EFFECT OF HIGH PRICES OF FARM INPUTS ON THE SOCIO-ECONOMIC WELFARE OF THE FARMING COMMUNITY OF BAMBURI DIVISION, KENYA.

BY

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2010
DECLARATION

This Research project is my original work and has not been previously submitted for a degree in any other university.

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DEDICATION

I dedicate this Research project to my God, the Father of our Lord Jesus Christ, who alone has made this work possible.

He gave my late father and my mother wisdom and ability to educate me to a Bachelor’s degree level. I could not be able to pursue this course without a Bachelor’s degree.

This work is also dedicated to my children Enoch and praise that spent most of their time without mother’s attention as I studied.
ACKNOWLEDGEMENT

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My sincere gratitude goes to my husband Paul for the financial and moral support he accorded me during my studies.

I wish to acknowledge my friends for the encouragement and moral support as I toiled to do this work. My sincere gratitude goes to my friends Jane Paille, Caroline Wanjiku and Mrs. Elizabeth Chacha.

My gratitude goes to my family members for their support to have this work done. I thank my sisters Teresia and Stella for encouragement and moral support as I did this work.

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May the almighty God bless you all.
<table>
<thead>
<tr>
<th>Contents</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>DECLARATION</td>
<td>i</td>
</tr>
<tr>
<td>DEDICATION</td>
<td>ii</td>
</tr>
<tr>
<td>ACKNOWLEDGEMENT</td>
<td>iii</td>
</tr>
<tr>
<td>ABBREVIATIONS AND ACRONYMS</td>
<td>vii</td>
</tr>
<tr>
<td>LIST OF TABLES</td>
<td>viii</td>
</tr>
<tr>
<td>LIST OF FIGURES</td>
<td>ix</td>
</tr>
<tr>
<td>ABSTRACT</td>
<td>x</td>
</tr>
</tbody>
</table>

### CHAPTER ONE: INTRODUCTION

1.1 Background of the Study ........................................ 1
1.2 Statement of the Problem ........................................ 3
1.3 Purpose of the Study ............................................ 4
1.4 Objectives of the Study ......................................... 4
1.5 Research Questions ............................................. 4
1.6 Significance of the Study ....................................... 5
1.7 Delimitations of the Study ..................................... 5
1.8 Limitations of the Study ....................................... 5
1.9 Definition of Significant Terms ............................. 6
1.10 Organization of the study ...................................... 6

### CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction ...................................................... 8
2.2 Economic activities in Bamburi division ..................... 8
2.3 Global increase of farm input prices .......................... 9
2.4. Food Security .................................................. 10
2.5 Nutrition and health status ..................................... 11
2.6 Household income ............................................... 12
2.7 Employment ..................................................... 13
2.8 Formal Education ............................................... 13
2.9 Role of agriculture in alleviating rural poverty .......... 14
2.10 Agriculture sector in Kenya ................................................................. 14
2.11 Conceptual framework ........................................................................ 16
2.12 Summary of literature ........................................................................... 17

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction .............................................................................................. 18
3.2 Research design ......................................................................................... 18
3.3 Target population ....................................................................................... 18
3.4 Sample size and Sampling procedure ........................................................ 18
3.5 Data collection methods ........................................................................... 19
3.6 Validity of research Instruments ............................................................... 19
3.7 Reliability of research Instruments ............................................................ 20
3.8 Data analysis techniques .......................................................................... 20
3.9 Operational definition of variables .......................................................... 21

CHAPTER FOUR: DATA ANALYSIS, PRESENTATION AND INTERPRETATION.

4.1 Introduction ............................................................................................... 21
4.2 Response rate ............................................................................................ 21
4.3 Effect of high farm input prices on food security ...................................... 21
4.4 Effect of high farm input prices on household incomes ......................... 28
4.5 Effect of high farm input prices on employment ..................................... 30
4.6 Effect of high farm input prices on formal education ............................... 30
4.7 Effect of high input prices on the nutritional status of
   the farming community ............................................................................. 32

CHAPTER FIVE: SUMMARY OF FINDINGS, DISCUSSIONS, CONCLUSIONS
AND RECOMMENDATIONS

5.1 Introduction ................................................................................................ 34
5.2 Summary of findings ................................................................................ 34
5.3 Discussion of findings .............................................................................. 34
5.4 Conclusions ............................................................................................... 36
ABBREVIATIONS AND ACRONYMS

USDA: United States department of Agriculture.
DAP: Diammonium phosphate.
CAN: Calcium ammonium phosphate.
GDP: Gross Domestic Product.
MAP: Mono ammonium phosphate.
MOA: Ministry of Agriculture.
IFDC: International fund for development cooperation.
Ksh: Kenya shillings.
Kshmn: Kenya Shilling million.
Resp: respondent.
NASS: National Agricultural statistics service.
PPI: Producer price index.
$: United States of America Dollar.
KARI: Kenya agricultural research institute.
HIV: Human imuno-deficiency syndrome.
EPINFO: Epidemiology information.
DAO: District Agricultural Officer
FIPI: Farm input price index.
USA: United States of America.
CL: Confidence level.
<table>
<thead>
<tr>
<th>Table</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.1</td>
<td>Operational definition of variables</td>
<td>21</td>
</tr>
<tr>
<td>4.1</td>
<td>Decrease in crop acreage</td>
<td>24</td>
</tr>
<tr>
<td>4.2</td>
<td>Percent decrease in crop acreage</td>
<td>24</td>
</tr>
<tr>
<td>4.3</td>
<td>The ability of households to afford three meals per day</td>
<td>25</td>
</tr>
<tr>
<td>4.4</td>
<td>Response on frequency of those practicing hand cultivation</td>
<td>25</td>
</tr>
<tr>
<td>4.5</td>
<td>Response on fertilizer use</td>
<td>25</td>
</tr>
<tr>
<td>4.6</td>
<td>Response on use of certified seed</td>
<td>26</td>
</tr>
<tr>
<td>4.7</td>
<td>Response on presence of farm input stockiest</td>
<td>27</td>
</tr>
<tr>
<td>4.8</td>
<td>Distance between farm input stockiest and Bamburi community area</td>
<td>28</td>
</tr>
<tr>
<td>4.9</td>
<td>Response to effect of farm input prices on household income</td>
<td>28</td>
</tr>
<tr>
<td>4.10</td>
<td>Annual decrease in household incomes over the last three years</td>
<td>29</td>
</tr>
<tr>
<td>4.11</td>
<td>Affordability of iron sheet roofed houses</td>
<td>29</td>
</tr>
<tr>
<td>4.12</td>
<td>Ability to repair leaking roofs</td>
<td>29</td>
</tr>
<tr>
<td>4.13</td>
<td>Response on effects of high farm input prices on employment</td>
<td>30</td>
</tr>
<tr>
<td>4.14</td>
<td>Responses on effect of high farm input prices on formal education</td>
<td>31</td>
</tr>
<tr>
<td>4.15</td>
<td>Responses on effect of high input prices on illiteracy and enrollment</td>
<td>31</td>
</tr>
<tr>
<td>4.16</td>
<td>Effect of high farm input prices on nutritional status and health</td>
<td>32</td>
</tr>
<tr>
<td>4.17</td>
<td>Response on presence of nutrition related diseases</td>
<td>33</td>
</tr>
</tbody>
</table>
**LIST OF FIGURES**

<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Figure 1</td>
<td>Conceptual Framework</td>
<td>16</td>
</tr>
</tbody>
</table>
ABSTRACT

Farm inputs are very important in any agricultural enterprises. In the recent past the input prices have increased greatly thus affecting farmers and the agriculture sector as a whole. This study was carried out to find out the effect of the high farm input prices on Bamburi division farming community in Kenya. Its Purpose was to gain an understanding of the relationship between high farm input prices and the socio-economic welfare of the farming community. The researcher sought to understand the, social and economic effects that high farm input prices have on the farming community, that is, effect on food security, household incomes, formal education, employment and on nutrition and health status. A survey research design was used in this study. Data was collected from members of a population in order to determine the current status of that population with respect to one or more variables. A sample was taken randomly from 5 sub locations of Bamburi division. Stratified random sampling was done to ensure men and women including youths were involved in the study. Six (6) crop farmers from each of the 4 sub locations and 7 from one sub location were interviewed giving a total of 31 farmers. Three (3) male farmers and Three (3) female farmers were interviewed from each sub location by an enumerator and interview schedules filled. Out of the three men, one (1) was a young male farmer while out of the three (3) women; one (1) was a young woman farmer. A structured questionnaire was also self administered to the extension officers and opinion leaders. Five (5) extension officers and five (5) opinion leaders were given questionnaires to fill. The determination of this sample size was done basing on recommendations made by Nkapa (1997). The information was then analyzed using Epinfo-2008, statistical package and tests carried out at 95% confidence level. In the study, it was found out that the high farm input prices had an effect on the social economic welfare factors of the households in Bamburi Division. The effect was statistically significant on household incomes, food security and formal education. The impact was however not statistically significant on employment and nutritional status of the community.
CHAPTER ONE
INTRODUCTION

1.1 Background of the Study
Farm input prices have risen over time. Fertilizer prices and the cost of other farm inputs continue to rise at an alarming rate.

In USA new democrats were concerned about the impact of high oil and natural gas prices. USDA forecasted that total farm production expenses rose to $221 billion in 2005, up 5 percent from 2004 and 12.6 percent from 2001. Higher costs from purchased inputs such as fuel, fertilizers, and pesticides explained much of the rise in total farm production expenses. The input prices paid for fuel and fertilizer in 2005 spiked 61.5 percent and have tripled in 3 years. These increases are particularly significant to producers of program crops such as corn and wheat with relatively large energy usages.

According to Statistics Canada (2008), prices paid and received by farmers generally outpaced general inflation measures in the U.S. economy since enactment of the 2002 farm bill. Annual indexes compiled by the National Agricultural Statistics Service showed that prices paid by farmers for all items rose by 12.9 percent from 2002 to 2005. This was greater than the finished goods producer price index (PPI), which rose by 12.1 percent over the same period.

