

Full Length Research

Determinants of Poverty among Tomato Farmers in Upper East Region of Ghana

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This study was conducted in Talensi and Nabdam districts of the Upper East Region of Ghana. Much of the tomato is being cultivated in these districts and yet the poorest with low income. The study was therefore conducted to investigate the determinants of poverty among tomato farmers. Pwalugu, Pusu-Namogo, Winkogo, Yindure and Arigu were the communities which were purposively selected in Talensi and Nabdam districts. A total of 100 farmers were selected and the simple random technique was used to select 20 rural farmers from each community. The linear regression was used in SPSS to estimate the poverty determinants of the farmers. Data collected include, marital status, age, sex, extension contact, access to credit, farming experience, education, farm income, farm size and kind of labour using questionnaire. It was observed that, extension contact, farming experience, educational level, access to credit and gender are important determinants in reducing poverty as against age and marital status.

Keywords: Poverty, Determinants, Farmers, Tomato, Ghana, Upper East Region

INTRODUCTION

Global hunger afflicts nearly one billion of our Earth's population (FAO, 2009). In addressing this vast problem, hunger, famine, and food security scholars target rural communities reliant on subsistence farming or agriculture-related livelihoods (Kracht & Schultz, 1999).

The link between poverty and land degradation is said to be a symbiotic one in a form of a vicious cycle. It is considered as a downward spiral (Berry et al., 2003) in which causality runs both ways (Perrings, 1989). Hence, poverty reduction should be tackled alongside the control of land degradation (Gisladdottir et al., 2005) and UNCCD, 2012.

In Ghana as well as other developing countries, land degradation is a major problem due to the agrarian nature of their economy. Most Ghanaians (70%) depend

on the land for their livelihoods (Environmental protection agency, 2002) and Stocking, 2005. The fundamental importance of land extends to dependence on food, fibre, fuel and general ecosystem provisions of fresh air (oxygen) water and climate regulation. The growing reliance on the land for timber, agricultural produce and minerals has extracted land productivity over the past several years (Environmental protection agency, 2002).

The three northern regions of Ghana portray the highest incidence of poverty and occurrence of land degradation (Diao et al., 2011) and Boahen et al., 2007). Northern Ghana experiences ecological and economic marginality, especially in the current Upper-East Region, which has been plagued with looming desertification and a high incidence of destitution. This

area has a history of chronic malnutrition and enduring poverty, even if it has not suffered massive famine mortality (Reyna, 1990)

This study therefore seeks to investigate the determinants of poverty among tomato farmers in Talensi-Nabdham district of Upper East Region of Ghana.

METHODOLOGY

Description of the Study Area

Talensi Nabdam District is one of the young districts created in 2004. It was carved out from the then Bolgatanga District Assembly. The Assembly (TNDA) is under the Ministry of local Government, Rural Development and Environment. The Assembly's sphere of influence covers the delineation of the Talensi Nabdam constituencies LI 1739, 2004. It has its capital at Tongo. It is bordered to the North by the Bolgatanga municipal, to the south by the West and East Mamprusi Districts (both in the northern region), Kassena-Nankana district to the west and Bawku west district to the East.

The district has a total population size of 100,879 made up of 50,865 females and 50,014 males, thus a gender ratio of 50.4% and 49.6% respectively; and has a population density of 10.6; based on the population and Housing census of 2000-2006. The population is mainly rural with about 90% not educated (MOFA, 2008). The female population form a majority of the illiterate population in the district (MOFA, 2008). There are mainly two ethnic groups in the district; Talensi and Nabdam. However there are traces of a few minority tribes settling in the district; notably gurunes, Mamprusi and Asantes who migrated years ago for various reasons from adjoining communities.

The climate is described as tropical and has two distinct seasons, wet and rainy season which is erratic and runs from May to October and a long dry season that stretches from October to April with hardly any rains. The annual rainfall is 950mm. The area experiences a maximum temperature of 45°C in March and April and a minimum of 12°C in December.

The vegetation is guinea savannah woodland consisting of short widely spread deciduous trees and a ground flora of grass which get burnt by fire or the scorch sun during the long dry season. The most common economic trees are the sheanuts, dawadawa, baobab and acacia.

The district soil is upland soil mainly developed from granite rocks. It is shallow and low in soil fertility, weak with low organic matter content and predominantly coursed textured. Erosion is a problem. Valley areas have soils ranging from sandy candy to salty clays. They have higher natural fertility but are more difficult to till and are prone to seasonal water lodging and floods and drainage is mainly by the white and red Volta and Sissili

rivers (Regional Coordinating Unit, 2003).

The district has 180 towns and villages with a settlement pattern which is predominantly rural. The spatial organization settlement is dispersed, which render service location and provision very difficult. It has settlement falling within level three, four and five. The settlement pattern allows for compound farming and the rearing of animal. The area is not scheme, to guide development and so the proliferation of physical developments is mostly haphazard as development is fast outstripping planning interventions. The district has total number 8,839 houses, 16,375 households and also has an average household size of 6 persons and room occupancy of 4-5 persons. It has two main dialectic areas, the Talensi and Nabdam; who speak Taleni and Nabit. Figure 1

Data collection

Data collected include, marital status, age, sex, extension contact, access to credit, farming experience, education, farm income, farm size and kind of labour using questionnaire. Secondary data was also collected from Ministry of Food and Agriculture.

Sampling Technique

Pwalugu, Pusu- Namogo, Winkogo, Yindure and Arigu were the communities which were purposively selected in Talensi and Nabdam districts. A total of 100 farmers were selected and the simple random technique was used to select 20 rural farmers from each community.

