

Research Application Summary

What factors determines a farmer's decision to participate in contract farming? The case of leaf tobacco in Kiryandongo district of Uganda

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Abstract

Contract farming (CF) is viewed as a pro poor strategy to enhance agricultural production and overcome production and marketing constraints of smallholder producers. This is due to the benefits it offers to smallholder farmers. Despite the benefits, CF is characterized by frequent entry, exit and re-entry of participants to the scheme, majorly due to breach of contract agreements by either farmers or firms engaged. This lowers the potential benefits as well as participation of farmers in CF. This study assessed factors influencing leaf tobacco farmers' decision to participate in CF. Data were collected using structured questionnaires from a sample of 380 leaf tobacco farmers selected using a multi-stage approach. Data analysis involved both descriptive and logistic regressions. Results showed that farmers decision to participate in CF significantly depended on farmer's experience in tobacco production, their access to credit and gender. The study recommends special focus on female farmers while promoting CF since males were more likely participate in CF than female.

Key words: Contract farming, gender, tobacco production, Uganda

Résumé

L'agriculture contractuelle (AC) est considérée comme une stratégie en faveur des pauvres pour améliorer la production agricole et surmonter les contraintes de production et de commercialisation des petits producteurs. Cela est dû aux avantages qu'il offre aux petits agriculteurs. Malgré les avantages, l'AC se caractérise par l'entrée, la sortie et la rentrée fréquentes des participants au programme, principalement en raison de la violation des accords contractuels par les agriculteurs ou les entreprises engagées. Cela réduit les avantages potentiels ainsi que la participation des agriculteurs à l'AC. Cette étude a évalué les facteurs influençant la décision des producteurs de tabac en feuilles de participer à l'AC. Les données ont été recueillies à l'aide de questionnaires structurés auprès d'un échantillon de 380 producteurs de tabac en feuilles sélectionnés selon une approche en plusieurs étapes. L'analyse des données impliquait à la fois des régressions descriptives et logistiques. Les résultats ont montré que la décision des agriculteurs de participer à l'AC dépendait de manière significative de l'expérience des agriculteurs dans la production de tabac, de leur accès au crédit et de leur sexe. L'étude recommande de mettre l'accent sur les agricultrices lors de la promotion de l'AC puisque les hommes étaient plus susceptibles de participer à l'AC que les femmes.

Mots clés : Agriculture contractuelle, genre, production de tabac, Ouganda

Introduction

Contract Farming (CF) is a form of vertical integration within agricultural commodity chains, with the firm having greater control over the production process, quantity, quality characteristics and the timing of the produce regulated by verbal or written agreement (Prowse, 2012). It is considered as an efficient approach for coordinating supply chain activities employed in the rapid agro-industrialization that has growing raw material demand such as for grains, horticulture, trees, and leaves (Poku *et al.*, 2018). This is due to the benefits CF offers such as linkage to established markets, provision of inputs, credit, and provision of extension services to farmers. Contract farming initiative is increasing in both developed and developing countries in agricultural commodities such as tea, sugarcane, cotton, oil seeds, sorghum, rice, and tobacco in Africa, Asia, Central and Latin America (Sambuo, 2014). Studies about CF have focused on recurrent issues, such as the role of private-led CF schemes in addressing market failures and emerging issues including agri-food globalization, private standards, and land grabbing (Oya, 2012). Limited focus has been put on the relationship between participation and performance of contract farming agreements on producing farms.

Contract farming in Uganda has been dominated by a range of private large scale production arrangements of majorly grain crops, sugarcane and tea (Elepu and Nalukenge, 2009). Many of these arrangements have been characterized by contract conditions that allow agribusiness firms to maximize their short-term returns at the cost of long term gains of CF (Poku *et al.*, 2018). This opportunity allows farmers to participate for the first time and as well re-participate in CF depending on their satisfaction with the offer. However, production and marketing challenges still exist due to constraints of CF operations such as side selling, late or no payment, and lack of adherence to established quality standards (Tinashe *et al.*, 2013). Besides, a duration analysis considering the entry in to and exit from contract farming of smallholder farmers, indicated a larger proportion of smallholder farmers leaving CF (Elepu and Nalukenge, 2009), hence low participation by farmers. Notably, poorly designed contracts may expose farmers to additional risks and exploitation by larger agricultural actors (Poku *et al.*, 2018). These contractual arrangements have hardly been analyzed in Ugandan context. Therefore, to achieve inclusive and sustainable CF engagements through increased farmers' participation in CF and increased benefits, this study assessed the factors influencing farmer's decision to participate in CF.

