

VALUE CHAIN ANALYSIS OF THE COCONUT SUB-SECTOR IN KENYA

BY

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DECLARATION

This research project is my original work and has not been presented for an award of a degree to any other university.

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DEDICATION

This research project is dedicated to my mother Elizabeth Chao Mwachofi, My wife Doreen Chanya Mwamkuu , Daughters Elizabeth Chao Poisa, Verah Walowe Poisa and my son Charles Mwachofi Poisa.

ACKNOWLEDGEMENT

I would like to thank the almighty God for giving me the strength and inspirations to undertake the MBA program of the University of Nairobi. The program was very challenging and it's through your blessing that I have reached this far.

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ABSTRACT

The coconut plant also known as *coccus nucifera* in botanical terms is predominantly grown in coastal belt areas of Kenya especially in Kilifi, Kwale, Mombasa, Lamu, Tana river and Taita Taveta County. The plant is also grown in other areas such as Nyanza, Western Kenya, Eastern and Rift Valley region but the coastal region accounts for 99% of the entire coconut population. The plant has huge economic potential which if properly utilized can enhance economic growth and catapult our nation towards poverty and hunger reduction while propelling the nation towards achievement of sustainable development goal as encapsulated through Vision 2030 (GoK, 2008). According to Kenya Agricultural & Livestock Research Organization (2016), the current monetary value of coconut and coconut products is KES 3.2 billion which is only 25% of the estimated potential of KES 13 billion. This study was aimed at assessing the value chain analysis of the coconut subsector in Kenya focusing more on the components of coconut value chain as well as the determinants of coconut value chain. The study used descriptive cross-sectional survey design and its population was comprised of forty two (42) SMEs engaged in coconut value addition. However response was obtained from twenty six (26) respondents who represented 62% of the entire population. Data analysis was done with the help of Microsoft Excel version 2010 and mean, percentage and standard deviation was used as a tool for data analysis. The findings of the study revealed that value addition in the coconut subsector is very important in Kenya and that various institutions play critical role in the value chain process. Such institutions includes Nuts and Oil Crops Directorate (NOCD), County Ministry of Agriculture (MOA), KARI, KEFRI, KALRO, growers, seedling distributors, processors amongst various SMEs engaged in coconut value addition.

TABLE OF CONTENTS

DECLARATION.....	ii
DEDICATION.....	iii
ACKNOWLEDGEMENT.....	iv
ABSTRACT.....	v
LIST OF TABLES.....	ix
LIST OF FIGURES.....	x
LIST OF ABBREVIATIONS.....	xi
CHAPTER ONE: INTRODUCTION	1
1.1 Background of the Study	1
1.1.1 Concept of value chain	2
1.1.2 Coconut Subsector in Kenya	3
1.2 Research Problem.....	6
1.3 Objectives of the study	8
1.4 Value of the Study.....	8
CHAPTER TWO: LITERATURE REVIEW.....	9
2.1 Introduction	9
2.2 Theoretical Foundation of Value Chain Analysis.....	9
2.2.1 Value Chain Model.....	9
2.2.2 Hines Value Chain Model.....	12
2.2.3 Supply Chain Management.....	13
2.2.4 Global Value Chain Model.....	13
2.2.5 New Institutional Economics.....	14
2.2.6 Social Network Theory.....	15
2.3 Empirical Review of Value Chain Analysis.....	16
2.4 Summary of Literature Review and Knowledge gap.....	19
CHAPTER THREE: RESEARCH METHODOLOGY.....	20
3.1 Introduction.....	20
3.2 Research Design.....	20
3.3 Population.....	20
3.4 Data Collection	21
3.5 Data analysis	21

CHAPTER FOUR:DATA ANALYSIS, RESULTS AND DISCUSSIONS.....	22
4.1 Introduction	22
4.2 Response rate.....	22
4.3 Respondents Profile.....	22
4.3.1 Gender Profile.....	23
4.3.2 Age profile.....	23
4.4 Components of Value chain in Coconut Subsector in Kenya.....	24
4.4.1 Important players/actors in the coconut value chain in Kenya.....	24
4.4.2 Sources of raw materials for SMEs engaged in coconut value chain.....	25
4.4.3 High value coconut products produce by coconut SMEs.....	25
4.5 Institutional framework of the coconut value chain.....	26
4.5.1 Institutions framework that support coconut value chain.....	27
4.5.2 Extent in which institutional framework support coconut subsector.....	27
4.5.3 Government support to coconut SMEs.....	29
4.6 Determinants of coconut value chain.....	30
4.6.1 Determinants that promote coconut value chain.....	30
4.6.2 Determinants that hinder coconut value chain.....	31
4.6.3 Benefits of coconut subsector in Kenya.....	32
4.7 Discussion of findings.....	33
4.7.1 Components of value chain in the coconut subsector.....	33
4.7.2 Determinants of coconut value chain.....	35
CHAPTER FIVE:SUMMARY, CONCLUSION AND RECOMMENDATION ...	37
5:1 Introduction.....	37
5:2 Respondents profile.....	37
5:3 Summary of findings.....	37
5:4 Conclusion.....	39
5:5 Recommendation for policy and practice	41
5:6 Suggestions for further research.....	43
5:7 Limitations of the study.....	43

REFERENCES	44
APPENDICES	47
Appendix 1.Authorization Letter.....	47
Appendix 11.Interview Guide.....	48

LIST OF TABLES

Table 4:1 Gender profile.....	23
Table 4:2 Age profile.....	23
Table 4:3 Important players in the coconut subsector.....	24
Table 4:4 Sources of raw materials for SMEs engaged in coconut value chain.....	25
Table 4:5 High value coconut products produced by coconut SMEs.....	26
Table 4:6 Institutions that support coconut SMEs.....	26
Table 4:7 Extents to which institutional framework support the coconut subsector.....	27
Table 4:8 Government support to SMEs engaged in coconut value chain.....	28
Table 4:9 Determinants that promote coconut value chain.....	29
Table 4:10 Determinants that hinder coconut value chain.....	30
Table 4:11 Benefits of coconut subsector in Kenya.....	31

LIST OF FIGURES

Figure 1: A diagram showing a matrix model of Porter Value chain model.....	10
Figure 2: A diagram showing Porters Chain Analysis model of a manufacturing industry.....	10
Figure 3: A diagram showing coconut value chain.....	39

LIST OF ABBREVIATIONS

AFFA: Agricultural Fisheries and Food Authority

AT: Agency Theory

GOK: Government of Kenya

GVM: Global Value Management

KARI: Kenya Agricultural Research Institute

KALRO: Kenya Agricultural & Livestock Research Organization

KCDA: Kenya Coconut Development Authority

KEFRI: Kenya Forestry Research Institute

KEMSA: Kenya Medical Supplies Agencies

MOA: Ministry of Agriculture

MOT: Ministry of Trade

NIE: New Institutional Economics

NOCD: Nuts and Oil Crops Directorate

SCM: ..Supply Chain Management

SMEs: Small Micro Enterprises

VC: Value Chain

VCM: Value Chain Model

VCO: Virgin coconut oil

R&D: Research & Development

TCE: Transaction Cost Economics

CHAPTER ONE: INTRODUCTION

1.1.1 Background of the study

All over the world, the concept of value chain (VC) plays a very significant role in maximizing gross potential of any agricultural output through conversion and processing of raw produce into finished goods and products that attract higher return on investment. The value chain network is generally defined as a range of activities that act a requirement to bring a product from its conception, through its designing, sourcing of raw materials and intermediate inputs, marketing and distribution, to the final consumer (Porter, 1985). It's also described as the categories of activities within and around organization, which together create a product or service (Johnson, Scholes, Whittington, 2008). Value chain incorporates all the activities including input sourcing, production, transformation, marketing all the way to final consumption, disposal and after use, (Odero,Mburu, Akello,Nderitu,2013) .

The Value Chain (VC) model play a critical role in optimizing the great viability of the agricultural sector through improvement of crop husbandry, adopting new farming methods, improving research in order to generate high yield variety, processing & conversion of raw produce into innovative finished products; streamlining distribution and marketing while embracing ICT in order to eliminate middle men effects .The explanation of value chain of the coconut subsector is founded on various theories including value Chain model which focuses on push strategy, Hines Value chain model which focuses of pull strategy,New Institutional Economics Model which is explained through the agent theory and transaction economics theory. Other Models are Supply Chain Managements which focusing on movements of products from producer to consumer; social network theory which is concerned with both horizontal and vertical relationships between firms and finally, global value chain model which investigates the relationships between multi-national companies.

The coconut subsector is one of the key economic drivers in Kenya and supports over 150,000 households who directly rely on it for income, employment and food (www.Kcda.go.ke). According to KALRO (2016), the potential of coconut in Kenya is estimated to be Kenya shillings thirteen (13) billion annually but only 25% has been

utilized. This clearly implies that 75% of the coconut potential is untapped thus denying the country the much needed agro based revenue which is critical to achieve sustainable development goals. Though coconut plant has many economic uses, very little interventions have been put in place to optimize its huge economic potential and maximize its returns for socio-economic reasons. Indeed, there is inadequate value addition linkages aimed at commercializing the coconut subsector through technological innovation, infrastructural development, distribution, marketing ,financing and leveraging on existing structural & institutional framework that are prerequisite in harnessing the untapped coconut multibillion agro sub sector (Author,2016).

1.1.1 Concept of Value Chain

Grant (2005) defined value added as the difference between the value of a firms output and the cost of its material inputs. Pearce and Robinson (1997) viewed that value chain analysis anchored on the assumption that a business's basic purpose is to create value for users of its products and services. The concept comes from business management and was first described and popularized by Michael Porter in 1985 in his book titled "competitive advantage". A value chain is a chain of activities that a firm operating in a specific industry undergoes in order to deliver a valuable product or service to the market (Porter, 1985).

Value chain describes the categories of activities within and around an organization, which together create a product or service (Johnson, Scholes, Whittington, 2008).Porter (1985) equally observed that value addition is multidisciplinary and is applied in all scientific and socio-economic arenas including agriculture and food industry. According to Miller and Jones (2010), the concept of agricultural value chain includes the full range of activities and participants involved in moving agricultural products from input suppliers to farmer's fields and ultimately to consumers. The idea of the value chain is based on the process view of organizations which emphasizes on seeing a manufacturing (or service) organization as a system, made up of subsystems each with inputs, transformation processes and outputs. This Inputs, transformation processes, and outputs involve the acquisition and consumption of resources; money, labor, materials, equipment, buildings, land, administration and management (Porter, 1985).Porter (2001) also observed that the business of a firm can best be described as the value chain in which refers total revenues minus total cost of all activities undertaken to develop and market a

service yields value. All organizations consist of activities that link together to develop the value of the business, and together these activities form the organization's value chain. Such activities may include purchasing activities, manufacturing, distribution and marketing of the company's products and services (Lynch, 2003).

