Regulating Purchase of Resources by Distributors: A Case Study of Experiences Faced by Rural Farmers in Southwestern Kenya

Jet Mboga, DBA
Marketing & Management Sciences
William Paterson University
1600 Valley Rd, Room 3064
Wayne, NJ 07470, USA.

Gladys Wilson, M.Sp. Ed.
Westbridge Academy
60 West Street
Bloomfield NJ, 07003, USA

Abstract

Crop farming is a business enterprise for individuals who solely or partially rely on planting crops for their livelihood. Farmers as entrepreneurs in Kenya use their entrepreneurial traits to structure and sustain their enterprises to be successful. In this exploratory qualitative case study' a questionnaire was designed to determine the factors limiting the crop production by farmers in Manga locale-Southwestern Kenya. The smallholder farmers' results are discussed in this paper with the major theme being the recently enforced regulations set by distributors in fertilizer purchases. The study concludes with few suggestions that distributors can integrate in the place of the active manual inventory control systems. Cease of the imposed restrictions on fertilizer purchases would contribute to soil fertility thus ample food supply and minimal poverty level by smallholder farmers.

Keywords: Smallholder farmers, crop farming, challenges, fertilizer, distributors, Gross Domestic Product (GDP)

Introduction

Kenya experienced an all time high on Gross Domestic Product (GDP) per capita of 632.36 USD in 2013 which was an all-time high from 155.69 USD in 1960 as reported by World Bank (Trading Economics, 2015). Farming provides a platform for smallholder and large-scale farmers in rural and urban areas worldwide (Pretty, Toulmin, & Williams, 2011). Regardless of the increase in GDP, farming in Africa has exhibited poor performance with an impact from elements such as pest management, availability of water, soil fertility, and lack of crop improvement among others (Pretty et al., 2011).

Farmers in Kenya consider themselves to be entrepreneurs responsible for their own livelihood. Farming is correlated to entrepreneurship as both professions assume some level of risk and independence as they toil hard and harder to become successful. Gartner (1988) defined entrepreneurship as roles that individual's take to create an organization. As farmer entrepreneurs, their objectives are to startup organizations with their ideas and ensure they are successful in structuring and sustaining them (Bird, 1988). Farmers fit into the classification of entrepreneurs because of their ability to startup and move innovative ideas forward while using traits such as creativity, value-focused, and results oriented among others in different contexts to succeed in their efforts (Kimle, 2012). Additionally, farmers are similar to managers of business ventures that require some form of support ranging from marketing, technology, and finance among others to attain success (Gartner, 1988). Specifically, farmers need support ranging from finance to acquire the land; machinery to cultivate the land; distributors to sell fertilizer that is essential to crop growth; and human capital to plant, remove weeds, and harvest crops.

The low income earning prospects and fierce job competition force majority of people to rely solely or partially on farming for their livelihood; a source that also generates 60% entirety of foreign exchange in earnings (Ahuya, Okeyo, & Peacock, 2005; Buchmann, 1999; Chianu, Mairura, Ekise, & Chianu, 2008). Millions of people in Kenya depend on farming for their livelihood; as farming entrepreneurs they must structure all essential elements in place for the growth of their crops and exercise the ability to sustain their crops to ensure they have ample supplies. The smallholder farmers in Southwestern region of Kenya in the locale of Manga grow maize, beans, bananas, potatoes, and indigenous vegetables among others (Feed the Future, 2015). The farmer's face challenges that include land ownership obstacles, challenging environment, unreliable rainfall, lack of reliable modernized farming methods, soil fertility and transportation of their crops among others thus inhibiting them from a steady supply of income (Thenya, 2001; Mowo et al., 2006; Yatich, 2007).

The farmers in Manga locale -Southwestern region of Kenya experienced low crop production thus raising concerns of the factors contributing to their minimal success. This paper examines the factors contributing to the limited crop output by smallholder farmers in Manga locale - Southwestern region of Kenya. The study emphasis was to explore the smallholder farmer's' experiences to identify the inhibitors of crop output and determine ways that should be implemented to support farmers in accessing resources necessary to succeed in their farming business.

Literature Review

Agriculture is considered the stamina of the Kenyan economy where smallholders farmers output contributes to people's livelihood and minimization of poverty (Ong'anya, Omuya, Ombaba, & Arogo, 2012). Agriculture by smallholder farmer's in Kenya plays a role in lessening of poverty and economic development (Kimenyi, 2002; Omwono & Odoyo, 2013). The low output of smallholder farmer's can be attributed to the existence of soil dilapidation and nutrient diminution and farmers are urged to utilize fertilizer for each plant to ensure a higher output (Duflo, Kremer, & Robinson, 2009; Tittonell, Vanlauwe, Leffelaar, Rowe, & Giller, 2005). Additionally a study conducted to determine strategies for poverty reduction confirmed that the elements influential for agricultural growth included inputs such as seeding and fertilizers, prices, technology, and extension services (Ong'anya et al., 2012). The authors recommended for farmers to utilize modern technologies that entailed higher yielding seeds and use of fertilizers (Ong'anya et al., 2012). Similarly in an experimental case study conducted to determine if the farmers took advantage of discounted fertilizer and free delivery; findings confirmed that recommendations were made to farmers to purchase the fertilizer to allow for ample supply and generation of higher of their crops growth (Duflo et al., 2009).

