
Contemporary issues in farm work on smallholder family farms in Uganda: implications on workers' technical efficiency and agricultural advisory service needs

Margaret Najjingo Mangheni^a

^a Makerere University, Uganda

Abstract: Attaining improved agricultural productivity targets calls for conducive working conditions and efficient farm labor. However, Uganda's smallholder farm workforce largely consisting of family members and to a limited extent casual hired labor is inefficient and not optimally deployed. The multi-function multiple enterprise production environment and socio-cultural household gender relations influence the farm work context with implications for farm advisory service needs. Farm advisors need to deliver contextualized advice to the diverse farmer typologies on enterprise selection, balancing investments on farm and off farm, labor-saving innovations, and ways to optimize utilization of family and hired labor all year round. Farm family heads need advice on how to handle family labor relations in a gender responsive and equitable manner that motivates all family members including women and youth to engage in farm enterprises. Besides family labor, smallholder farmers utilize hired labor on a limited scale and mostly on a casual basis. This implies that farm advisors need to diversify their messaging beyond information, knowledge, skills and technologies targeting owner-operators, to include employers of hired casual labor.

Key words: farm labor, extension services, Uganda

Introduction

Land and labour productivity in Sub Saharan Africa lag behind other regions (Benin and Nin-Pratt, 2016); implying that the continent needs to increase existing productivity levels. Prospects for future productivity growth will depend on how well governments invest in a range of key strategies that promote agricultural productivity including optimizing farm resources management through effective extension support appropriate to local conditions (Jayne *et al.*, 2017). However, like other countries in Africa and elsewhere in the world, Uganda's farm advisory services prioritize support to smallholder farmers to access and use improved technologies and information (Faure *et al.*, 2018), with limited attention on issues affecting productivity of human resources—the farm workers. There is a need to support and advise farmers about human and labour issues to facilitate new organizations or practices (Dockes *et al.*, 2019) because enhanced farm productivity requires improvements in labour productivity.

An empirical study conducted in northern Uganda found low technical efficiency of workers on smallholder farms (Kansiime *et al.*, 2017). Similarly, an analysis based on the dataset of the World Bank's Living Standards Measurement Study–Integrated Surveys on Agriculture (LSMS-ISA) which gathers household information on every aspect of farming life, including the time farmers spend on each (farm and off-farm) activity and the amount they earn working off the farm found low productivity of agricultural labor in Uganda in absolute terms and in comparison with non-agricultural labor (McCullough, 2018). It is important to find mechanisms to increase productivity per hour and annual returns to agricultural workers, especially as the rural labor force continues to expand due to population growth (McCullough, 2018). This is vital because among other things the extent to which young people remain in farming will depend on the future return to labour from farming (Jayne *et al.*, 2017).

Uganda has a very young population with 53.1% projected to be below 18 years and 23.2% between 18-30 in 2019 (UBOS, 2019). While agriculture is one of the key sectors projected to provide them employment, a majority of youth don't find it attractive due to among other things its unprofitable and unproductive nature. Uganda's farmers predominantly comprise of smallholder family farms, with an average farm size ranging between 0.8 and 1.6 hectares, depending on the region of the country (0.8 western, 1.0 central, 1.1 eastern, 1.6 northern)(Anderson *et al.*, 2018). A total of 81.2% of adult members within agricultural households are mainly engaged in agricultural activities (UBOS, 2020). Many households fall below the poverty line of US\$2.50 a day (Anderson *et al.*, 2018). Kansiime *et al.* (2017)'s study in northern Uganda found that while smallholder household farms which pursued mainly farm-based activities had higher number of household members working fulltime on the farm and earned higher net incomes compared to other farm types, they exhibited greater technical inefficiency in the use of labour and fertiliser compared to other farm types with diversified income sources. This implies that the existing labour is not productively utilised to contribute to higher farm production. Low labour productivity has been linked to lack of physical energy amongst the aging farming population and poor quality tools characteristic of most farming households in Uganda (GOU, 2010). Other factors include time sensitivity and seasonality of farm labor demands which leaves labor redundant for certain periods of the year and low education and skill levels (McCullough, 2018).

