

**INFLUENCE OF SOCIAL ECONOMIC FACTORS ON THE BUSINESS  
PERFORMANCE OF SMALL AND MEDIUM ENTERPRISES FISH FARMING  
BUSINESSES IN KIAMBU COUNTY, KENYA**

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## DECLARATION

This research is my original work and has not been presented for an award in any other University.

Signature..... Date.....

**Charles Mbuti Kinyanjui**

**D66/10403/2018**

The research project has been submitted for examination with my approval as the university of Nairobi supervisor.

Signature..... Date.....

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## **DEDICATION**

The successful completion of this research project would not have been possible without the support of all other academic and even non academic staff in the school of business. I am highly indebted to the research respondents who without their support I would not make it. My family remained my backbone in all this is much appreciation.

## **ABBREVIATIONS AND ACRONYMS**

SMEs	Small and Medium Enterprises
SPSS	Statistical Package for Social Scientists
UNEP	United Nation Environmental Programme
ROA	Returns on Assets
RBV	Resource Based View

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## ABSTRACT

Socioeconomic factors creates the environment which allows or limits the chances of any business to thrive and succeed in any market. The environment in which a business operates presents opportunities, threats and constraint. SME's struggle as a result of unfavorable social economic conditions such as limited access to credit and competitive markets, low product value addition, and insufficient managerial skills. In Kiambu County, the underperformance of commercial fish farming has not been helped by the low percentage of allocated budget which stands at 3.68 percent of the total county budget as indicated in the county integrated development plan (2017). According to the county intergrated development plan of 2013, it was revealed that fish farming was one of the main activity that will improve the income and health of people in Kiambu. The purpose of this study is to determine the influence of Social and Economic factors on the Business Performance of Small and Medium fish farm in Kiambu County, Kenya. Descriptive analysis, correlation analysis and regression analysis were used to achieve the objective of the study. The study findings revealed that social economic factors influence the small and medium commercial fish farming business performance positively. The research findings revealed that demographic factors had positive and significant relationship with the business performance. It was also revealed that social factors and business performance of small and medium scale fish farming were positively and significantly related. Similarly, economic factors positively and significantly influenced business performance of small and medium scale fish farmers. From the study it can be deduced that fish farming is a viable business which is generating profits and income consistently. Additionally, the respondents are not aware of the market both locally and nationally hence they were not certain on whether fish farms produces enough fish for local and national market. Furthermore, it can be established that local customers are satisfied with the amount and quality of fish they buy. This is can be partly attributed to the fact that fish eating culture is new in Kiambu County residents and hence they may not be perfectly aware of the standards and quality of all types of fish. The study recommended that the Kiambu County Government should subsidize fish farming inputs in order to encourage and entice fish farmers to start and continue with fish farming without challenges of acquiring finances to expand and maintain their farms.

# CHAPTER ONE

## INTRODUCTION

### 1.1 Background of the Study

Several socioeconomic variables such as age, education, gender roles and access to resources affect growth and development of micro, Small and Medium Enterprises. Empirical studies have shown the relevancy and importance of these socio-economic variables. Meng and Liang (1996) argued that majority of entrepreneurs engage in entrepreneurship because of the opportunities available to make significant profit. They asserted that for the business to perform, the entrepreneurs require the appropriate socio-economic orientation in that factors like age, education, experience, religion, and family type have significant influence on the SMEs entrepreneurial behavior and the business performance of SMEs. In this regard, emphasize has been placed on government to create an environment where socio-economic factors of the youths and entrepreneurs do not limit their entrepreneurial spirit. A number of governments in developing countries have placed education and vocation training as the highest priorities in curbing the socio-economic limitations (Kobayashi *et al.*, 2011).

This research will be anchored by Social Economic Theory (SET) and Resource Based View Theory (RBV). The Social capital theory originates from fields of economic, political and sociology sciences and first appeared in rural school community centres study by Huang (2012). The concept of social economic theory argues that ,depending on their distinct levels of social network relationships, individuals have access to funds that are not available to others. (Kylver *et al.*, 2013). Access to these resources, provides benefits that can influence the SMEs efficiency and growth. Social capital is described as strategic resource complex derived from possessing relations based on mutual acquaintance. Resource based view on the other hand, places its focus on attention of strategic management literature (Teece *et al.*, 2009). Strategic resources is the

cornerstone of entrepreneurs, to engage competitively, thereby performing better than their competition in the similar industry (Kraaijenbrink *et al.*, 2010). The premise of the resource-based theory is that, firms are competitive when they employ unique resources. The resources can be both of intangible or tangible form such as firm size or experience respectively (Kraaijenbrink *et al.*, 2010).

This study will focus on SMEs that are involved in pond fish farming ventures in Kiambu County, Kenya. The main focus will be on fish pond farming ventures launched by the National Government through the Economic Stimulant Programme of 2011 and the Kiambu County Government fisheries programme of 2013.

### **1.1.1 Social Economic Factors**

Socioeconomic factors are factors that determine the conditions in which people live. These factors the demographics such as age, education and skills level and farmer experience; social factors such as people preferences and culture; and economic factors such as size of the farm, level of income, business environment and employment status. These factors relates to and influence one another (Mandania, 2012). For instance, the level of education determines the employment status which in turn dictates the income level. This is because some of these factors have been applied in different context such as their importance on SMEs and their survival, and have also broadly been researched in human health context. According to Mwamuye (2012) experience help avoid financial and other strategic mistakes which places the business in a better position to achieve its goals.

Nziku (2012) argued the importance of education on entrepreneurship, but also acknowledged that more education does not necessarily mean more entrepreneurial orientation, although such skills and knowledge help the business achieve its goals more efficiently. Additionally, Masuo (2001)

argues that support networks and age make positive impacts to business. On the same lines, Zimmerer (1998) indicated that a higher percentage of entrepreneurs in America start their businesses in their 30s. Raman (2004) also argues that other socio-economic aspects such as employment status and business environment are imperative to the performance of entrepreneurs.

### **1.1.2 Business Performance**

According to Moore (2013), business performance describes the ability of the business to generate profit from the available resources, increase its competitive edge, and improve its survival. It is therefore an output, outcome, impact or benefit in a business operation process. These measures should therefore be quantifiable metrics that allow business managers to track and assess status of performance of the business. According to the balanced scorecard model developed by Kaplan (1995), there is a need to measure business performance not only based on financial statements, but also on customer satisfaction, learning and growth and internal processes (Kaplan, 1995). While financial statements include income, cash flow and profit records, customer satisfaction is focused on the performance goals linked to the customer and the market i.e. what value a business will deliver to its customers and to the market in order to improve satisfaction, market share and brand awareness. The internal process involve optimizing quality control and utilization of technology to improve efficiency. The models learning and development aspect include effective use of human capital such as skills, data resources such as databases and information systems, and organization capital such as culture, management and teamwork which enhances both the financial and non-financial performance.

Key performance metrics include the return on capital, revenue per employee, cost effectiveness, productivity per hour of work, efficiency such as output per unit input, waste per unit of output,

turnaround time on an activity, sales volumes, customer perception of the brand, budget variance, delivery schedule variance, return on investment, customer satisfaction and market share

### **1.1.3 Small and Medium Enterprises in Fish farming**

Small enterprises are privately-owned businesses, with a small number of employees and low sales volume (Yen, 2006). Typical examples include: small scale farming restaurants, professionals such as accountants and lawyers, tradesmen, shops, etc. SME's are a critical part of economic development. This definition, therefore describes small businesses as one which have between 5 and 19 employees and average sales turnover of between Ksh 50,000 and 1,000,000 per year. SMEs can provide the economy with innovation, efficiency and employment. Entrepreneurs are responsible for the promotion of businesses and cause economic development as they inject dynamism in economy within their territory of operation (Yen, 2006).