According to Roy Roberson (2008), the same corn prices that many experts said would settle in at $4 per bushel or so edged up to near that level as summertime approached. High prices meant high profits, but for some farmers meant getting out of the business.

Many people expressed concern over rising costs of fuel, fertilizer, and other energy-related inputs. They noted that cost increases have a negative effect on farm profitability and on the competitiveness of U.S. producers in world markets. Overall farm production costs were rising faster than the returns to farm production, making it difficult for existing farms to continue the operation.

Johann Tasker (2008), pointed out that higher input production costs, rising land and machinery costs, and greater regulatory costs deter entry into farming.

He pointed out that some farm programs, and direct commodity payments, increase production costs through higher land rental or purchase prices. The U.S. fertilizer industry, which supplied 85 percent of domestic needs through the 1990s, now relied on imports for 45 percent of its supplies. Farm input costs had soared by 35.53% in 2007, according to the agricultural purchasing group.
According to Clarke Willis (2008), rapidly rising agricultural inflation meant an average-sized 300ha mixed farm spending £360,000 on annual inputs must find an extra £120,000 in year 2009. Spiralling input costs were outstripping food prices which had increased by 13.7% in the past year. The cost of fertiliser, which had risen by 156% in the past year, accounted for half the overall increase. Input costs had been increasing at an alarming rate.

Johann Tasker (2008) also said that the cost of new machinery other than tractors had also risen steeply, with the same piece of equipment costing up to 20% more than a year ago.

According to Roy Roberson (2008), farmers in south central North Carolina conceded that they had an opportunity to make a lot of money with their 2008/2009 crops. Unfortunately, they had the opportunity to lose more money than they'd ever lost.

Farmers have ridden the technology wave to record production and are enjoying some of the benefits of high production and high prices for the crops. Except! The price of oil and the cost of greed had driven input costs to equally record high levels. Large companies recognized that the potential of technology in agriculture and investments were up (Roy Roberson, 2008) said one company actively involved in agriculture raised its research and development budget from four percent of revenues to 10 percent.

According to Roy Roberson (2008), in some areas of the Midwest, farmland that rented for $150 per acre in 2006 went for over $300 per acre in 2008.

On the farm, input costs and escalating risks changed every day from January 2007 to January 2008. Diammonium phosphate prices rose from $252 per ton in January 2007 to $752, prilled urea rose from $272 to $415 per ton and Muriate of potash rose from $172 to $352 (Vancouver price). At the same time the price of 1 metric ton of corn rose from $3.05 per bushel to $4.28 per bushel. By late June corn prices had soared to nearly $8.00 per bushel and input prices continued to keep pace.

Despite lower nitrogen demands for soybeans, University of Tennessee Ag Economist Delton Gerloff said even the lower input soybean costs still put bean growers at significant risk. For example, DAP, a fertilizer used for beans, as well as corn, pastures and cotton, sold for $398 a ton in 2007. In 2008, it sold for $1,000 a ton. The high prices demonstrated that raising commodity prices would not reduce the risk in farming.

According to Roy Roberson, the Farm Input Price Index for Canada was 149.7 in 2007, thus 7.5 percent higher than 2006. This was the largest increase since 1981 when a rise of 13.5 percent was measured. The price movements of main components showed greater variability than in 2006. Animal feed prices (+28.7 percent) were the largest contributor to the annual rise, followed by fertilizers (+22.7 percent). These increases were partly offset by the decline in prices of motor vehicles during the second half of the year (-2.0 percent).
Prices of farm inputs rose more in Western Canada i.e. by 7.7 percent than in Eastern Canada which was 7.1 percent. There were largely reflected steeper increases in prices of fertilizers in the West i.e. 31.7 percent compared with the East which was by 7.7 percent. However, the East witnessed higher growth in costs of animal production i.e. 16.8 percent compared with the West which had a growth of 10.7 percent.

The African cash crop sector has witnessed widespread liberalization reforms aimed at strengthening price incentives to farmers. However, some areas are confronted with a decline in input use.

In Kenya, farm input prices have been on the increase. In 2007 prices of fertilizers almost tripled. The prices of a 50kg bag of DAP increased from Ksh 1700 to Ksh 4500 in Mombasa. The Bamburi farming community must have been affected by the high prices. According to Mombasa district development plan, 2008, the community land sizes are small i.e. less than 1ha and most community members are squatters.

According to the DAO Mombasa environment and land development annual report, 2008, manure use is low in Bamburi division i.e. only 25% of farmers using it, inorganic fertilizer use very low i.e. by 4% of farmers. Some farmers i.e. four percent lack manure or fertilizer and the rest i.e. 67% are laggards who are not ready to embrace recommended farm input use. There is also low certified seed use in the division.

1.2 Statement of the Problem

Over time, farm input prices have increased relative to commodity prices. According to the DAO Mombasa (2008) this increase has resulted in low farm input use and low crop production. The communities such as Bamburi are forced to use alternative means of production such as use of farmyard and compost manure as well as traditional crop varieties that are low yielding.

Manure use is low in Bamburi division i.e. only 25% of farmers using it, inorganic fertilizer use very low i.e. by 4% of farmers. Some farmers i.e. four percent lack manure or fertilizer and the rest i.e. 67% are laggards who are not ready to embrace recommended farm input use (DAO, 2008)

Farm input prices have increased drastically, for example in 2007, a 50Kg bag of Diammonium Phosphate (DAP) was sold at KSh. 1700, while a 50 Kg bag of Calcium Ammonium Nitrate (CAN) was sold at KSh. 1600. In 2008 a 50Kg bag of DAP was sold at between KSh. 4000 and KSh. 4500, while a 50 Kg bag of CAN was sold at KSh. 1900 to KSh. 3000. This increase of prices is therefore affecting the socio-economic wellbeing of
communities such as Bamburi division in terms of crop and livestock production, and ultimate food security.

According to DAO Mombasa (2008), in Bamburi division, fertilizer use was very low in 2007 and 2008. The harvested food also usually lasts three to six months. The community is insufficient in food production and therefore depends on Kongowea market of Mombasa town for most of its food supplies.

This study was therefore done to establish the influence of high farm input prices on the socio-economic welfare of Bamburi farming community.

1.3 Purpose of the Study

The Purpose of the study was to gain an understanding of the relationship of high farm input prices and the socio-economic welfare of the farming community of Bamburi Division. The researcher sought to understand the, social and economic effects that high farm input prices have on the farming community of Bamburi division.

1.4 Objectives of the Study

The objectives of the study were:

1. To examine the extent to which high prices of farm inputs influence food security of the farming community of Bamburi division, coast province, Kenya.

2. To establish the extent to which high farm input prices influence household income of the farming community of Bamburi division, Kenya.

3. To explore the extent to which high farm input prices influence nutrition status of the farming community of Bamburi division, Kenya.

4. To establish the extent to which high farm input prices influence employment of the farming community of Bamburi division, Kenya.

5. To explore the extent to which high farm input prices influence Formal education of the farming community of Bamburi division, Kenya.

1.5 Research Questions

In this study, the researcher sought to answer the following research questions;

1. Do high farm input prices have any effect on food security of the Bamburi division, farming community?

2. Are there effects of high farm input prices on household incomes of the farming community of Bamburi division?
3 Do high farm input prices influence the nutrition and health status of Bamburi Division farming community?

4 Do high farm input prices affect employment among the farming community of Bamburi division?

5 Do high farm input prices have an effect on the formal education of Bamburi division farming community?

1.6 Significance of the Study

The findings of this study serve as a situation report of the effect of high farm input prices on the socio-economic welfare of the Bamburi farming community. Researchers, upcoming scientists and scholars can use these findings as reference for related studies in Kenya. The findings in the study will also assist agricultural development partners in decision making on related project initiations in Kenya. The findings will assist Kenyan policy makers to come up with appropriate policies that will address the issues related to high farm input prices in the coastal region and the country at large. The findings will also assist the Bamburi farmers to innovate new ways of agricultural productivity and also adopt affordable alternative technologies in crop production.

1.7 Delimitation of the Study

The study was conducted among the Bamburi farming community of Bamburi division, Kisauni district. This is an area on the Peri-urban areas of the larger Mombasa town. In this area, farmers use few farm inputs, and produce less from their farms. The farmers produce less despite a ready market for their produce in Mombasa town. The farmers also experience food shortage in the area.

1.8 Limitations of the Study

Some of the respondents were illiterate thus necessitating translation of interview schedule questions into Kiswahili. As a result, more time was spent on each respondent than expected, thus increasing the cost of the research. Data was collected during the rainy season when farmers were busy on their farms. This led to farmers giving quick responses to the questions without considering accuracy.
1.9 Definition of Significant Terms

The following are the definition of the significant terms used;

Socio-economic broadly means use of economics in the study of society (John E., Murray M. &Peter N, 1987).

It also means a discipline studying the reciprocal relationship between economic sciences on the one hand and social philosophy, ethics and human dignity on the other toward social reconstruction and improvement (Mark A. Lutz, 2009).

Farm inputs are any materials which are used on the farm to boost or facilitate agricultural production.

Price Index is an index of the changes in the prices of goods and services, based on the prices of the same goods and services at a period arbitrarily selected as a base, usually expressed as 100.

The Farm Input Price Index is an indicator of the change in input costs faced by farmers. As such, the FIPI can be used to monitor price changes, which are considered in the operations of marketing boards and in price stabilization programs. Governments use index data to develop national and regional economic policies related to the agriculture sector.

Economics is a science that is concerned with the production, distribution and consumption of goods and services (Mark A.Lutz, 2009)

Food use is the appropriate use based on knowledge of basic nutrition and care, as well as adequate water and sanitation (FAO, 2006)

Bushel is a unit of measure. According to William J.Murphy, it is an imperial and USA customary unit of dry volume most often used in agriculture. One bushel of shelled maize is equivalent to 25.4012Kg of shelled maize.

