

UNIVERSITY OF EDUCATION WINNEBA
COLLEGE OF TECHNOLOGY EDUCATION, KUMASI

USING RATTAN AND CANE AS ALTERNATIVE MATERIALS TO WOOD IN
FURNITURE PRODUCTION




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COLLEGE OF TECHNOLOGY EDUCATION, KUMASI**

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FURNITURE PRODUCTION**

MASTER OF TECHNOLOGY EDUCATION IN WOOD TECHNOLOGY



**A Dissertation in the Department of DESIGN and TECHNOLOGY, Faculty of
TECHNICAL EDUCATION, Submitted to the School of Graduate Studies,
University of Education, Winneba in partial fulfilment of the requirement for
award of Master of Technology (Wood Technology).**

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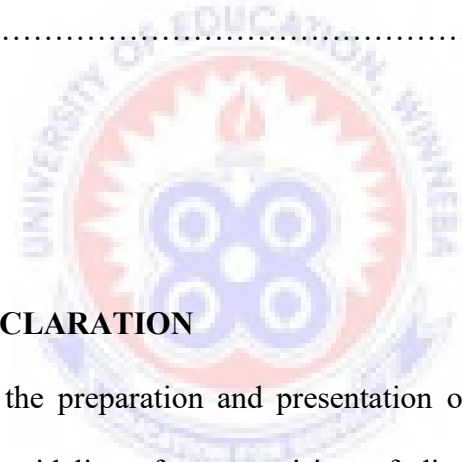
DECLARATION

STUDENT'S DECLARATION

I, Samuel Owusu, declare that this dissertation, with the exception of quotations and references contained in published works which have all been identified and duly acknowledged, is entirely my own original work, and it has not been submitted, either in part or whole, for another degree elsewhere.

SIGNATURE.....

DATE.....



SUPERVISOR'S DECLARATION

I hereby declare that the preparation and presentation of this work was supervised in accordance with the guidelines for supervision of dissertation as laid down by the University of Education, Winneba.

NAME OF SUPERVISOR: Dr. Martin Amoah

SIGNATURE.....

DATE.....

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DEDICATION

I dedicate this work to my lovely wife Mrs. Esther Owusu and my children Jeff, Alice, Rexford and Peniel for their support, prayers and encouragement.



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ABSTRACT

Ghana is experiencing continuous deforestation and degradation of its forest estate due to the unending high demand for wood and wood products for furniture and construction purposes. In the light of this, conservationists, furniture producers and researchers appear to be focusing their attention on exploring the utilization of non-timber forest materials particularly rattan and cane such as *Calamus deeratus*, *Eremospatha hookeri* etc. for the production of various kinds of furniture. Ghanaian furniture producers are also making frantic efforts in this direction but their successes and constraints have not been adequately assessed. Four specific objectives were considered in this study, namely to: assess the success levels of rattan and cane furniture production business; evaluate the processing constraints of the business, evaluate the marketing constraints of the rattan and cane business and the limitations of large scale production. The study which was limited to the industry's players in Accra and Kumasi Metropolis, employed questionnaire and interviews as data collection instruments which enabled a broader spectrum of issues about the sector to be covered. It was found that majority of the respondents (i.e. from 75% to 86%) were between the ages of 40 years and 59 years and who had had only basic education with no training on rattan and cane. Results also indicated that rattan and cane furniture producers have chalked some successes in terms of increases in income generation. Additionally, the study revealed that lack of financial support, lack of access to information and opportunities for exchange of experiences and lack of adequate and appropriate technology are the major processing constraints of the producers. Furthermore the major marketing constraints were lack of technical and financial supports while the major limitation to large scale production was low prices of the products leading to low returns. It was therefore concluded that the rattan and cane furniture production, though not much attractive to the youth, has improved the economic lives of the producers but there are very important technical, processing and marketing challenges that need to be addressed to ensure growth and development. It was therefore recommended that the government of Ghana, through her relevant agencies should offer the needed technical training opportunities as well as financial support in addition to creating marketing opportunities such as trade fairs for the industry players. All these could enhance the activities and incomes of the producers and even more importantly attract the youth in order that all of them could contribute better towards the development of themselves, their communities and the nation at large.

CHAPTER ONE

1.0 INTRODUCTION

1.1 Background to the study

Rattan is a collective term commonly used for spiny palms belonging to the sub family calamoideae of the family palmae. This family comprises 13 genera with more than 600 species (Uhl & Dransfield, 1987 in Ebanyenle and Oteng-Amoako, 2003). Ten genera with their species occur in the South East Asian region and four genera of 19 species occur in West and Central Africa. Of these four genera, *Laccosperma*, *Eremospatha*, *Oncocalamus* are endemic to West and Central Africa region while *Calamus* is native to both regions (Deanfield, 1987), (Sunderland, 1997a). In contrast to the situation in South East Asia, knowledge of Africa rattan is still not sufficiently known in spite of the very important role they play in the local economy of most West and Central African countries. Consequently, the rattan industry is beset with many problems including mis-identification of semi-processed rattan stems. Once the rattan stems are cut and leaf sheath removed, identification of the stems become difficult. Many rattan collectors group the stems on the basis of stem diameter irrespective of botanical names.