Entrepreneurship is acknowledged as the major driver behind the social and economic development of many countries (Ngwili, 2015). SME's usually consolidate the informal businesses into the formalized economy, hence a driving force not only for economic growth, but also poverty reduction through job creation (Yen, 2006).

Since ancient times, fishing has been one of human beings' major economic activities. Although it may be a small industry of the world economy today, its contribution is increasingly to the food supply, income and employment of coastal and lakeside communities (Kobayashi *et al.*, 2015). Studies in the rural areas have highlighted the significance of the fisheries sector as an economic activity that generates economic gain in these areas. Comparatively, agriculture in majority of these areas is not well developed and poses challenges due to limitation of farming inputs, (Van Hoof & Steins, 2017).

#### **1.1.4 Fish Farming in Kiambu County**

Kiambu County is one of the Republic of Kenya's 47 counties. According to the 2009 Kenya Population and Housing Census it covers a total area of 2,543.5 Km<sup>2</sup> with 476.3 Km<sup>2</sup> under forest cover. Agriculture is the major activity.

Data from the Kiambu County Department of Agriculture, Livestock and Fisheries 2017 shows that the county's livestock figures included 247,706 cattle, 102,366 goats, 139,605 Sheep, 10,227 donkeys, 52,588 pigs, and 2,550,523 poultry. The County Agro-processing industries include firms such as Githunguri Dairies, Brookside Dairies, Limuru Milk, Ndumberi Dairies, and Palmside Dairies. Farmers Choice Ltd and Kenchic Co. Ltd are some of the local food processing factories in the county. The main fish species farmed in the county are warm water species such as Tilapia and Catfish. Recreational fishery and cold water fishing is also practiced in Lari Sub County (Ngwili, Maina & Irungu, 2015). According to the county integrated development plan (2017) aquaculture was cited as one of the economic activities with huge potential. However, fish farming in the county is still dominated by a few species.

#### **1.2 Research Problem**

Socioeconomic factors create the environment which allows or limits the chances of any business to thrive and succeed in any market. The environment in which a business operates presents opportunities, threats and constraints. SME's struggle as a result of unfavorable social economic conditions such as limited access to credit and competitive markets, low product value addition, and insufficient managerial skills. Ramsden (2010), argues that SMEs thrive in an environment that supports business growth. What determines the performance of businesses vary with the nature of the business. For instance, Rotich (2014) found that education has a positive effect on consulting business but did not significantly influence the farming business success. Therefore, it is important



to establish whether socio-economic factors have influence on fish farming success to ascertain the importance or irrelevance of socio-economic factors.

In Kiambu County, the underperformance of commercial fish farming has not been helped by the low percentage of allocated budget which stands at 3.68 percent of the total county budget as indicated in the county integrated development plan (2017). According to the county intergrated development plan of 2013, it was revealed that fish farming was one of the main activity that will improve the income and health of people in Kiambu (County Integrated Development Plan, 2013). However, this has yet been realized as farmers are still struggling to generate a substantial income from the commercial fish farming. This could therefore spell the issues of social economic factors which can be said to be a limiting factors to growth of commercial fish farming in the region.

Studies on the effect of social and economic factors on SMEs performance have been conducted. Gathii and Ngura (2015) conducted a study on social and economic determinants of performance of SMEs in Gilgil Town. The study revealed that a majority SMEs owners had only secondary level education had not obtained any managerial training. The study also found that most SMEs had limited access to finances and few had integrated technology in their business operation.

These studies however did not address the influence of socio-economic factors on performance of commercial fish activities. Fish farming in Kiambu County has been touted to have huge potential in generating new employment opportunities and also provide more fish food to the economy. However, this potential is yet to be realized because the county just like other counties in Kenya is plagued by lack of jobs and the supply of fish do not meet the demand of fish in the county and country (Musyoki, 2014). The study question therefore is, what is the influence of socio-economic factors on the business performance of fish farming activities in Kiambu County, Kenya? In that

regard, the study will investigate the socio-economic factors and their impact on fish farming activities in Kiambu County.

### **1.3 Objectives of the Study**

The overall goal of this study is to determine the influence of Social and Economic factors on the Business Performance of Small and Medium fish farm in Kiambu County, Kenya.

### **1.4 Value of the Study**

The underperformance of SMEs in fishing farming activities has resulted in low fish production in the country which cannot meet the rising demand for fish. In this regard, there is a huge gulf between demand and supply of fish which need to be addressed, and the findings of this study could help develop various interventions SMEs in fishing farming can adopt to increase the performance of their enterprises.

Additionally, with the introduction of devolved governments to oversee social economic development in the counties, the findings of this study could inform policy development by identifying impediments to successful fishing farming activities in Kiambu County.

Finally, the information generated by this study's data will contribute to scholarly literature. Socioeconomic factors and their influence on the performance of fishing enterprises in Kenya has not been exhaustively studied. The study could therefore generate new interest in this area.

## **CHAPTER TWO**

### **LITERATURE REVIEW.**

#### **2.1. Introduction**

This chapter focuses on the existing literature regarding performance of small and medium enterprises and the social economic factors purported by previous studies to have an impact on performance. The chapter covers the theoretical review which entails the theories that underpins the concepts of the study, literature on social economic factors and performance. The chapter also looks at the existing empirical studies linking social economic factors and performance.

#### **2.2. Theoretical Background of the Study**

This study will be anchored by social economic theory and resource based view theory.

##### **2.2.1 Social Economic Theory**

The Social capital theory originates from fields of economic, political and sociology sciences and first appeared in rural school community centres study by Hanifan (1997). The concept of social economic theory argues that ,depending on their distinct levels of social network relationships, individuals have access to funds that are not available to others.(Jalali *et al.*, 2013). Access to these resources, provides benefits that can influence the SMEs efficiency and growth. Social capital is described as strategic resource complex derived from possessing relations based on mutual acquaintance.

This theory is therefore useful in this study in explaining the foundation and development of small and medium enterprises. SMEs are geared towards socioeconomic empowerment of entrepreneurs and therefore indirectly and in some aspects directly generate social capital essential for general economic and social growth of the community. In that regard, the theory will form the basis for analyzing between socioeconomic factors and business performance.

### **2.2.2 Resource Based View Theory**

The origin of this theory is traced in the work of researcher Penrose (1959). Penrose (1959) pointed out RBV as productive opportunities in which resources are being characterized as basic element to create appropriate values to SMEs. The theory was further developed by Wernerfelt (1984) who positioned the theory as the bases of competitive advantage to firm application of its tangible and non-tangible resources to benefits in a long run.

The Resource based theory view reveals how internal and external resource of firms affect its behavior over times. Resources are gateways to get power but current dynamic environment and economic system requires adaptation and changes continuously (Kiel & Elliot, 1996). However, Madsen and Hoopes (2008) stated that RBV lack evidence to show how SMEs differs in their resources needs.

Kay (2005) states that the main goal of RBV depends on the general notion of competitive advantage in which business envision on the bundle of resources. Roberts (1990) noted the fact that resources endowment can improve SMEs performance. Saffu and Manu (2009) found that resource availability to women SMEs in Ghana can make them perform and generate more employment. According to Lippan and Rumelt (2003) SMEs need to focus their energy on the development of their own very resources such as experience, knowledge and social capital among others. This theory will therefore be important in linking socioeconomic factors as tangible resources which determines the business performance.

### **2.3 Socioeconomic Factors Affecting Businesses \SMEs**

While SMEs contributions to development are universally recognized, there are countless challenges facing small businesses that limit their growth and survival. Research on SMEs development shows that survival rates are much greater in developed countries than in the

developing nations (Arinaitwe, 2002) . Kenya National Bureau of Statistics, 2007 data shows that out of every five businesses, three fail within a few months of operation (07). SMEs face a number of socioeconomic challenges from both their peers and from large corporations hence failing to make good returns on investments to sustain the business (Ntakobajira, 2013).

