

FACTORS INFLUENCING THE GROWTH OF AGRIBUSINESS ENTERPRISES IN KENYA: A CASE OF RABBIT FARMING IN KIAMBU COUNTY

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ABSTRACT

Agriculture is the most important sector of the Kenyan economy, and is dominated by a vibrant private sector comprised mainly of small and medium-sized farming and processing operations. Despite so much effort to promote the rabbit industry, economic and socio-cultural factors remains a hindrance to widespread adoption of rabbit keeping. This study therefore set out to explore the factors influencing the sluggish growth of rabbit farming on Kiambu County. Specifically, the objectives of this study were: to explore the influence of access to finance in rabbit farming, to assess the effects of agro-industrial research services in supporting rabbit farming, to examine extension services supporting rabbit farming and to establish the effects of availability of market for rabbit meat and other products. This study therefore focused on rabbit farming in Kihara Division of Kiambu County. Purposive sampling technique was employed to conduct the study amongst the rabbit farmers in Kihara Division, Kiambu County, and to select the study sample, probabilistic sampling technique was employed. A sample of 30 rabbit farmers out of possible total of 120 rabbit farmers was selected. 20 farmers representing 66.7% responded by handing in the questionnaire. Data was processed using descriptive statistics. The tools used to process data were SPSS V20 and Ms-Excel spreadsheet. The main method used to present data was frequency tables, tables, pie charts and bar graphs. The study found that market availability remained the major challenge. Secondly, very little research has been done in this sector therefore; research should be undertaken by players both in the academia and industry. Most of the financial resources were generated from rabbit farmers self savings which was inadequate. There were minimal extension services. The study recommended that government should spearhead promotion campaign to create market, encourage research and extension services.

Key Words: *Agribusiness, Agro-industry, Value chain, and Innovation*

Introduction

According to FAO (1997), agribusiness is a term used to mean farming; plus all the other industries and services that constitute the supply chain from farm through processing, wholesaling and retailing to the consumer (from farm to fork in the case of food products). A common feature emerging from the successful experience globally is that agribusiness and agro-industrial development was the result of deliberate government policy and strategy towards diversification of their economies and the development of competitive industries. Apart from

benefiting from substantial agricultural resources, great emphasis was placed on increasing productivity by applying science and technology as well as institutional support in an enabling private sector environment (UNIDO, 2009).

At a continental level, the wider category of agribusiness, including both upstream (input) activities and downstream processing activities, as well as distribution and marketing, is estimated to account for approximately one fifth of GDP for sub-Saharan Africa and just under half of the region's value added in manufacturing and services (Jaffee *et al.* 2003).

Defined as a component of the manufacturing sector where value is added to agricultural raw materials through processing and handling operations, agro-industries are an important source of employment and income generation worldwide (da Silva *et al.*, 2009). Indeed, in most developing countries agro-industries are dominant in terms of their contribution to value-added in manufacturing. In agriculture-based countries, this contribution is as high as 66 percent, whereas in transforming and urbanized countries it reaches 38 percent and 37 percent respectively (Wilkinson and Rocha, 2009). Smallholder farmers in developing countries have found it hard to participate in commercial agriculture and the production of high value products (Catelo and Costales 2008; Jauch 1999; Pletcher 2000; Seshamani 1998). There are various suggestions presented for this; one is the market liberalization policies promoted by the World Bank and the International Monetary Fund (IMF) in the 1980s and 1990s (Mwanaumo 1999) that transferred government responsibility for the provision of agricultural inputs and of a market for farmers' produce (Catelo and Costales 2008; Pletcher 2000) to the private sector. Others include the lack of collateral for smallholders to access loans from lending institutions, no guaranteed market for their produce, lack of investment by governments in infrastructure (roads, power, water and education) and poor engagement with agri-food value chains which offer them very little opportunity for growth and expansion. There are also those smallholders who have been empowered by change and now participate effectively in markets, examining one such group was the purpose of this research.

Generally, one should view the decision process in the food and agricultural industry as a complex adaptive process that requires broader and more powerful analytical frameworks than those offered by the traditional equilibrium driven theory of the firm economic concepts (Beinhocker 2006). Esterhuizen (2006) further explains that in agribusinesses, "the emphasis is shifting from a pyramid structure to a horizontal one, where strategic alliances, co-operation, supply chain agreements and specialization are facilitated." Thus as Esterhuizen (2006) explains, agribusinesses operating in the new economy have to spend less time on the farm and more time developing business service strategies that aim at enhancing their competitiveness. This observation calls for agribusiness strategists to focus not only on traditional economical and technological interests but also on value addition.

