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Are Commercialized Farms Driving Agricultural Transformation in Rural Kenya?

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Background

While small-scale farms (SSF) dominate agricultural production in sub-Saharan Africa, medium-scale farms (MSF) are a rapidly expanding force that is profoundly influencing the nature and pace of food systems transformation in many African countries. Recent evidence shows that MSF are a source of dynamism and technical change in sub-Saharan Africa and that attract major new private investments in value chains that improve market access conditions for nearby SSF (Jayne et al., 2019). Although large-scale agricultural commodity buyers are initially attracted to invest in an area by the large marketable surpluses of MSF, market access conditions improve for all farms in the area. Also, mechanization rental services have sprung up in areas with an increased concentration of MSF, catering to their demand for tractor services, which has made it feasible for SSF to rent tractors, reduce their labor input into farming, and reallocate their labor to higher-return non-farm activities. The presence of MSF tends to improve SSF access to agricultural inputs and other services. MSF may also provide a valuable source of off-farm agricultural wage employment (and thus additional income) for adjacent non-commercialized SSF households.

However, this evidence is mainly derived from countries with considerable potential for farmland area expansion and relatively little is known about the effects that MSF may have in densely populated rural areas with limited potential for area expansion, which characterizes much of Kenya. This study contributes to the literature on food systems transformation by examining the effects of MSF on nearby SSF in Kenya. We further distinguish small-scale farms between those that are commercialized and those that are not, examining the productivity differences between MSF and these two groups and examining the effects of MSF on both types of nearby small-scale farm households. Our study focuses on the Feed the Future counties of Taita Taveta, Makueni, Kisumu, and Kakamega. The government of Kenya defines SSF as those that operate less than three hectares while MSF are those that operate three hectares to 50 hectares. The study used both descriptive and econometric methods on data collected from 2000 farm households in the four counties between June and December 2022 (see the full report for details).

Key findings

First, commercialized MSF households differ in important respects from other farm households in the study. They tend to be headed by more educated people with greater asset wealth; they are more likely to be male-headed; and their initial landholding size when they started farming was larger. In addition, they are concentrated more in areas that are less densely populated compared to most SSF households. Further, MSF households participate much more in land rental and purchase markets than SSF households do.

Second, most commercialized MSF households were primarily engaged in non-farm employment prior to attaining MSF status. Relatively few commercialized MSF households attained that status through stepping-up from SSF, indicating that accumulation of wealth via non-farm income as the most common pathway into commercialized MSF.

Third, and related to the second point, vibrant land markets are an important enabler for commercialized MSF in Kenya. Most MSF households stepped-in to MSF status (investing in farming primarily using income accumulated from off-farm employment). The development of land markets for land rental, purchases and sales has made it possible for entrepreneurial and better-resourced individuals to acquire relatively large farms (by Kenyan standards) and enter commercialized agricultural production. However, MSF had no title deeds for 35% of the land parcels they had purchased and 38% of the land parcels they inherited, suggesting that land tenure insecurity may remain a challenge to land acquisition for agricultural investment.

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Fourth, commercialized MSF households were more productive than commercialized and non-commercialized SSF households; they produced more output per unit of labor and per unit of land. They were also more likely to use irrigation and apply organic and inorganic fertilizers and agro-chemicals more intensively compared to the SSF households. Disaggregating small-scale farms, commercialized SSFs produced over 52% more farm output per hectare operated and 58% more crop output per hectare cultivated, on average, than non-commercialized SSF. The commercialized SSFs are also more likely to use inorganic fertilizers, tractor services, and agro-chemicals more intensively than non-commercialized SSFs. These results suggest that crop productivity in the study counties would rise when arable land is reallocated from non-commercialized SSF to MSF, and, to a lesser extent, to commercialized SSF.

Fifth, although all three categories of farms were diversified in crops production, MSFs derived a greater share of their agricultural income from industrial crops[1], cereals, and legumes, in that order, while commercialized SSFs derived a greater share of agricultural income from cereals, legumes, and fruits and vegetables, in that order. Non-commercialized SSFs were much more into the production of cereals and legumes, which contributed about half of their agricultural income.

Sixth, households *stepping into* MSFs had positive effects on the per capita incomes of nearby SSFs households whereas the *stepping up* group did not. Further research is needed to establish why *stepping-up* category exert negative effects on the productivity and incomes of nearby SSFs.

Programmatic and policy thrusts

We highlight below priority programmatic and policy thrusts that the national and county governments, and development organizations may consider for encouraging the growth of MSFs and commercialized SSFs in Kenya:

1. Strengthen land tenure security through facilitating land titling to enable efficient transfer of agricultural land and protect owner and user rights. Such tenure arrangements will enable land access by entrepreneurial farmers who are able to use the land more productively through investments in technologies, innovations, and management practices that accelerate agricultural productivity growth and transformation. Making the land titling system more transparent and credible will enhance the confidence of potential farm investors in land transactions and ensure protection of landowner and user rights.
2. Strengthen agricultural research and development and extension systems to develop, deploy and scale out land-saving technologies, innovations, and management practices (TIMPs) especially among small-scale farmers for sustainable agricultural productivity growth. Critical here are investments in TIMPs that enhance productivity per unit of land because there is little potential for area expansion in many areas of Kenya and consequently increased production growth must largely come from productivity growth on existing farmland. Strengthening the public and private institutions that generate crop yield growth on Kenyan farms will also relieve (though certainly not eliminate) the escalating tensions arising over competition for new land by all types of farms.
3. Prioritize investments in an enabling policy environment for trade in agricultural inputs to facilitate efficiency in the supply of inputs to farmers. The study finding that the medium-scale farm households were more likely to use irrigation and apply organic matter and use fertilizer and agro-chemicals more intensively compared to the small-scale farm households, which underscores the key role of efficient input markets in facilitating agricultural commercialization and changes over time in the scale of farming in Kenya.

This study was not conducted in the counties in Kenya where agricultural commercialization has advanced the furthest, because these counties (particularly in the South, Central and North Rift Valley regions and the central highlands) are outside of the FTF focus regions. Given that the USAID Kenya mission has great interest in expanding employment in Kenya, it would be useful to build on the findings of this study by conducting a follow-up study in the above regions where commercial agriculture is well-known to be taking place and in the context of private sector investments in agricultural value chains. Such a study should focus on the job creation role of the medium- and small-scale commercialized farms, both on the farms and off-farms through linkages with private sector investments in the value chains.

[1] Industrial crops reported in the study were sugarcane, coffee, cotton, coconut, sunflower, and tobacco, with sugarcane the most common.