Social and economic factors include demographics such as sex, age, farming experience and level of education; social factors such as people preferences and culture; and economic factors such as size of the farm, level of income, business environment and employment status. (Wanjohi & Mugure, 2008). Majority of the studies have pointed education and experience as prerequisite for business success. Many SMEs owners lack experience education and managerial training. The typical manager of medium and small enterprises develop their managerial approach through trial and error. Therefore, this approach is likely to be intuitive, opportunistic and more concerned with daily activities rather than being analytical and strategic for the long-term (Hill, 1987). Although this approach is one of the main strength in the initial phase of the business, for its creativity and flexibility at this stage, it may present challenges when more complex decisions have to be made. (Nteere, 2012).

Sex and age have also been associated with the performance of SMEs business. Majority of the studies have established that women SMEs do better as compared to men SMEs. Mungatia (2012) pointed out that women are more collective and organized as compared to men who usually seeks sole proprietorship or simple partnership hence limiting their tangible and intangible resources. Rodwell (2001) established that age is a significant factor in the growth and scaling of SMEs. He argued that age brings experience which helps push the business further.

Managing small enterprises require education and relevant skills. King and McGrath (2002) observe that entrepreneurs with relevant skills and education are likely to succeed in the small

business sector and that those with access to human capital resources, such as relevant skills, are better positioned to align their businesses to ever changing business environments. According to Wanjohi (2009) research indicate that most entrepreneurs involved in small and micro enterprises in Kenya lack skills and education.

From an economic perspective, the level of income and the status of employment are critical to the success of any SMEs. Wanjohi (2009) argued that SMEs requires capital, and high levels of income provide the capital required to push the business to a higher level. Additionally, unfavorable business environment is the main contributor of insufficient levels of capital investment and poor performance of small and medium businesses. The economic recovery strategy paper of 2003 has identified unfavorable business environment, characterized by many licenses, taxes and unbalanced supply and demand factors a critical aspects that restrict business profitability in Kenya. Additionally, population growth and lack of proper farm and suitable farm size for fish SMEs in the country is a major setback to growth. (Nteere, 2012).

#### **2.4. Indicators of Business Performance**

Business performance is the operational capacity to satisfy the wishes of the firms shareholders (Smith & Reece, 1999). Indicators that are used to measure performance in business include profit margin, return on investment , customer turnover (Wood, 2006).

Additionally, balanced scorecard model provides another dimension of measuring business performance by incorporating both the non-financial and financial performance. According to the balanced scorecard model developed by Kaplan (1995), there is a need to measure business performance not only based on financial statements, but also on customer satisfaction, learning and growth and internal processes (Kaplan, 1995). While financial statements include income, cash flow and profit records, customer satisfaction is focused on the performance goals linked to

the customer and the market i.e. what value a business will deliver to its customers and to the market in order to improve satisfaction, market share and brand awareness. The internal process involve optimizing quality control and utilization of technology to improve efficiency. The models learning and development aspect include effective use of human capital such as skills, data resources such as databases and information systems, and organization capital such as culture, management and teamwork which enhances both the financial and non-financial performance.

## **2.5 Social Economic Factors and Business Performance –An Empirical Review**

Studies have shown that growth declines with age and size of firm. Growth in employment of firms in Turkey with focus on SMEs was included in those studies. For example Seker et al., (2010) argued that, in Turkey, SMEs accounted for 77 percent of employment. However, assesment of companys dynamics in Turkey has shown that, medium- sized businesses with less than 250 workers grew at the slowest pace in the economy. SMEs in Turkey grew at a rate slower than in other East European and Asian countries. Research found that the most significant factor contributing to depressed firm growth rates in Turkey was poor access to finance (Seker et al., 2010).

Aidis (2002) conducted an analysis to find out the gendered influence on SME development under economic transition in Lithuania.. The results indicated that, there were more male than female small busineses owners (Aidis, 2002). The findings on company size showed that, gender was negatively corellated with company size and entrepreneurs who set up their businesses for financial reasons had an adverse effect on business size. On turnover, the findings showed that sex was highly corellated with business turnover in which sole ownership was substancially associated with a higher probability for lower turnovers. The findings also showed that male SMEs owners have a

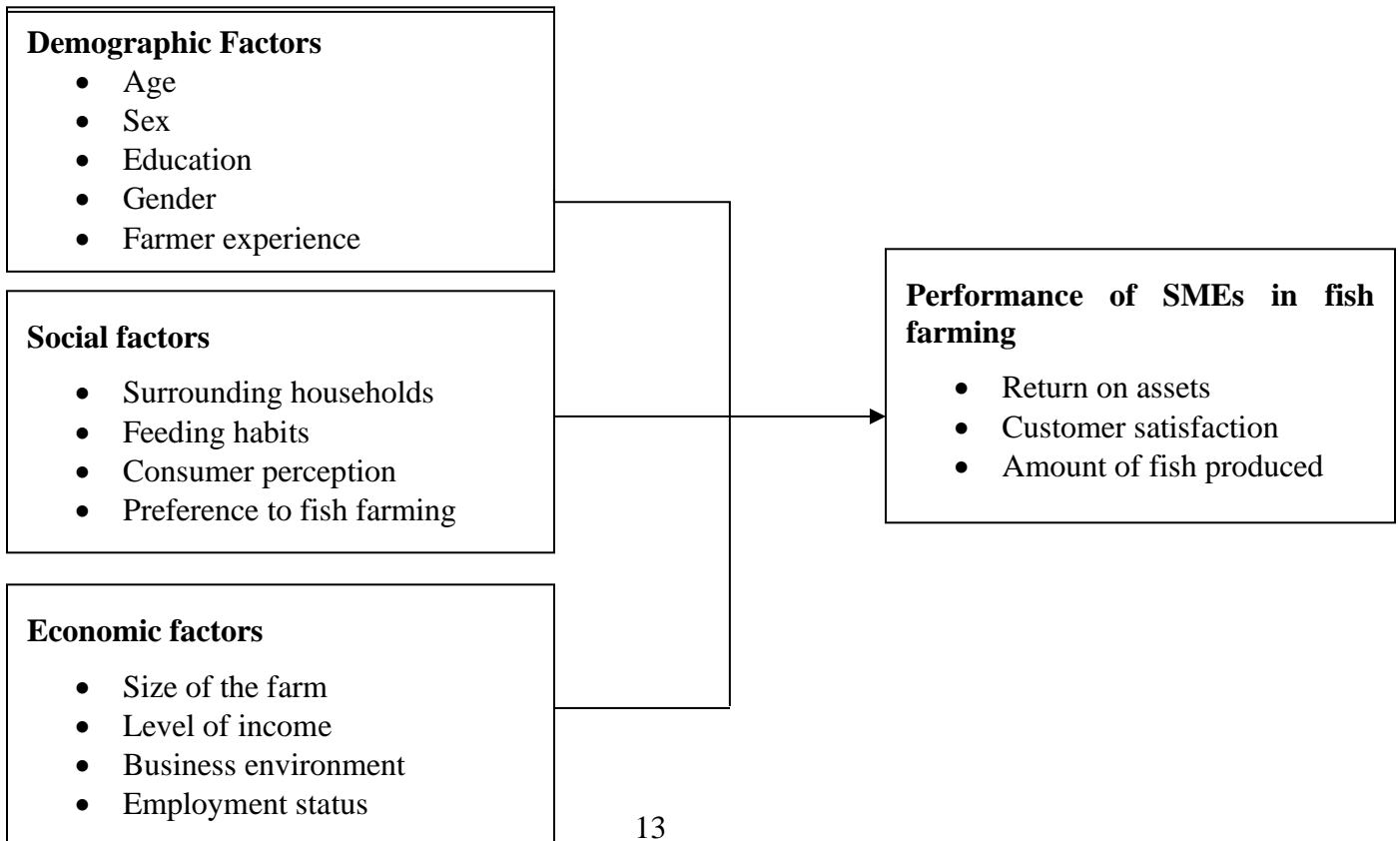
higher likelihood of greater economic achievements than their female counterparts. Finding on business growth showed that sex was not a key determinant for planned business growth (Aidis, 2002).