Analytical technique

The linear regression was used in SPSS to estimate the poverty determinants of the farmers.

RESULTS AND DISCUSSIONS

Determinants of poverty Linear Regression Estimate

From the results of the regression estimate below, R-squared is 0.239 and adjusted R-squared is 0.163 which is significant at one percent level. That means that the regression has a good fit to the data and also explains significant non-zero variations in the determinants of factors of poverty.

Gender has a coefficient of 0.098 and is significant at one percent, which means a unit increase in either male or female would decrease the poverty level by 0.098. This means if more women engaged into farming, poverty would decrease.

The educational level of the farmers has a coefficient of

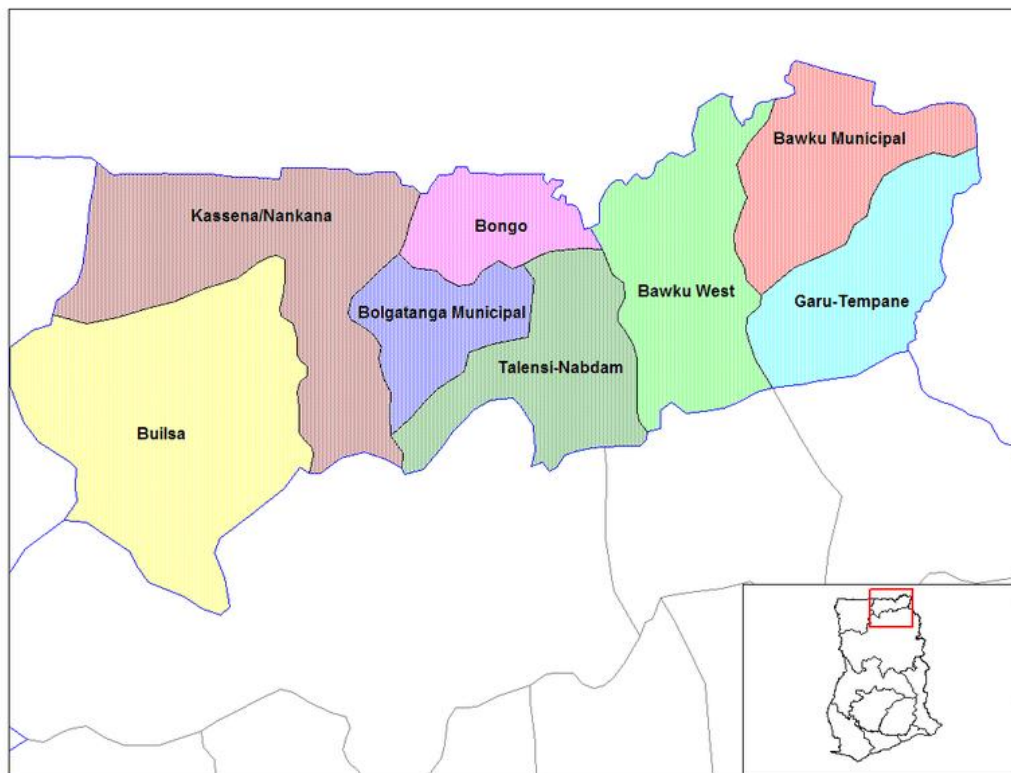


Figure 1; Map of Talensi-Nabdam District

0.139 and is significant at 1% which implies, a unit increase in the educational level of the farmers would decrease poverty by 0.139. About 70% of the farmers have no access to basic education.

Also, years of farming experience has a coefficient of 0.112 and is significant at 1% which means a unit increase in farming experience would increase poverty by 0.112. This is because as age of the farmer increases, experience also increases and the strength to do work well also decreases and this is testified by a study done by Farida & Fariya, 2014 on analysis of production and marketing of tomato in that district that tomato production is an age long profession of the people in that area.

Extension contact has a coefficient of 0.057 which is significant at 1% implying that a unit increase in extension contact would decrease the poverty level by 0.057.

Kind of labour has a coefficient of 0.240 and significant at 1% meaning a unit increase in labour would increase poverty by 0.240. Tomato is labour intensive and the amount of money spent on hired labour alone would reduce the income of the farmer and hence increase poverty among tomato farmers. Farm income has a coefficient of 0.106 and is also significant at 1% which means a unit increase in farm income would increase poverty by 0.106. This is because most of the farmers

use their own money to farm and at the end of the day the return expected to pay for the cost of production and the purchasing power of other things and school fees is not sufficient and that would increase to poverty.

Access to credit has a coefficient of 0.188 and is significant at 1% implying that a unit increase in credit availability would decrease poverty by 0.188. Access to credit is one of the major problems the farmers were facing and this is confirmed by a study done by Farida & Fariya, 2014 that access to credit is one of the major problems the farmers were facing in that district. If credit is available to farmers, their farm sizes would increase which would also increase production and at the same time decrease poverty. Table 1

CONCLUSION

It was observed that, extension contact and farming experience, educational level, access to credit and gender are important determinants in reducing poverty as against the others.

Table1. Maximum Likelihood Estimates of Linear Regression for Tomato Farmers

Variable	Coefficient	t-value
Age of respondents	0.000	-0.008
gender	-0.098	-0.985***
Marital status	0.051	0.506
Educational level	-0.139	-1.447***
Years of farming experience	0.112	1.045***
Extension contact	-0.057	-0.598***
Kind of labor	0.240	2.128***
Farm income	0.106	0.825***
Access to credit	-0.188	-1.893***
R-squared	0.239	Adjusted R-squared
		0.163

*** denotes significant at 1%

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