The local names of rattan and cane often vary from one locality to another. Rattan is a very important economic non-timber forest product (NTEP) and an estimated 0.7 billion of the world population are reported to be involved in the trading of the raw materials and their finished products (Dransfield & Manokoran, 1994). This non-timber product could be used as an alternative to reduce pressure on the dwindling tropical timber resources in many African nations where rattan and cane are found in commercial quantities including Ghana. Rattan cottage industries are reported to be providing means of livelihood for

collectors, producers and traders who operate with very limited cattail under labour intensive methods. Consequently, Africans share of the world's trade in rattan, which is worth some 6.5 billion US dollars annually in the international market is very significant (International Tropical Timber Organization 1997). The trade is dominated by countries of South East Asia where the domestic market alone is estimated to be 2.5 billion US dollars annually (Manokoran 1984). In India for example, about two million people especially from the poorer section, are employed in rattan industries (Ghat, 1993) Till a few decades ago rattans are found in abundance in natural forest, but scientific management of the resource was not accorded much importance.

According to a study conducted by Hawthorne and Abu-Juam (1995), about half of Ghana's reserved forests are in a condition described as deplorable. The rest are either most graded or in worse conditions. The state of forest reserves indicates that there is a general increase in forest disturbance from wetter to drier forest area. About 14% of the total permanent forest estates in Ghana are without adequate forest cover. The worse affected areas are the moist semi deciduous North –West and South-East sub type forest zones. These are the result of both forest fires and logging. It is clear, however, while reserves boundaries have been largely protected and respected, the condition of reserves within are varied and in many cases deteriorating. Kotey et al (1998) described the off-reserved forest area as very degraded with only an estimated 20, 000 ha of in fact patches of “old growth forest. The area of intact tropical high forest in Ghana has been estimated to be approximately 1.634 million ha. The various category areas are the timber production area.

According to the Forest Department's Inventory (Hawthorne & Abu Juam 1993) only 15% of area, is protected on grounds of genetic diversity. The rest of the areas are either inaccessible or degraded.

1.2 Statement of the Problem

In the past decade, conservationists and development organization have directed their research efforts at issues related to exploitation of Non-Timber Forest Products, more especially, rattan. Even though the rattan industry in Ghana is one of the major informal sector activities, issues such as gender roles, income, and the role of middlemen in the industry have not been given adequate attention. Studies have proved that rattan furniture products contribute to the social economic development in Ghana specifically, they support rural livelihoods. Despite the important role played by the rattan processors, the level of success of their ventures has not been investigated in terms of financial, technical and training support.

Additionally, the constraints faced by the processors have received little attention in terms of adequate quality and appropriate adequate technology. Furthermore, the processors have problems with transport from the point of sale of raw material (rattan) to access to market information. Some small scale rattan processors contacted in Accra and Kumasi lamented bitterly that they were working for subsistence living as they receive no assistance from the government nor non-governmental organization (NGOs).

Therefore there is the need for a thorough understanding of the rattan and can products manufacturing countries of Africa, particularly Ghana to assist decision makers to identify most of the constraint in the business. Notwithstanding the potential economic

importance of rattan to the nation, Ghana's contribution to world trade in this resource is not known, not even the value and volume of our domestic rattan market.

The researcher's prime aim therefore is to find out whether the issues surrounding the use of rattan and can for furniture production can warrant rattan and can to be recommended for use as alternative materials for wood, for furniture production.

1.3 Purpose of Study

The purpose of this study is to find out whether the issues surrounding the use of rattan and can for furniture production can warrant rattan and can to be recommended for use as alternative materials for wood, for furniture production so as to ease pressure on the forest. The researcher will also finding out the sustainability of the sector, the government's intervention and some inventory techniques that could be adopted to see Ghana's rattan and cane furniture production on the local and international markets.

1.4 Research Objective

The general objective of this research work is to identify the successes and constraints of rattan and cane products manufacturing sector in Ghana with particular reference to Ashanti and Greater Accra regions so as to recommend potential developments to deal with the challenges or constraints.

The specific objectives of the study were to:

- Assess the extent to which the rattan and cane furniture producers have succeeded in their businesses.

- Evaluate the processing factors militating against the success of the use of rattan in furniture production
- Evaluate marketing constraints faced by the rattan and cane furniture business.
- Ascertain the factors that limit large scale production of rattan and cane furniture business

1.5 Research Questions

The following questions were used in the study to collate more information towards the realization of the objectives set for this study.

1. What are the success factors of the rattan and cane furniture producers in Ghana?
2. What are some of the limitations of the rattan and cane furniture producers?
3. What factors militates against the success of large scale rattan and cane furniture business in Ghana?
4. What are the marketing constraints facing the rattan and cane furniture business in Ghana?

1.6 Significance of the Study

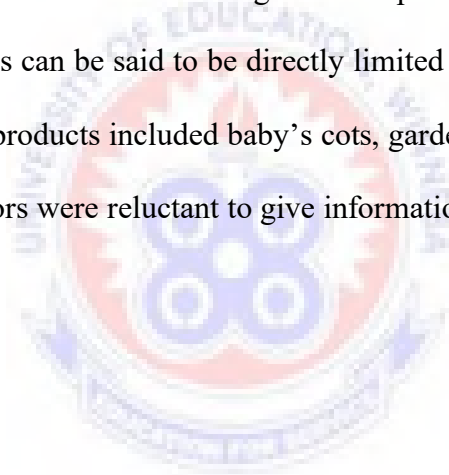
The following are the significance of the study;

- Awareness would be created for people to appreciate the use of rattan and cane as an alternative to wood
- To create awareness for dealers in furniture about rattan and cane furniture.