Rabbit farming in Kenya

According to the American Rabbit Breeders Association (ARBA), there are over 47 distinct rabbit breeds (ARBA, 2011). Only a handful of these are reared in Kenya, the most common being New Zealand White, Californian white, Chinchilla, French lop, Dutch, Checkered Giant, Giant Flemish, Angora and Rex. A survey conducted by Animal Production Division in November 2010 indicated that New Zealand White and Californian White breeds of rabbits are the most popular in Kenya. These two medium sized rabbit breeds (3.6 – 5.9kg) are also rated the

most popular for meat elsewhere in the world because of their good growth characteristics (Mailafia, Onakpa & Owoleke, 2010; Oseni, 2008; Shaeffer, Kime, & Harper). Other breeds that are popular in Kenya include the Giant Flemish, the French Lop and Checkered Giant.

In 1982 GTZ and the government initiated a national program on rabbit production where the National Rabbit Center at Ngong FTC, and other multiplication centers at Machakos, Embu, Wambugu FTC and Kilifi were established to supply the breeding stock to rabbit farmers (MOLD, 2010). The initial breeding stocks were imported from Germany. A few farmers from Central Kenya and Rift Valley and other institutions like Egerton University, Kijabe Mission Center and ILRI also supplied rabbit breeding stock. The support by government for rabbit production in eradicating malnutrition and poverty is also to address the challenges in the diminishing land sizes and reduction in area for crop production. In setting up the multiplication centers, the objective of government was to supply 3 million rabbits by the year 2000. But this did not happen due to insufficient supply of breeding stock and a waning government extension service (MOLD, 2010).

Statement of the Problem

Globally, agro-industrial activities represent a substantial share of overall manufacturing value added (MVA), accounting for 14 per cent of total MVA in industrial countries and 27 per cent in emerging markets (UNIDO, 2009). The global food and agribusiness industry is in the midst of major changes—changes in product characteristics, in worldwide distribution and consumption, in technology, in size and structure of firms in the industry, and in geographic location of production and processing.

Agriculture is the most important sector of the Kenyan economy, and is dominated by a vibrant private sector comprised mainly of small and medium-sized farming and processing operations. Taken together, Kenya's farms, farm product processing and agro-industries generate about half of Kenya's GDP (GTZ, 2010). Rabbit production is now one of the fastest growing livestock enterprises in the country with rabbit population estimated at 600,000 with the higher populations in Central, Western and Rift Valley regions of the country (APD, 2010). The last three years has seen interest in rabbit keeping reach unprecedented level. Previously, rabbit keeping was a preserve of certain social groups as a hobby especially among the youth. This has changed thus gender and sociological bias associated with its production is quickly becoming a matter of history especially in Central Kenya.

Apparently, despite the growing interest, rabbit production in Kenya is still dominated by ultra small and small scale producers with minimal investment in housing, feeding and other management practices (APD, 2010). Because of the superior nutritional qualities of rabbit meat, nutritionists in Europe recommend it and current research efforts aim at further improving its nutritional value (Petracchi, Bianchi & Cavani, 2009).

Despite these efforts to promote the rabbit industry, economic and socio-cultural factors remained a hindrance to widespread adoption of rabbit keeping (MOLD, 2004). Unfortunately, for Kenya, very few studies have been conducted in this seemingly attractive sector. Rabbit meat has been found to be nutritious and of high quality (Petracchi, Bianchi & Cavani, 2009) yet it has

not been adopted commercially in Kenya. This research study therefore set to explore the strategic factors causing the sluggish growth of rabbit farming in Kenya. The findings would be invaluable to the rabbit farming stakeholders including the farmers, government policy makers as well as other researchers

General Objective

To establish the factors affecting the growth of agribusiness with specific interest to rabbit farming in Kihara Division, Kiambu County.

Specific objectives

Specifically, the objectives of this study were:

- i. To explore the influence of access to finance in rabbit farming;
- ii. To assess the effects of agro-industrial research services in supporting rabbit farming;
- iii. To determine the impact of extension services supporting rabbit farming;
- iv. To ascertain the effects of availability of market for rabbit meat and other products.