Kinyua (2014) researching on factors that influence the SMEs performance in Kneyan Jua Kali sector aimed at specifically investigating the role of macor-environment, finance, management skills and business operational performance. He found that accessibility to finance, macro-environment and management skills had significant impact on business operational performance while infrastructure in the study region did not have any impact on the performance. The findings also indicated that as the duration of operation of the firm increases, the performance of SMEs also increased.

**Figure 2.1 A conceptual framework showing the relationship between socio-economic factors and performance of commercial fish farming in Kiambu County.**

Independent variables

Dependent variables.





## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction.**

This chapter presents the research design, target population, sampling procedure and size of the sample, relevant instruments to be used in the data collection, procedure of data collection analysis and presentation.

#### **3.2 Research Design.**

Research framework refers to the procedural methods that a researcher selects to combine various research parts in a logical manner in order to achieve the set objectives (Creswell & Poth, 2017). The design used was descriptive research design because it describes the relationship between variables. In that regard, it allowed collection of both qualitative and quantitative data hence showing the current state of fish farmers in Kiambu County without manipulation of variables.

#### **3.3 Target Population**

The population targeted by the study is usually the total number of individual that the researcher is focusing on under the area of study (Magenta & Magenta, 2003). The target population is the residents of Kiambu County who are small and medium scale fish farmers. The county has 584 fish farmers and an approximate area of 1320Km<sup>2</sup>.

#### **3.4 Sampling Procedure and Sample Size.**

In the study, households were used as units of sampling. This study extensively employed probability technique of sampling because it gave every unit has a chance of being selected as a sample.

The sample size taken was 120 fish farmers.

### **3.5 Data Collection**

Questionnaires were used in gathering of information. There were four sections in the questionnaire.. The first segment will cover the respondents bio-data, the second section will cover the questions related on demographic factors, the third section covered social related factors, the fourth section will cover questions on economic factors and the fifth section will inquire about the business performance. The questionnaire will be close-ended. The closed part of the questionnaire will consist of Likert scale items which will allow the researcher make inferences on study variables.

Kiambu County is divided into 12 sub-counties. The researcher randomly selected 10 farmers from each sub-county to make a total of 120 farmers. First, an introduction letter for the go ahead of the research was obtained through the University of Nairobi from the relevant department of research and innovation in the government to permit the study. Thereafter, the researcher went to the fisheries department of Kiambu County for directions and then head for the field study to the identified fish farmers. To reach the farmers, the researcher utilized the assistants who are Kiambu County field clerks. This is because they have specific knowledge regarding the farmers as well as know all the 12 Kiambu subcounties. Drop and pick technique was used to administer the questionnaire with the help of field assistance who assisted the farmers in understanding the questions asked.

### **3.6 Data Analysis.**

The data obtained in the field, both quantitative and qualitative was analyzed and recorded in an organized manner. Key variables and patterns will be discussed. Statistical Package for Social Sciences (SPSS) software was used to generate the study findings. Descriptive analysis such as mean, standard deviation and frequencies were obtained from the data after analysis. Regression

and correlation analysis was done to determine the relationship between the independent variables: farmer characteristics, cultural factors, economic factors and performance of commercial fish farming in Kiambu County. The regression model was presented as follows.

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + e$$

Where:

Y= performance of commercial fish farming.

X<sub>1</sub>= Demographic factors

X<sub>2</sub>= Social factors

X<sub>3</sub>= economic factors

β<sub>1</sub>, β<sub>2</sub>, β<sub>3</sub>, β<sub>4</sub>= coefficients to the independent variables

β<sub>0</sub>= Intercept term

e =error term

## CHAPTER FOUR

### ANALYSIS, RESULTS AND DISCUSSION

#### 4.1 Introduction

This section will report the study findings by conducting analysis of the collected data. The findings will be presented in tables and interpretations done in accordance with APA format.

#### 4.2 Response Rate

Out of 120 questionnaires administered 92 questionnaires were correctly completed and returned by fish farmers presenting a successful success rate of 76.67% as shown in Table 4.1. This is in line with Mugenda (2003) who asseted that a 50% response rate was adequate for explanatory or descriptive study. Babbie (2004) also support that sentiments by affirming that a 50% rate of return is good enough to analyze, generate inference and document the results and a response rate of more than 60% is excellent. In that sense, 76.76% rate of return was more than enough to make inferences for this study.

**Table 4.1: Response Rate**

<b>Response</b>	<b>Frequency</b>	<b>Percent</b>
Returned	92	76.67%
Unreturned	28	23.33%
<b>Total</b>	<b>120</b>	<b>100%</b>

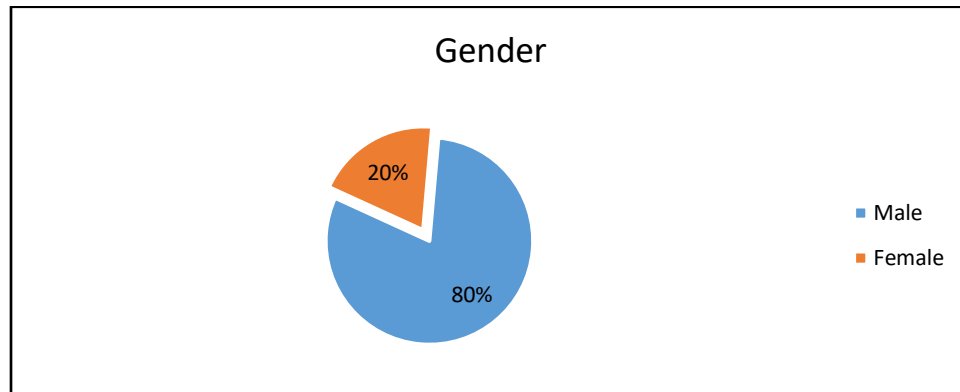
Source: Field Data (2019).

#### 4.3 Bio-Data Information

This section describes the distribution of, age, education level, years of fish farming and the time they have been in fish farming business.

### 4.3.1 Gender of the Respondent

The study asked the participants to specify their gender so as to understand the gender distribution among the fish farmers. The findings were summarized in the figure 4.1.



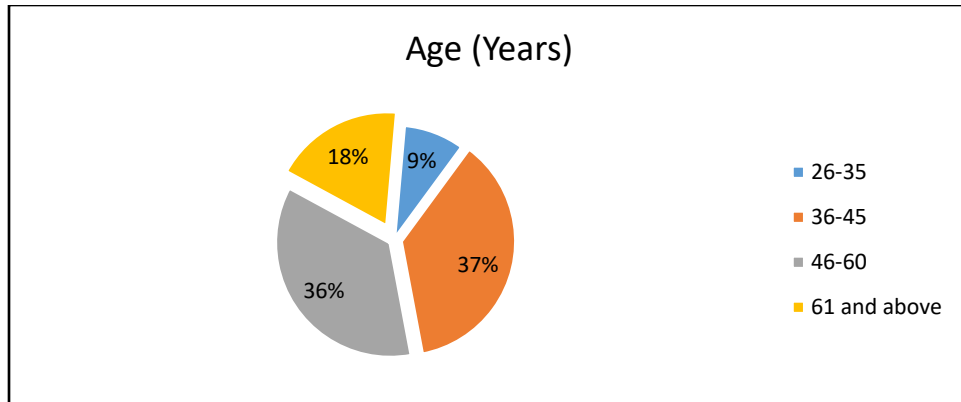
**Figure 4.1: Participants Gender**

Source: Field Data (2019).