The value chain analysis examines the corporation in the context of the overall chain of value creating activities of which the firm may be only a small part (Wheelen & Hunger, 2008). Jacques (2011) observed that value adding in food production focuses on safety and quality of the product. Quality can be divided into intrinsic characteristics of the product itself (e.g. color, taste, tenderness) and extrinsic characteristics of the process which cannot be measured on the product (e.g. organic or fair trade production). According to Porter (1985), most organizations engage in hundreds and thousands of activities in the process of converting inputs to outputs. These activities are either classified as primary or support/secondary activities. The Primary activities are directly concerned with the generation and/or delivery of a product or service and are comprised of inbound logistics, operations, outbound logistics, marketing, sales and service provision.

1.1.2 Coconut subsector in Kenya

The coconut tree is a versatile crop with many uses and plays an important role in improving rural economic growth and development of a country. In Kenya, Coconut sub sector supports over 150,000 households who directly rely on it for income, employment and food security (www.kcda.go.ke). Coconut is subsistence crop grown in small holder's farms within coastal belt areas and it's one of the main cash crop supporting livelihoods of citizens in such coastal counties like Kwale, Kilifi, Lamu, Tana River, Mombasa and parts of Taita Taveta (KCDA, 2014). According to NOCD, major coconut products include wine (60 per cent), mature nuts (24 per cent), brooms 24 per cent, makuti (11 per cent,) and coco-wood (0.3 per cent). Other products include toddy, vinegar, coco syrup, copra, coconut milk / cream, coir fibre, coir door mats, tender coconut water and coco peat.

Emerging coconut products includes virgin coconut oil (VCO), coconut milk, desiccated coconut and fibre. Moreover, coconut husks, shell and fibre are used as raw materials for handicrafts, jewellery, bracelets, necklaces and other ornaments besides supporting construction industry through the manufacture of timber, soft boards, tiles, ceramics and

other interior finishing's and décor; confessional industry, textile industry, pharmaceutical and beauty industry through production of high quality cosmetics, make ups, shampoos, body lotions and beauty soaps. Common household uses of coconut plant include food preparation, production of local palm wine and coconut juice (Madafu), making brooms and thatching houses. The crop produces over 100 byproducts with the potential to generate over Sh13 billion annually, which represents 0.4% of the country's gross domestic product (GDP).

According to Daily Nation (2/11/2010), there's need to exploit local resources such as the coconut as they have huge economic benefits which only be realised through proper value addition intervention and linkages thus creating more employment, alleviating poverty and boost Kenyan's economic growth towards middle class industrialized nation as envisioned through Vision 2030 economic blueprint. The coconut tree, which is the major cash crop in Kwale, Kilifi, Malindi, and Lamu, can provide not only the required edible oils but also other products that we import. According to Agricultural, Fisheries and Food Authority (AFFA) coconut plant can create up to 500,000 jobs annually through establishment of coconut related industries to manufacture value added products such as desiccated coconut flour used in making biscuits and virgin coconut oil for processing edible oil, lotion, soap and shampoos.

As per Agricultural Fisheries and Food Authority (AFFA), Kenya has 7.4 million coconut trees covering around 200,000 hectares .The overall estimated potential of coconut industry in Kenya stands at KES 13 billion annually whereas the current exploited monetary value stands at Kenya shillings 3.2 billion, which is only 25% of the estimated potential(Kalro,2016). Total importation of crude edible oil by local oil manufactures from Malaysia, Indonesia and Sri Lanka stands at Kenya shillings 800 million annually (GOK) meaning that we are losing a significant foreign exchange earnings which otherwise could be saved should there be optimal intervention to tap the crude coconut oil which is more nutritious and healthier than any other exported crude edible oil in Kenya.

World bank report by Young and Pelomo(2014) observed that major stakeholders in the coconut subsector includes coconut growers (household farmers), market intermediaries and small micro entrepreneurs (SME's) including copra oil millers (non- edible), producers of coconut milk/cream, virgin coconut oil (edible); coir fiber and coco peat, charcoal briquettes, door mats; soap, lotions ad cream; coconut artifacts, coco wood

furniture; brooms; makuti; tender coconut water, coco syrup; coco fiber; coco peat; coconut chips and coconut roasting. Kenya has over 42 small micro enterprises engaged in coconut value chain (NOCD). Others are manufactures of edible vegetable oil who rely on import of crude palm oil for their production. Such companies includes Pwani Oil Products, Bidco Kenya Ltd, Kapa Oil Ltd, Unilever, Diamond Industries, African oil manufactures, Menengai Oil refineries among others. Kenya has over 30 edible oil manufacturers who depends on import crude palm oil from Malaysia (GOK)

However, despite its huge economic potential, the coconut subsector in Kenya according to Ofwona (1994) is facing a lot of challenges including low productivity, un-organized marketing and policy gaps that have lowered stakeholder's confidence & income to industry players. The subsector also faces such problems as limited access to quality planting materials, lack of superior varieties, pest and diseases, neglect & poor agronomic packages, inadequate extension services, low access to processing technologies, limited access to credit, imports competition, negative publicity and stigmatization of some coconut products such coconut oil, vinegar, toddy among the Coastal population. The result has been a great neglect of the crop by farmers resulting to low productivity per acreage, limited value addition and general under-exploitation of the industry huge economic basket.

According to the Ministry of Agriculture, Livestock and Fisheries (GOK,2016), the coordination in the management of the coconut and other oil crops in Kenya was enhance through established Nuts and Oil Crops Directorate (NOCD) as a directorate of Agriculture, Fisheries and Food Authority (AFFA) to replace and take over the mandate of Kenya Coconut Development Authority (KCDA) in managing affairs of the coconut subsector in Kenya. The directorate came as a result of agricultural sector reforms that commenced in 2013 that culminated with formulation and enactments of Agriculture, Fisheries and Food Authority act (AFFA) which was assented on 17th January 2014 giving birth to Agriculture, Fisheries and Food Authority (AFFA) as a department in the Ministry of Agriculture, Livestock and Fisheries. Through this act, AFFA took over roles of former entities such as Kenya Coconut Development Authority (KCDA), Coffee Board of Kenya, Cotton Development Authority, Horticultural Crops Development Authority, Kenya Sugar Board, Kenya Sisal Board, Pyrethrum Board of Kenya and Tea Board of Kenya. Nuts and Oil Crops Directorate which is headquartered in Mombasa was formed

as an arm of Agriculture, Fisheries and Food Authority to take over roles of former KCDA which includes management, regulation and licensing all activities involved in the coconut subsector. Its mandate was equally expanded to not only handle coconut products but all oil crops including macadamia, cashew nuts, oil palm; ground nuts; sesame; sunflower; safflower; castor bean; jojoba; linseed, and oil seed rape (AFFA). Therefore, Nuts and Oil Crops Directorate (NOCD) whose scope and mandate is broader than the former KCDA was given limited roles such as vetting, licensing, marketing, promotion, regulation, support and developing partnerships, linkages and stakeholders engagement while crop husbandry, research and extension functions were devolved to county governments.

This research therefore identifies salient strategic, technological and stakeholder's intervention that act as prerequisite for harnessing the coconut value chains and help the counties within the coconut belt areas realise substantial revenue from coconut related industry. Furthermore, the findings of this research will play a significant role in creating synergy between national and county governments while driving productivity and valued addition of the coconut subsector to that of the world coconut producing countries such as India, Thailand, Malaysia, Sri-Lanka, Australia, Bermuda, Maldives, Middle East & parts of United States whose economies have gained substantially from export of coconut product such as crude coconut oil.

1.2 Research Problem

The world is dynamic and population is continuously growing thus exerting pressure on available scarce and unrenovable resources. Drucker (1954) observed that the organizations that do not change to meet dynamic market conditions through value addition to their customers' needs will struggle at best to maintain them. He further argued that old firms such as General Motors, IBM, Sears and others have found out that old ways of operating are no longer working and they are having difficulty in achieving levels of performance that made them great. Therefore, value chain analysis is very important as it's through value chain that we can understand better the activities through which a firm develops a competitive advantage and creates shareholder value (Porter, 1985).

The coconut subsector in Kenya is estimated to generate KES 13 billion annually and creates over 500,000 jobs both directly and indirectly (AFFA, GOK, 2014). However, only Kshs.3.2 billion or rather 25% is exploited meaning that the huge coconut potential is untapped and underutilized. The Ministry of Trade estimates that country would cut its oil import from Malaysia and other Asian countries and save over Sh8 billion annually if it increases oil production from the coconut. Figures from Ministry of Trade indicate that the country imports approximately 400,000 metric tonnes of oil annually at a value of Sh14 billions of which, 120,000 metric tons or 30% is used in soap manufacture. Despite of such huge potential, majority of communities in coconut belt areas are unemployed and live with adverse poverty hence an urgent need to explore studies aimed at enhancing coconut value chain for sustainable development and to mobilize stakeholders support, linkages and instructional framework for effective commercialization.

Review of major studies on value chain depicts that there's an urgent need for a research on value chain analysis on coconut subsector in Kenya. Local studies by Ofwona (1994) focused on economic analysis of coconut production in Kikoneni, Kwale district in Kenya and concentrated more on how to raise productivity through improved variety and marketing while Mwangi (2014) researched on contract farming of coconut in Msambweni division in Kwale County and Watamu division in Kilifi County focusing more on participation and productivity. Internationally, a World Bank report by Young and Pelamo (2014) was based on studies on Solomon island coconut value chain analysis which is not relevancy to the Kenyan case. Therefore, this study is critical in charting the way forward for the coconut subsector in Kenya by identifying value chains components (actors) and determinants and will fill the research gap by answering the following questions; what are the components (actors) of coconut value chain and ideal institutional framework for its effectiveness and what are the determinants of coconut value chain Kenya and how such factor hinder or support the coconut chain growth.

1.3 Objectives of the study

The general objective of this study is to explore the value chain analysis of the coconut subsector in Kenya focusing more on coconut product dealers and value chain players.

The specific research objectives for this study are as provided below:-

- i. To identify the components (actors) of value chain in the coconut subsector in Kenya.
- ii. To identify determinants of value chain in the coconut subsector in Kenya and assess how such factors hinder or support coconut value addition.

1.4 Value of the study

The findings of this study will help in understanding the significant of coconut subsector and determining value addition intervention as key strategic component for harnessing the full potential of the coconut products in Kenya. In particular, this study will be valuable to policy makers at Nuts and Oil Crops Directorate which is department of the ministry of Agriculture, Livestock and Fisheries based in Mombasa and the ministry of agriculture in county governments in the coastal belt areas especially Mombasa, Kilifi, Kwale, Lamu and Taita Taveta where coconut is predominantly grown. The study will also provide important insight on legislation by county assembly committee on agriculture.

Equally, this study will be useful to academicians and students of strategic management as it will act as an important reference point for further knowledge on coconut and expounds in broader details the concept of value chain especially in the coconut subsector. Moreover, the study will act as a baseline and reference point for other researchers and the findings of this study together with some limitations will provide a gray area for further empirical research on value addition in the coconut subsector.