1.10 Organization of the study

This study is organized in five chapters.

Chapter one consists of introduction of the study. The following has been discussed i.e. background of the study, statement of the study, research question, significance of the study, delimitation of the study, limitation of the study, and definition of significant terms.

Chapter two consists of literature review.

The areas discussed are introduction, economic activities in Bamburi divisions, global increase of farm input prices, food security, nutritional and health status, household income, employment, formal education, role of agriculture in alleviating rural poverty. Agriculture sector in Kenya, the conceptual framework and summary of literature review
Chapter three covers the research methodology. It consists of the introduction, research design, target population and sample size, sampling technique and procedure, data collection instruments, validity of the instruments, reliability of the instruments, data analysis techniques and operation definition of variables.

Chapter four covers data presentation, analysis and interpretation. The chapter consists of introduction, response rate, presentation and analysis of data on the effect of high farm input prices on food security i.e. decrease in crop acreage, number of meals per day, use of hand cultivation method, use of fertilizers, use of certified seed and presence of farm input stockiest. It also covers presentation and analysis of data on the effect of farm input prices on household incomes, shelter, employment, formal education, nutritional status and health.

Chapter five covers summary of findings, conclusions and recommendations. The chapter is split into summary of findings, discussion of findings and conclusions on the effect of high farm input prices on food security, household incomes as well as shelter, employment, formal education, nutrition and health status. Recommendations and areas for further research are also included in this chapter.
CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction
This chapter discusses literature review related to the study. It covers global farm input price increase, role of agriculture in rural poverty alleviation, agricultural set up in Kenya and Bamburi, conceptual framework, and summary of literature.

2.2 Economic activities in Bamburi division.
A sizable number of people living in these peri-urban areas of Bamburi division, practice subsistence small scale farming and keep different types of livestock. Land ownership for agricultural and Livestock activities remains a thorny issue in the division as most of the resident do not legally own land and the one they farm is owned either by Government or absentee landlords. (district development plan, 2008)

Although the agricultural land in the division is limiting, even what is available is not fully utilized thus leading to reliance on imports from other districts to meet its food requirements Total hactarage under food crops is 200 ha. The population working in agriculture is 1500. The tourist hotels and urban population forms a ready market for farm produce, yet the farmers cannot utilize the available resources effectively to meet this market needs.

There are two private nature trails owned by Bamburi Cement Factory in the division. Most of the division land remains unplanned leading to mushrooming of illegal settlements. The Government has however established settlement schemes in Bamburi Division which are meant to settle the landless (district development plan, 2008)

There are tourism, trade and Industry sectors in the Division with tourism activities accounting for most wage employment. There are several Beach and tour operator firms that provide various tourism related services. The division also has registered hotels and lodges that averagely register bed occupancy of 60% annually. These include among others, Plaza beach hotel, Serena, and Sarova white sands. (district development plan, 2008)

There is Baobab farm that consists of Haller Park which has a game sanctuary, crocodile farm, fish farm, reptile and snake park, whistling pine restaurant and giraffe drive. There is also Bamburi forest trails which have butterfly pavilion, cycle trails, jogging/walking trails, and sunset terrace.

The Division is a home for large manufacturing plants such as Bamburi Cement factory. There are also large scale departmental stores, wholesale shops, petrol stations and retail outlets which are spread all over the division. (district development plan, 2008)
2.3 Global increase of farm input prices.

Farm input prices have risen at an alarming rate. This has in turn resulted into reduction in farm input use and poor crop yields. The 2006 August-to-September retail gasoline price decline was the second largest on record, second only to the decline in November 2005. Farm input costs soared by 35.53% in 2007 according to the latest figures from the agricultural purchasing group. (Johann Tasker, 2008). The cost of fertilizer which rose by 156% in 2007 accounted for half the overall increase. The spiraling input costs outstripped food prices which increased by 13.7% in the same year.

In 2008, the cost of new machinery other than tractors also rose steeply, with the same piece of equipment costing up to 20% more than in 2007. According to Kevin Dhuyvetter, (2007), projected anhydrous ammonia prices based on natural gas futures contracts. He projected March-April 2007 prices for anhydrous ammonia to be about 10% less than 2006. Ammonium nitrate continued to decline in use in Missouri as its price relative to other nitrogen fertilizers continued to increase.

In 2007 Missouri, farmers were forced to use MAP and DAP, both of which contain some nitrogen so as to offset high cost of nitrogen. In the USA, the democrats were concerned about the impact of high oil and natural gas prices. USDA forecasted that total farm production expenses rose to $221 billion in 2005, up 5 percent from 2004 and 12.6 percent from 2001. Higher costs from purchased inputs such as fuel, fertilizers, and pesticides explained much of the rise in total farm production expenses. The input prices paid for fuel and fertilizer in 2005 spiked 61.5 percent and have tripled in 3 years. These increases were particularly significant to producers of program crops such as corn and wheat with relatively large energy usages (K. Dhuyvetter, 2007).

According to Dhuyvetter (2007), Prices paid and received by farmers generally outpaced general inflation measures in the U.S. economy since enactment of the 2002 farm bill. Annual indexes compiled by the NASS showed that prices paid by farmers for all items rose 12.9 percent from 2002 to 2005. This was greater than the finished goods producer price index which rose 12.1 percent over the same period.

Most farmers in the U.S.A were concerned over rising costs of fuel, fertilizer and other energy-related inputs. These cost increases had a negative effect on farm profitability and on the competitiveness of US producers in world markets. The overall farm production costs were rising faster than the returns to farm production, making it difficult for existing farms to continue their operation.
R. Roberson (2008) said that input costs and escalating risks change every day on the farm. From January 2007 to January 2008, DAP prices rose from $252 per ton to $752, prilled urea rose from $272 to $415 per ton and muriate of potash rose from $172 to $352. At the same time the price of 1 metric ton of corn rose from $3.05 per bushel to $4.28 per bushel.

By late June 2008 corn prices had soared to nearly $8.00 per bushel and input prices continued to keep pace. Despite lower nitrogen demands for soybeans, even the lower input soybean costs still put bean growers at significant risk. For example, according to Delton Gerloff, (2009) DAP, a fertilizer used for beans, as well as corn, pastures and cotton, was sold in 2008 for $398 a ton, while in 2009, it sold for $1,000 a ton. Raising commodity prices could not reduce the risk in farming. For most growers, the risk was much greater with high commodity prices than low commodity prices. The farm input price index also went up over time. In 2007, the farm input price index for Canada was 149.7, up 7.5% from 2006, the largest increase since 1981 when a rise of 13.5% was measured. Animal feed prices (+28.7%) were the largest contributor to the annual rise followed by fertilizers (22.7%). The rate of rise of prices of farm inputs varied from region to another.

2.4. Food Security

Food security is when at all times people have access to sufficient safe, nutritious food to maintain a healthy and active life” (FAO 2006). Commonly, the concept of food security is defined as including both physical and economic access to food that meets people’s dietary needs as well as their food preferences. In many countries, health problems related to dietary excess are an ever increasing threat; In fact, malnutrition and food borne diarrhea have become double burden.

According to P. Pingali et al (2005), Food security is built on three pillars namely; food availability, food access and food use. Food security is a complex sustainable development issue, linked to health through malnutrition, but also to sustainable economic development, environment, and trade. Issues such as whether households get enough food, how it is distributed within the household and whether that food fulfills the nutrition needs of all members of the household show that food security is clearly linked to health.

There is a great deal of debate around food security with some arguing that:

- There is enough food in the world to feed everyone adequately, the problem is distribution.
- Future food needs can or cannot be met by current levels of production.
- Globalization may or may not lead to the persistence of food insecurity and poverty in rural communities.
2.5 Nutrition and health status

Nutrition, also called nourishment or aliment, is the provision, to cells and organisms, of the materials necessary in the form of food, to support life. Many common health problems can be prevented or alleviated with a healthy diet. Nutrition is also interpreted as the study of the organic process by which an organism assimilates and uses food and liquids for normal functioning, growth and maintenance and to maintain the balance between health and disease. Also included is the idea of an optimal balance of nutrients and whole foods, to enable the optimal performance of the body.

The diet of an organism is what it eats, which is largely determined by the perceived palatability of foods. A poor diet can have an injurious impact on health, causing deficiency diseases such as scurvy, beriberi and kwashiorkor; health threatening conditions like obesity and metabolic syndrome; and such common chronic systemic diseases as cardiovascular disease, diabetes and osteoporosis.

Most diseases have a nutritional basis since good nutrition supports a healthy immune system to ward off infectious diseases.

There are some nutritional deficiencies that produce serious health issues with specific names, such as scurvy which results from a deficiency of vitamin C. Other such diseases are rickets, a weakened bone condition caused by a lack of vitamin D, usually obtained by exposure to sunlight, but has been added as fortification to foods in order to prevent this disease among those who do not get sufficient sunlight or have poor bodily response to sunlight; goiter, which is an enlarged thyroid gland caused by lack of iodine in the diet; anemia, from lack of iron; pernicious anemia, caused by lack of vitamin B12; nerve disorders from lack of B vitamins; appetite disorders caused by lack of B vitamins and/or iron; and bleeding disorders from lack of vitamin K.

Loss of night vision results from vitamin A deficiency. Lack of protein can result in several problems including kwashiorkor—a wasting disease whereby the body attacks its own tissues to make up for the starvation it is enduring. Bone loss can come about from a lack of any or all of these: calcium, magnesium, phosphorous, and or vitamin D. Without the appropriate oils found in good food sources, skin, tissues, joints, and hair suffer loss of resiliency. Lack of selenium and other trace minerals affects everything from mental stability to bone and tooth strength.