The figure shows that majority (80%) of the respondents were male while only 20% of the respondents were female. The respondents were made up of more males and females implying that the study or the fish farming activities was influenced by gender imbalance.

### 4.3.2 Age of the Respondents

The study asked participants to give their group as grouped in the questionnaire. The findings were shown in figure 4.2. According to findings (37%) of the participants were aged between 36 and 45 years. This was closely followed by participants who were aged between 46 to 60 years at 36%. 18% of the respondents were aged above 61 years and only 9% of the participants were between 26 and 35 years. The researcher considered this as completely normal since majority of the people would start fish farming during their middle years. That means young people aged less than 30 years are less likely to engage in fish farming because they are pursuing other things in their life while old people aged above 61 years may be too old to conduct farming activities.



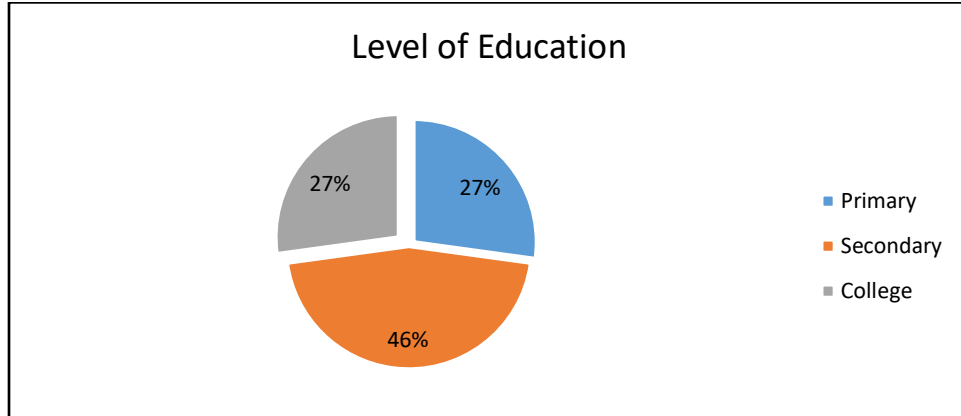
**Figure 4.2: Age of the Respondents**

Source: Field Data (2019).

### 4.3.3 Education Level

The study asked the participants to indicate their education level as outlined in the questionnaire.

The findings were summarized in figure 4.3.



**Figure 4.3 Education Level of Study Participants.**

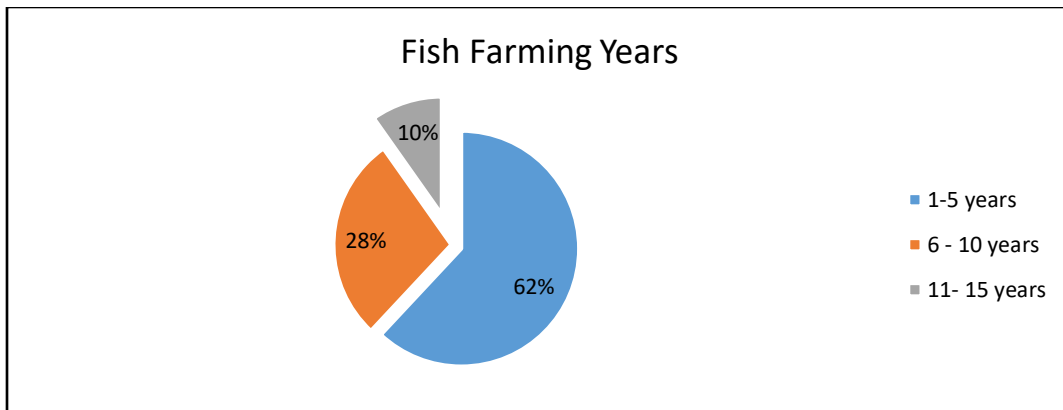
Source: Field Data (2019)

From the figure 4.3, majority (46%) of the respondents had secondary level of education. Primary and college respondents were equally distributed at both 27%. There was no respondent who had

obtained university or post graduation. This implies that the level of education influenced fish farming activities.

#### 4.3.4 Fish Farming Years

The participants were asked to specify the how long they have been doing fish farming. The results were presented in figure 4.4 below.



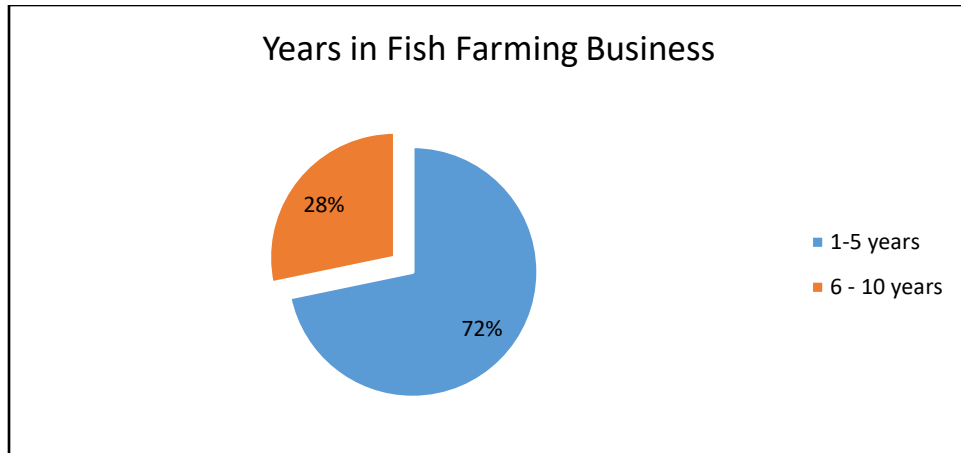
**Figure 4.4: Years in Fish Farming Activities**

Source: Field Data (2019)

From the figure 4.4, (62%) of the study participants have been doing fish farming for 1 to 5 years. This was followed by respondents who have been doing fish farming for 6 to 10 years at 28%. The results also showed that 10% of the participants had been doing fish farming for 11 to 15 years. This implies that a good number of the participants have not been in fish farming activities for long.

#### 4.3.5 Years in Fish Farming Business

The study asked the participants to indicate the time they have been doing fish farming business. The summary of findings was shown in Figure 4.5.



**Figure 4.5: Years in Fish Farming Business**

Source: Field Data (2019).

According to the Figure 4.5, Majority (72%) of the participants said that they have been in fish farming business for less than 5 years. 28% of the participants said that they have been in the business for 6 to 10 years. This shows that the business of fish farming has not grown as would be desired which could be influenced by other social and economic factors.

#### **4.4 Descriptive Analysis**

##### **4.4.1 Demographic Factors**

The study was interested in identifying the influence of demographic factors on fish farming in Kiambu County. The study required the participants to reveal their extent of agreement in statements designed to capture demographic factor influence on fish farming and fish business. The scale used ranged from 1 to 5, where 1 was strongly disagree, 2 was disagree, 3 was uncertain, 4 was agree and 5 was strongly disagree. The results were presented in Table 4.2.