Methodology

The study was conducted in Kiryandongo district in Western Uganda. The selected district has been engaged in tobacco CF since its introduction in Uganda. A cross sectional field survey was used to collect primary data. Primary data were obtained using a pretested structured questionnaire to gather responses on influence of socio-economic data such as age, income, education, experience, farm size and distance to the market and contract attribute factors (pricing, payment terms, quality standard, output arrangements, input arrangements) on farm performance of tobacco farmers. Collected data were analyzed using SPSS v24. Data were summarized into descriptive statistics. The binary logistic regression was used to assess factors associated with CF participation.

Research Results

Population characteristics. Overall, 80% were males, with mean age of 39 years and about 5 years of formal education. On average, the farmers had land size of about 4.9 acres (2.2ha) with 1.8 (0.8ha) acres allocated to tobacco production. 99% of the contract farmers do access market information though only 56% are engaged in other non-farm income generating activities (Table 1).

Table 1. Population characteristics of tobacco contract farmers

Variables		
Continuous variables	Mean	SD
Age	39.14	10.59
Education level	5.87	3.25
Household member	7.19	2.85
Household member in farm work	3.61	1.89
Land size	4.97	3.25
Tobacco acreage	1.79	0.92
Tobacco acreage rented	1.43	0.95
Tobacco acreage owned	0.36	0.66
CF Practice	1.00	0.00
Non-continuous variables Percent		
Gender (1=male)	80.0	
Non-farm income (1=yes)	56.0	
Access to agricultural credit (1= yes)	96.0	
Access to agricultural extension (1=yes)	98.0	
Access to market information (1=yes)	99.0	

Note: SD= standard deviation

Table 2. Logistic regression of factors influencing participation in contract farming

Explanatory variable	Coefficients (SE)
Education_level	-0.043 (0.044)
Household membership	0.009 (0.058)
Land size owned	-0.056 (0.062)
Access to Non-farm income	0.088 (0.271)
Access to Agriculture credit	1.754 (0.637)
Access to Agriculture extension	0.831 (0.957) ***
Access to Market information	-0.522 (1.457)
Household members in farm work	-0.034 (0.078)
Tobacco acreage owned	0.292 (0.224)
Experience in contract farming	0.455 (0.058) ***
Gender	0.684 (0.346) **
Constant	-3.961 (1.994) **
LR Chi2(11)	130.620
Prob>Chi2	0.000
Pseudo R ²	0.268
Log Likelihood	-178.812

Note: *** and ** shows level of significance at 1% and 5% respectively. Figures in parentheses are standard errors.

Factors affecting participation of farmers in tobacco contract farming. Results in Table 2 show that farmer decision to participate in CF was significantly influenced by access to agricultural credit ($p=0.01$), farmers experience in contract farming ($p=0.00$), and gender of household head ($p=0.05$). Other variables including education level, household size, land size, non-farm income source, access to extension service, access to market information, leaf tobacco acreage had no significant influence on participation decision of farmers.

Conclusion

The study results indicate that socio-economic factors especially gender, experience in farming, and access to agriculture credit jointly influence the participation decision of farmers. Proper analysis of their influence on targeted farmers should be done if planned interventions are to positively impact the lives of communities. Accordingly, contract promoters should include the design of contracts that promote the participation of female farmers to reduce male dominance in contract farming since women provide most of the labor used in agricultural production especially in Uganda but also in other Sub-Saharan Africa countries. Further, contract conditions that encourage participation of most farmers should be encouraged to enable them to acquire experience in contract farming and guide their decisions to engage more in contract farming. Incentives such as encouraging the supply of affordable and timely credit to support agricultural activities of farmers would entice more farmers to engage in contract farming.

Future studies could also examine food crops such as maize, beans under contract farming in more than one district and use the same analysis method for replication of this study findings. This is because more land hectareage is devoted to maize and beans production in the current study area.

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