new production methods.

Poverty and inequality remain major challenges in sub-Saharan Africa

Despite the decline in poverty in sub-Saharan Africa accelerating over the past decade, in 2015 more than 40% of the population was still living in extreme poverty. Additionally, income and asset inequality remain higher in sub-Saharan Africa than in other regions.

Agriculture is the dominant economic activity in many sub-Saharan countries, accounting for more than 60% of the total labor force, with more than 75% of the poor in these regions dependent on agriculture for their livelihoods.

As such, it is widely believed that improving productivity, profitability and sustainability of smallholder agriculture in sub-Saharan Africa is key to promoting inclusive economic growth and the main pathway to reducing poverty and inequality.

However, agricultural intensification that requires initial capital (for land, equipment, etc.) may be difficult for poor farmers to attain. Relatively richer households, on the other hand, often have farms with good quality soils, access to markets, and use technology to improved productivity, leading to increased rural inequality.

So far, little policy attention has been given to understanding how changes in agricultural productivity affect welfare inequality. Recent studies suggest that although improving agricultural productivity could play an important role in reducing poverty by generating higher incomes and creating employment for smallholder farmers and the rural poor, its effects on welfare inequality are not well understood.

As such, local researchers set out to analyze the effects of agricultural productivity on rural household welfare in Nigeria and Uganda. In particular, the researchers investigated the specific policy-relevant factors that contribute to changes in consumption and inequality in both countries. They also aimed to provide some insights as to the relationship between agricultural productivity and welfare distribution.



Data and methodology

The research team analyzed nationally representative panel data from the Living Standards Measurement Study – Integrated Surveys on Agriculture (LSMS-ISA) from Nigeria and Uganda to assess the relationship between agricultural productivity and welfare distribution. The LSMS-ISA data includes detailed information on demographic and household characteristics, assets, agricultural production, sources of income, access to services, and annual consumption. The agriculture module also includes information on agricultural production, farm technology, use of modern farming inputs, and crop and livestock productivity. Community-level data contains information on local infrastructure, nature of agricultural land, precipitation, and other factors that could affect agricultural production and productivity.

The team used information on consumption and assets to measure welfare, and agricultural productivity was measured in terms of both labor and land productivity. The researchers used a regression-based inequality decomposition to estimate the effect of agricultural productivity and other variables on household welfare in both countries.

Key findings

The team's analysis confirms that **agricultural productivity (in terms of both land and labor productivity) has a significant correlation with household consumption and asset wealth inequality in both Nigeria and Uganda:**

- Increased land productivity increased annual consumption inequality by about 3% in Nigeria and 12% in Uganda.
- Increased labor productivity increased annual consumption inequality by about 3% in Nigeria and 23% in Uganda.
- Increased land and labor productivity increased asset wealth inequality but about 2% in Nigeria and 6% in Uganda.

That agricultural productivity contributed to a greater welfare inequality change in Uganda than in Nigeria may be attributed to a lack of information

about agricultural technology and market opportunities, excluding poor farm households.

- Increased land holding contributed to increased asset wealth inequality in Nigeria from 1% in 2010 to 3% in 2012, and in Uganda from 3% in 2009 to 14% in 2011.
- Male-headed households have higher consumption levels than female-headed households, which suggests unequal access to agricultural inputs and services.
- Consumption increased in both countries in places with better public infrastructure, as well as in villages with higher levels of rainfall.
- Family education played a significant role in increasing asset-wealth inequality in Nigeria, and in increasing consumption inequality in Uganda.



Implications for policy

The results of this study indicate that improving agricultural productivity by encouraging productivity-enhancing investments amongst smallholders can improve rural welfare and livelihoods. However, while agricultural productivity can improve the overall welfare of both poor and non-poor households, the relative position of poor households is worse (increased inequality). This is supported by the evidence that policies improve agricultural productivity for wealthier farms, before supporting resource-poor, small-scale producers.

The unequal distribution of assets, such as land, access to infrastructure and access to credit, can help explain why increased agricultural productivity is not always effective in reducing rural inequality. As such, **measures need to be taken to support poor smallholder farmers so that they too can increase productivity, reducing the inequality gap.** Measures to increase smallholder productivity could include providing access to credit for new agricultural technology and providing information and education on new production methods and current market risks.



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