The study will also be invaluable to other government agencies, non-governmental organization, financial institutions, micro finance institutions and small scale micro entrepreneurs amongst other private sector players/stakeholders in identifying attractive value chain ventures for their financing and investment.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter undertakes to review relevant existing literature with an aim and objective of getting both theoretical and conceptual understanding of the components and determinants of value chain in the coconut subsector in Kenya.

Review of recent literature from scholarly articles such as books, journals and publications as well as related research on value chain will be reviewed in order to provide better understand on how value chain will be adopted by various institutions and organizations closely related with this study. Relevant theories on value chain will be reviewed to provide better insight and background on the concept of value chain in broader perspective .This theories includes value chain model by Porter, Hines Value Chain model, Supply Chain Management, Global Value Chain model, New Institutional Economics model and Social Network Theory.

2.2 Theoretical Foundation of Value Chain Analysis

2.2.1 Value Chain Model (VCM)

Porter's (1985) value chain framework analyzes the value creation at the firm level and observes that value chain is a chain of activities that a firm operating in a specific industry undergoes in order to deliver a valuable product or service to the market. The concept comes from business management and was first described and popularized by Michael Porter in 1985. According to Porter's (1985), value is gradually added through the different stages of product development, manufacturing, and distribution. In other words, value is something that the producer puts into the product. Porter(2004) in his book *Competitive strategy: Technique for analyzing industry and competitors* noted that since many fragmented industry produce products that are similar and difficult to differentiate “effective strategy may be to increase the value added of the business by providing more services with sale, by engaging in some final fabrication of a product (like cutting to size or punching holes) or by doing subassembly or assembly of components before they are sold to the customers.

Porter (2004) further observed that value chain is based on the process view of organizations which emphasizes on the idea of seeing a manufacturing (or service) organization as a system, made up of subsystems each with inputs, transformation processes and outputs. This Inputs, transformation processes, and outputs involve the

acquisition and consumption of resources-money, labor, materials, equipment, buildings, land, administration and management. How value chain activities are carried out determines costs and affects profits of the organization.

According to Porter (2001), the business of a firm can best be described as the value chain in which total revenues minus total cost of all activities undertaken to develop and market a service yields value. Moreover, Porter (2004) observed that value chain analysis decomposes the firm into its activities and then study the economic implications of those activities. He suggested that the organization is split into primary activities and support activities. Primary activities are directly concerned with the creation or delivery of a product or service and are comprised of operations, outbound logistics, marketing, sales and services. On the other hand, the support activities assist the primary activities in helping the organization to achieve its competitive advantage and they include procurement, human resource management and firm infrastructure. Porter (2001) used example of manufacturing business to outline primary activities which comprises of inbound logistics, operations, outbound logistics, marketing, sales and service provision.

This can be summarized using a diagram below.

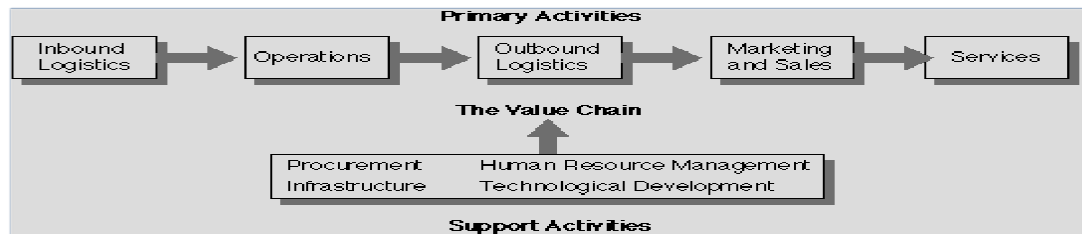


Figure1: Porters Value Chain Analysis model of a manufacturing industry

Source: Gerry Johnson, Kevan Scholes & Richard Whittington: Exploring corporate strategy

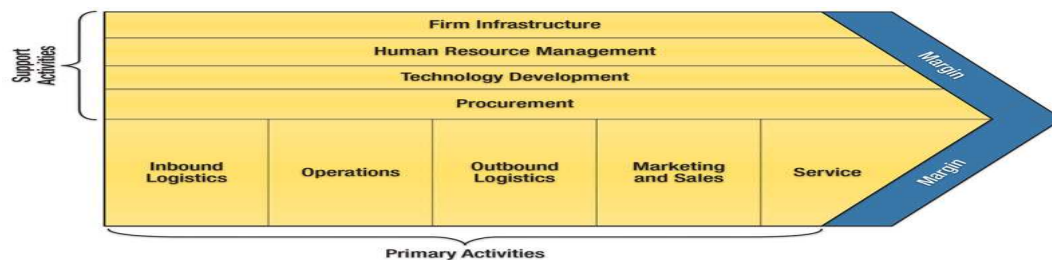


Figure 2: A diagram showing a matrix model of Porter Value chain model

Source: Porter, M. E (1985), Competitive Advantage: Creating and sustaining a superior performance. New York: Free press, page 37.

Inbound logistics are activities concerned with receiving, storing and distributing inputs or raw materials used in the production of goods and services including functions such as materials handling, stock control, transport etc. Operations on the other hand are concerned with transforming or rather converting these inputs into finished products or services. This includes functions such as manufacturing, processing, packaging, assembling etc. Outbound logistics consist of a distribution chain network that actually collect, store and distribute the product to the consumer and involves warehousing, material handling, transportation, distribution and retailing. Marketing and sales functions provide means of promoting the products by way of creating awareness to customers and developing ways to induce them to buy. It involves sales administration, advertising and personal selling. Service activities come after a sale and are basically used for value addition by way of keeping a product or service working effectively.

They include installation, repairs, training, spares etc. Secondary activities also called support activities help to improve the effectiveness and efficiency of primary activities and includes such functions like procurement, technology development, human resource management and infrastructure. Procurement is the function of acquiring inputs or resources for an organization while human resource management is concerned with recruitment, hiring, training, rewarding, managing and motivating staff while creating environment for career growth , creativity and innovation. Infrastructure function ties various parts of the organization together and includes all formal systems of planning, finance, quality control, information management, structures and routines that enhance organization performance. It consists of departments such as accounting, legal, finance, planning, public affairs, government relations, quality assurance and general management. Technological development can be achieved either directly or indirectly. Direct technological development is achieved through research & development (R&D), product design and product specifications while indirect technological development can be achieved through processes that improves raw materials or enhance value addition to the product. It involves the use of equipment, hardware, software, procedures and technical knowledge to transform inputs into output.

2.2.2 Hines Value Chain Model

According to Lysons and Farrington (2006), important value chain models have been developed by Professor Michael Porter and Professor Peter Hines. They both observed that value chain analysis is concerned with a detailed examination of each subsystem in a supply chain and every activity within these subsystems with a view to delivering maximum value at least possible total cost and enhancing value & synergy though out the entire chain.

In his Journal 'The value chain redefined', Hines (1993) recognized that Michael Porter made two valuable contributions to the understanding of value chain systems. First, Porter places major emphasis on the materials management value-adding mechanism, raising the subject to a strategic level in the minds of serious executives and secondly, he places the customer in an important position in the supply chain. The main differences between the two approaches are on the principal objectives, on the process followed, on the structure and direction, on classification of primary activities and finally on the classification of secondary (support activities). Porters approach is driven principally by a profitability objective while the Hines's approach is guided by customer satisfaction objective. Therefore, Porter's approach is a 'push system' while Hines's approach is a 'pull' system. However Hines (1993) presented a critique of Porter's model by identifying three major problems. First, the focus of Porter's model is on the profit margin of enterprises and not the consumer's satisfaction, secondly, although Porter acknowledges the importance of integration, his model shows a rather advised network, both within the company and between the different organizations in the supply chain and lastly, Hines believes that the wrong functions are highlighted as being important in Porter's primary and support activities.

According to Lysons and Farrington (2006), the three criticisms highlighted above result from the fact that Porter's model is based solely on American cases without referencing to more innovative Japanese enterprises. Hines therefore observed that Porter's conclusions are outdated and may prove inappropriate for companies facing the challenges of the 21st century especially with the advent of more sophisticated competitors. Hines (1993) therefore proposed customer focused value chain approach that differs with Porters profit based approach. He therefore offered two alternative customer focused approach / models to correct the porter's problems which were the micro integrated materials value pipeline and a macro ten forces partnership model. According to Hines and Rich (1993),

organizations can achieve excellent products and services to end-consumers if it necessarily harness the expertise, enthusiasm and dynamism of all the firms that contribute to the final consumable and that in order to do so, it is necessary to view each of the value adding processes in each of the companies responsible as part of a value stream dedicated to the final consumer requirements.

2.2.3 Supply Chain Management (SCM)

Supply chain management is a literature stream that investigates management of operations in value chains. Supply chain management studies management and control of inter-company operations (flows of products and services). It emerged from the logistics literature of the 1980s and initially focused on logistics planning and optimization of inventories across the supply chain. Supply chain management is customer oriented, i.e. customer demand is leading in this approach, and aims towards the integration of business planning and balancing supply and demand across the entire supply chain from initial producer to the ultimate customer/consumer (Bowersox & Closs, 1996; Cooper et al. 1997). Information and communication systems are considered the backbone of smoothly running supply chains. Both supply chain and value chain approaches focus on primary processes, i.e. transformation and transaction processes in and across vertically related companies.

2.2.4 Global Value Chain Model (GVM)

According to Gereffi (1994), global value chain analysis (GVC) originates from the commodity chain approach and investigates relationships between multi-national companies, the “lead firms”, and other participants in international value chains. In this theorem, the power relationships and information asymmetry are key concepts in the analysis of global value chains and the main aim is on governance and upgrading opportunities in developing country value chains (Kaplinsky and Morris, 2002). Kaplinsky (2001) made an important contribution to this theoretical stream by viewing value chains as repositories of rent. He observed that, rent arises from unequal access to resources (entry barriers, Porter, 1990) scarcity of resources and from differential productivity factors, including knowledge and skills and the understanding that economic rent is in principle dynamic in nature. Furthermore, Nadvi (2004) extends the global value chain view to the poverty perspective by investigating the impact of engagement of local

actors in GVCs on employment and income. He observed that employment and income are positively affected by inclusion of companies in global value chains, in particular where multinational companies (MNCs) are involved. He also observed that workers in GVCs become increasingly vulnerable to changing employment contracts and casualization of work.

2.2.5 New Institutional Economics (NIE)

New institutional economics (NIE), with branches such as transaction cost economics (TCE) and agency theory (AT), investigates the rationale for governance choices regarding in-company and inter-company organizational relationships. Institutional economics assume commodity markets are imperfect and are characterized by transactions costs which require institutions to regulate property rights and contracts such as marketing organizations and standardization in grading (Dag, 2003).