Despite this context, issues affecting labor productivity on smallholder family farms in Uganda are not yet prioritized in development interventions. In this regard, the choice of indicators to track national graduation towards lower middle income status is instructive. While Uganda Bureau of Statistics (UBOS) publishes annually statistical abstracts on labour productivity per worker for manufacturing, industry and service which constitute only 3.8%, 7.1%, and 28.2% respectively of national employment; it misses out labour productivity of agriculture workers yet the working population in agriculture, forestry, and fisheries was 64.3% in 2018/19 (UBOS, 2019). Similarly, although farm labor is one of the key farm resources, issues around the nature of work on farms, work environment, and welfare of farm workers are not accorded much attention in Uganda's agricultural extension policy, strategy and programmatic interventions (for example see Uganda's National Agricultural Extension Policy (NAEP) 2016) despite their key role in unlocking the productivity of human capital. It is important to delineate the role of agricultural extension services in supporting enhancement of the technical efficiency of farm labor. Access to extension showed significant ($p < 0.01$) positive effect on technical efficiency for Farm-specialised households hence the need for appropriate extension support services in order to improve agricultural productivity (Kansiime *et al.*, 2017). Since Uganda's smallholder farming takes place within family units that double as subsistence and business entities, the paper draws on literature around household gender relations, family labor management and agricultural economics to analyse issues affecting farm labor efficiency. The analysis reveals issues affecting farm work on smallholder family farms in Uganda and draws implications on workers' technical efficiency and agricultural advisory service needs.

Issues on smallholder family farms

Balancing multiple farm and off-farm enterprises

Uganda's smallholder farming households are diverse and dynamic. They tend to pursue a diversity of on-farm and off-farm livelihood strategies simultaneously, and these may change for a brief period of time depending on prevailing socioeconomic or environmental conditions (Kansiime *et al.*, 2017). Smallholders in Uganda produce a wide range of crop and livestock enterprises for consumption and

sale. Anderson *et al.* (2018) identified a total of 15 dual purpose crops; and 5 produced solely for sale. The median number of crops per household was 7, and just over one-quarter (27 percent) grew more than eight crops. An estimated nine out of 10 smallholder farmer households consumed at least a portion of their crops. A single crop often serves multiple purposes. For example, 91 percent of cassava farmers reported that they consume it, just under two-fifths sell it and approximately one-tenth trade it. Three-fifths of smallholder farmers raise livestock for both consumption and sale (Anderson *et al.*, 2018).

Work on farms therefore encompasses field level crop and livestock production, home based processing of staples for home consumption, and engagements with markets for sale and trade in produced commodities. It calls for balancing farm with off-farm enterprises and taking decisions and trade-offs from time to time based on prevailing circumstances. The multiple enterprise context coupled with predominance of labor intensive outdoor manual work breeds inefficiencies.

A study conducted in northern Uganda to provide empirical evidence on the links between farm diversity and resource use efficiency employed stochastic production frontier approaches grouped households into those pursuing similar livelihood strategies and assessed their resource use efficiency. It identified three distinct farm types – Farm-specialised, Diversified and Off-farm specialised. Diversified and Off-farm specialised mainly pursued off farm livelihood strategies while Farm-specialised households pursued mainly farm-based activities and earned higher net incomes compared to other farm types. However, the latter exhibited technical inefficiency in the use of labour and fertiliser compared to other farm types. Commercial orientation in farming significantly reduced farm inefficiency for Farm-specialised and Diversified farm types. This indicates that expectation to generate farm income as opposed to meeting subsistence needs alone creates motivation to produce efficiently. Participation in markets provides price incentives that motivate farmers to produce higher output at low production cost in order to increase net revenue (Mutoko *et al.*, 2014). Consequently, farm advisors' support to enhance farmers' access to remunerative markets for example through interventions that reduce transaction costs, and provide timely market information can contribute to increased farm efficiency. Advisors need to deliver contextualized advice to the diverse farmer typologies on enterprise selection, balancing investments on farm and off farm, labor-saving innovations, and ways to optimize utilization of family and hired labor all year round.

Gender and farm family labor force

Smallholder family farms in Uganda predominantly rely on family labor consisting of women, men, youth and children. The family farm is both a production, consumption and social reproduction unit hence interactions between family members have both economic and social aspects. This brings in issues around household versus farm headship, decision making, how to balance farm and non-farm activities; rewards and incentives for family labour, and how to ensure labour productivity in this complex set up where women and children may not have the autonomy to control their labor. A study conducted in northern Uganda found that sex of household head, household size and fulltime family labour had positive and significant effects on technical efficiency (Kansiime *et al.*, 2017).