The livelihood of smallholder farming land in Africa is comprised of 95% rain-fed agriculture (Rockstrom, 2000). Kenya is not immunize to the rain-fed agriculture and studies show evidence of Kenya smallholder farmers highly dependent on rain especially during drought periods (Rockström, Barron, & Fox, 2003). The study results confirmed that the scarcity of water caused by dry spells was an extreme challenge that farmers encountered mainly in regions where watershed management did not exist (Rockström et al., 2003). The findings also confirmed that even with the investment of fertilizer for soil fertility drought would precede crop failure thus contributing to the loss of crops by smallholder farmers (Rockström et al., 2003). In a similar study on the evaluation of rain-fed agriculture, the findings confirmed that smallholder farmers could conduct rainwater harvesting whereby they could build ponds that would be used as supplemental irrigation during dry spells (Ngigi, Savenije, Thome, Rockström, & de Vries, 2005). Additionally the study findings confirmed that the ponds were affordable and sensible to integrate because they would supply water to crops during off-season dry spells that generally lasted for 30 days in cases with 90 days growing period (Ngigi et al., 2005).

Tiffen and Mortimore (1994) shared that investment in technology that included land improvement such as environmental conservation would enhance smallholder farmers and projects such hybrid seeds and irrigation. Similarly, other research confirmed that the tissue culture crop technology by smallholder farmers would yield higher outcomes because the crops were free of diseases (Kabunga, Dubois, & Qaim, (2012). Specifically the simulation of tissue crop productivity and improvement of irrigation on the banana crop could increase productivity to 20% in comparison to irrigation of traditional banana crops (Kabunga et al., 2012). The enhancement of technology was appealing to smallholder farmers to determine if the advancement in technology-enhanced farming; the findings confirmed that elements such as finance to make purchases of advanced machinery, market development, and availability of resources were part of challenges that the farmers faced thus contributing to lower yields (Kilelu, Klerkx, Leeuwis, & Hall, 2011).

In addition to technology advancement the smallholder farmers had a possibility to generate higher crop growth and minimized poverty levels with access to knowledge of the elements that hinder their success such environmental changes, fertility of soil, and integration of preventive measures (Rarieya & Fortun, 2010).

Method

Participants and Procedure

The purpose of this exploratory qualitative case study was to explore the factors that smallholder farmer's in far rural communities perceived as elements that contributed to their limited crop output. Obtaining participants with smallholder farming experience was essential to capture the inhibitors of recent crop output in their farming business. The participants' population was from Manga locale - Southwestern region of Kenya where smallholder farmers had expressed their concern while the authors visited their area on the lower crop yields and restrictions on acquiring resources necessary to attain higher crop yields. The participant selection was random, and those that agreed to participate were asked to share the invite to participate with those willing to share their experiences. The questionnaire designed from previous scholarly research conducted on challenges encountered in African farming was translated into the native language known as Ekegusii for the rural farmers to understand. One hundred and thirteen smallholder farmers from Manga locale - Southwestern region of Kenya participated in the study. The collected data was cleaned to remove non-relevant data, organized by similarity, and uploaded to NVivo 10 for analysis. The results were then analyzed, and the questionnaire pressed the coded themes discussed next.

Study Results

The smallholder farmers in Manga locale shared that they plant maize, beans, bananas, millet, potatoes and indigenous vegetables for their livelihood. The challenging elements they encountered included lack finances to pay for machinery to prepare the land plant the crops thus resulting in the use of human laborers to dig the land by hand. The digging of land by hand using a digging a hoe was cumbersome but was economically affordable since they lacked capital support by local banks that tighten the rules on loan guarantees. Some farmers shared that the land preparation was performed by their family members because of lack of finances to afford to pay for machinery or even other human laborers. Another theme that arose from the study findings was that farmers experienced drought seasons and lack of water for their crops because of their high dependency on rain for agriculture. The rain was crucial for the survival of their crops and when drought seasons came unexpectedly they would lose all their crops without any return on their investment thus contributing to food insecurity. The farmers' study results provided insight that they were constant struggles on how to handle pest control and if the crops were attached they would lose their whole yields. Findings confirmed that the pest management chemicals were available through agriculture distributors for purchase, and some farmers did without them and prayed for better yields because of they lacked substantial funds to make the purchases.