Any organized enterprises needs institutional and regulatory framework to ensure actors such as producer's processors, exporters and consumers get value for their money. According to Rindfleisch & Heide (1997), transaction is regarded as the basic unit of analysis in determining minimum transaction cost of governance. More specifically, transaction dimensions such as asset specificity, frequency and uncertainty form the key components of transaction cost economics (TCE) that is used to determine an optimal source of governance structure (Williamson, 2010). Companies select the governance structure that minimizes transaction costs, under conditions of bounded rationality and opportunistic behavior of partners. Transaction refers to an exchange which occurs between two stages of value chain as the product changes in form and or in ownership rights (Milagrosa, 2007). Transaction cost economic theory (TCE) hypothesizes that transactions are handled with an objective to minimize cost associated with them. It relates transaction cost with transaction governances and it relaxes some assumptions in order to reconcile economic theory with organization reality.

Transaction cost theory states that actors choose the governance structure that minimizes transaction cost. Characteristics of transaction which influence size and nature of transaction cost include asset specificity, information cost, uncertainties about markets and behavior of contract partner and frequency of transaction (Kherallah & Kirsten, 2002) Asset specificity refers to opportunity cost of the asset i.e. it is related to transferability of assets to alternative uses. Types of asset specificity includes human, physical, site, product and temporal. Highly customized assets are seen to possess high asset specificity

and high transaction cost and vice versa (Milagrosa, 2007). Uncertainty can be classified as environmental or behavioral. Environmental uncertainty relates to anticipated changes in circumstances surrounding transaction and they include changes in weather, markets and technology whereas behavioral uncertainty relates to the behavior of the transaction partner. Human behavior is characterized by bounded cognition (since it is impossible to foresee every future contingency) and opportunism (as economic actors primarily pursue individual interest). However, presence of trust which according to Lu et al. (2007) is said to exist when one party has confidence in an exchange partner reliability and integrity thus reducing opportunism. This then reduces anxiety in the exchange relationship and hence leads to decreased transaction cost. The higher the information asymmetry the higher the transaction cost as the transacting partners will use resources in solving the information problem (Bijman, 2010). Frequency of occurrence refers to the number of times a transaction takes place, the higher the frequency the lower the transaction cost. Vertical integration is preferred when the transaction cost is high in order to minimize it and when transaction cost is very low spot market governance is preferred. When a chain operates in its optimum governance structure there is mutual gain for all actors as it is reliable, responsive and competitive.

In agency theory one party (the principal) delegates work to another (the agent), who performs that work (Eisenhardt 1989). Roughly, agency theory defines governance solutions ranging between measurement of output of the supplying party/agent (transferring risk to the agent) and measurement of behavior/processes of the agent (transferring risk to the principal) Trienekens (2011). Therefore, new institutional economics (NIE) is increasingly used to determine the best agreement/contract for developing country producers in highly uncertain business environments with opportunistic behavior of actors involved and weak (institutional) enforcement regimes (Ruben et al., 2007).

2.2.6 Social Network Theory

According to Jacques (2011), another relevant theory for developing country value chain is social network theory. The social network approach or simply put as network theory views companies as embedded in a complex of horizontal, vertical and business support relationships with other companies and other organizations supporting inputs and services (such as advisory services, credit facilitators and transportation companies). According to

network theory, relationships are not only shaped by economic considerations; other concepts like trust, reputation and power also have a key impact on the structure and duration of inter-company relationships (Uzzi 1997). Since the 1990s, social capital theory has become an important branch within the network approach. Network relations may enhance the “social capital” of a company, by making it feasible to get easier access to information, technical know-how and financial support (Coleman 1990; Burt 1997) and by encouraging knowledge transfer between network partners (Humphrey & Schmitz ,2002), thereby reducing transaction costs and improving access to markets (Gulati, 1998)

2.3 Empirical Review of Value Chain Analysis

Value added is the difference between the value of a product and the cost on inputs that are brought to produce that output (Hardwick, Khan and Langmead, 1999). They further defined gross value added (GVA) as the value added with no allowance made for depreciation.

Ndirangu (2003) researched on analysis of value addition in avocados and its effects on farmers’ income in Kirinyaga, Central district where sixty four farmers were randomly selected and divided into two groups namely value addition adopters and non-adopters, each comprising thirty-two farmers. He found that price constraint, high cost of inputs and weather changes as the most important problems facing avocado production among the farmers in Kirinyaga. Similarly, a study by Mutua(2013) on value chain and competitive advantage in commercial banks in Kenya, used semi structured questionnaire to collect data from four largest banks in Kenya in terms of market share and workforce namely Kenya Commercial bank, Equity Bank, Barclays Bank and Cooperative Bank and observed that value chain is applied to a large extent in a banking sector as a competitive advantage tool that helps to analyze specific activities through which the firm can create value and have competitive advantage.

Kinanu (2010) in her research on application of Hines value chain model by Kenya Medical Supplies Agencies (KEMSA) collected primary data through interview from four managers of the core departments at KEMSA and used content analysis to analysis her data. In her findings, the adoption rate of “pull” strategy as advanced by Peter Hines was moderate because only one third of the health facilities were supplied using “pull’

strategy while the remaining two thirds were supplied using “push” strategy championed by Michael Porter. Mwangi (2014) in his study on contract farming of coconut in Msambweni division in Kwale county and Watamu division in Kilifi county focusing on participation and productivity used stratified simple random sampling method to select his respondents and collected data through formal interviews using a structured questionnaire. Data was analyzed in a comparative approach using regression models to determine factors that influence participation, price and income. The result of the study established significant difference in household demographics between contract and non-contract farmers. The descriptive analysis indicated that contract farmers were more educated, had bigger farms and more coconut trees than non-contract farmers and that non-contract farmers had low trust on other farmers. On the other hand, Mbithe (2012) studied factors influencing Mango value addition in Kenya taking Makueni County as a case study and used descriptive research design to collecting data from a large group. Data was analyzed using Statistical Package for Social Sciences (SPSS) and observed that though majority of the farmers were growing mangoes for export, they lacked awareness on how to add value to the Mango fruit and that the Government extension officers were not accessed by most farmers and that the farmers were not organized in self-help groups to help them pursue value addition. There was also lack of financial facilities and opportunities which seemed to hinder the practice of value addition of mango fruit.

Additional study on value chain analysis of smallholder snap bean production in Kirinyaga county in Kenya by Odero et al (2013) observed that actors in snap bean value chain actors plays vital roles which complement each other and that lead exporters who worked through field agents dominated the trade. The study further revealed that farmers had the lowest proportion (share) of the value addition benefits followed by brokers and then retailers while processors reaped the highest benefits of value addition. They recommended that there’s need for farmers to enhance value addition through processes like cleaning, trimming and packing the harvested beans for the domestic marketing in order for attract big buyers such as local supermarkets and by encouraging them to form marketing groups so that they can minimize the brokers infiltration who indirectly steal from them. Equally, Odero et al (2013) observed that there an urgent need for government policy interventions aimed at reducing the number of intermediaries and shortening the marketing chain in order to reduce brokers effects by way of licensing farmers into organized entities such as cooperatives and self-help groups. They further

found that farmers empowerment through training and information flow coupled with support services such as provision of credit facility, extension services, transport & logistics as well as research on locally adaptable, acceptable & sustainable snap bean seed variety remain significant in improving farm productivity. A study carried on mango value chain in Kenya by FAO (2003) emphasized that improvement in the key areas in each stage of mango value chain such as capacity building, credit acquisition, infrastructure development and setting up of collective bargaining bodies for farmers are necessary if competitiveness has to be enhanced and gains realized across value chain participants.

On the international front, Young and Pelamo (2014) researched on Solomon island coconut value chain analysis and observed that coconuts and copra are the Solomon Island's longest standing commercial smallholder income generating activity and are very important in food and nutrition security. They also noted that there is a risk that production and exports will decline unless there are definite steps to strengthen the sector. They further reported that Solomon Islands Government (SIG) succeeded by making strong commitment to the coconut sector through general and sector specific strategies and by engaging development partners to increasingly recognize the importance of coconuts in rural incomes and poverty reduction. Kumara and Kapur (2010) studied value chain analysis of coconut in Orissa where five coastal districts of Orissa, namely, Puri, Cuttack, Khurda, Ganjam, and Jagatsinghpur were examined to find out the market chains for coconut and the flow of product from farmers through different intermediaries to the consumers. They computed prices and market margins at the different stages of the chain in order to reflect the value addition through various participants of the chain. They later observed that though value addition was not evident, the study found that both vendors and aggregators were still able to earn profit and hence continue the business.

While analyzing the value chain of fruits and vegetables in India, Reddy et al. (2010) noted that farmers linked to the value chains receive a higher share of gross value than other stakeholders and that they also received higher prices for each of the vegetables considered during the study. The study concluded that vendors play an important role in the value chain by reducing information gap between farmers and retailers when accorded proper training. Their finding underscores the need to enhance capacity building for brokers in relaying market and production information to the farmers whom they link with exporters.

2.4 Summary of Literature Review and Knowledge gap

Review of past studies indicate very minimal research on value chain analysis in the coconut subsector as most research dwell on either value addition or rather value chain on other agricultural products such as beans, potatoes, mangoes and other economic sectors such as banks. Ndirangu (2003) studied the analysis of value addition in avocados and its effects on farmers' income in Kirinyaga central district while Mutua (2013) focused on value chain and competitive advantage in commercial banks in Kenya with specific emphasis on four largest banks in terms of market share and workforce such as Kenya Commercial bank, Equity Bank, Barclays Bank and Cooperative Bank., Marete (2010) on the other hand, researched on the application of Hines value chain model by Kenya Medical Supplies Agencies (KEMSA) focusing on four managers of all core departments at KEMSA and observed that the adoption rate of "pull" strategy advocated by Prof Peter Hines was moderate as only one third of the health facilities were supplied using "pull" strategy while the remaining two thirds were supplied using "push" strategy as proposed by Porter (2001). Mbithe (2012) also studied factors influencing Mango value addition in Kenya taking a focus of Makeni County while Mwangi (2014) studied contract farming of coconut in Msambweni, Kwale County and Watamu, Kilifi county focusing on participation and productivity analysis which is far related to coconut value chain analysis.

At international front, a study by Young and Pelamo (2014) concentrated on Solomon Island coconut value chain analysis and that of Kumara and Kapoorb (2010) was on value chain analysis of coconut in Orissa, India. Though the studies are contextually relevant their findings are not applicable to Kenyan case as Solomon Islands and Oriso in India occupy different geographical space and socio-economic environment not comparable with Kenya.

Review of existing local and international literature provide very little information that is relevant for understanding coconut value chain hence there's existence of research gap that justify the need for research to be conducted on value chain analysis on coconut subsector in Kenya in order to bridge research gap by answering the questions namely:- what are the components of value chain in the coconut subsector and the determinants of coconut value chain in Kenya focusing more on small micro enterprises engaged in coconut value chain.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter discusses and highlights the methods and instruments used in the research design, data collection and data analysis.