The household head often doubles as the family and farm head; with a majority of households (77%) being male headed and the rest female headed (23%). In male headed household therefore men automatically head the farms (Anderson *et al.*, 2018). Kansiime *et al.* (2017) found that the sex of head of household significantly influenced technical efficiency with male farmers were more likely to be efficient compared to their female counterparts. This agrees with previous studies that showed higher efficiency of male compared to female farmers (Sienso *et al.*, 2014). This has been attributed to the fact

that male farmers' often have better incomes (which they use to purchase inputs and labour thus facilitating timely farm operations) and a higher likelihood of participating in agricultural extension and trainings than their female counterparts. Another explanatory factor could be gender gap in level of education. Anderson *et al.* (2018) found a large gender difference in education levels with female household heads more likely to have no formal education (47%), compared to men (12%).

Decision making on Uganda's smallholder farms is gendered with some decisions made by men or women singly while others are joint depending on the enterprise and type of household. When decisions are not joint, men are slightly more likely to make the decision solely, without consulting the women on matters concerning purchase of farm inputs, sale of crops and livestock, borrowing to finance agricultural enterprises (Anderson et al 2018). Gender relations in Uganda's predominantly patriarchal set up often marginalize women and youth in decision making, access and control over production resources despite their critical role in agricultural production. Youth and women provide unpaid family labor but may not access proceeds from the farm freely especially income earned after sale of produce. This undermines motivation to engage fully in the farm enterprise affecting technical efficiency. Un paid care workload of women (food processing, preparation, nurture roles) takes a lot of their time such that they have limited time to invest in seeking information, attending extension training to enhance their knowledge and skills. Farm advisors have a role to build capacity of farm family heads in how to handle family labor relations in a gender responsive and equitable manner that motivates all family members to engage in farm enterprises. Support can include determination of realistic labor productivity performance targets, tools to organize family farm labor to enhance productivity and assess performance. Family labour endowment helps farmers to achieve timely farm operations, and try new technologies that require labour.

Farm hired labor

Besides family labor, smallholder farmers utilize hired labor on a limited scale and mostly on a casual basis. This implies that farm advisors need to diversify their messaging beyond information, knowledge and skills targeting owner-operators, to employers of hired casual labor. Experience in more developed countries has shown that the move from an owner-operator base has provided new challenges in terms of staff recruitment, deployment and retention and necessitates a change in how farmers design and implement their farming systems. Being an employer requires specific skills in people management, including communication, leadership, setting expectations and allocating work (Nettle *et al.*, 2018b). Farm owners need skills in how to manage labour for optimum returns. For example determining circumstances when to deploy permanent or seasonal labor. With permanent workers, the importance of seasonal work on farm leads to a dilemma in balancing labour supply and demand (Neiman 2016). In more developed countries in Europe, decreasing family workforce and increased reliance on non-family farm employees and contractors was accompanied with an increase in work productivity, reorganization of the workforce on farms and different workforce strategies (*i.e.* how farm workforce organization supports the needs and priorities of the farm) (Nettle *et al.*, 2018a).

Conclusions and recommendations

Uganda's smallholder farm workforce largely consisting of family members and to a limited extent casual hired labor is inefficient and not optimally deployed. The multi-function multiple enterprise production environment and socio-cultural household gender relations influence the farm work context with implications for farm advisory service needs. Enhancing the productivity of Uganda's smallholder farm labour must be based on a comprehensive understanding of the labour dynamics for the diverse farm

types in the country and the needs of the various types of the labour force, specifically family and hired labor. There is need for reliable data on labour conditions and challenges for evidence-informed interventions to improve labour productivity. Reducing informality so as to address particular vulnerabilities in the workforce are essential. The agricultural workforce and rural communities are not, however, homogenous groups of people. They may differ in livelihood sources, employment relations, resource endowment, access to inputs, market and financial services, and type of production. Developing a comprehensive framework to study and understand the realities of different kinds of agricultural worker and the challenges they face is essential for targeting employment support to those who need it most (Jayne *et al.*, 2017).

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