**Table 4.2: Demographic Factors.**

	<b>Mean</b>	<b>Std. Dev</b>
Most successful fish farmers in Kiambu County are male	4.33	0.9
Young people are more successful in fish farming as compared to the older people	3.9	1.09
The fish farming experience help the fish farmers succeed in the business.	4.34	0.87
Skilled fish farmers in terms of rearing fish are more successful than those who are new in business	4.35	0.97
Higher education and training is of great importance for the success of fish farming business.	4.3	0.87
<b>Average</b>	<b>4.24</b>	<b>0.94</b>

Source: Field Data (2019)

From the Table 4.2, a large percentage of participants agreed to the statement that most successful fish farmers in Kiambu County were male as revealed by the mean statistic of 4.33 and standard deviation of 0.9 implying that the responses did not deviate largely from the mean. Similarly, the respondents had similar opinion regarding the age which they agreed that young people are more successful in fish farming as compared to the older people as revealed by the mean statistic of and a standard deviation of 1.09 showing that the responses deviated significantly from the mean. Additionally, participants agreed with the statement that the fish farming experience help the fish farmers succeed in the business which was revealed by the mean statistic of 4.34 and a standard deviation of 0.87 that implies that the responses did not deviate largely from the mean. Likewise the respondents agreed to the statement that skilled fish farmers in terms of rearing fish are more successful than those who are new in business which is shown by the mean of 4.35 and a standard deviation of 0.97. Finally, the results revealed that the participants agreed that higher education and training is of great importance for the success of fish farming business as revealed by the mean statistic of 4.3 and a standard deviation of 0.87. On average, majority of the respondents agreed

with the statements regarding demographic factors and influence on fish farming performance as shown by the aggregate mean statistics of 4.24 and standard deviation of 0.94.

#### 4.4.2 Social Factors

The study was interested in identifying the influence of social factors on fish farming in Kiambu County. The study required the participants to show their extent of agreement in statements designed to capture social factors influence on fish farming and fish business. The scale used ranged from 1 to 5, where 1 was strongly disagree, 2 was disagree, 3 was uncertain, 4 was agree and 5 was strongly disagree. The results were summarized in Table 4.3.

**Table 4.3 Social Factors**

	<b>Mean</b>	<b>Std D</b>
Surrounding households and community take fish and fish products much often.	3.74	1.26
Large market is within households than sales outside the county.	4	1.02
Fish farming has high preference in the culture of the peoples community in my surrounding	4.05	0.96
The local consumers prefer fish products for protein diet to other protein diets	4.3	0.71
The households are choosy in matters of fish species available.	4.41	0.7
The feeding habits for the fish influences the growth and production of fish.	4.54	0.5
Fish farmers has a certain way of rearing fish such as use of fish ponds	4.51	0.5
<b>Average</b>	<b>4.22</b>	<b>0.8</b>

Source: Field Data (2019)

From the Table 4.3, majority of study participants were uncertain about the statement that surrounding households and community take fish and fish products much often as revealed by the mean statistic of 3.74 and 1.26 standard deviation implying that the responses deviated largely from the mean. Additionally, the respondents agreed that large market is within households than

sales outside the county as revealed by the mean statistic of 4 and a standard 1.02 standard deviation showing that the responses deviated significantly from the mean. Similarly, the participants were on the agreement side to the statement that the fish farming has high preference in the culture of the peoples community in my surrounding which was revealed by the mean statistic of 4.05 and 0.96 standard deviation which implies that the responses did not deviate largely from the mean. Likewise the study participants agreed to the statement that local consumers prefer fish products for protein diet to other protein diets which was revealed by the mean statistic of 4.3 and 0.71 standard deviation. Additionally, the findings showed that a good percentage of participants agreed that households are choosy in matters of fish species available as shown by the mean of 4.41 and 0.7 standard deviation. Moreover, it was discovered that the respondents agreed to the statement that feeding habits for fish influences the growth and production of fish as shown by the mean of 4.54 and a standard deviation of 0.5. Finally, the results also revealed participants were on the agreement that fish farmers has a certain way of rearing fish such as use of fish ponds as as revealed by the mean statistic of 4.51 and 0.5 standard deviation. On average, majority of the respondents agreed with the statements regarding social factors and influence on fish farming performance as indicated by the aggregate mean statistic of 4.22 and 0.8 standard deviation.

From the analysis, the study participants are unsure that household surroundings and the intake of fish by the community do not largely influence fish farming activities. This could imply that the respondents do not know their market well or are indifferent on what's going on in fish business. Additionally, it can be deduced that fish farming is gaining preference in the culture of people living in Kiambu. This could be as a result of government initiative to promote fish farming and fish consumption. Moreover, this is supported by the statement that local consumers prefer fish more than other sources of protein which also implies rising demand for fish hence good fish

growth and production which implies that supply of the fish is determined by the feeding habits and this can impact the performance of fish farming significantly.

#### 4.4.3 Economic Factors

The study was interested in identifying the influence of economic factors on fish farming in Kiambu County. The study participants were asked to show their levels of agreement in statements designed to capture economic factors influence on fish farming and fish business. The results were presented in Table 4.4.

**Table 4.4: Economic Factors**

	<b>Mean</b>	<b>Std D.</b>
The size of the farm influences the fish production in Kiambu county	3.79	0.93
Fish producers are most medium scale farmers with medium farm size	3.84	1.02
Majority of the successful fish farmers are successful because of their high income which has enabled them to have adequate inputs on fish farming.	3.99	0.9
The government is offering enough funds to support fish farming	3.95	1.01
The fish market is experiencing growth rapidly	4.28	0.65
All fish harvest from the farm is sold at all seasons	3.02	0.7
The price of the fish is determined by forces of demand and supply and the farmer has minimal control over the prices	3.72	1.01
High income levels from fish farming boosts the farming potential	4.02	0.91
<b>Average</b>	<b>3.95125</b>	<b>0.89125</b>

Source: Data (2019).

According to the study findings, a good percentage of participants were not sure about the construct that the size of the farm influences the fish production in Kiambu county as indicated by the mean statistics of 3.74 and 0.93 standard deviation implying that the responses did not deviate largely from the mean. Similarly, the respondents were not sure regarding the statement that fish producers

are mostly medium scale farmers with medium farm size as revealed by the mean statistic of 3.84 and 1.02 standard deviation.

The study participants agreed that majority of the successful fish farmers are successful because of their high income which has enabled them to have adequate inputs on fish farming. as revealed by the mean statistic of 3.99 and 0.9 standard deviation showing that the responses did not deviate significantly from the mean. Similarly, the participants agreed to the construct that the government is offering enough funds to support fish farming which was revealed by the mean statistic of 3.95 and 1.01 standard deviation which implies that the responses did not deviate largely from the mean. Likewise a good percentage of study participants agreed to the statement that fish market is experiencing growth rapidly as revealed by the mean statistic of 4.28 and 0.65 standard deviation. In addition, the findings revealed that fish harvest from the farm is sold at all seasons as revealed by the mean statistic of 3.02 and 0.7 standard deviation. Moreover, it was discovered that the respondents were uncertain regarding to the statement that price of the fish is determined by supply and demand forces and the farmer has minimal control over the prices as revealed by the mean statistic of 3.72 and 1.01 standard deviation. Finally, the results revealed that the respondents agreed to the statement that high income levels from fish farming boosts the farming potential as revealed by the mean statistic of 4.02 and 0.91 standard deviation. On average, majority of the respondents agreed with the statements regarding economic factors and influence on fish farming performance as shown by the aggregate mean statistics of 3.95 and 0.89 standard deviation.

#### **4.4.5 Business Performance of Commercial Fish Farming**

The study was interested in identifying the business performance of commercial fish farming in Kiambu County. The participants were asked to indicate their extent of agreement in statements

designed to capture business performance of commercial fish farming. The results were presented in Table 4.5.