The smallholder farmers' shared that agriculture was a source to support their livelihood but the new change in the procedure to acquire resources necessary for soil fertility was not only frustrating but added to their existing challenges. All the 113 participants shared the following steps that they had to abide by if they wanted to purchase fertilizer for their farming in their Manga Locale-Southwestern Kenya. The steps were (a) make a visit the Ministry of Agriculture located in Kijauri-Kenya for a document that notes your intent to purchase fertilizer; (b) take the intent to purchase fertilizer document to your local chief for his signature at your Manga locale; (c) take the intent to purchase document to Keroka-Kenya to pay for the fertilizer; (d) with your signed intent to purchase and payment receipt visit the distributor at Kijauri-Kenya office to pick up your bag of fertilizer. The participants shared that they were advised of the new policy as a way to manually control inventory and minimizing any illegal sale of the fertilizer thus taking care of the concern of monies going to the wrong hands instead of the corporation.

The farmer's results confirmed that the new process was a restriction that hindered them in obtaining necessary resources timely to fall in the planting and rain season since they were heavily dependent on rainfall for irrigation. The findings confirmed that the smallholder farmers were frustrated with the new process and expressed that even though it was integrated as an inventory control system it was a formal restriction to their livelihood. The participants shared that restricting farmers with a process where the distributor employee would only hand out fertilizer to the farmers with signed intent to purchase document and payment receipt not only added delayed them in land preparation and planting of crops but in lower crop yield. The lower crop yields as the farmers confirmed were attributed to planting crops at a later time when the planting season had elapsed since farming in Kenya heavily depends on rain-fed agriculture.

The participant results confirmed an existing theme that the fertilizer restrictions were imposed on the Manga locale as the neighboring tribe-Kipsigis and its surrounding regions had access to make purchases directly from the distributor. The farmers shared that to avoid missing the planting season they would make every attempt to overcome the restrictions because the fertilizer was a resource necessary for higher crop output. Some participant's expressed frustrations that they were not able to timely plant their crops in accordance to rain versus drought seasons. They confirmed they could not afford to commute to Kipsigis area to purchase the fertilizer; while others noted they had difficulty locating the chief to sign their intent to purchase document in their Manga locale.

Conclusion

Data from World Bank, 2013 confirmed that agriculture is the backbone of the 44.4 million people living in Kenya of whom 75% partially or entirely depend on farming for their livelihood (Feed the Future, 2015). To support the farmers in Kenya the Ministry of Agriculture recommended for smallholder farmers to combine hybrid seeds, and fertilizer and results showed an increase of 40% to100% crop yields (Duflo et al., 2008). To succeed and ensure that farmers have ample returns, the smallholder farmers as entrepreneurs must structure all essential elements in place for the growth of their crops and exercise the ability to sustain their crops. Specifically, these smallholder farmers must cultivate a startup; develop a plan of what crops would yield more output; acquire resources necessary such as labor, machinery, seeds, and fertilizers; and be fully responsible for their farming success.

The purchase and use of fertilizer in farming would help in soil fertility and enhancing crop growth thus producing ample crop yields to help the smallholder farmers to steer off poverty (Duflo et al., 2009). If the use of fertilizer and hybrid seeds by the smallholder farmers as recommended by the Ministry of Agriculture is essential to improve food security and help in reduction of poverty; why would distributors restrict the sale of fertilizer to Manga locale-Southwestern Kenya residents? The study results confirmed that farmer's in Manga locale were restricted to the purchase of fertilizer from the distributors as a way for the company to minimize loss of inventory. Apparently these restrictions posed a challenge to farmers as they had to jump through hoops to purchase fertilizer that is an essential resource for plant growth and higher crop yields.

The purpose of the study was determining the factors contributing to the limited crop output by farmers in Southwestern Kenya. The findings confirmed that the regulations set by the distributor on the sale of fertilizer to rural farmers in Manga locale-Southwest Kenya forced the farmers to spend additional money on travels to the neighboring Kipsigis where they could freely make purchases. The restrictions contributed to the farmers' frustrations and could open doors to future nontechnical purchases of the fertilizer from other third parties that may arise to address the farmers' frustrations. The authors' suggestion is for the distributors to spend some capital to integrate a form of inventory system software to manage their inventory. Inventory management such as radio frequency identification (RFID) were integrated in Kenya and were deemed a success to track goods moved out of export factories and minimize the falsification of documents noting that goods had left the country the integration increased efficiency and reducing unfair advantage (Siror, Guangun, Kaifang, Huanye, & Dong, 2010). The integration of an inventory management system and surveillance cameras' may address the distributors concern of inventory control and minimize frustration of fertilizer purchase by smallholder farmers in Manga locale-Southwestern Kenya. Additionally the minimal restrictions, easy processes to obtain the resources necessary for farming, and empowering the smallholder farmer to plant, harvest, and maintain ample food supplies would help minimize Kenyan people's poverty levels.

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