Other disease processes are caused by too much food or nutritional substances. Type II Diabetes is caused by nutritional overload of sugars and fats causing a burden on the body's ability to convert them to usable blood sugars at a steady pace. Hypoglycemia is also caused
by an overload of sugars or simple carbohydrates but the body's reaction is the opposite of Type II Diabetes--instead of little or no insulin available to deal with the sugars which flood the bloodstream, a lot of insulin is dumped into the bloodstream triggering a sudden drop in blood sugar levels. High blood pressure and artherosclerosis ("hardening of the arteries") are blamed on elevated cholesterol levels due to high fat diets and high sodium intake. High fat diets and high caloric diets are also to blame for obesity with all of its complications, including break down of knee joints, heart failure, lack of energy, snoring, sleep apnea, and more. Too much protein can cause kidney failure or complications, too much iron can result in death.

The body is a finely tuned organism made to run on certain nutrients. Proper balances keep the body healthy and running smoothly and happily. Imbalances cause disease. Good nutrition, the proper use of pure water, sunshine, exercise, fresh air, sleep, and a good relationship with your creator, will keep the body at its peak throughout its lifetime.

Nutrition research has identified many components of good nutrition, so that in general a wide variety of unprocessed food is recommended as a natural preventive measure, to maintain good health rather than individual foods as remedies for perceived deficiencies.

2.6 Household income

Income is all the money received from a job.

The economic returns to any programme like maize depend upon the economic price of maize, the price of inputs, and production responses to increased input use. Benefit: cost ratios have shown that the net economic return to such project is very sensitive to maize prices and the production response. Adjustments to this analysis using estimated maize and fertilizer prices suggested that the programmes should have yielded equivalent or higher returns. However the very high fertilizer prices that prevailed when fertilizers were being purchased for the 2008/9 programme adversely affected returns in 2008/9, despite good weather and yields and high maize prices (although these did offset the effects of high fertilizer prices to some extent).
2.7 Employment.

Employment is a contract between two parties, one being the employer and the other being the employee. An employee may be defined as: "A person in the service of another under any contract of hire, express or implied, oral or written, where the employer has the power or right to control and direct the employee in the material details of how the work is to be performed.

In a commercial setting, the employer conceives of a productive activity, generally with the intention of generating a profit, and the employee contributes labour to the enterprise, usually in return for payment of wages. Employment also exists in the public, non-profit and household sectors. To the extent that employment or the economic equivalent is not universal, unemployment exists.

Agriculture remains the largest employment sector in most developing countries and international agriculture agreements are crucial to a country's food security. Some critics argue that trade liberalization may reduce a country's food security by reducing agricultural employment levels. Concern about this has led a group of World Trade Organization member states to recommend that current negotiations on agricultural agreements allow developing countries to re-evaluate and raise tariffs on key products to protect national food security and employment. They argue that WTO agreements, by pushing for the liberalization of crucial markets, are threatening the food security of whole communities.

High farm input prices can also result in low crop production due to reduced input use and eventually lack of employment.

2.8 Formal Education.

Education means book learning, social learning, life experiences and decision making among others. Formal education is education obtained through an accredited source such as high school and colleges.

This kind of education is usually paid for by a sponsor or the person receiving it. Education is a combination of not only schooling whether it is private, home, or the public school system. However, social education is just as important as institutional learning. Children also have to be prepared socially to fit in the world today. If they are not allowed to socially develop when they are young, they will rebel and find out on their own what has been kept from them.

According to Glee (2007) Education is a lifelong process. Education is something we're always taking part in, whether active or passive, whether tradition or experiential or by observation or by thinking/discussing.
2.9 Role of agriculture in alleviating rural poverty.

Agriculture is key to development in Kenya (MOA, 2006). In addition to being key to national development, agriculture is also a means of achieving equity and improving the welfare of the Kenyan population. About 80% of Kenya's population live in the rural areas and derive their livelihood largely from agriculture through crop and livestock production, forestry and exploitation of other natural resources. This population constitute over 70% of the Kenyan people living below poverty line. The sector is also expected to deliver other regional and global commitments such as, achievement of the first millennium development goal on poverty and hunger.

According to Kenya vision 2030, Agriculture is one of the key sectors that will contribute to a sustained economic growth. In the economic recovery strategy for wealth and employment creation. The Kenya government has identified agriculture as an important tool and vehicle for the realization of its objective of employment creation and poverty reduction in the country. Agricultural growth and development is crucial to Kenya's overall economic and social development.

2.10 Agriculture sector in Kenya

Kenya is a predominantly agricultural society, where many people have low standards of living and limited access to social services e.g. in Bamburi division. Over 80% of the Kenyan population depends on agriculture for their livelihoods. The agricultural sector in Kenya is composed of smallholder farms, large mixed farms, plantations or estates. Each of the bank lending activity in Kenya are identifiable by the prevailing needs and opportunities of the agricultural sector.

The Kenyan economy is largely agro-based, with the agriculture sector accounting for 26% of the gross domestic product and 60% of export earnings. For example, In 2006, Agriculture and forestry contributed Kshm 387,804 by activity at current price (Kenya Facts and figures 2007). In addition agriculture indirectly contributes 27% of the country's GDP through manufacturing, distribution and service related sectors. The sector employs over 80% of Kenya's workforce and contributes about 57% of national income both directly and indirectly. Agriculture is therefore currently the most important tool for promoting national development. (MOA, 2006).

The agriculture sector has not performed well over the last decade despite its importance in the economic growth of the country. From a growth of 4.4% in 1996, the sector declined reaching a level of as low as negative 2.4% in 2000. According to Otieno D. (2005), the sector made substantial improvement in 2003 and 2004. Growth in demand from Kenya's
traditional markets, the stabilization of commodity prices and favorable weather conditions in the second half of 2004, all contributed to gains in the coffee, sugar, and tea and horticulture sectors. The sector registered an improved growth of 6.7% in 2005.

The agricultural sector in Kenya has faced various problems relating to rigid policies, tight control of the sector and changes in the external environment that has had an impact on the performance of the sector. (MOA, 2006).

Areas with low farm input use e.g. in western Kenya are characterized by low crop yields and low household cash incomes (Kelly et al, 2003). Most residents are subsistence farmers with small farm sizes (0.1 Ha). Farm inputs such as fertilizer, improved seeds or water pumps are very scarce. Many families have difficulty producing enough food to meet their needs. Those who manage to produce a surplus have difficulty finding buyers or getting good prices. The problem of high unit price of agro-inputs is compounded by the fact that credit services are rarely provided to smallholder farmers by the agro-input dealers who themselves lack adequate working capital or increased stocking of agro-inputs.

This scenario is similar to Bamburi division of Mombasa district. The Bamburi farming community stays on the periphery of Mombasa city. The land sizes are small (0.4 Ha on average) and most community members are squatters. In Bamburi division, farm input prices e.g. fertilizers were high in 2008, e.g. Ksh 4500 per 50Kg. bag of DAP. (DAO, 2008).

In the same division, in 2008, manure use was low. Only 25% of farmers used manure, 4% used inorganic fertilizer while 4% lacked manure or fertilizer. 67% of the farmers were laggards not showing an interest in using fertilizers. There was also low certified seed use (DAO 2008). The division also depends on stockiest in Mombasa town for their farm input supplies and the farm labor costs are high i.e. Ksh 250 per man-day.
2.11 The conceptual framework

The effect of high prices of farm inputs on the socio-economic welfare of the farming community of Bamburi Division, Kenya.

Figure 1. Conceptual framework.

The prices of farm inputs are the dependent variable since it is the one that influences the socio-economic variables. It is the controlled variable in the research. This variable determines its relationship to the socio-economic welfare of the community.

The increased farm input prices influences the socio-economic welfare of the community. The socio-economic variables are considered independent since they are influenced by the farm input prices. These independent variables include food security, household income, nutritional status, employment and formal education.
The government can intervene in the various ways to try and reduce the effect of these prices on communities. According to (Kelly et.al, 2003), the government has an important role in promoting the expansion of input use through reduction in adulteration and illegal trading. The government involvement include investing in rural infrastructure i.e. roads, markets and storage facilities.

According to vision 2030, one of the Kenya government strategies is the development of commencement of the implementation of a 3-tiered fertilizer cost reduction programme. Kenya has rolled out the largest import programme of fertilizer in years. The government's intend was to import more than 150,000 tonnes of fertilizer to be sold to farmers at a 40% discount.

The government of Kenya is therefore the moderating variable in this case.

2.12 Summary of literature review.

Farm input prices have increased globally over the years. These prices vary from country to country. The inputs include mainly fertilizers, fuel, labor and seeds. High prices of most agro-inputs constrain the development of efficient farm input distribution systems and are fed into by farmers' inability to sell their farm surplus produce at high prices, especially immediately after harvest. This contributes to land degradation, decline in household welfare and negatively affects farmer investments in farm inputs and returns to agricultural production (Bashaasha, 2008).

Low use of inputs by farmers in sub-Saharan Africa is due to market constraints that reduce profitability of input use. This in turn creates a gap between potential and actual yields. Inputs selling price also increase with distance to markets. This long distances to market disconnect villages from input supply chain (Jonas N.Chianu et al, 2008).

Some of the efforts to counter the effect of high farm input prices have also been discussed. There is no detailed documentation about the impacts of high farm input prices on the socioeconomic welfare of Bamburi division farming community. The area is also deficient in food production. This study was therefore carried out to fill this gap.
CHAPTER THREE
RESEARCH METHODOLOGY

3.1 Introduction.
This section outlines the research design, target population of the study, sampling size and sampling procedure, research instruments, reliability and validity, data collection procedure, analysis and presentation techniques that were used in the study.

3.2 Research design.
A survey research design was used in this study. Data was collected from members of a population in order to determine the current status of that population with respect to one or more variables (Olive & Abel Mugenda 2003). This design was used to obtain opinions and responses from the Bamburi community about the effect of high farm input prices on food security, household incomes, formal education, employment as well as nutrition and health status of the farming community.