- Awareness would be created about whether or not rattan and cane processors need financial support.
- The findings from the research would urge the nation to embark on large rattan and cane plantations in addition to tree plantations so as to sustain the wood industry and create more jobs for people, particularly in Ghana

1.7 Limitation of the Study

Data for this study was collected from Kumasi and Accra due to the fact that a large number of rattan and cane furniture designers and producers are mainly concentrated there. Thus the findings can be said to be directly limited to the two cities. Also, some of the firms whose main products included baby's cots, garden chairs and tables, camp beds, etc, and rattan processors were reluctant to give information on rattan products.



CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction to Literature Review

A number of approaches had been made by many authors on the technology of rattan. In reviewing the related literature to the study, efforts were made with all acknowledgments, to look at some of such views and used them as supporting facts for the literature.

The chapter has been broken down into the following units.

2.2 Major priority species of rattan.

2.3 Genetic conservation of rattan.

2.4 Raw material supply.

2.5 Grading of the material for commercial use.

2.6 Design of rattan furniture and joints used.

2.2 Major Priority Species of Rattan

There are over 650 species world-wide belonging to 22 genera from the sub family calamoideae which belongs to the family palmae (Uhl & Dransfield 1987)/. They occur in the humid tropical forest regions of South-East Asia, the malay Archipelago and Africa. About three hundred (300) of the world's species are occurring throughout the islands with Indonesia being the world's leading producer, accounting for about 90% of the raw material supply. However, not all species are useful from the commercial point of view. For example, only about 20% of Peninsular Malaysia's rattan is used commercially. Most of the world's over 650 rattan species cannot enter the trade for these reasons.

The Africa rattans, represented by 19 species from four genera (calamus, Eremospatha, Laccosperma and Oncocalamus) are found in tropical humid forest of Ivory Coast, Ghana, Togo, Nigeria, Cameroon, Gabon and Congo (Sunderland, 1997). All the four genera are of the clustering type, producing numerous stems from a single rhizome, with the calamus as the only world known species in Africa. The criteria for selecting the major priority species include the geographical distribution, uses, cultivation, current research on the species conservation status and untapped potential (Aminuddin & Noor, 1992). The selection of rattan for commercial and industrial use is usually based on the diameter. It is agreed that the following seven taxa of rattans should be accorded high priority for international action.

1. *Calamus manan* Miq (including *C. tumidus*, *furtado* a related species).
2. *C. Caesius blune* (including *C' optimus* Becc)
3. *C. trachycoleus bce*. This includes about 14 closely related species from different areas of Asia.
4. *Calamus* section *podocephalus* *furtado*
5. *C. Subinermis* H. Wendl. Ex Becc (including relatives)
6. *C. palustris* griff (This complex includes *C inermis*. T. Anders, *C. latisolius* Roxis
7. *C. nambariensis* Becca and other such as *C. platzacanthus* warb. *C egregius* Burret and
8. *C. Simplicifolius* Wei. This complex present tremendous scope for genetic improvement. *C. tetradactylus*.

Also, Dransifed (1991) reports and describes calamus deeratus as one species of rattan that is highly polymorphic, small to medium diameter clutering rattan that produces a cane of moderate quality, up to Ca.18mm diameters.

2.3 Genetic Conservation of Rattan Resources

In recent years widespread clearing of forest with its accompanying change to the forest ecosystem, and intensive harvesting of resources to meet demands were factors that contributed to genetic erosion and threatened the stability of these resources.

For example Kiew and Dransfield (1987), described the conservation status of 104 rattan species of Peninsular Malaysia (Table 2.1) below following the usage of international union of conservation for Nature and Nature Resources

Table 2.1: Conservation status of rattans of peninsular Malaysia

Status	No of species
Endangered	13
vulnerable/Endangered	41
Vulnerable	44
Rare	4
Not threatened	2
Total	104

Source: Kiew and Dransfield 1987

2.4 Rattan Cultivation, Raw Material Supply and Products

a. Rattan Cultivation: According to Manokoran (1985), this approach could be applicable only for elite species. Almost invariably, the genetic base is narrow because seedlings for planting would have come from a limited number of mother plants with no

criteria applied in seed collection, seed banks or tissue cultured material. Some exchange of seeds had taken place in the past few years between countries like Malaysia, China, Indonesia, India and Thailand (Moriet al. 1985). The seeds or the plants raised were expected to be planted in the respective rattan gardens in order to help redistribute genetic materials to preserve diversity.

National parks or Natural Reserves –Mori et al (1985) contend that the conservation of the system through the establishment of the national parks or nature reserves is a means of conserving the vigour and the variability of the germ plasm.