3.2 Research Design

This study used descriptive cross-sectional survey design aimed at assessing the value chain of the coconut subsector in Kenya focusing more on value chain actor who are dealers and small micro enterprises (SMEs) involved in coconut value addition. Cross-sectional study (also known as a cross-sectional analysis or transversal study is a type of observational study that involves the analysis of data collected from a population, or a representative subset, at one specific point in time.

Descriptive study also known as correlational or observational studies is one in which information is collected without changing the environment (i.e. nothing is manipulated). Descriptive studies are usually the best methods for collecting information that demonstrate relationships and describe the world as it exists. Bickman & Rog (1998) suggest that descriptive studies can answer questions such as “what is” or “what was while Cooper & Schindler (2003) observed that descriptive study is concerned with finding out who, what, where, when and how much of a phenomenon. Therefore, descriptive cross-sectional survey was preferred in this study because it provides more accurate information from a larger group and would be the best to explore value chain analysis in the coconut subsector in Kenya.

3.3 Population

The study population was comprised of coconut value chain actors who are dealers and small micro enterprises (SMEs) engaged in the coconut value addition. According to Nuts and Oil Crops Directorate there are forty two (42) SMEs engaged in coconut value addition and the entire population of SMEs will be studied. Therefore the study was a census.

3.4 Data Collection

Both primary and secondary data was used in the study. The primary data was collected through a mix of mailed questionnaire, telephone interview as well as personal interview using a semi- structured interview guide/questionnaire that had both closed and open ended questions. Majority of respondents within Mombasa County were interviewed personally while those located far away were interviewed through telephone and mailed questionnaire. Moreover, before the interview was conducted, the respondents were introduced about the purpose of research and were assured that the research was purely academic and that utmost confidentiality was guaranteed. Thereafter, the interviewer proceeded with the interview carefully following the interview guide and where possible recording views and other issues raised by respondents touching on the research problem not captured in the questionnaire. The study respondents were comprised of directors and/or chairman/chairladies of the forty two (42) SMEs engaged in coconut value chain that were identified from a data base obtained from Nuts and Oil Crops Directorate. The interview guide was structured in parts with part A aimed at obtaining information that identifies the component of coconut value chain, part B to identifying the instructional framework necessary for coconut value chain and finally part C which explored the determinants of value chain in the coconut sub-sector in Kenya. Secondary data was obtained from journals, books, articles on coconut, magazines, newsletters, website and various documents available at Nuts and Oil Crops Directorate, county governments, government manuals, sub-sector players and relevant research institutions.

3.5 Data Analysis

Data collected was edited for accuracy, uniformity, consistency and completeness. The raw descriptive data was then operationalized and analyzed using measures of central tendency more specifically the mean. Part A of the interview was analyzed using percentages and measures of central tendency while part B was equally analyzed using percentages and measures of central tendency namely the mean as well as the Standard deviation which was computed using Microsoft Excel version 2010. Finally, part C of the research data was analyzed using percentages and mean.

CHAPTER FOUR: DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This chapter presents the results of the data analysis conducted with an aid of Microsoft Excel version 2010. The chapter is organized in three parts as follows: It first presents the components of the coconut value chain in Kenya and then followed by the assessment of existing institutional framework supporting coconut value chain. Finally, the chapter presents the determinants of coconut value chain focusing on how such determinates hinder or promote value chain and concludes by identifying challenges facing coconut value chain and the suggested solutions.

Data was collected from chairmen, chairlady or one director of a particular SMEs engaged in coconut value chain. Only such people were considered since they hold the senior most position in their company and have vast knowledge of the coconut industry. In deed majority of them are the founders and owners of such companies and hold the vision and ideas on how to better the coconut subsector. Content for each response was analyzed so that it's relevant in assessing the value chain analysis of the coconut subsector in Kenya.

4.2. Response rate

To derive to the research objectives, data was collected using a semi structured interview guide to twenty six (26) SMEs engaged in coconut value chain. Out of the identified population of forty six (46) SMEs, only twenty six (26) were reachable for interview which represents 62% of the population. The response rate therefore is significant based on Babbie (2011) observation that a response rate of more than 60% is adequate for research.

4.3 Respondents profile

The respondents were asked to indicate their gender and age profiles and their feedback is summarized using table 4.1 and table 4.2.

4.3.1 Gender Profile

Respondents were asked to indicate their gender and their response was analyzed and presented in the table below.

Table 4.1 Gender Profile

Gender	Male	Female
Respondents	15	11
Percentage	57.7%	42.3%
N=26		

Source: Research data (2016)

The findings above shows that majority of people engaged in coconut value chain are men who accounts for 57.7 % of the entire population of interviewed respondents.

4.3.2 Age profile

Table 4.2 Age profile

Age Distribution	Frequency	Percentage (%)
18-25 years	0	0%
26-30 years	2	7.8%
31-35 years	5	19.2
36-40 years	5	19.2
41-45 years	6	23.1
46-50 years	6	23.1%
Over 50 years	2	7.8
Total	26	100

Source: Research data (2016)

The result shows that majority of the population engaged in coconut value chain falls within the age bracket of between 41-50 years followed closed by age bracket of 31-40 years. This are mature people who appreciate the value coconut can derive to the economy.

4.4 Components of value chain in the coconut subsector in Kenya

To determine the component of value chain analysis in the coconut subsector, the respondents were asked to identify the most important players in the coconut subsector, what kind of products they produce, where they get their raw materials and the product portfolio of major coconut value chain actors.

4.4.1 Important players/actors in the coconut value chain in Kenya

The respondents were asked to identify by ticking the most important coconut actors or rather stakeholder that are significant in enhancing coconut value chain and their response is summarized using the table 4.3 below.

Table 4.3 Important players in the coconut subsector

Coconut player/actor	Frequency	%
Farmers& growers	16	61.5%
Agents & Farmers cooperatives	13	50%
Processors & SMEs	17	65.4%
Marketing Agents e.g. EPC	15	57.7%
County governments	20	76.9%
Nuts and Oil Crops	21	80.8%
Vendors/retailers& consumers	17	65.4%
N=26		

Source: Research data (2016)

The research findings observed that there are very many players (value chain actors) in the coconut subsector each playing particular role. Of all actors listed above, county governments and Nuts and Oil Crops Directorate were identified as very important in supporting coconut subsector with highest score of 80.8% followed by the counties ministry of agriculture (MOA) with 76.9% .Processor, vendors, consumers and other value chain actors (SMEs) were also important with 65.4% while farmers& growers followed closely with 61.5%. Marketing agencies such Export promotion Council was equally seen to be important in supporting coconut value chain with a rating of 57.7% while middlemen/agents and farmers cooperatives was identified as play minimal roles with a score of 50%.

4.4.2 Sources of raw material for SMEs engaged in coconut value chain

Respondents who were mainly SMEs engaged in coconut value chain were asked to identify the source of the coconut raw material for their production and their feedback is analyzed using the table below.

Table 4.4 Sources of raw material for SMEs engaged in coconut value chain.

Sources of raw materials	Frequency	Percentage (%)
Local Farmers	17	65.4%
Local firms	4	15.4%
Local own plantations/farm	2	7.7%
Export	0	0
Farmers cooperatives	2	7.7%
Middle men (agents)	1	3.8%
N=26		

Source: Research data (2016)

The above findings clearly shows that most SMEs engaged in coconut value chain obtain the raw materials locally from farmers especially from Kilifi and Kwale County where coconut is predominantly grown. In deed 65.4% of all respondents indicated that they buy their coconuts directly from farmers while 15.4% buy from other firms.

4.4.3 High value coconut products produced by various SMEs in Kenya

Table 4.5 High value coconut products produced by various SMEs in Kenya

Coconut product	Frequency	%
Virgin coconut oil	18	69.2%
Coconut rafters and brooms	6	23.0%
Coconut toddy (Mnazi)	16	61.5%
Coconut cream	13	50.0%
Desiccated coconut	14	53.84%
Coconut artifacts	10	38.4%
Coconut furniture	12	46.1%
Coconut mats & mattress made of coir /fiber	12	46.1%
Coconut palette & charcoal briquettes	12	46.1%

Coconut textile used in manufacturing green houses	2	7.7%
Coconut soap, syrup & lotion	7	26.9%
N=26		

Source: Research data (2016)

From the table above, the twenty six (26) respondents were asked to select by ticking coconut products produced by various SMEs in Kenya. Though coconut has many uses, the researcher identified the above ten (10) products that are predominantly produced by SMEs in Kenya. Results of the research shows that 69.2% of respondent's selected virgin coconut oil as the most high value coconut product produced in Kenya followed closely coconut toddy all at 61.5%, desiccated 53.84% and then coconut cream coconut at 50%. Desiccated coconut is relatively high value coconut product used in manufacturing biscuits. However, only few firms such as Kentaste Ltd have ventured into it commercially.

4.5 Institutional framework of the coconut value chain

Institutional framework of the coconut subsector will be used in determining relevant component of the coconut value chain. Indeed, the institutional framework will be used to identify key institutions that support the coconut subsector especially those institutions that assist SMEs engaged in coconut value addition. Moreover, the institutional framework will be used to assess the extent to which such institutions support coconut value addition.

Therefore, to determine institutional framework for assessing component of value chain of the coconut subsector, respondents were asked to choose from a list of identified institutions, a specific coconut value chain actors that mostly support their business and how critical (important) are they .

4.5.1 Institutional framework that support coconut value chain

Respondents were asked to identify institutional framework that is critical in supporting coconut value and their feedback is analyzed using table 4.6 below.

Table 4.6 Table showing institutional framework supporting coconut value chain

Coconut player/actor/SMEs that support value chain	Frequency	Percentage
County Government through MOA & MOT	6	23.1%
Nuts & Oil Crops directorate (Former KCDA)	23	88.5%
Export Processing Council	2	7.7%
Kenya Agricultural Research Institute (KARI)	1	3.8%
NGOs	0	0%
Women Enterprise program	1	3.8%
Haziya Ya Jumuiya Ya Pwani	1	3.8%
MESPT/DANIDA	3	11.5%
Banks	0	0%
N=26		

Source: Research data (2016)

Respondents were asked to identify institutions that support coconut value chain and the findings of the study shows that 88.5% identified Nuts and Oil Crops Directorate as the main institution supporting the coconut subsector followed distantly by the county governments through their ministry of agriculture and trade at 23.1%. This is a disturbing trend since management of coconut subsectors is devolved function to county government and there should be the one on the fore front in supporting the value chain actors.

4.5.2 Extent to which institutional framework supports the coconut subsector

The extent to which institutional framework support coconut subsector was used to assess relevant components of coconut value chain. The various companies, organizations, SMEs, research institutions and government agencies were identified as major components (actors) of coconut value chain. Respondents were therefore asked to identify from a Likert scale of 1-5, the extent to which each institution support coconut value chain and their response was captured and summarized in the table below.

Table 4.7 Extent to which institutional framework supports coconut subsector.