A structured questionnaire and an interview schedule were used to collect data from farmers and other key informants i.e. agricultural extension officers, and local leaders.

3.3 Target population
The population of study was farmers in Bamburi division. According to the DAO Mombasa (2008), there are 800 farm families in the area. Farmers were selected randomly from the five (5) sub locations i.e. Mwembe legeza, Shanzu, Maunguja, Mwakirunge and Bamburi and interviewed. Five (5) agriculture extension officers and five (5) opinion leaders were given questionnaires to fill.

Extension officers work with the community and are all aware of the challenges farmers face in carrying out their daily activities. They are also charged with the responsibility of monitoring food security and were thus aware of some of the factors negatively influencing food security.

3.4 Sampling size and sampling procedure.
A sample was taken randomly from the 5 sub locations of the division. Stratified random sampling was done to ensure men and women are involved in the study.
Interview schedules were prepared for forty (40) farmers. Women, youths and men were involved in the study. Six (6) farmers from 4 sub locations and 7 from one sub location were
interviewed giving a total of 31 farmers. Five (5) extension officers and five (5) opinion leaders were given questionnaires to fill.

The determination of this sample size was done basing on recommendations made by Nkapa (1997). He said that for populations which run in thousands, the sample size should be in the range of 5% to 20%, but for populations that run in hundreds, the sample size should be 50%. The number of farm families in Bamburi are about 800 according to DAO, 2008.

In each sub location, crops’ farmers were interviewed by an enumerator and an interview schedule filled. The questionnaire was self-administered to the extension officers and opinion leaders. The researcher mobilized the farmers using assistance from opinion leaders and extension officers. The researcher explained to them the details of the study and their involvement in the study.

Stratified sampling was done. Three (3) male farmers and Three (3) female farmers were interviewed from each sub location and interview schedules filled. Out of the three men, one (1) was a young male farmer while out of the three (3) women; one (1) was a young woman farmer. Numbers were assigned to each category of the population and the respondents picked randomly from each category of the population.

3.5 Data collection methods

A Structured questionnaire and an interview schedule were used to collect data from the target population.

To obtain the required data, the researcher used one questionnaire and an interview schedule. A self-administered questionnaire was used to collect information from extension officers and opinion leaders. (See Appendix II)

The farmers were asked questions on the interview schedule and their responses noted by the enumerator (see Appendix I). The items in the questionnaires and interview schedule had been critically designed to address the specific objectives and research questions stated in this study.

3.6 Validity of the research Instruments

Validity is the accuracy or meaningfulness and technical soundness of the research. It is the degree to which a test measures what it purports to measure (Mugenda O and Mugenda A, 2003). To ensure validity, the research instruments i.e. questionnaire and interview schedules were pre-tested amongst respondents who were not participating in the main study long before the actual data collection was done in the field. This was to reduce threats to internal validity (Campbell and Stanley).
A pilot study was carried out in Kisauni division of Mombasa district. The farmers in the pilot study were from Kisauni division that is neighboring Bamburi division. This was to reduce possible interaction amongst the respondents. Research specialists within the University of Nairobi were consulted to check the content validity before the administration of the instruments. Necessary adjustments were done basing on the corrections obtained from these experts.

3.7 Reliability of the research Instruments
Reliability is a measure of the degree to which a research instrument yields consistent results or data after repeated trials. To attain reliability the random error was reduced through accurate coding.

The results obtained from the pilot study were used to test the reliability of the instruments. The Cronbach's $\alpha$, a, modification of the Kuder-Richardson 20 (KR-20) formula was used to check the internal consistency of the instrument. The Cronbach's alpha coefficient was used to estimate the reliability of the questionnaire (Wikipedia. 2009). A coefficient of not less than 0.7 was to be accepted and the instrument deemed appropriate. Modifications were done to the instrument before it was administered to the intended subjects of the study. This was in terms of the number and nature of the items contained in the questionnaires.

3.8 Data analysis techniques.
The data collected through the interviews and the questionnaires, was coded. The purpose of coding was to classify responses into meaningful categories, so as to bring out their essential pattern (Moser and Kalton, 1972).

The Epinfo-2008 computer program was used to analyze the data. The expected data was mainly descriptive and was presented in form of tables. Frequencies, means, and percentages were used to determine the extent to which the high farm input prices had affected food security, household incomes, and formal education in Bamburi division.
3.9 Operational Definition of Variables.

Table 3.1: Operational Definition of Variables.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Indicator</th>
<th>Measure</th>
<th>Scale</th>
<th>Tools of Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Independent Variable</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High farm input prices</td>
<td>Level of crop acreage and yields</td>
<td>Optimal yields</td>
<td>Nominal?</td>
<td>Epinfo 2008</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Actual acreage under cultivation</td>
<td>Ordinal?</td>
<td>Statistical package.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Method of cultivation</td>
<td>Percentages?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Level of uncertified seed use</td>
<td>Type of seed used for planting</td>
<td>Nominal?</td>
<td>Epinfo 2008</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Acreage under certified/uncertified seed use</td>
<td>Ordinal?</td>
<td>Statistical Package.</td>
</tr>
<tr>
<td>Availability of farm inputs.</td>
<td></td>
<td>Number of farm in-put stockiest in the area</td>
<td>Nominal?</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>The distance between the community and the nearest farm in-put stockiest</td>
<td>Ordinal?</td>
<td>Mean,median,mode</td>
</tr>
<tr>
<td>Level Of fertilizer use.</td>
<td></td>
<td>Acreage of crop planted with fertilizer</td>
<td>Nominal?</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ordinal?</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Dependent Variable</strong></td>
<td>Nutrition levels</td>
<td>Presence of nutritional related diseases</td>
<td>Nominal?</td>
<td>Epinfo, 2008</td>
</tr>
<tr>
<td>Socio-economic</td>
<td></td>
<td></td>
<td>Ordinal?</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Percentages?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
welfare. • Household • Income received Nominal? Epinfo Farm Ordinal? from the farm 2008. incomes compared to the previous years • Type of shelter • Food • Number of meals Nominal? Ordinal? security taken per day • Crop acreage Employment • Crime instances Nominal? Ordinal? and other social evils in the area. Percentage. Such as theft, drug abuse and prostitution. • Migration to town in search of employment • Formal Education • school dropout Nominal Percentage. „ levels rate in the area • Literacy levels in the area. The information was analyzed using Epinfo-2008, statistical package and tests were carried out at 95% confidence level.
4.1 Introduction.
In this chapter the researcher has presented, analyzed and interpreted data collected from respondents through questionnaires and interview schedules.

4.2 Response rate
10(ten) Questionnaires were issued to ten opinion leaders. 9 (nine) were filled and returned, while one was not returned. This gave a response rate of 90%.
40(forty) interview schedules were prepared for interviewing forty farmers. Only 31(thirty one) farmers were interviewed. This gave a response rate of 82.5%.
In total, 40(forty) respondents out of 50(fifty) were involved in the study thus giving a response rate of 80%.

4.3 Effect of high farm input prices on food security.
The food security variables considered here include; crop acreage and number of meals per day. Other related variables are also considered here and include method of land preparation, fertilizer use, use of certified seed and the presence of farm input stockiest.

4.3.1 Decrease in crop acreage.
All respondents in the study i.e. opinion leaders and farmers (100%) agreed that high farm input prices had an effect on food security. They all (100%) further agreed that food security had decreased. They went further to explain that the high farm input prices had affected food security as follows;
10(ten) out of 31(thirty one) i.e. 32.3% of the farmers and 33.3% of opinion leaders interviewed reported that there was a decrease in crop acreage due to high input prices. On the other hand, 67.7% of farmers and 66.7% of opinion leaders reported no decrease in crop acreage. When tested at 95%CL, the decrease in crop acreage was found to be insignificant (see table 4.1)
Table 4.1: Decrease in crop acreage

<table>
<thead>
<tr>
<th>Decrease in crop acreage</th>
<th>Farmers' response</th>
<th></th>
<th>Opinion leaders' response</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>%</td>
<td>Cumulative%</td>
<td>Frequency</td>
</tr>
<tr>
<td>No</td>
<td>21</td>
<td>67.7</td>
<td>67.7</td>
<td>4</td>
</tr>
<tr>
<td>Yes</td>
<td>10</td>
<td>32.3</td>
<td>100</td>
<td>4</td>
</tr>
<tr>
<td>Total</td>
<td>31</td>
<td>100</td>
<td>100</td>
<td>2</td>
</tr>
</tbody>
</table>

All the respondents interviewed agreed that there was a decrease in crop acreage by between 50% and 85% as seen in table 4.2.

The Majority of the farmers (44.4%) said that there was a crop acreage decrease of 75%.
When tested at 95% CL, there was found to be no significant difference among the decrease rates.

Table 4.2: Percent decrease in crop acreage

<table>
<thead>
<tr>
<th>Decrease in crop acreage (%)</th>
<th>Farmers' response</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>%</td>
</tr>
<tr>
<td>50</td>
<td>2</td>
<td>22.2</td>
</tr>
<tr>
<td>65</td>
<td>1</td>
<td>11.1</td>
</tr>
<tr>
<td>75</td>
<td>4</td>
<td>44.4</td>
</tr>
<tr>
<td>80</td>
<td>1</td>
<td>11.1</td>
</tr>
<tr>
<td>85</td>
<td>1</td>
<td>11.1</td>
</tr>
<tr>
<td>Total</td>
<td>9</td>
<td>100</td>
</tr>
</tbody>
</table>

Median: 75%  Mean: 70%  Mode: 50%  Variance: 156.25  Std.deviation: 12.5

The mean decrease in acreage as per the farmers' response was 70(seventy) %, median 75%, mode 50% and standard deviation of 12.5

4.3.2 Number of meals per day.

Nineteen out of the thirty one farmers interviewed said that they could not afford three meals per day due to increased farm input prices while twelve (12) could afford three meals per day despite the high input prices. Majority of families i.e. 61.3% couldn’t afford three meals in a day.