**Table 4.5 Business Performance of Commercial Fish Farming**

	<b>Mean</b>	<b>Std D</b>
Fish farming has been generating profits and income consistently	4.04	1.09
Our fish farm produces enough fish both for local market and national market.	3.19	1.02
The customers are satisfied with the amount and quality of fish they buy	4.16	0.92
The supply of fish from fish farming is currently meeting the demand of fish in the market.	4.14	1
Fish farming generates enough income for other investments in the farm and family.	4.33	0.87
<b>Average</b>	<b>4.132</b>	<b>0.98</b>

Source: Field Data (2019)

Table 4.5 shows descriptive analysis results which revealed that fish farmers have been generating profits and income consistently as indicated by a mean statistic of 4.04 and 1.09 deviation from the mean. The results showed that participants were uncertain to the statements that fish farm produces enough fish for both local and national market indicated by a mean statistic of 3.19 and 1.02 deviation from the mean that implies that the responses were widely spread. Moreover, the findings revealed that customers are satisfied with the amount and quality of fish they buy indicated by a mean statistic of 4.16 and 0.92 deviation from the mean. Similarly, the study revealed that the supply of fish from fish farming is currently meeting the demand of fish in the market as indicated by a mean statistic of 4.14 and 1 standard deviation. Likewise, fish farming generates enough income for other investments in the farm and family as indicated by a mean statistic of 4.33 and 0.87 deviation from the mean. On aggregate, majority of the respondents agreed that performance of commercial fish farming was good as shown by the average mean of 4.132 and 0.98 standard deviation which implies that the responses did not largely deviate.

#### 4.6 Correlation Analysis

Pearson correlation of moments was conducted to establish the linear association between independent and dependent variables in the study. The correlation results generated were summarized in the Table 4.6 below.

**Table 4.6: Correlational Analysis**

		<b>Business performance</b>
Business performance	Pearson Correlation	<b>1</b>
	Sig. (2-tailed)	
	N	<b>92</b>
Demographic Factors	Pearson Correlation	<b>.451**</b>
	Sig. (2-tailed)	<b>0.001</b>
	N	<b>92</b>
Social Factors	Pearson Correlation	<b>.281**</b>
	Sig. (2-tailed)	<b>0.007</b>
	N	<b>92</b>
Economic Factors	Pearson Correlation	<b>.228*</b>
	Sig. (2-tailed)	<b>0.029</b>
	N	<b>92</b>

Source: Field Data (2019).

According to the results, demographic factors had positive and significant correlation with business performance as shown by the coefficient of correlation of ( $r= 0.451$ ,  $p= 0.001$ ). The demographic factors were gender which indicated that successful fish farmers were male, the age which was constructed to show that young people are more successful in fish farming activities, the fish farming experience, skills in fish rearing and the level of education which was constructed to show that higher education is important for the fish farming success.

Additionally, the results revealed that social factors had a positive relation with the fish business performance as shown by the coefficient of correlation ( $r= 0.281$ ,  $p= 0.007$ ). The social factors mostly revolved around the preference of fish in the sense that community takes fish frequently,

large market due to fish preference, fish farming activities, preference of fish over other sources of proteins and preference of certain fish species over others.

Moreover, the correlation results showed that economic factors are significantly and positively correlated to fish business performance as indicated by the correlation coefficient ( $r= 0.228$ ,  $p= 0.029$ ). Economic factors captured by the study include size of the farm, income levels, government support, market growth and market prices as influenced by demand and supply. These results are consistent with those of Kinyua (2014), which concluded that financial access is likely to have a negative impact on SME's performance; management capabilities have been shown to have a positive impact on SMEs ' performance; and macro environmental factors have significant effects on performance.

#### 4.7 Regression Analysis

Regression analysis was conducted to determine the influence of social economic factors on the performance of commercial fish farming in Kiambu County. Table 4.7 shows summary of the model.

**Table 4.7 Model Summary**

<b>Indicator</b>	<b>Coefficient</b>
R	0.567
R Square	0.522
Adjusted R Square	0.499
Std. Error of the Estimate	0.691275

Source: Field Data (2019).

Table 4.7 shows the model summary which reveals that social factors, economic factors and demographic factors are all satisfactory variables explaining the commercial fish farming business performance as indicated by the r square of 52.2%. This implies that involvement of these



variables explained 52.2 percent of the dependent variable variations. However, the results meant that the model used to associate independent variables with dependent variables. However, to test for the significance of the model, Analysis of Variance results were also summarized as shown in table 4.8.

**Table 4.8 ANOVA**

<b>Model</b>		<b>Sum of Squares</b>	<b>df</b>	<b>Mean Square</b>	<b>F</b>	<b>Sig.</b>
1	Regression	19.97	3	6.657	13.93	<b>.000</b>
	Residual	42.052	88	0.478		
	Total	62.022	91			

Source: Field Data (2019).

Table 4.11 outcomes revealed that the model was significant. Additionally, the results implied that the explanatory variables are proper predictors of dependent variable. This is in tandem with the F statistic of 13.93 and the reported p-value of 0.000 which was less than the critical probability value of 0.05 significance level. Table 4.9 shows the coefficient results and how the independent variables influence dependent variable.

**Table 4.9: Regression Coefficient**

	<b>B</b>	<b>Std. Error</b>	<b>Beta</b>	<b>t</b>	<b>Sig.</b>
(Constant)	-0.297	0.75		-0.396	<b>0.693</b>
Demographic factors	0.403	0.086	0.415	4.665	<b>0.001</b>
Social factors	0.331	0.117	0.255	2.834	<b>0.006</b>
Economic factors	0.351	0.113	0.277	3.114	<b>0.002</b>

Source: Field Data (2019).

The optimal model is:

$$Y = -0.297 + 0.403 \text{ Demographic Factors} + 0.331 \text{ Social Factors} + 0.351 \text{ Economic Factors} + \epsilon.$$

Table 4.9 shows that demographic factors and commercial fish farming business performance have

positive and significant relationship ( $r=0.403$ ,  $p= 0.001$ ). The results also that social factors and commercial fish farming business performance have positive and significant relationship ( $r=0.331$ ,  $p= 0.006$ ). In addition, the findings revealed that economic factors and commercial fish farming business performance are positively and significantly related ( $r=0.351$ ,  $p = 0.002$ ).

#### **4.8 Discussion of the Findings**

The study findings indicated that the demographic factors, social factors and economic factors influence the commercial fish farming business performance positively. The research findings revealed that a unit change in demographic factors (that is increase in male fish farmers, improvement of education levels, improvement of fish rearing skills and acquiring more commercial fish farming experience) would result to increase in business performance by 0.403. This is supported by the correlation results which revealed positive relationship between demographic factors and commercial fish farming business performance. The findings were in accordance with those of Aidis (2002), who noticed that gender were significantly associated with company turnover, in which small and medium-sized holders who had a sole proprietorship were significantly associated with a higher probability of lower turnover. The results also found that the chances of financial success of male SMEs are lower than that of female SMEs. Additionally, Mwanja, (2011) supports these findings by showing relationship between business and performance. His analysis has shown a good relationship between the education rate and market success of entrepreneurs.

Further, the study revealed that social factors influence commercial fish farming business positively. This is supported by regression coefficients which show that a unit change in social factors (that is increase in preference of fish in the sense that community takes fish frequently, large market due to fish preference, fish farming activities, preference of fish over other sources

of proteins and preference of certain fish species over others) would lead to increase in commercial fish farming business performance by 0.331. This implies that the social factors sets the tone of the market operations which can lead to high or low demand of the fish hence impacting the business performance of commercial fish farming. This is partly attributed to the fact majority of the fish is consumed locally and few is sold to other places in the country thus the community preference for fish is a good determinant of commercial fish farming business performance in Kiambu County.