	Mean	% Mean	SD
Bank support by granting credit facility	8.67	9.42%	8.20
Nuts and Oil crops directorate support	24.2	26.28%	42.71
Good road network	11.6	12.60%	7.02
County Government support	20.2	21.94%	20.4
Marketing agencies e.g. export processing zones	10.0	10.86%	2.92
Security	17.4	18.90%	15.16
N=26			

Source: Research data (2016)

The table above shows the extent to which instructional framework affects the coconut subsector. The analysis was done using a Likert scale which had five units 1 to 5. Where 1 represented no extent at all, 2 little extent, 3 moderate extent 4 great extent and 5 represented greater extent. According to the researcher, a mean of 20.2 and above represent greater extent, 15.4 to 19.9 represent great extent, 8.0 to 15.3 moderate extents while below 8.0 represent no extent at all. From the findings of the study, support from Nuts and Oil Crops Directorate was rated as the most critical as it greatly affects value chain of the coconut subsector with a mean of 24.2 and Standard deviation of 20.4 and mean percentage of 26.28% followed closely by county government support with mean percentage of 21.94%,M=20.2&SD=20.4).This means the coconut subsector greatly depend on the support of both national government (through Nuts and Oil crops directorate) and county government for optimization of its value chain.

4.5.3 Government support to coconut SMEs.

The twenty six (26) respondents were asked to identify the greatest support they require from the government and their response was analyzed and presented through a table.4.8 below.

Table 4.8 Government support to SMEs engaged in coconut value chain

Kind of support	Frequency	Percentage
Subsidized licensing by Kefs & county government	0	0%
Financial/credit facility (specify)	2	7.7%
Marketing support through exhibitions by NOCD	16	61.5%
Training, workshop & seminars by NOCD	22	84.6%
Benchmarking Tours	13	50%
Provision of Machines & equipment's	1	3.8%
N=26		33.9

Source: Research data (2016)

From table above, it's observed that the only notable government support to the coconut stakeholders is through training, workshop and seminars conducted by Nuts and oil crops directorate which was rated at 84.6% followed closely by marketing through exhibition rated at 61.5%. Benchmarking tours follows at 50% where few coconut value chain actors from Mombasa and Kwale County were taken for a benchmark tour in Rwanda and Ethiopia. However there has been no licensing support by county governments and Kenya bureau of standard which scored 0% and that the players relied on traditional methods to process their products as the lacked support in the provision of machinery and equipment rated at 1%.

4.6 Determinants of coconut value chain

The respondents were asked to select determinants that promote or hinder coconut value chain and their response was analyzed and presented using table 4.9 and 4.10.

4.6 1 Determinants that promote coconut value chain

The respondents were asked to identify factors or rather determinants that promote coconut value chain and their feedback was summarized and presented using table 4.9 below.

Table 4.9Determinants that promote coconut value chain

Factor	Frequency	Percentage
Financial support	6	23.1%
Technological support	4	15.4%
Extension services	15	57.7%
Cooperatives & Associations	1	3.8%
Market availabilities	12	46.2%
Training, workshops & exhibitions by NOCD	19	73.1
Support by County Government	9	34.6%
Readily supply of coconut raw materials	19	73.1%
Availability of machinery & equipment's	1	3.8%

Source: Research data (2016)

The table above shows the determinants that promote the coconut value chain in Kenya. Out many determinants proposed by the researcher, 73.1% of the respondents observed that training, workshops and exhibitions conducted by Nuts and Oil Crops directorate coupled with readily available coconut raw materials as the main supportive determinants of coconut value chain while machinery and equipment together with stakeholders cooperative association had a lowest response of 3.8% meaning that though they are very critical they are were not available hence less supportive to the coconut value chain.

4.6.2 Determinants that hinder coconut value chain

The respondents were asked to identify factors or determinants that hinder coconut value chain and the data was analyzed and presented using table 4:10 below.

Table 4.10Determinants (factors) that hinder coconut value chain

Factor	Frequency	Percentages Not available
Lack of Financial support	14	53.8%
Lack of technological support	17	65.4%
Extension services	2	7.7%
Lack of cooperatives, associations& self-help groups	15	57.7%
Market availabilities especially export market	16	61.5%
Training, workshops & exhibitions by NOCD	0	0%
Support by County Government	19	73.1%
Readily supply of coconut raw materials	6	23.1%
Lack of machinery & equipment's	22	84.6%
Middle men & buyers from Tanzania	20	76.9%

Source: Research data (2016)

From the table above, respondents were asked to identify determinants that hinder coconut value chain and it was observed that, 84.6% of respondents identified lack of machinery and equipment as the main impediment to coconut value chain followed by unscrupulous middle men and Tanzanians buyer who account for 76.9 % of respondents as they affect coconut supply to value chain player by illegally entering into selling agreement and contract to farmers that thus denying local firms access to mature coconuts. Other hindrances includes inadequate county government support (73.1%),lack of supportive technology(65.4%), inadequate market availabilities(61.5%),lack cooperatives and self-help groups (57.7%), lack of financial support (53.8%) ,inadequate supply of mature coconuts(23.1%) and finally lack of extension services at 7.7%.

4.6.3 Benefits of coconut subsector in Kenya

Finally, respondents were asked to identify the benefits of coconut subsector in Kenya and their feedback was analyzed and summarized using table 4:11 below.

Table 4.11 Benefits of coconut in Kenya

Benefit	Frequency	Percentage
Source of employment	20	76.9%
Source of income to coconut farming society	25	96%
Promotes crime	0	0%
Reduces rural urban migration	19	73%
Creates wealth to the economy	20	76.9%
Encourages industrial development	22	84.4%
Utilizes non arable land	19	73.1%
Can provide raw materials for edible oil	17	65%
Provide money to support education	23	88.5%
Provide money to support health care	22	84.6%
Help feed coconut society	16	61.5%
Percentage mean		63.9%

Source: Research data (2016)

From above table, a mean percentage of 63.9% of respondents agreed that coconut products are very beneficial as source of income to coconut farming community, source of employment, reduces rural urban migration, provide money to support education & healthcare, it enhances industrialization, make use of non-arable land as well as provide food security to the society.

4.7 Discussions of findings

This study has made several strategic findings which are discussed in greater details in this section while at the same time being interrogated and compared with findings of related studies on coconut value chain. The objectives of the study were to assess the value chain analysis of the coconut subsector in Kenya. More specifically, the study wanted to establish the components of coconut value chain as well as the determinants of coconut value chain. To achieve the desired results, the study used descriptive cross-sectional survey design aimed at assessing the value chain of the coconut subsector in Kenya focusing more on various value chain actors including dealers, processors and small micro enterprises (SMEs) engaged in coconut value addition.

4.7.1 Components of value chain in the coconut subsector in Kenya

The study identified the components of coconut value chain by way of assessing the coconut value chain actors (players) and by identifying their high value products and by products. Equally, the components of value chain can be assessed using sources of coconut raw material by intermediaries as well as available institutional framework that support the coconut value chain. The preliminary findings of study revealed that the key components of coconut value chain include various stakeholders (actors) each playing a specific role though some complementing each other. Of all the players (components) identified through the research data, Nuts and Oil Crops Directorate was ranked as most important players in supporting coconut subsector with highest rating of 80.8% followed by the county government through their respective ministry of agriculture (MOA) with 76.9%. Processor, vendors and value chain actors (SMEs) were also rated important with 65.4% while farmers & growers followed closely with 61.5%. Marketing agencies such Export promotion Council was equally seen to be important in supporting coconut value chain with a rating of 57.7% while middlemen/agents and farmers cooperatives was identified as play minimal roles with a score of 50%.

Equally, the study shows that 65.5% of coconut SMEs obtains their mature coconuts and other coconut raw materials for their production locally from farmers while 15.4% obtain from other firms. A good example is that most manufacturers of soap, lotion, shampoos and coco syrup use virgin coconut oil which they acquire it locally from producers of virgin coconut oil. The study also observed that some of the most valuable coconut products includes virgin coconut oil, coconut rafters and brooms, toddy (Mnazi), coconut

cream, desiccated coconut, coconut artifacts, bracelets and ornaments, coconut furniture; coconut mats & mattress made of coir /fiber; wood palette & charcoal briquettes; coconut soap, syrup & lotion and coconut textile used in manufacturing greenhouses. Moreover, the findings of the study also indicated that from the list of supportive institutions in the coconut subsector such as county government through their ministry of trade and ministry of agriculture, Nuts & Oil Crops Directorate (Former KCDA), Export Processing Council, Kenya Agricultural Research Institute (KARI), NGOs, Women Enterprise program, HaziyaYa JumuiyaYaPwani, MESPT/DANIDA and Banks; 88.5% of the respondents identified Nuts and Oil Crops Directorate as the main institution supporting the coconut subsector followed distantly by the county governments within the coconut belt areas through their ministry of agriculture and trade at 23.1%. However, this is a disturbing trend as county governments are expected to lead from the front as management of coconut subsector is a devolved function to county governments.

This was reaffirmed when respondents were asked to assess the extent to which institutional framework support coconut subsector whereas using a Likert scale of 1-5, Nuts and Oil Crops Directorate was rated as the most critical institutions supporting coconut subsector with a mean of 24.2 and Standard deviation of 20.4 and mean percentage of 26.28% as it greatly affects value chain of the coconut subsector. This was followed closely by County Government support with mean percentage of 21.94%, (M=20.2 & SD=20.4). The findings of the study further revealed that government support to the coconut stakeholders through training, workshop and seminars conducted by Nuts and oil crops directorate was very important with a rating of 84.6% followed closely by marketing support executed through exhibition at 61.5%. Benchmarking tours came third with 50% as very few benchmark tours were organized by respective county governments

The findings of this study was supported by past studies such as a study conducted by Kumara and Kapur (2010) on value chain analysis of coconut in Orissa where it was found that both vendors and aggregators were very significant in the coconut value chain and through the chain were able to earn profit and hence continue the business. Moreover, the study findings are compatible to a report by Reddy et al. (2010) on his study on the value chain of fruits and vegetables in India where it was observed that farmers linked to the value chains receive a higher share of gross value than other stakeholders and that they also received higher prices for each of the vegetables considered during the study.