Promoting lesser known species. “There is the need for botanical survey to discover unknown rattans of high quality from regions where the flora is less known” (Dransfield, 1985). Such species need to be introduced into cultivation and the use of these canes promoted. At the same time, good quality species from one area need to be introduced during cultivation in other areas so as to promote their usage.

b. Rattan Raw Materials

Rattan is extracted from forest reserves, cleared of spines, leaves, etc and bundled for sale in urban markets in Accra, Kumasi, Takoradi and Sunyani. It can also be supplied directly to some processors in these areas. Collected poles may also be sold in rural markets for commercial processing and household use. Collectors based in rural areas may process some of the rattan for sale and or use some of the rattan for their household needs.

c. Rattan Products

Rattan is mainly used for furniture production even though it could be used for other minor products such as baskets, mats, curtains etc. Rattan furniture is a perfect choice for sunroom, porch or living areas. Rattan is extremely strong, stylish, and could last for many years. The benefit of rattan is that each piece is fully assembled, which is a sign of superior quality furniture. Rattan is tailored for those who appreciate upscale tropical furniture with an attractive tropical edge. The rattan poles are visually attractive and they provide the strongest natural frame.

Rattan furniture are often preferred for sunrooms across the countries of the world because of their exotic or tropical looks. Rattan is a tropical palm plant that is found in Africa and Asia. Its stalks are used for making exquisite furnishings. Because the plant imitates the structure of regular tree wood it can easily be fashioned, cut and dyed in many different ways (Oteng Amoako and Obiri Darko, 2009). For this reason, rattan has become a very popular and stylish outdoor wicker furniture option for sunrooms. Interior decorators have discovered the versatility of rattan for the interior of homes. One or two specific pieces of rattan furniture can change the entire look, style and mood of any room. The exotic flair coupled with classic sophistication creates a dynamic and intriguing interior design space, perfect for both the modern and traditional home. Rattan is quickly becoming the preferred style. Whether it is used as an end table or for your entire set of furniture rattan stands out in the best possible ways (Oteng Amoako and Obiri Darko, 2009).

Hundreds of different colours, styles and shapes allow this versatile material to give your decoration extra depth. Rattan is a unique plant that can only be imported from exotic faraway lands and its rich dark hues and gorgeous texture create a paradise on its own. Poor raw rattan is collected together in bulk to facilitate transportation (Oteng Amoako and Obiri Darko, 2009) Falconer (1994) explains further that processing of the raw rattan at both rural and urban levels is largely on a small scale basis. The same entrepreneur does both the primary and secondary processing manually. Furniture, shopping and laundry baskets, serving trays and other handcrafts are the major products from urban processors, while carrier and storage baskets are the main products at the rural level. The urban products are sold mainly to urban consumers consisting of locals, expatriates and sometimes, a few are exported outside Ghana. At the rural level, local carrier and storage baskets may be sold on domestic, urban and rural markets.

In contrast to the situation in Southeast Asia, knowledge of African rattans is still not sufficiently known in spite of the very important role they play in the local economy of most West and Central African countries (Amoah et. al. 2015). Consequently, the rattan industry is beset with many problems including misidentification of semi-processed rattan stems. Once the rattan stems are cut and leaf sheaths removed, identification of the stems become difficult. Many rattan collectors group items on the basis of stem diameter irrespective of botanical names (Amoah et. al. 2015).

2.4.1 Rattan in West African sub region

Middle and few collectors may export rattan to market centres in Côte d'Ivoire, Togo and Nigeria for better prices. Traders from other countries in West African sub region may

purchase rattan directly from collection areas, or from other urban markets for sale in their countries (Oteng-Amoako & Obiri-Darko 2009).

2.4.2 Categories of Rattan Collectors

Two categories of rattan collectors, urban and rural, are identified with the urban ones forming the majority (Amoah et. al. 2015). They are mainly based in urban areas such as Accra, Kumasi, Sunyani and Takoradi but collect raw rattan from nearby forests purposely for sale and use. Rural collectors on the other hand are solely rural based, collecting raw rattan for sale to middlemen and processors or for use within the rural areas (Belcher 1995). Both categories of collectors could operate as individuals and in collection teams. The average number of people in a collection team ranges from two (2) to fifteen (15). The teams are referred to as Gangs among collectors. A gang may be made up of individuals responsible for financing their own collection operations with respect to payment of royalties, permit fees, food, transport etc (Belcher 1995).

2.4.3 Efficient Processing, Quality Raw Materials and Finished Products

The quality of rattan products depend mostly on the quality of raw materials used, the efficiency, effectiveness and ingenuity of the weaver, the efficiency of tools and equipment used and other inputs such as finishes skilled manpower employed in times when additional hands are needed (Oteng-Amoako and Obiri-Darko, 2000b).

2.4.4 Quality of Raw Material

Transformation of primary processed rattan stems into quality finished rattan products depends mostly on the quality of rattan stems. For quality finished products, rattan weavers prefer matured stem with long internodes, devoid of discolouration, scorch marks, splits, fungi and insect damage and seasoning defects such as abnormal shrinkages, cracks, splits (Oteng-Amoako and Obiri-Darko, 2000b). Other quality indicators identified by Sunderland and Nkefor (1999) include non-tapered or uniform stem diameter and stems with glossy or bright colour.