Theoretical Review

A theoretical review consists of concepts, together with their definitions, and existing theory/theories that are used for a particular study. The theoretical framework must demonstrate an understanding of theories and concepts that are relevant to the topic of your research paper and that will relate it to the broader fields of knowledge in the class you are taking.

Endogenous Growth Theory

In neo-classical growth models, the long-run rate of growth is exogenously determined by either assuming a savings rate or a rate of technical progress. However, the savings rate and rate of technological progress remain unexplained. Endogenous growth theory tries to overcome this shortcoming by building macroeconomic models out of microeconomic foundations. Households are assumed to maximize utility subject to budget constraints while firms maximize profits. Crucial importance is usually given to the production of new technologies and human capital. The engine for growth can be as simple as a constant return to scale production function or more complicated set ups with spill over effects, increasing numbers of goods and increasing qualities.

Often endogenous growth theory assumes constant marginal product of capital at the aggregate level, or at least that the limit of the marginal product of capital does not tend towards zero. This does not imply that larger firms will be more productive than small ones, because at the firm level the marginal product of capital is still diminishing. Therefore, it is possible to construct endogenous growth models with perfect competition. However, in many endogenous growth models the assumption of perfect competition is relaxed, and some degree of monopoly power is thought to exist. Generally monopoly power in these models comes from the holding of patents. These are models with two sectors, producers of final output and research and development (R&D) sector. The R&D sector develops ideas that they are granted a monopoly power. R&D

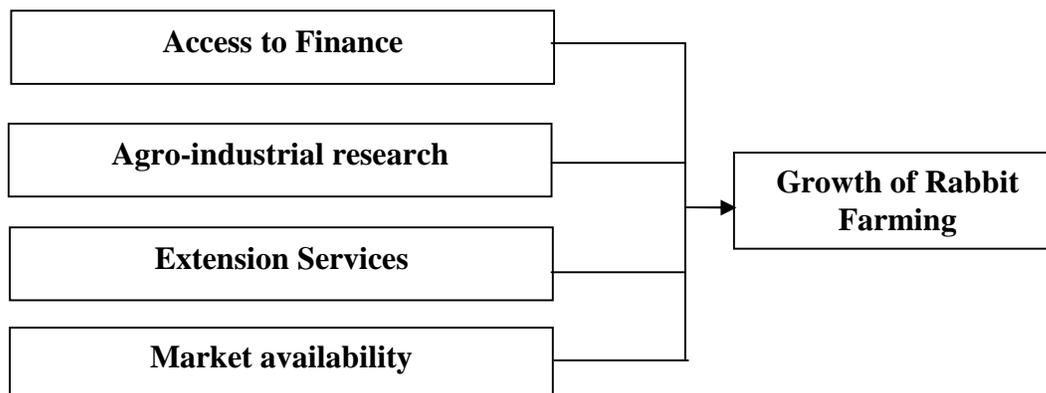
firms are assumed to be able to make monopoly profits selling ideas to production firms, but the free entry condition means that these profits are dissipated on R&D spending.

Conceptual Framework

Mugenda and Mugenda (2003), define a conceptual framework as a hypothesized model identifying the concepts under study and their relationships. It provides an outline of the preferred approach in the research and also outlines the relationships and the desired effects, forming independent and dependent variables respectively. In this study, the independent variables were access to finance, agro-industrial research, extension services and market availability while the dependent variable was the growth of rabbit farming, as shown in Figure below.

Independent Variables

Dependent Variable



Critique of the existing literature

As a fast developing enterprise in the Kenyan economy, very few researches have been conducted in the field of rabbit farming. Whereas from MOLD (2010) the sector is appraised to be vibrant, no literature suggests that it is in fact growing. This is because no thorough review of the performance of rabbit farming has been conducted. The statistics provided by FAO (1997) and ADP (2010) seem to look only at the positive elements in the sector, and sidelining the challenges which are in fact real, and a major obstacle to the growth of this sector. The dynamic nature of the agribusiness sector provides significant future business challenges and opportunities. The expected growing demand for food by itself presents potential sales and revenue growth. In addition, the expected future development of the expanding bio-economy with biological based raw materials being used in the energy, industrial and health/pharmaceutical industries adds further potential. The integration of the agricultural sector into the broader overall global industrial economy creates opportunities for innovative new product and service offerings as well as new value chains to deliver those new products and

services. It adds further complexity to an already complex value chain. But that future also is highly uncertain.