The study concluded that vendors play an important role in the value chain by reducing information gap between farmers and retailers when accorded proper training. Their finding underscores the need to enhance capacity building for brokers in relaying market and production information to the farmers whom they link with exporters. Furthermore, research findings from a study conducted by Young and Pelomo (2014) observed that major stakeholders in the coconut subsector includes coconut growers (household farmers), market intermediaries and various small micro entrepreneurs (SME's) engaged in coconut value addition. Finally, the results of this study resonates well with findings of a study by Odero et al (2013) on value chain analysis of smallholder snap bean production in Kirinyaga county where they observed that actors in snap bean value chain plays vital roles which complement each other and that lead exporters who worked through field agents dominated the trade. The study further revealed that farmers had the lowest proportion (share) of the value addition benefits followed by brokers and then retailers while processors reaped the highest benefits of the value addition

4.7.2 Determinants of coconut value chain

To explore the determinants (factors) that promote or hinder coconut value chain, the respondents were asked to select by ticking those determinants and out of identified determinants(factors) such as financial support; technical support; extension services; cooperatives and association; market opportunities, training, workshop & exhibition; county government support ; availability of mature coconut and supply of machinery and equipment; the study revealed that 73.1% of the respondents ranked training, workshops and exhibitions conducted by Nuts and Oil Crops directorate as well as ready availability of coconut raw materials as major supportive determinants of coconut value chain while 84.6% of respondents identified lack of machinery and equipment as the main impediment(hindrance) of coconut value chain followed closely by unscrupulous middle men and Tanzanians buyers with 76.9 % and while lack of adequate county government support followed with 73.1%. Lack of ready market, inadequate technological support, lack of financial and credit facility as well as lack of extension services are other hindrances to coconut value addition. Finally the study established that 63.9% of respondents agreed that coconut products are very beneficial as source of income to coconut farming community, source of employment, reduces rural urban migration;

provide money to support education & healthcare besides enhancing industrialization and making use of non-arable land as source of food and hence livelihood to the society.

The findings of this study are strongly supported by past research including a study by Mbithe (2012) on factors influencing Mango value addition in Kenya taking Makueni County as a case where it was observed that though majority of the farmers were growing mangoes for export, they lacked awareness on how to add value to the Mango fruit and that the Government extension officers were not accessed by most of the farmers were not organized in self-help groups to help them pursue value addition. Equally, there was lack of financial facilities and opportunities which seemed to hinder the practice of value addition of mango fruit. Same relationship can be borrowed from previous study by on value chain analysis of smallholder snap bean production in Kirinyaga county in Kenya by Odero et al (2013) where they recommended that there's need for farmers to enhance value addition through processes like cleaning, trimming and packing the harvested beans for the domestic marketing in order for attract big buyers such as local supermarkets and by encouraging them to form marketing groups so that they can minimize the brokers infiltration who indirectly steal from them. The study also recommended the need for farmers empowerment through training and information flow coupled with support services such as provision of credit facility, extension services, transport & logistics as well as research on locally adaptable, acceptable & sustainable snap bean seed variety to improve farm productivity which is true for optimal coconut value addition.

Finally this study resonates well with the findings of a research by Young and Pelamo (2014) on Solomon island coconut value chain analysis where it was observed that coconuts and copra are the Solomon Island's longest standing commercial smallholder income generating activity and are very important in food and nutrition security. They further found out that Solomon Islands Government (SIG) succeeded by making strong commitment to the coconut sector through general and sector specific strategies and by engaging development partners to increasingly recognize the importance of coconuts in rural incomes and poverty reduction

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary of findings, discussions, conclusion and recommendation in relation to the objective of the study. It also highlights limitation of the study as well as provides suggestion for further research.

5.2 Respondents profile

Out of a total population of forty two (42) coconut SMEs, twenty six (26) of them were interviewed representing 62% of the entire population. The research findings further observed that majority of people engaged in coconut value chain are men who account for 57.7% of the entire population and fall within the age bracket of 40-50 years.

5.3 Summary of findings

The objective of the study was to assess the value chain analysis of the coconut subsector in Kenya. More specifically, the researcher wanted to identify the components of coconut value chain as well as the determinants of coconut value chain and used both questionnaire and telephone interview to obtain the data .

Initially, respondents were asked to select the most important players (actors) in the coconut subsector and it was observed that there are very many players (value chain actors) in the coconut subsector each playing particular role. Of all actors listed above, county governments and Nuts and Oil Crops Directorate (NOCD) were selected to be very important in supporting coconut subsector with highest score of 80.8% followed by the Ministry of Agriculture (MOA) in the counties at 76.9% .Processor and value chain actors were equally identified as important with 65.4% while farmers followed closely with 61.5%. However, of all the stakeholders, agents and farmers cooperatives play minimal role with a score of 50%. Marketing agencies were also considered important with 57.7% as they assist in creating marketing opportunities for coconut value added products.

In addition, the study found that most SMEs engaged in coconut value chain obtain their raw materials locally from farmers especially in such counties like Kilifi and Kwale where coconut is predominantly grown. In deed 65.4% of all respondents indicated that

they buy their coconuts directly from farmers while 15.4% buy from other firms. The researcher identified a good example as Pwani classic tradings which buys its virgin coconut oil from Cocovita ltd for manufacturing of coconut syrup, soap and lotion.

Equally, the twenty six (26) respondents were asked to select by ticking common coconut products produced by various SMEs in Kenya. Though coconut has many product portfolio and uses, the researcher identified the above ten (10) products that are predominantly produced by many SMEs in Kenya. Results of the research revealed that 69.2% of the respondents identified virgin coconut oil as the most common high value coconut product produced in Kenya followed closely by coconut rafter and broom together with coconut toddy all at 61.5%. Desiccated coconut which is used in making biscuits was least produced at 11.5% and only few firms such as Kentaste Ltd produce it commercially.

To determine institutional framework that support Coconut value chain, respondents were asked to identify institutions that support coconut value chain and the findings of the study shows that 88.5% identified Nuts and Oil Crops Directorate as the main institution supporting the coconut subsector. This is followed distantly by the county governments (21.3%) within the coconut belt areas through their ministry of agriculture and trade since management of coconut subsectors is a devolved function to county government.

Furthermore, the researcher assessed the instructional framework that affects the coconut subsector using a Likert scale of 1 to 5. Where 1 represented no extent at all, 2 little extent, 3 moderate extent 4 great extent and 5 represented greater extent. The study findings revealed that support from Nuts and Oil Crops Directorate was rated the most critical as it greatly affect the value chain of the coconut subsector with a mean of 24.2 and Standard deviation of 20.4. It was followed closely by County Government support with a mean of 20.2 (SD=20.4). This means the coconut subsector greatly depend on the support of both national government (through Nuts and Oil Crops directorate) and county government for optimization of its value chain.

Further findings went further to revealed that government support to the coconut stakeholders is through training, workshop and seminars conducted by Nuts and oil crops directorate with a rating of 84.6% followed closely by marketing support executed through exhibition at 61.5%. Benchmarking tours came third with 50% as very few

benchmark tours were organized by county governments such as Mombasa and Kwale where the stakeholders were given a chance to visit Rwanda and Ethiopia for a study tour. However there has been no licensing support by county governments and Kenya Bureau of Standard (Kebs) and that there's no supply of equipment and machines to coconut value chain actor to enhance coconut value addition. All this were rated at 0% and 1% respectively.

The study also assessed the determinants that hinder coconut value chain and it was revealed that 84.6% of respondents identified lack of machinery and equipment as the main impediment to coconut value chain followed by unscrupulous middle men and Tanzanian's buyers who account for 76.9 % of respondents as they affect coconut supply to value chain player by illegally entering into selling agreement and contract to farmers that thus denying local firms access to mature coconuts.

Finally, respondents were asked to identify the benefits of coconut subsector in Kenya and a mean percentage of 63.9% of respondents agreed that coconut products are very beneficial as source of income to coconut farming community, source of employment, reduces rural urban migration, provide money to support education & healthcare, it enhances industrialization, make use of non-arable land as well as provide food security to the society.

5.4 Conclusion

Form this study; the researcher concluded that the analysis of coconut value chain is very important to tap the full potential of the coconut subsector in Kenya whose economic value is estimated to be above KES13billion annually.

The study established that coconut subsector has huge economic potential and can support livelihood of many coastal population especially from the coconut belt areas. It's a source of income, employment and creates wealth besides supporting industrial development which is a key cornerstone for the achievement of vision 2030.

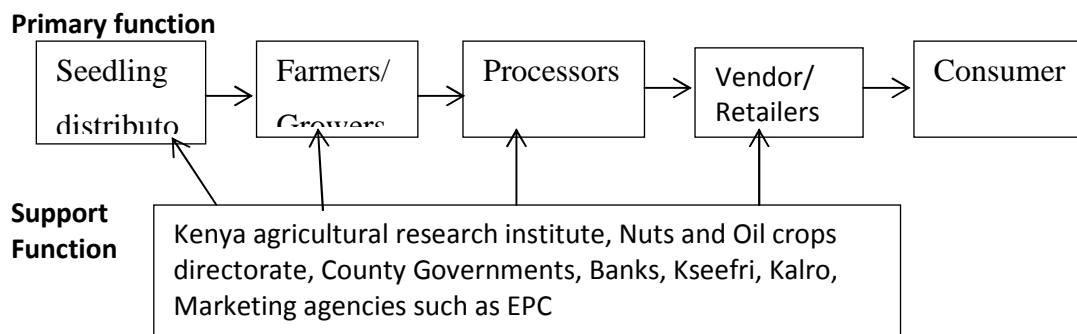
The study also revealed that the survival of coconut subsector depends on stakeholder integration and linkages and that major value chain components of the coconut subsector includes Nuts and Oil crops directorate (NOCD), counties through their ministry of agriculture, processors and various SMEs engaged in coconut value chain , Banks, farmers , farmers cooperatives and marketing agencies such as export processing council which is critical in creating new market opportunities for coconut value products .

Moreover, there's need for faster establishment of an association or cooperative society of all coconut value chain actors so that they can advocate their rights and negotiate better prices, subsidies, incentives and credit facilities on their behalf.

The findings of the study also affirm that coconuts value chain requires institutional support from government agencies such as Nuts and Oil Crops Directorate, county governments, and research institutions i.e. KARI. Others are security agents and suppliers of seedlings to farmers so as to increase coconut acreage to sustainable commercial levels. Such government support includes marketing through exhibition; training, workshop, seminars and benchmarking tours. Other support such as subsidized licensing, supply of machinery, equipment's and credit facility are also very necessary.

Therefore, from the findings above, we can deduce that major components of coconut value chain consist of coconut seedling distributors, coconut growers/farmers, processors, Nuts and Oil Crops Directorate, county government, vendors and marketing agencies such as export promotion council. Others include research institutes such as KARI, KEFRI and Kalro. This can be summarized using a diagram below.

Fig 5: Diagram showing coconut value chain



Source: Research data (2016)

The research also assessed the determinants of coconut value chain that hinder or promote the coconut subsector and revealed that major factors promoting the coconut value chain includes availability of extension services, availability of mature coconuts from farmers, extension services from Nuts and Oil Crops Directorate, financial and technological support and market availabilities. Moreover, the study identified major hindrance of coconut value chain which needs to be addressed in order to optimize the huge economic benefits of the coconut subsector. Such factors include lack of machinery and equipment's, lack of financial and technological support, lack of formidable cooperative and the unscrupulous Tanzania buyers who lock and contract coconut farmers to sale

exclusively to them living very little coconuts to local processors. The irony is that the same coconut undergoes value addition in Tanzania and brought back to Kenya at a higher sellable value. Another setback is that some big players have large coconut plantation in coconut producing countries such as Malaysia, Indonesia, India and Thailand and end up importing ready processed coconut products that competes with what is produced locally. This creates unfair competition and damping of our local industries.