2.4.5 Primary Processing

Processing of raw rattan in African is manually done using simple domestic knives to remove the skin (epidermis), followed by drying in the open air with little or no preservative treatment (Oteng-Amoako and Obiri-Darko, 2000a; Sunderland and Nkefor, 1999). This labour intensive activity results in inferior quality of raw materials often infested with fungi and borer insects. Therefore, the technology needed in processing is the adoption of simple but efficient scrapping tools and effective preservative methods to prevent raw rattan from attack by biological hazards before they are used. The Southeast Asian method of boiling green rattan in diesel or coconut oil which gives superior raw material (Latif, 1991) should be investigated alongside other innovative methods for possible adoption in Africa.

2.4.6 Secondary Processing or Transformation (Weaving) of Rattan

Research into desired physical properties such as ease of bending, sanding, glue bonding, drying and bleaching are essential for the production of quality finished products. Furthermore, the use of steam instead of blow gun (fire) to bend rattan which prevents scorch marks; the use of staples and dowels instead of nails and proper application of varnish on finished products need further evaluation on our indigenous species. Transfer of technology on product designs and use of modern processing machines from Southeast Asia may be appropriate. To facilitate technology transfer, there will be a need to improve the few existing training centres in African countries and establish new ones at selected processing sites. These training centres should be manned by master craftsmen who would be capable of organising periodic workshops to introduce innovative designs to weavers. Equally important is the establishment of rattan processing centres, where weavers can share at affordable cost the use of modern and efficient machines to boost quality and quantity of rattan products.

2.5 Grading of the Material for Commercial Use

2.5.1 Stages in rattan grading

According to Bhat (1996), rattan is graded at different stages such as after collection after processing and before marketing. Grading is applied at any or all of the different processing stages.

The following procedures are usually adopted.

i. Grading At Stage 1

Sorting canes, at the collection sites of producing countries or in trade centers of raw cane importing countries (eg. Hong kong, Singapore) is grading at the first stage (Mohmond, 1990).

ii. Dimensions:

- a) Stem thickness: According to stem thickness, canes are broadly categorized into ‘large-diameter’ and ‘small diameter’ classes (see Fig. 18). Conventionally, the demarcation between these two classes in a majority of the countries is 18mm.
- b) Stem length: This is another parameter employed. The minimum length prescribed for large diameter canes varies between 1 to 8m with a common range of 3-4m. length prescribed for small diameter canes varies from 4 or 5m to 8m.

iii. Hardness:

On the basis of ‘hardness’, cane is graded into three categories.

- c) Hard rattan – when bend by hand and released, springs back and regains its original form quickly
- d) Moderately hard rattan: When bent by hand and released, regains its original form rather slowly and not fully.
- e) Soft rattan: When bent, it cracks at the end or breaks, and if the bent rattan is released before it cracks or breaks, it regains form completely.

iv. Defect measurement:

The defects usually evaluated are discoloration caused by fungi, breaks, worm holes scars, etc.

- In Indonesia, sorting canes into high and low quality classes based on defects such as fungal discoloration is common. Canes are then selected on the basis of length, 3m for export purpose and shorter ones for local disposal. Accounting to MFR (Ministry of Forestry) rules, the large – diameter canes are graded into two quality classes. Grade AB and Grade CD. Grade CD will be processed further for scraping or polishing to classify it into Grades CD1 and CD2 (reject). The Grade CD 2 canes are sold in the local market while Grades AB and CD 1 will be sorted into seven different diameter classes from 14-16mm to 28-30mm for export purpose.
- In Hong Kong and Singapore, the imported raw rattan is sorted into the following grades based on ‘hardness’ of the material: Soft, Moderately Hard and hard rattan.

v. Grading At Stage II (After Processing)

After processing, canes are graded on the basis of surface colour. Whitish, yellowish or cream colour canes come under higher grades than brownish canes. The other parameters used with visual colour determination are brightness and sheen/luster (glossiness). For instance, canes with bright and glossy surface are superior to that with dull and non-lustrous surface.

- In Hong Kong, Indonesia, Malaysia, Philippines and Singapore, brown or grey canes are bleached with hydrogen peroxide or other bleaching agents to give them a superior finish.

- Sulphur fumigation after washing and drying is another technique employed in South-east Asian countries to improve surface appearance. Artificial colouring and melamine coating are also applied to upgrade lower quality canes.
- In South-east Asian countries, oil curing green rattans is employed.
- In Malaysia, boiling rattans in water is employed.
- In Indonesia, for export purposes, the grading specifies the uniformity of colour in round rod rattans.

However, it is important to mention that instead of bleaching at green condition, some units bleach dry rattans, resulting again in wetting, requiring once more drying. Similarly, some units fumigate wet rattans with burning sulphur, resulting acidic hydrolysis of wood material causing strength reduction. However, uniform practices that are not based on scientific research are still not arrived at and yet to be approved by International Standards Organizations. Hence, it is suggested that one takes care while employing these processing techniques.

vi. Grading At Stage III (Before Marketing)

In this final stage, the raw materials in both round and split forms are graded before marketing. The criteria employed include dimensions (diameter/width, thickness, length, taper, intermodal length) of both round and split canes, colour, brightness/luster, ‘hardness’, and defects (stem bend, fungal stains, borer pinholes, bruises, checks, snakes, etc). Split canes such as flat/oval cores, peels and round cores are generally classified according to the dimensional specifications (width, length, thickness). Decay, worm

holes, breakages and bruises are prohibited even in the lowest grade. The other defects such as blemishes, pin holes, checks and small bruises are permissible to different extents for specific grades. In India, so far no official standards exist in this field. The application of needful quality consciousness in preparing the raw materials for marketing, till such standards are arrived at is suggested.