A significant proportion (at 95% CL) of households couldn’t afford three meals per day.
Table 4.3: The Ability of households to afford three meals per day.

<table>
<thead>
<tr>
<th>Ability</th>
<th>Frequency</th>
<th>%</th>
<th>Cumulative %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Able</td>
<td>12</td>
<td>38.7</td>
<td>38.7</td>
</tr>
<tr>
<td>Not Able</td>
<td>19</td>
<td>61.3</td>
<td>100</td>
</tr>
<tr>
<td>Total</td>
<td>31</td>
<td>10</td>
<td>100</td>
</tr>
</tbody>
</table>

4.3.3 Use of hand cultivation method.

Table 4.4: Response on frequency of practicing hand cultivation

<table>
<thead>
<tr>
<th>Hand cultivation Practice</th>
<th>Farmers response</th>
<th>Opinion leaders response</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>%</td>
</tr>
<tr>
<td>Yes</td>
<td>20</td>
<td>64.5</td>
</tr>
<tr>
<td>No</td>
<td>11</td>
<td>35.5</td>
</tr>
<tr>
<td>Total</td>
<td>31</td>
<td>100</td>
</tr>
</tbody>
</table>

64.5% of the farmers said that their families practice hand cultivation due to high cost of mechanization. There was however no significance difference at 95% CL between those that practice hand cultivation and those that don't practice. Majority of the opinion leaders (77.8%) agreed that hand cultivation is the most commonly practiced land preparation method. There was however no significant difference between using and not using hand cultivation method to prepare the land.

4.3.4 Use of fertilizers.

Table 4.5: Response for fertilizer use

<table>
<thead>
<tr>
<th>Fertilizer use</th>
<th>Farmers' response</th>
<th>Opinion leaders' response</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>%</td>
</tr>
<tr>
<td>Yes</td>
<td>8</td>
<td>25.8</td>
</tr>
<tr>
<td>No</td>
<td>23</td>
<td>74.2</td>
</tr>
<tr>
<td>Total</td>
<td>31</td>
<td>100</td>
</tr>
</tbody>
</table>

74.2% of the farmers said they were not using fertilizers. Compared with those that used fertilizers, the non fertilizer use is significantly different at 95% CL.
55.6% of the opinion leaders interviewed said that there was no fertilizer use. There was however no significant difference (at 95% CL) among the opinion leaders who reported the use and those that reported no fertilizer uses.

When asked about the decrease in fertilizer use, six out of the nine opinion leaders reported no decreased fertilizer use. 66.7% of the respondents said that there was no decreased fertilizer use while 33.3% said there was decreased fertilizer use. There was however no significant difference at 95% CL between those who reported a decrease and those who said there was no decrease in fertilizer use.

### 4.3.5 Use of certified seeds.

Table 4.6: Response on use of certified seed

<table>
<thead>
<tr>
<th>Certify seed use</th>
<th>Farmers’ response</th>
<th>Opinion leaders response</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>%</td>
</tr>
<tr>
<td>Yes</td>
<td>8</td>
<td>25.8</td>
</tr>
<tr>
<td>No</td>
<td>23</td>
<td>74.2</td>
</tr>
<tr>
<td>Total</td>
<td>31</td>
<td>100</td>
</tr>
</tbody>
</table>

Most farmers (74.2%) interviewed reported non use of certified seeds and this was significant (at 95% CL) when compared to the 25.8% who reported the use of certified seeds.

The views of the opinion leaders concurred with those expressed by the farmers. 88.9% of the opinion leaders reported non use of certified seeds among the Bamburi farming community while only 11.1% reported use of fertilizer. This was also significant at 95%CL.

### 4.3.6 Presence of farm input stockiest in Bamburi division.

Table 4.7: Response on presence of farm input stockiest

<table>
<thead>
<tr>
<th>Presence of stockiest</th>
<th>Farmers’ response</th>
<th>Opinion leaders’ response</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>%</td>
</tr>
<tr>
<td>Yes</td>
<td>5</td>
<td>16.1</td>
</tr>
<tr>
<td>No</td>
<td>26</td>
<td>83.9</td>
</tr>
<tr>
<td>Total</td>
<td>31</td>
<td>100</td>
</tr>
</tbody>
</table>

83.9% of farmers said that there was no farm input stockiest in Bamburi division. This is significantly different (at 95% CL) when compared to the 16.1% who said there are inputs stockiest within Bamburi division.
Majority of the opinion leaders i.e. 66.7% reported the unavailability of input stockiest within Bamburi while 33.3% said that there were farm input stockiest. However the difference among the two responses was insignificant at 95% CL.

The farmers and opinion leaders also said that the farmers who use farm inputs purchase them from Kisauni division or Mombasa Island. 66.7% of the Opinion leaders said that the farm inputs are purchased in Mombasa town, while 33.3% said that they are purchased in Kisauni division.

The farmers said that farm input stockiest are situated between 7(seven) to 40(forty) km away from the community as shown in table 4.8

The average distance to the input stockiest for the majority of the farmers is 20.85 km. Farmers in Bamburi division source for farm inputs 20.85 km from their area.

<table>
<thead>
<tr>
<th>Distance (in Km)</th>
<th>Frequency</th>
<th>%</th>
<th>Cumulative %</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>1</td>
<td>3.6</td>
<td>3.6</td>
</tr>
<tr>
<td>10</td>
<td>4</td>
<td>14.3</td>
<td>17.9</td>
</tr>
<tr>
<td>15</td>
<td>1</td>
<td>3.6</td>
<td>21.4</td>
</tr>
<tr>
<td>18</td>
<td>2</td>
<td>7.1</td>
<td>28.6</td>
</tr>
<tr>
<td>20</td>
<td>7</td>
<td>25.0</td>
<td>53.6</td>
</tr>
<tr>
<td>22</td>
<td>4</td>
<td>14.3</td>
<td>67.9</td>
</tr>
<tr>
<td>25</td>
<td>5</td>
<td>17.9</td>
<td>85.7</td>
</tr>
<tr>
<td>28</td>
<td>1</td>
<td>3.6</td>
<td>89.3</td>
</tr>
<tr>
<td>30</td>
<td>1</td>
<td>3.6</td>
<td>92.9</td>
</tr>
<tr>
<td>35</td>
<td>1</td>
<td>3.6</td>
<td>96.4</td>
</tr>
<tr>
<td>40</td>
<td>1</td>
<td>3.6</td>
<td>100</td>
</tr>
<tr>
<td>Total</td>
<td>28</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

Mean: 20.86 Mode: 20 Median: 20 Variance 55.978 Std.deviation 7.48
4.4 Effect of high farm input prices on household incomes.

Table 4.9: Response to effect of farm input prices on household income

<table>
<thead>
<tr>
<th>Effect on income</th>
<th>Farmers’ response</th>
<th>Opinion leaders’ response</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>%</td>
</tr>
<tr>
<td>Yes</td>
<td>30</td>
<td>96.8</td>
</tr>
<tr>
<td>No</td>
<td>1</td>
<td>3.2</td>
</tr>
<tr>
<td>Total</td>
<td>31</td>
<td>100</td>
</tr>
</tbody>
</table>

100% of opinion leaders interviewed said that high farm input prices had an effect on household incomes. 96.8% of farmers said that high farm input prices had an effect on their household incomes, while 3.2% said there was no effect. When tested at 95% CL, the two responses by farmers were found to be significantly different. The farmers and opinion leaders further explained the magnitude of the effect as shown in table 4.10.

Table 4.10: Annual decrease in household incomes over the last three years

<table>
<thead>
<tr>
<th>Annual decrease rate of household income (in ksh)</th>
<th>Farmers’ response</th>
<th>Opinion leaders’ response</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>%</td>
</tr>
<tr>
<td>Less than 100</td>
<td>1</td>
<td>3.3</td>
</tr>
<tr>
<td>101-1000</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>1001-2000</td>
<td>1</td>
<td>3.3</td>
</tr>
<tr>
<td>2001-5000</td>
<td>9</td>
<td>30.0</td>
</tr>
<tr>
<td>5001-10000</td>
<td>14</td>
<td>46.7</td>
</tr>
<tr>
<td>Over 10000</td>
<td>5</td>
<td>16.7</td>
</tr>
<tr>
<td>Total</td>
<td>30</td>
<td>100</td>
</tr>
</tbody>
</table>

The farmers gave a decrease rate of between Ksh 1001 and Ksh 10000 per year. Majority (46.7%) of the farmers reported the range of ksh 5001 and ksh 10,000. There was however no significant differences between the ranges when tested at 95% CL.

All the opinion leaders (100%) also said there was an effect of high farm input prices on household incomes with the majority (44.4%) giving the range of 2001-5000. Similarly, there were no significant differences between different income rates at 95% CL.
4.4.1 Effect of high input prices on shelter.

Thirty one (31) i.e. 100% of the farmers interviewed said that high prices of farm inputs had an effect on shelter. Eight of the nine (88.9%) opinion leaders interviewed also agreed that high input prices had an effect on shelter. This effect was on affordability of iron sheet roofing materials and the ability to repair leaking roofs.

Table 4.11: Affordability of iron sheet roofed houses

<table>
<thead>
<tr>
<th>Affordability</th>
<th>Farmers' response</th>
<th>Opinion leaders' response</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>%</td>
</tr>
<tr>
<td>Yes</td>
<td>16</td>
<td>51.6</td>
</tr>
<tr>
<td>No</td>
<td>15</td>
<td>48.4</td>
</tr>
<tr>
<td>Total</td>
<td>31</td>
<td>100</td>
</tr>
</tbody>
</table>

Due to the high farm input prices, 51.6% of farmers could not afford iron sheet roofed houses. Similar responses were given by the opinion leaders. 88.9% said that high input prices had an effect on shelter among the community. 55.6% of the opinion leaders said that farmers could not afford iron sheet roofed houses because of high input prices. When tested at 95%CL, the two responses on the ability to afford iron sheet roofed houses were insignificantly different.