Research Gaps

Agribusiness is still in its infancy in taking shape in Kenya. It should be taken into consideration that because of their fairly smaller endowment with material or financial resources, these farms are often dependent on above-average committed, motivated and qualified employees, with seed capita from personal sources. Review on their growth is associated with greater provision of capital investments, increased research and development in the critical value chain processes, and marketing initiatives to match the demand-supply curves. Because of the difficulty of anticipating the effects of expansion, growth is likely to make it these agribusiness enterprises more successful, with better returns to the economy. No study has explored the reasons for the sluggish growth in this sector, and more so in the Kenyan setup where the contribution of agriculture to the GDP is great. This study therefore set out to explore the factors affecting the growth of agribusiness enterprises in Kenya with specific emphasis to rabbit farming. Most of the research on finance and its relation with growth and poverty rely on indicators and data that measure financial development. One important reason for this fact is related with the scarcity and lack of data reflecting this dimension of finance.

Research Methodology

This study adopted a descriptive research design composed of qualitative and quantitative data. This study was conducted in the agricultural sector. It focused on rabbit farming in Kihara Division of Kiambu County, thus forming the target population and purposive sampling technique was employed to conduct the study amongst the rabbit farmers in Kiambu County. To select the study sample, probabilistic sampling technique was employed In order to obtain high level feedback of the research questions; the research employed a convenient sampling for the rabbit farming stakeholders in Kihara Division. A sample size of thirty farmers representing 25 per cent of members of the rabbit farmers' cooperative society in Kihara Division was selected randomly. At least one member per farm was considered for the conduct of this research, forming a total of thirty respondents. Questionnaires were distributed to the respondents and this provided a faster mode of analysis and interpretation and some of the questions used attitudinal scales such as Likert, Thurstone and Guttman scales.

Research Findings and discussions

Access to Finance

In order to start, support and sustain rabbit farming, the financial resources required were actually available. Most of these financial resources were generated from self savings, while others got their financing from microfinance institutions and savings and credit cooperative societies (SACCO's).

The seed capital requirement for rabbit farming was noted to be very affordable, with most farmers initially investing upto Kshs. 5,000. A sporadic growth was noted in the rabbit farming,

and this growth was found out to be dependent on the increasing market demand for rabbit products, followed by advocacy and support from government/local groups. Rabbit farming is a low CAPEX and low OPEX business venture; therefore, with adequate investment of financial resources, the production can be tremendous. However, it was noted that initial capital of sh.5,000 was inadequate for vibrant commercial farming.

Agro-Industrial Research and Extension Services

Agribusiness research and extension services are pertinent for the growth of the industry. Indeed, the availability and adequacy of these services was visible with the Ministry of Livestock Development agencies being the major provider of research and extension services. Non-Governmental Organizations (NGOs) also exhibited remarkable efforts in the provision of these critical support services. This confirms the global trends that agribusiness and agro-industrial development was the result of deliberate government policy and strategy towards diversification of their economies and the development of competitive industries (FAO, 1997).

Market Availability

The market dynamics' factors of demand and supply really have an implication on production. From the study, rabbit meat is the dominant product from the monthly average recording an average of 14 to 17 kilogrammes per month owing to its high demand by hotels and local domestic consumption. The demand for live rabbits is necessitated by the requirement for breeding, especially by startup and expanding farmers.

The study also established the main consumers of the rabbit products as majorly local households, local hotels and restaurants, and about 5 per cent are exported. This provides an opportunity to expand the market for rabbit products which was noted to be really under developed.

Regression Analysis

In addition, the researcher conducted a multiple regression analysis to test relationship among variables (independent) on the growth of agribusiness enterprises in Kenya. The researcher applied the statistical package for social sciences (SPSS) to code, enter and compute the measurements of the multiple regressions for the study.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.908 ^a	.825	.289	.65323

Source: Research, 2013

Coefficient of determination explains the extent to which changes in the dependent variable can be explained by the change in the independent variables or the percentage of variation in the dependent variable (growth of agribusiness enterprises in Kenya) that is explained by all the four independent variables (Access to Finance, Agro-industrial research extension services and Market Availability).

The five independent variables that were studied, explain only 82.5% of the growth of agribusiness enterprises in Kenya as represented by the R^2 . This therefore means that other factors not studied in this research contribute 17.5% of the growth of agribusiness enterprises in Kenya. Therefore, further research should be conducted to investigate the other factors (17.5%) that influence the growth of agribusiness enterprises in Kenya.