2.6 Effective Policy and Legislation

In most countries of tropical Africa, past forest policies and legislations have emphasised the supply of timber for wood industry with little or no recognition of non-timber forest products including rattans and bamboo. Consequently, non-timber forest products were not considered in forest management plans. However, current forest policies in some countries of Africa encourage involvement of private particularly rural people in forestry decision making. They encourage rural people living on the fringes of the forest, organisations and communities, to grow, protect, manage and utilise their own forest resources. Notwithstanding these new initiatives, rattan collectors in some countries, like Ghana, still have to pay permit and other fees for collection (Oteng-Amoako and Obir-Darko, 2000a; 2000b). Local collectors should be allowed to collect rattan on a sustainable harvesting basis provided it can be demonstrated to decision-makers that appropriate management regimes are developed and implemented by communities which recognize access rights to the resource. Involvement of the local people in decision making and management of the reserves will motivate them to see themselves as part owners of the forest reserves. They will then harbour no apprehension to manage, protect

and cultivate it through enrichment planting or plantation establishment. Therefore, all stakeholders should be allowed to participate in all policy formulations that affect them.

2.6.1 Rattan Collection and Permit System

a. Collection

- i. The raw collection system in Ghana is typically labour intensive, where material is collected mainly from wild sources in natural forest with permit from the government's forest department (FD). When rattan is harvested, it is cut into 13 foot lengths and the dry sheeting is removed. Its stems are dried in the sun and then stored for seasoning (Oteng-Amoako and Obir-Darko, 2000a; 2000b).
- ii. Then these long rattan poles are straightened, graded by diameter and quality (judged by its nodes, the fewer inter-nodes the better) and shipped to furniture manufacturers (Obeng 1989).

b. Permit System

The procedure for obtaining a permit for the collection of commercial quantities of rattan is as follows:

- i. The prospective collector first identifies areas for collection.
- ii. Application for permit is addressed to the District forest officer.
- iii. Forestry department (FD) staff verifies availability of rattan at the proposed site.
- iv. Requests approved upon satisfactory report from inspection of site.
- v. Payment of regularity / permit fees by successful applicant.

- vi. Permit with a validity period of a day per bundle of rattan is issued after payment of royalty fee.
- vii. Rattan is collected under supervision of (FD) staff.
- viii. A conveyance certificate is used at a cost with validity period depends on the species, type collected (Obeng 1989).

2.6.2 Finish

All rattan and wood surface shall be sealed smooth and all exposed edges and corners shall be eased. Explored nails screws and bolts shall be countersunk with the rattan plugs flushed and sanded smooth before finishing (Obeng 1989).

Furniture finish shall be in accordance with any of the following;

- Lacquer or nitrobased clear finishes
- Cellulose acetate bytyrate (CAB)
- Acid catalyst clear lacquers
- Poly urethane
- Oil or wax

All materials used for juvenile furniture shall be of the non-toxic type.

All polished painted or otherwise finished surface shall be of good workmanship and brought to a durable finish (Obeng 1989) .

CHAPTER THREE

METHODOLOGY

3.0 Introduction

This chapter deals with how the research was carried out to obtain results. The chapter is organized under the following sub-headings.

- Population
- Sampling
- Research design
- Research instruments
- Data collection
- Data analysis
- Validity and reliability



3.1 Population

The target population for the study consisted of all those involved in the trade of rattan both rural and urban. It comprised collected or harvested rattan processes or many factories and traders or marketing agents. The categories become the main focus for the study. Two regions namely Ashanti and Greater Accra regions are noted to be major areas for rattan activities in the country.

The estimated population of rattan processors or manufacturers in Accra and Kumasi metropolis, as clustered areas for these activities were found to be two hundred and fifty

(250). Those involved in the collection estimated to be one hundred and fifty (150), with traders numbering one hundred and eighty (180).

3.2 Sampling

Questionnaires and interviews were the instruments used to gather primary data during the research. The questionnaire was provided with response option for respondents to select.

The researcher chose the use of questionnaire because it required little time on behalf of the respondents. It also allowed for broad scope sampling. In addition, the cost of distribution of the questionnaire and its return were relatively low. The distribution of questionnaire was personally done by the researcher in order to establish personal interactions with the respondents. This provided some sort of motivation and to ensure proper responses to the questionnaire.

3.3 Research Design

The study was among rattan users in Accra and Kumasi in the Ashanti and Greater Accra regions. The researcher predominantly adopts qualitative approach using discussion of data from questionnaires and interviews and descriptive language in the text (Eisner, 1991).

Strauss and Corbin (1990) recommend qualitative method for better understanding of such phenomenon about which little is yet known “if you want people to understand

better than they otherwise might, provide them information in the form in which they usually experience it (Lincoln & Cuba, 1985).

The purpose is to explore /examine and bring to light phenomena which deserve intensive investigation (Amedahe, 2002).