Table 4.12: Ability to repair leaking roofs

<table>
<thead>
<tr>
<th>Able to repair roof</th>
<th>Farmers' response</th>
<th>Opinion leaders' response</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>%</td>
</tr>
<tr>
<td>Yes</td>
<td>21</td>
<td>70.0</td>
</tr>
<tr>
<td>No</td>
<td>9</td>
<td>30.0</td>
</tr>
<tr>
<td>Total</td>
<td>30</td>
<td>100</td>
</tr>
</tbody>
</table>

77.8% of the opinion leaders said that there are no leaking roofs to be repaired, while 22.2% said that the community members could not repair leaking roofs. The two responses were however found to be insignificant at 95%CL.
70% of farmers said they don’t have leaking roofs while 30% said they are unable to repair their leaking roofs due to low produce from their farms thus affecting their income. When tested at 95%CL, the two responses were found to be significantly different.

4.5 Effect of high farm input prices on employment.

Table 4.13: Response on effects of high farm input prices on employment.

<table>
<thead>
<tr>
<th>Response</th>
<th>Farmers’ response</th>
<th>Opinion leaders’ response</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>%</td>
</tr>
<tr>
<td>Personal</td>
<td>Yes</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>23</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>31</td>
</tr>
<tr>
<td>Insecurity</td>
<td>Yes</td>
<td>23</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>31</td>
</tr>
<tr>
<td>Theft</td>
<td>Yes</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>19</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>31</td>
</tr>
<tr>
<td>Drug abuse</td>
<td>Yes</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>26</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>31</td>
</tr>
<tr>
<td>Prostitution</td>
<td>Yes</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>28</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>31</td>
</tr>
</tbody>
</table>

Despite the high input prices, most of the farmers (90.3%) said that there was no migration of the population from Bamburi to town in search of employment. This could be due to the fact that Bamburi itself is on the outskirts of Mombasa town and a considerable number of people working in Mombasa town reside in Bamburi. It will therefore add no value for one to change the residence from Bamburi to Mombasa town in search of jobs. Despite no significant migration of the people to town, increased cases of social vices were reported by both farmers and the opinion leaders. The reported social vices as reported by the farmers include; increased incidences of theft (74.2% of respondents), drug abuse (38.7% of respondents), and prostitution (16.1% of respondents).
The opinion leaders expressed similar sentiments with the farmers as they equally cited increased incidences of theft (55.6% of respondents), drug abuse (33.3% of respondents), and prostitution (11.1% of respondents) as shown in table 4.13. The responses were all insignificantly different when tested at 95% CL.

4.6 Effect of high farm input prices on formal education

Table 4.14: Responses on effect of high farm input prices on formal education

<table>
<thead>
<tr>
<th>Response</th>
<th>Farmers' response</th>
<th>Opinion leaders' response</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>%</td>
</tr>
<tr>
<td>Yes</td>
<td>26</td>
<td>83.9</td>
</tr>
<tr>
<td>No</td>
<td>5</td>
<td>16.1</td>
</tr>
<tr>
<td>Total</td>
<td>31</td>
<td>100</td>
</tr>
</tbody>
</table>

Table 4.15: Responses on effect of high input prices on illiteracy and enrolment.

<table>
<thead>
<tr>
<th>Response</th>
<th>Farmers' response</th>
<th>Opinion leaders' response</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>%</td>
</tr>
<tr>
<td>Increase in School</td>
<td>Yes</td>
<td>23</td>
</tr>
<tr>
<td>No</td>
<td>6</td>
<td>20.7</td>
</tr>
<tr>
<td>Drop-out</td>
<td>Total</td>
<td>29</td>
</tr>
<tr>
<td>Rate.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Increase in illiteracy</td>
<td>Yes</td>
<td>7</td>
</tr>
<tr>
<td>No</td>
<td>22</td>
<td>24.1</td>
</tr>
<tr>
<td>Levels</td>
<td>Total</td>
<td>29</td>
</tr>
</tbody>
</table>

Majority (83.9%) of the farmers agreed that high farm input prices had an effect on formal education in Bamburi Division, while 16.1% said there was no effect. The two responses were significantly different when tested at 95% CL.

88.9% of the opinion leaders also affirmed that high farm input prices had an effect on formal education. The effect was felt in enrolment and illiteracy levels as shown in the table above.

They indicated that the rate of school dropout ranged from 10% to 90% with a mean of 60.8%. From the table above, it appears that the effect of high input prices is more on
96.7% of farmers said that high farm input prices had an effect on the nutrition and health status of the Bamburi farming community. 88.9% of opinion leaders also agreed that the high input prices had a significant impact on the nutrition and health status of the community.

They went further and explained the effect as shown below;

There was presence of nutritional related diseases. 58.6% of farmers and 50% of opinion leaders said it had resulted in Kwashiorkor though insignificant at 95% CL. (see table 4.16).

There was also marasmus. 65.5% of farmers and 62.5% of opinion leaders said that there was marasmus. It was however insignificant at 95% CL.

There was also presence of skin diseases such as beriberi and scurvy but insignificant at 95% CL. Other health related conditions cited by both farmers and opinion leaders though in low insignificant percentages are; anemia, low birth weight, dizziness, high blood pressure, HIV/AIDS and Tuberculosis (TB).
<table>
<thead>
<tr>
<th>Disease</th>
<th>Response</th>
<th>Farmers' response</th>
<th>Opinion leaders' response</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>%</td>
<td>Cumulative %</td>
</tr>
<tr>
<td>Kwarshiorkor</td>
<td>Yes</td>
<td>17</td>
<td>58.6</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>12</td>
<td>41.4</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>29</td>
<td>100</td>
</tr>
<tr>
<td>Marasmus</td>
<td>Yes</td>
<td>10</td>
<td>34.5</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>19</td>
<td>65.5</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>29</td>
<td>100</td>
</tr>
<tr>
<td>Skin diseases</td>
<td>Yes</td>
<td>10</td>
<td>34.5</td>
</tr>
<tr>
<td>(beriberi,</td>
<td>No</td>
<td>19</td>
<td>65.5</td>
</tr>
<tr>
<td>scurvy)</td>
<td>Total</td>
<td>29</td>
<td>100</td>
</tr>
</tbody>
</table>
CHAPTER FIVE
SUMMARY OF FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

5.1 Introduction
In this chapter the researcher has discussed the major findings of the study, answered the research question and gave recommendation, conclusion and suggestions for further research.

5.2 Summary of findings.
This study examined the effect that high farm input prices had on the socio-economic welfare of the farming community of Bamburi division.
The socio-economic factors considered were, food security, household incomes, formal education, employment and nutritional status.

5.3 Discussion of findings
The research findings are as follows;

5.3.1 Effect on food security.
It was found out that high farm input prices had an effect on food security. 100% of farmers and opinion leaders interviewed agreed to this. This effect was mainly on crop acreage, access to fertilizers and certified seeds, method of cultivation and ability to afford sufficient food per day.

About a third (32% and 33.3%) of the farmers' and opinion leaders interviewed respectively expressed the feeling that high input prices was responsible for the decrease in crop acreages as farmers can only cultivate the size of land for which they can afford to purchase the required inputs. Both the farmers and the opinion leaders agreed on a decrease of between 50% to 85%. The mode was 75% and mean of 70%.

Due to the high input prices, the farmers and the opinion leaders said that only 38.7% of the households in Bamburi Division can afford three meals per day as a significant portion of the household income is required for the purchase of farm inputs. Poor access to food generally reduces the overall productivity of the households. With 61.3% households being unable to afford three meals per day, the general food production in Bamburi Division is bound to be low.

High input prices were also responsible for the use of hand tools for land preparation by the majority (64.5%) of the farmers interviewed in Bamburi Division. The farmers are unable to afford the cost of tractor or animal drawn plough services. With more than half of the farmers relying on hand cultivation, not much can be achieved hence the low food security situation reported by the farmers and opinion leaders in Bamburi Division.
The high input prices deterred most of the farmers in Bamburi Division from using fertilizers and certified seeds. A significant proportion (74.2%) of the farmers interviewed and 55.6% of the opinion leaders have no access to fertilizers due to high prices. The farmers were also not using certified seed due to high prices.

The distance to farm input stockiest was ruled out as an inhibiting factor since both the farmers and opinion leaders reported the availability of these inputs in the nearby Mombasa town which was 20.85Km from the area. With majority of the farmers relying on nature to support the growth of their crops, there is bound to be an overall low crop production in the Division.

5.3.2 Effect on household incomes.

A significant (at 95% CL) proportion (96.8%) of farmers said that high farm input prices had an effect on their household incomes. They further explained the magnitude of the effect.

High input prices were identified as a major contributing factor to the decreasing household income. 96.8% of the respondents (farmers) and all (100%) of the opinion leaders agreed that high input prices is responsible for the decrease in household income over the last three years. 76.7% of the households reported an average decrease in household income of between Ksh 5001 to Ksh10,000 over the last three years. On the other hand 77.7% of the opinion leaders reported a lower decrease range of between Ksh1001 to Ksh5000 within the same period. In most cases, there is a direct relationship between household income and food production. Decrease in household income therefore leads to the decrease in food security in a community that relies heavily on crop production as the source of food.

5.3.2.1 Effect on shelter.

High farm input prices was found to have a significant effect on the type of housing owned by households and their ability to maintain those houses. All (100%) the farmers interviewed and 88.9% of the opinion leaders agreed that high input prices had an effect on the type of shelter owned by households in Bamburi Division. The results show that both the farmers and opinion leaders agreed that over 50% of the households in Bamburi Division can not afford iron sheet roofed houses with an additional over 20% of the households being unable to repair their leaking roofs due to the high input prices.