5.5 Recommendations for policy and practice

The study looked at the value chain analysis of the coconut subsector in Kenya. More precisely, the study focused on the components of coconut value chain and the determinants that promote or hinder the coconut subsector.

The findings of the study indicate that coconut subsector has huge economic potential but lacks required institutional support to optimize its potential. Indeed the support by the county government is very minimal despite the fact management of the coconut subsector is a devolved function. Therefore, the study recommends that the county government within the coconut belt areas to establish a specific department that operate more similar like the defunct Kenya Coconut Development Authority with clear mandate to revive, harness and optimize the coconut subsector. The study also recommends that the government should reconsider reconstituting a special authority or directorate within Nuts and Oil crops directorate to solely manage coconut affairs as the current directorate has more expanded roles that includes all other oil crops in Kenya.

Furthermore, the study revealed that out of many factors affecting the coconut subsector, lack of credit facility, machinery and equipment's was identified as the a major concern to many coconut processors and recommends that the banks, micro institutions and cooperatives should advance loan to the processors so that they can acquire such machines and equipment's. It's surprising that virtually 90% of all processors use traditional or rather manual methods in their coconut processing. Moreover, perhaps the county government should consider partnering with international manufactures equipment and machines required in coconut value addition so that that they can establish their outlets in Kenya as it's very expensive for individual firm to import such machines. Alternatively, the county government should speed up the establishment Kenya Coconut

Association, cooperative for all coconut SMEs which can take such roles of importing the required machinery on behalf of processors. The association will equally in advocacy, pricing, regulation and negotiating credit facilities for its members. The association can also be modeled as a Sacco to take members deposit and equally advance loans to them.

Finally the study identified that majority of coconut processors lack adequate supply of mature coconut from farmers as most farmers sell to Tanzania under some illegal contractual dealings. The study therefore recommends that both the national and the county government should work together and develop legal framework that prohibits such dealings and protect the local industry from unfair competition. Moreover, farmers need to be sensitive not to fall trap of such unscrupulous buyers and need to be incentivized to support the local processors.

Since the study revealed that virgin coconut oil, toddy and desiccated coconut as some of the highest revenue earners of the coconut subsector and a very important source of employment, income and livelihood, we recommends that government agencies such as export promoting to come in handy to assist processors access lucrative export market while the government through various agencies should assist in creating markets for the coconut produce. Subsidies in the form of free licensing and tax holidays should equally be extended to coconut value chain actors as an incentive.

Moreover, the toddy (Mnazi) vendor's needs to be protected from police harassment and the sector regulated to ensure it creates more value to the economy. Indeed, the toddy segment should be promoted and research done to increase its production, branding and packaging so that it can compete with regulated beer brands in Kenya. Equally the government should enhance the production cholesterol free virgin coconut oil through automation as it can compete with palm oil and other edible oil imported in Kenya hence the county the much need foreign exchange.

Finally, the study revealed that the county has not fully explored subsector as they are many other products that can be produced from the coconut products which we have not been ventured into. Such products include tiles, percaline, and fiber like components used in interior finishing of boats and planes. Therefore, we recommend more coordinated benchmarking tours and increased investment in harnessing technology that will assist in optimizing the coconut value chain.

5.6 Suggestions for Further Studies

The study was focused on value chain analysis of the coconut subsector in Kenya. The objective of the study was to identify the components of coconut value chain as well as determinants that promote or hinder coconut value chain. Though the study meets its purpose, there's need for more research on strategies to minimize the hindrance to coconut value chain and to identify strategic intervention by the county government aimed at enhancing coconut value chain.

Moreover, there's need for studies on whether we should reconstitute the nuts and oil crops directorate and create a special coconut department that is more focused on coconut affairs just like the former KCDA since the current Nuts and Oil Crops Directorate has wider roles of managing all oil crops in Kenya making them lose focus to coconut issues.

5.7 Limitations of the Study

The study recognized that value chain analysis of the coconut subsector is very significant for its immense contributory roles to the economy. However, this study identified some limitations that researcher came across while undergoing the research study.

The first limitation was time constraint in that the time the researcher had limited time as the researcher was required to complete the study and submit the final project within the required period. This forced the researcher not only to rely on questionnaire which was taking long to be returned but also to obtain data through telephone interview guide. The questionnaire acted as a good guide for the telephone interview.

Another limitation was inadequate resources to conduct the census as some of the respondents were located far locality such as Lamu and Tanariver County which are security risk areas. A third limitation was inaccessible to some value chain actors due to their work schedules. Some were very busy to be interviewed and others were uncooperative and needed to be paid. Some respondents could not be reached as their telephones were not going through while some who suggested a personal interview kept on postponing the interview. Equally, some respondents were a little bit bureaucratic and proved difficult to be interviewed. Some even did not return the questionnaire and avoided the researcher's telephone call.

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APPENDICES

APPENDIX 1: AUTHORIZATION LETTER



UNIVERSITY OF NAIROBI MOMBASA CAMPUS

Telephone: 020-2059161
Telegrams: "Varsity", Nairobi
Telex: 22095 Varsities
Our Ref: D61/73739/2012

Tel: 020 2059161
Mombasa, Kenya

DATE: 12TH OCTOBER, 2016

TO WHOM IT MAY CONCERN

The bearer of this letter, **Mwachofi Herman Poisa** of Registration Number **D61/73739/2012** is a Master of Business Administration (MBA) student of the University of Nairobi, Mombasa Campus.

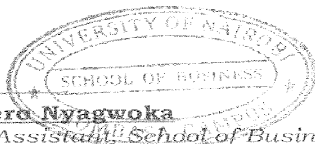
He is required to submit as part of his coursework assessment a research project report. We would like the student to do his project on **Value Chain Analysis of Coconut Sub-sector in Kenya**. We would, therefore, appreciate if you assist him by allowing him to collect data within your organization for the research.

The results of the report will be used solely for academic purposes and a copy of the same will be availed to the interviewed organization on request.

Thank you.


Zephaniah Ogera Nyagwoka

Administrative Assistant, School of Business-Mombasa Campus



APPENDICES

APPENDIX II: RESEARCH QUESTIONNAIRE/INTERVIEW GUIDE

This questionnaire/interview guide aims at collecting information and data for academic use by the researcher. Your kind participation will go a long way in providing useful information required to complete this research. The information provided will be treated in confidence. You need not indicate your name but your company name will be important. Please answer the questions precisely and objectively as requested below:-

Part A: Background information

1. Gender of the respondent Male [] Female []
2. Age range in years

18-25 years [] 26-30 years [] 31-35 years [] 36-40 years []

41-45 years [] 46-50 years [] over 50 years []

Part B: Identifying components of value chain in coconut subsector

1. Name of your company/organization.....
2. Period you have served in this organization: Less than 2 years [] 2-5 years []
6-10 years [] Over 10 years []
3. What is your designation in the firm: Chairman/Chairlady [] Director []
Manager []
4. Which coconut product do you produce.....
5. How long has the company been in operation: : Less than 2 years []
2-5 years [] 6-10 years [] Over 10 years []
6. Which market do you produce for : Local [] Export []
7. Who exactly is your customer: Families/household [] other companies []
Government [] Export []
8. How do you measure your output: in Kilograms [] in litres [] in pieces []

9. What volume of output does your company produce per week:
 Less than: 50 [] 51-200 [] 201-500 [] 501-1000 []
 1001-2000 [] 2001- 5,000 [] over 5000 []
10. Where do you get your raw materials (coconut product): Locally [] Export []
11. How much do you buy one unit of your raw material

12. How much do you sell one unit of your produce.....
13. Where is the source of your raw materials: Large scale Farmers [] Small Scale farmers [] contracted farmers [] own plantation [] cooperatives []
14. Do you get enough raw materials to meet your market needs: Yes [] No []
15. Any challenges getting your raw materials from your sources.....
16. Are there challenges getting market to your product: Yes [] No []

Part C: Assessing the institutional framework in the coconut subsector

1. Do you get government support in your business? Yes [] No []
2. Which kind of support do you get from the Government : kindly tick appropriately

Type of support	✓ Yes	✓ No
Licensing		
Financial		
Marketing		
Training		
Workshops		
Exhibition		
Benchmarking Tours		
Extension services		

3. Are you are aware of the existence of Nuts and Crops Oil Directorate to replace former KCDA. Yes [] No []
4. Do they support your enterprise? Yes [] No []

5. Which is the greatest support do you require? Kindly tick appropriately

Type of support	Yes	No
Licensing		
Financial/credit support		
Marketing support		
Training support		
Workshops/Seminars		
Exhibition		
Benchmarking Tours		
Extension services		

6. Are you organized in terms of associations and /or cooperatives?

Yes [] No []

7. If yes, kindly indicate the name of your association/cooperative.....

8. Who fix your prices in the market? Government [] Cooperative/association [] Self []

9. Using a scale of 1-5; kindly indicate extents in which available institutions framework support coconut value chain.

1. No extent at all 2. Little extent 3. Moderate extent 4. Great extent 5. Greater extent

	1	2	3	4	5
Bank support by granting credit facility					
Nuts and Oil crops directorate support					
Good road network					
County Government support					
Marketing agencies e.g. export processing zones					
Security					
N=26					

10. By ticking, indicate which infrastructural framework that is critical to your business

	✓ Tick appropriately
Financial /credit facilities	
Security	
Extension services	
ICT/Technology	
Industrial equipment's/plant & machinery	
Road	
Energy(Electricity)	

Part D: Exploring determinants of value chain in the coconut subsector

1 Are there any issues or factors that affect your coconut business :

Yes [] No []

2 From the list below, choose by ticking which factors hinder or promote your coconut business

Determinants/Factors	Available	Not available
	✓ (Promote)	✓ (Hinder)
Financial support		
Technological support		
Extension services		
Cooperatives ,associations & self-help groups		
Training		
Market		
National Government support Through NOCD		
Supply of coconuts (production)		
County government support through their ministry of agriculture		

3 Identify any other factor that affect your business but not mentioned above.

.....

4 Identify any other factor that promote your business but not mentioned above.

.....

5 Does the community that you operate in support your business? Yes [] No []

6 Are there brokers and middle men that affect your business through exploitation of both you and farmers

Yes [] No []

10. If yes, suggest way of solving the middlemen affects.

.....

11. Tick appropriately whether coconut has any of the following benefits

Benefit	✓ Agree	✓ Don't agree
Source of employment		
Source of income		
Promotes crime		
Reduces crime		
Reduces rural urban migration		
Creates wealth to the economy		
Encourages industrial development		
Utilizes not arable land		
Can provide enough raw material for Edible oil manufactures		
Helps educate children's (Income help paying school fees)		

Thank you very much for your corporation.