3.4 Research Instrument

The study employed the use of questionnaire, structured and non-structured interviews and observation in collecting data from the sampled population. Three hundred questionnaires were set and distributed among the identified clustered areas where rattan processing activities went on. Structured interviews were used alongside the questionnaire. The interviews were designed to seek views from personnel from the forest commission (Kumasi/forestry research institute of Ghana (Fumesua-Kumasi). Some master craftsmen and apprentice craftsmen were also selected, for interview. Non – structured interview was also used to collect prices and lost of material /production from the manufacturers and the perception of the general public on rattan furniture.

3.5 Data Collection

Questionnaires were designed and distributed to the sampled population of the survey locations for their views or responses. The questionnaires included background profile such as age, gender, educational level, sources ad availability of raw material, processing and marketing conditions, some of the respondents provided answers on the spot and returned the questionnaires to the researcher. Other respondents who could not read had

the questions read and explained by the researcher. Literature search was extensively used as supporting facts for the views collected.

3.6 Data Analysis

Statistical analysis was done using the statistical package for the social sciences, (SPSS) for window (version 16.0). Descriptive statistics and frequency analysis were used to generate chart for that cross-tabulation and chi-square was also used to find relationships of some variables, taking to consideration significant value of 0.05.

3.7 Validity And Reliability

To ensure that the variables yielded the desired results, the questionnaire and interview schedule were structured and submitted to my supervisor for vetting before finally administering them. Moreover, since the questionnaires were purely technical and purposive, some of the respondents who had difficulty interpreting them were taken through so as to avoid misinterpretation. For those whose educational background was such that they could not clearly understand the questions, the researcher read and interpreted to them and recorded the responses on their behalf.

CHAPTER FOUR

RESULTS AND DISCUSSIONS

4.0 Introduction

The research aims to study the success and constraints of rattan production sector in Ghana with reference to Ashanti and Greater Accra region. The purpose of this chapter is to analyze and discuss the results obtained from the study. Basically, the chapter analyses and discusses the data obtained from the respondents through questionnaires.

Table 4.1 Demographic Characteristics of Respondents

Variable	Frequency (N)	Percentage (%)
Educational Level		
No Formal Education	3	1.5
Basic Education	172	86.0
Secondary Education	17	8.5
Technical	8	4.0
Age		
Under 20 years	2	1.0
21-29	9	4.5
30-39	38	19.1
40-49	65	42.2
50-59	84	32.7
60 Years Above	2	0.5
Training On Rattan Use		
Yes	35	17.1
No	165	82.9
Years In Business		
0-5 years	9	4.0
6-10 years	59	29.6
11-15 years	75	37.7
16-20 years	57	28.6

Source: Field study, 2015

For their educational background about two thirds of the population 86% had basic education. About 8.5% of them had secondary or technical education with the greater number on the technical education, just 4.0% of the respondents.

Out of the total number, just about 1.6% was below twenty years (20 yrs). About one-third of the population who responded (23.6) were between twenty one and thirty nine (21-39 yrs) while majority of them fell in the 40-59 year group and they represents 74.9% of the number.

(Table 4.1) with respect to the number of years in the rattan business, it was found out that less than half the population (33%) had been in the business from one to ten years. A little over half of the population (66.3%) had been in the business for over ten years, while just a few (0.5%) had stayed for over sixty years.

Further to the above, the respondents were asked to indicate whether they were into the rattan furniture production business on a part-time or full time basis. The responses, as presented in Table 4.2 show that majority of the respondents were in the rattan processing business on full time basis.

Table 4.2: Status of Employment of Respondents

	Frequency	Percentage
Part time	12	6.0
Full time	188	94.0
Training attended	34	17.0
Rattan Association	188	94.0
Supply Agents	179	89.5
Regular supply	168	84.0

Source: Field study, 2015

From Table 4.2 , 188 respondents that accounted for 94% were in the rattan business on a full time basis whilst only 12 respondents who represent 6% of the respondents were in the rattan business on a part-time basis. This shows that the respondents were in a better position to give accurate information regarding the successes and constraints of their business. It also suggests that the respondents would take keen interest in this research since it might have effects on the success or failure of their businesses.

Again, the respondents were asked to indicate if they had ever attended any training programme on processing and construction of rattan. The responses as presented in Table 4.2 depict that only 34 respondents that accounted for 17% had ever attended any training on rattan processing and construction. This means that majority of the respondents (83%) had not received any training on rattan construction and processing. It is important to point out that the respondents who had no training on rattan construction did not do so deliberately. They did not attend the training because there were no training programmes available to them. Clearly, this is one constraint to the success of a rattan production and construction because these individuals need training in order to be abreast with modern ways of processing rattan.

Supply of raw materials is widely accepted to be a major problem to most manufacturing and production businesses. From this background, the respondents were asked to indicate if they had an agent who supplied them with raw materials for their rattan business. As presented in Table 4.2, majority of the respondents indicated that they had agents that supplied them with raw materials. One hundred and seventy nine (179) respondents representing 89.5% indicated that they had agents that supplied them raw materials for

production. This evidence suggests that the respondents had no difficulties identifying providers of rattan raw materials for production.