5.3.3 Effect on employment.

No relationship was found between the high input prices and migration of people to town in search of employment. There were however some social vices which according to the farmers
and opinion leaders, were related to the high input prices. These are; increased incidences of theft (74.2% farmers and 55.6% opinion leaders), drug abuse (38.7% farmers and 33.3% opinion leaders), and prostitution (16.1% farmers and 11.1% opinion leaders).

5.3.4 Effect on formal education.
The results reveal that high input prices had an effect on school enrolment in Bamburi Division. 79.3% of the farmers and 100% of the opinion leaders affirmed that high input prices were responsible for the increased school drop out rate in Bamburi Division. The school dropout rate was by 60.8% on average.

The general literacy levels in the community however seem not to be influenced by the input prices since only a few (24.1%) of the farmers interviewed linked the high input prices with the increase in illiteracy rates in the community.

5.3.5 Effect on nutritional status and health
Both the farmers (96.7%) and the opinion leaders (88.9%) agreed that high farm input prices were responsible for the malnutrition related diseases that are prevalent among the children in Bamburi Division. The malnutrition related diseases cited by both the farmers and the opinion leaders include; kwashiorkor, marasmus and skin diseases mainly beriberi and scurvy. The prevalence of these diseases is consistent with the results on number of meals that the households could afford. The results of the farmers’ response show that most (61.3%) households in Bamburi Division can not afford three meals per day. This is due to low food production resulting from high farm input prices.

5.4 Conclusion.
From the analysis of the results, it can be concluded that the high farm input prices had an effect on the social economic welfare factors of the households in Bamburi Division. The effect was statistically significant on some factors and statistically insignificant on other factors at 95% confidence level.

The social economic welfare factors for which the effect was statistically significant are; household incomes, shelter, food security and formal education. The impact was however not statistically significant on employment and nutrition.

High farm input prices had an effect on household incomes. This is in agreement with Kelly et al who said that areas with low farm input use like western Kenya are characterized by low crop yields and low household cash incomes.
5.5 Recommendations
Since farm inputs have been found to significantly affect some key household social economic welfare factors, there is need for the Government to intervene with a policy that will help stabilize the prices and make them accessible to majority of the farming communities.

5.6 Suggestions for Further Research
There was conflicting results between the opinion leaders and the farmers on the effect of high farm input price on some of the social economic welfare factors. For example in the case of certified seed use, most farmers interviewed said there were no farm input stockiest in Bamburi Division while the opinion leaders indicated that the farm input stockiest are available. There is need for further research to ascertain this phenomenon.
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APPENDICES
APPENDIX I
INTERVIEW SCHEDULE FOR THE FARMING COMMUNITY

Introduction:

My name is Esther Musavi. I am a student at the University of Nairobi pursuing a Master of Arts degree in project planning and management. I am conducting a research on the impacts of high prices of farm inputs on the socio-economic welfare of the farming community of Bamburi division, Kenya.

I therefore kindly request you to provide some data on this subject. Please be open and provide precise information. The Data collected is purely for education purposes only and will be treated with utmost confidentiality.

Interviewee name (optional) ----------------------- Schedule No. ---------

1(a) Do high farm input prices have an impact on food security in your family? (Tick the applicable choice).

[ ] Yes
[ ] No

If yes, how? (Tick the applicable choices)

[ ] Yields per unit area have decreased
[ ] Crop acreage has decreased by----%
[ ] Family practices hand cultivation due to high costs of mechanized land preparation
[ ] Family affords less than three meals per day.
[ ] Family not using fertilizer
[ ] Family not using certified seed.
[ ] Any other---------------------------------------------

1(b) Do we have farm input stockiest in this area? (Tick the applicable choice)

[ ] Yes
[ ] No

If no, where do you buy your farm inputs? ------------------ State distance in Km from your farm------------------
a) Has high farm input prices had an impact on your household income? (Tick the applicable choice)
   [ ] Yes
   [ ] No

If Yes, by how much annually in the last three years?
   [ ] Less than Ksh 100
   [ ] Ksh 101-1000
   [ ] Ksh1001-2000
   [ ] Ksh2001-5000
   [ ] Ksh5000-10000
   [ ] More than Ksh10,000.

b) Has high farm input prices also affected your family shelter? (Tick what is applicable)
   [ ] Yes
   [ ] No

c) If Yes, how? (Tick appropriately)
   [ ] I can't afford an iron sheet roofed house
   [ ] My house is leaking and I can't afford repairing it
   [ ] Others (specify) —

3(a) Do high farm input prices have an impact on employment in your family? (Tick the applicable choice).
   [ ] Yes
   [ ] No

If yes, how? (Tick the applicable choices)
   [ ] Family members migrating to towns in search for jobs.
   [ ] Others (specify) —

(b) Has your personal safety or security been affected by the high farm input prices?
   [ ] Yes
   [ ] No

If Yes, How? Explain---------------------------
(c) Are any of the following social ills a consequence of high farm input prices in this area? (Tick the applicable choice).

- [ ] Increased personal insecurity.
- [ ] Increased theft incidences.
- [ ] Increased drug abuse cases.
- [ ] Increased prostitution.

4(a) Have high farm input prices had any effect on formal education in your family? (Tick the applicable choice)

- [ ] Yes
- [ ] No

If Yes, how? (Indicate the %)

- [ ] School drop-out rate
- [ ] Increased illiteracy levels

5(a) Have high farm input prices affected the nutrition and health status of your family? (Tick what is applicable).

- [ ] Yes
- [ ] No

If Yes, how?

Presence of nutrition related diseases (Tick the prevalent diseases).

- [ ] Kwashiorkor
- [ ] Marasmus
- [ ] Skin diseases (Beriberi, scurvy)

Others (Specify).
APPENDIX II

QUESTIONNAIRE FOR KEY INFORMANTS (EXTENSION OFFICERS AND OPINION LEADERS).

Introduction:

My name is Esther Musavi. I am a student at the University of Nairobi pursuing a Master of Arts degree in project planning and management. I am conducting a research on the impacts of high prices of farm inputs on the socio-economic welfare of the farming community of Bamburi division, Kenya.

I therefore kindly request you to provide some data on this subject. Please be open and be as precise as possible. The Data collected is purely for education purposes only and will be treated with utmost confidentiality.

Interviewee name (optional): ---------------- Questionnaire No: -----------

1 (a) Do high farm input prices have an impact on food security in Bamburi division? (Tick the applicable choice)

[ ] Yes
[ ] No

If yes, how?

[ ] Food security increased
[ ] Food security decreased

Which of the following aspects of food security are true? Tick appropriately.

[ ] Crop yields per unit area have decreased
[ ] Crop acreage has decreased by --------%  
[ ] Hand cultivation is the most commonly practiced land preparation method due to high costs of mechanization.

[ ] No fertilizer use
[ ] Decreased fertilizer use
[ ] No certified seed use

1 (b) Do we have farm input stockiest in Bamburi division?

[ ] Yes
[ ] No
If no, where do farmers buy their farm inputs? —-------------------State average distance
Km from the farms-------------------.

(a) Has high farm input prices had an impact on household incomes of Bamburi farming
community? (Tick what is applicable).

[ ] Yes
[ ] No

If yes, by how much annually in the last three years?(Tick what is applicable).

[ ] Less than Ksh 100
[ ] Ksh 100- 1000.
[ ] Ksh1001-2000
[ ] Ksh2001-5000
[ ] Ksh5000-10000
[ ] More than Ksh 10, 000.

(b) Have high prices of farm inputs affected shelter among the farming community in the
division? (Tick what is applicable)

[ ] Yes
[ ] No

If yes, how? (Tick what is applicable)

[ ] The community can’t afford iron sheet roofed houses.
[ ] Houses leaking and community members can’t afford repairing.
[ ] Others (specify) ----------------------------

(a) Have high farm input prices had any impact on employment on the Bamburi division
farming community?

[ ] Yes
[ ] No

If yes, how?-----------------------------------------------------------------------------------------------

(b) Has personal safety or security of community members in the division been affected
by the high farm input prices? (Tick what is applicable)

[ ] Yes
[ ] No

If Yes, How? Explain-------------------------------------------------------------------------------
(c) Which of the following social ills are consequences of high farm input prices in Bamburi division? (Tick)

[ ] Increased personal insecurity.
[ ] Increased theft incidences.
[ ] Increased drug abuse cases.
[ ] Increased prostitution.

(a) Have high farm input prices have an impact on formal education in Bamburi division?

[ ] Yes
[ ] No

If yes, how? (Indicate what is applicable and the %)

[ ] High school dropout rate (---------)
[ ] Increased illiteracy levels (---------)

(a) Have high farm input prices had any impact on the nutrition and health status of the Bamburi division farming community?

[ ] Yes
[ ] No

If yes, how?

Presence of nutrition related diseases (Tick what is applicable)

[ ] Kwashiorkor
[ ] Marasmus
[ ] Skin diseases (Beriberi, Scurvy)
[ ] Others (Specify) ---------
TO WHOM IT MAY CONCERN:

Dear Sir,

RE: DATA COLLECTION

This is to confirm that MUSAVI ESTHER Registration Number L50/70312/2008 is a student pursuing the Degree of MASTERS OF ARTS IN PROJECT PLANNING AND MANAGEMENT COURSE at the School of Continuing and Distance Education of the University of Nairobi.

As part of her course, she is required to go to the field for data collection and prepare a research project. She is therefore collecting data which is related to her research topic: IMPACT OF HIGH PRICES OF FARM INPUTS ON THE SOCIO-ECONOMIC WELFARE OF THE FARMING COMMUNITY OF BAMBUJI DIVISION, KENYA.

The information she is gathering is purely for academic purposes and will be treated with utmost confidentiality.

Any assistance extended to her will be highly appreciated.

Regards,

JOHNBOSCO M. KISIMBII
RESIDENT LECTURER
EMC, MOMBASA & ITS ENVIRONS