ANOVA

	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.534	2	1.267	54.455	.024 ^a
	Residual	9.307	40	2.327		
	Total	3.465	42			

The significance value is .024 which is less than 0.05 thus the model is statistically significant in predicting how Access to Finance, Agro-industrial research, extension services and Market Availability influence the growth of agribusiness enterprises in Kenya. The F critical at 5% level of significance was 3.23. Since F calculated is greater than the F critical (value = 54.455), this shows that the overall model was significant.

Coefficient of determination

	Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.121	1.223		.917	.367
	Access to Finance	.210	.104	.157	1.081	.188
	Agro-industrial research extension services	.180	.145	.087	.578	.267
	Market Availability	.396	.204	.155	.960	.045
		.722	.224	.512	3.229	.003

Source: Research, 2013

The researcher conducted a multiple regression analysis so as to determine the relationship between performance of micro finance institutions in Kenya and the four variables. As per the SPSS generated table 4.11, the equation ($Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \varepsilon$) becomes:

$$Y = 0.722 X_1 + 0.396 X_2 + 0.230 X_3 + 0.210 X_4 + 0.121$$

Where Y is the dependent variable (influence the growth of agribusiness enterprises in Kenya), X_1 is the Access to Finance independent variable, X_2 is Agro-industrial research variable, X_3 is extension services and X_4 is Market Availability.

According to the regression equation established, taking all factors into account (Access to Finance, Agro-industrial research extension services and Market Availability) constant at zero, the growth of agribusiness enterprises in Kenya will be 1.121. The data findings analyzed also shows that taking all other independent variables at zero, a unit increase in Market Availability will lead to a 0.722 increase in influence the growth of agribusiness enterprises in Kenya. A unit increase in extension services will lead to a 0.396 increase in the growth of agribusiness enterprises in Kenya; a unit increase in Access to Finance will lead to a 0.210 increase in influence the growth of agribusiness enterprises in Kenya and a unit increase in Agro-industrial research will lead to a 0.180 increase in on the growth of agribusiness enterprises in Kenya. This infers that Market Availability contribute more to the influence the growth of agribusiness enterprises in Kenya followed by the extension services.

At 5% level of significance and 95% level of confidence, Market Availability had a 0.003 level of significance, extension services had a 0.045 level of significance, Access to Finance showed a 0.188 level of significant and Agro-industrial research showed a 0.267 level of significant hence the most significant factor is Market Availability.

Conclusions

From the summary, the following conclusions were made: The availability of adequate financial resources is pertinent towards the growth of agribusiness. However, the availability of this investment would not in silo positively influence the growth of agribusiness. Notably, rabbit farming is a low OPEX and CAPEX investment, and most farmers can indeed afford the seed capital from their own savings; In order to spur the growth of agribusiness, adoption of commercially viable farming methods is necessary. The governmental and non-governmental agencies should undertake agri-industrial research and extension which are invaluable sources of high quality breeds, veterinary services as well as market information. This in the end is a major booster to the growth of agribusiness; Whereas the main factors of production were adequate, market availability remained the major challenge. For agribusiness to be transitioned from subsistence to commercial, value addition through food processing and market expansion would be significant; Efficient agribusiness may stimulate agricultural growth and strong linkages between agribusiness and smallholders can reduce rural poverty.

Recommendations

From the findings, summary and conclusion of this study, the following recommendations are made: In order to enhance the growth of agribusiness, more funds should be availed, especially from government agencies to the farmers. There should also be entrepreneurship empowerment to encourage the agribusiness ventures to be made as partnerships or limited companies. They should also be encouraged to join farmers' savings and credit cooperative societies. These would provide better financial disbursement and better farming management; A lot of investment should be done for value addition and commercialization of the agribusiness to unlock its

potential. This investment should be in the areas of breeding centers, food processing, research centers and veterinary facilities; To make the agribusiness investment economically viable, it is recommended that the farmers increase the scale of production. There should be expansion of the market through setting up of marketing promotion councils by the government should be considered. In addition the government through partnership with private sector should establish an abattoir; Agribusiness being a field where very little research has been done, more research and development should be undertaken by players both in the academia and industry. This would salvage the global food and agribusiness industry which is in the midst of major changes— changes in product characteristics, in worldwide distribution and consumption, in technology, in size and structure of firms in the industry, and in geographic location of production and processing (UNIDO, 2009).

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