The results also revealed that economic factors influenced commercial fish farming business performance positively. According to the regression results, a unit increase in economic factors such as firm size, fish farmer income, government support, growth of fish market and market prices would result to increase in fish business performance by 0.351. This is supported by correlation results which showed that economic factors are positively and significantly related to fish business performance as indicated by the correlation coefficient ( $r= 0.228$ ,  $p= 0.029$ ). These results are consistent with those in Kinyua (2014), which found access to finance to have a positive impact on SMEs' performances; management skills have been shown to have a beneficial and significant impact on SMEs' performance and a significant impact on macro-environmental performance.

## CHAPTER FIVE

### SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

#### 5.1 Introduction

This chapter covers the summary, conclusions and recommendations drawn as a result of the study findings. Limitations of the study as well as the researchers suggestions for further research are also discussed in this chapter. This was done in line with the study objective.

#### 5.2 Summary of Major Findings

The study set out to determine the influence of Social and Economic factors on the Business Performance of Small and Medium fish farm in Kiambu County, Kenya. The study conducted the analysis of demographic factors, social factors and economic factors and their relationship with the commercial fish farming business performance. From the study, a total of 92 questionnaires were properly completed and returned contributing to 76.67% response.

The study found that commercial fish farmers were mostly males implying that the fish farming activities is largely dominated by male. The study also revealed that majority of the respondents were aged between 36 and 45 years. Another finding of the study was that majority of the respondents had secondary level education. Additionally, the findings of the study revealed that majority of the respondents had been in fish farming business for not more than five years indicating that the business is still nascent.

From the descriptive analysis, it can be concluded that most successful fish farmers are male. This is majorly supported by the gender distribution which indicated that majority of the fish farmers in Kiambu County were male hence increasing their chances of success as compared to their counterparts. This is in line with Aidis (2002) who found that in business turnover, the results indicated that sex was significantly associated with business turnover in which SME owners who

had sole ownership, a higher chance of lower turnover was significantly associated. The results also demonstrated that the probability of financial success for male SMEs is higher than those of female SMEs.

Additionally, it can be summed up that young people are more successful in fish farming business than older people. This can be justified by the fact that young people are more energetic and more prone to explore some methods which would work to their favor. However, the results could be biased since there was no cut point provided for who is young and who is not. Further, it can be deduced that experience is one of the factors which influences the success of fish farmers. This is in line with Nteere (2012) findings who found that older entrepreneurs are more prepared to handle the challenges which comes with entrepreneurship and hence high chances of success as compared to their counterparts.

Moreover, education can be considered a catalyst to improve any business because of the skills and knowledge which educated people possess. In that regard, education influences the success of fish farming activities and business. The study also revealed that the respondents do not believe that the size of the farm affects business performance partly due to the fact that most of the farmers are small scale farmers. Additionally, income is considered as a booster in fish farming business which increases the chances of better business performance. Moreover, the findings revealed that the government is offering enough support to boost fish farming activities and business. This is true given the emphasis placed by Kiambu government on agriculture development and productions. The study also showed that fish is not sold in all seasons hence this indicates the presence of seasonality in fish farming which can be influenced by other substitutes such as meat or any other agricultural products. Additionally, the fish farmer has no control on fish prices because the prices are influenced by demand and supply of the fish in the market.

Further, the study revealed that the size of the farm affects business performance partly due to the fact that most of the farmers are small scale farmers. Additionally, income was considered as a booster in fish farming business which increases the chances of better business performance. Moreover, the findings showed that the government is offering enough support to boost fish farming activities and business. This is true given the emphasis placed by Kiambu government on agriculture development and productions. The findings also showed that fish is not sold in all seasons hence this indicates the presence of seasonality in fish farming which can be influenced by other substitutes such as meat or any other agricultural products. Additionally, the fish farmer has no control on fish prices because the prices are influenced by demand and supply of the fish in the market.

The descriptive results were in tandem with the inferential results which revealed that demographic factors had significant positive influence on business performance. According to the regression coefficients a unit change in demographic factors would result to increase in business performance by 0.403. This is supported by the correlation results which also revealed positive relationship between demographic factors and commercial fish farming business performance.

Additionally, the study revealed that social factors influence commercial fish farming business positively. This is supported by regression coefficients which show that a unit change in social factors would lead to increase in commercial fish farming business performance by 0.331. These results were in line with correlation results which showed positive relationship between social factors and business performance.

Finally, the study revealed that economic factors also influenced commercial fish farming positively and significantly. According to the regression results, a unit increase in economic factors such as firm size, fish farmer income, government support, growth of fish market and market prices

would result to increase in fish business performance by 0.351. This is supported by correlation results which showed that economic factors are positively and significantly related to fish business performance.

### **5.3 Conclusion**

From the study it can be deduced that fish farming is a viable business which is generating profits and income consistently. Additionally, it can be said that respondents are not aware of the market both locally and nationally hence they were not certain on whether fish farms produces enough fish for local and national market. Furthermore, it can be established that local customers are satisfied with the amount and quality of fish they buy. This is can be partly attributed to the fact that fish eating culture is new in Kiambu County residents and hence they may not be perfectly aware of the standards and quality of all types of fish.

The study therefore concludes that for the fish farming business to grow and perform well in Kiambu county, the demographic factors, social factos and economic factors must align properly. This implies that the social economic factors sets the tone of the market operations which can lead to high or low demand of the fish hence impacting the business performance of commercial fish farming. This is partly attributed to the fact majority of the fish is consumed locally and few is sold to other places in the country thus the community preference for fish is a good determinant of commercial fish farming business performance in Kiambu County.

### **5.4 Recommendations**

Following the study findings and conclusions, the following recommendations were made:

1. Since education and skills in fish farming influences fish production and other aspects of business performance, fish farmers should be engaged in trainings so that they can improve

their skills and knowledge regarding commercial fish farming. Trainings will influence fish farmers to produce high quality fish hence more demand and better prices.

2. Economic factors and social factors play a huge role in success of commercial fish farming in Kiambu County. In that regard, the Kiambu County Government should subsidize fish farming inputs in order to encourage and entice fish farmers to start and continue with fish farming without challenges of acquiring finances to expand and maintain their farms.
3. The county government of Kiambu should also organize fish industries and markets in order to encourage fresh water fish farming from small scale to large scale fish farmers due to assured fish market, fish processing and affordability of finances from financial institutions and by doing so the farmers will feel secure hence more fish farmers will join fish farming in the area.
4. In order to promote sustainable freshwater fish farming, the national government and the private partners must create various fishing research and development institutions with the aim of cultivating a variety of fish species, potential diseases and all the required inputs and systems.
5. There is need for gender mainstreaming in fish farming and promotion of fish farming for home consumption. This will increase higher preference of fish over other sources of proteins and consequently better fish farming business performance.

### **5.5 Limitations of the Study**

Owing to the fact that the data was primary data collected using questionnaires, it was difficult to ascertain that the responses from the respondents were genuine and not biased. Additionally, it was difficult to measure the respondents independence in responding to the research instruments.



However, these two limitations were overcome by assuring the respondents that confidentiality will be maintained and that the information obtained was purely for academic purpose.

### **5.6 Suggestions for Further Research**

The study sought to investigate the influence of social economic factors on the business performance of commercial fish farming. The three independent variables explained only 52.2% variations of business performance which implies other factors influence business performance. Therefore, future study should be conducted using other factors in order to obtain comprehensive knowledge regarding factors influencing commercial fish farming performance.

Additionally, the study used ordinal least square regression method to generate inferences regarding independent variables on dependent variable. However, future studies should consider using other methods such as logistic regression to determine the likelihood or probability of commercial fish farming business given the social economic factors.

Finally, another study to find out why the youth are not engaged in fresh water fish farming should be carried out in Kiambu County. This is particularly because this study has found that commercial fish farming business is viable and has great potential hence engaging youth to the business could help solve the unemployment problem which plagues the country.

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