The above evidence suggests that the respondents had agents that provided them raw materials for production. It was indicated that the raw materials were always available when needed for production. The response obtained from the respondents is presented in Table 4.2 which shows that majority of the respondents had regular supply of raw materials. Table 4.2 depicts that 168 (84%) respondents had regular supply of rattan materials for production. This also indicates that rattan producers did not have problems with raw materials for production.

The above analysis has presented some basic information about the rattan production industry with regard to their operation, training of staff and raw materials acquisition. It shows that there were challenges with attending training programmes to boost the skills and knowledge of the rattan producers. It was also necessary to ascertain the level of success obtained by the respondents in the rattan business.

4.1 Success Level of Rattan and cane Furniture Businesses

As part of the objective of the study, data were obtained from the respondents regarding the success level of their businesses. The respondents were required to indicate if the rattan business had improved their well-being in terms of finance, culture, status and capacity. The respondents were also asked to indicate if the rattan production business had been of any benefit to their community and the nation at large. Their responses are as presented in table 4.3.

Table 4.3: Statistical analysis of Levels of success of rattan and cane furniture business

No	Statement	MEAN SCORE			
		Average	Kumasi	Accra	Sig
1	Increased in income generated to government	3.95	3.90	3.99	0.001
2	This business has increased my income	3.76	3.68	3.86	0.001
3	This business has strengthened local culture	3.69	3.64	3.73	0.001
4	Improvement of consumer well being	3.68	3.55	3.82	0.001
5	Improvement of economic status of members	3.56	3.53	3.60	0.001
6	Improvements of economic status of poorest members of the community	3.44	3.41	3.46	0.001
7	This business has improved my market strategies	3.44	3.43	3.44	0.001
8	Strengthened community organizations	3.40	3.34	3.47	0.001
9	Improvement of local capacity	3.40	3.32	3.48	0.001
10	Increased in value added locally	3.27	3.27	3.27	0.001
11	Increase of proportion of community members with paid work	3.25	3.23	3.26	0.001
12	Improvement of conservation of forest resource	3.22	3.29	3.14	0.001

Source: Field Study, 2015

Note: N= 200; Mean (X): (1.00 = total failure; 2.00 =Moderate Failure; 3.00= Moderate Success and 4.00 – Total Success).

From Table 4.3, 12 items are constructed to find the levels of success obtained by the rattan businesses. Item 1 is on the statement that rattan business has increased income generated to government. It has been revealed that respondents in Kumasi (mean of 3.90) and Accra (mean of 3.95) strongly believe that there is a total success as far as generation of income to government is concerned. On the average, both cities recorded a mean of 3.95 which clearly indicates a total success. With regard to improving the individual income of the respondents, Kumasi shows a total success (mean = 3.86). On the other hand, Accra also shows a moderate success (mean =3.68). The average mean for both

cities is 3.76 which indicate that there has been success obtained as far as the increase of income of the rattan businesses is concerned.

Table 4.3 also indicates the level of success of rattan business in strengthening local culture. The result indicate that both Kumasi (mean = 3.64) and Accra (3.73) showed moderate success. The average mean for both cities is however 3.69 suggesting that there has been a moderate success with regards to the strengthening of local culture by rattan business.

Again, the respondents were asked to indicate the level of success of rattan business in improving the well-being of consumers. The data obtained indicates that Kumasi (mean=3.55) obtained a moderate success with Accra a (mean=3.82) which also indicates a total success. Table 4.3 further shows the level of success of rattan business in the improvement of economic status of members or producers. The table shows that there is a moderate success in Kumasi (mean=3.53) and Accra.

Again, the level of success of rattan business in the improvement of the economic status of the poorest in the community is also obtained. Table 4.3 indicates that Kumasi ascertained a moderate success just as Accra does. It can also be observed from Table 4.3 that a moderate level of significance is obtained by rattan businesses when it comes to the improvement of market strategies of the operators. At a level of significance of 0.001, Kumasi and Accra obtain a mean of 3.43 and 3.44 respectively. Both mean indicate a moderate success. Again, both cities obtained 3.44 which depict a moderate success for the improvement of market strategies.

The rattan business is also deemed to strengthen community organization. The respondents are asked to indicate the level of success of rattan business in improving community organization. The data obtained, as presented in Table 4.3 indicates that there is a moderate success in both Kumasi and Accra. On the average, Accra and Kumasi obtain an average mean of 3.40 which is an indication of a moderate success.

Further, the level of success in improving local capacity of the community is also obtained. Table 4.3 show that Kumasi (mean = 3.32) obtain a moderate success. Again, Accra obtain a mean =3.48 which also depict a moderate success. The average mean for both Accra and Kumasi indicates that a moderate success has been achieved by rattan processing business in the improvement of the local capacity of the community.

The increase in the value added locally by rattan business is also ascertained. The data obtained indicates that Kumasi and Accra record a moderate success. Both cities recorded average mean of 3.27. This shows that a moderate success has been achieved by rattan business in the increment of value added locally.

The study further obtains the level of success obtained by the rattan business in increasing the proportion of paid work for to the community members. The data presented in Table 4.3 show that Kumasi and Accra have a moderate success which indicate that both cities contribute to an increment of paid work for the members of the community. The average mean for both cities is however 3.25 which also indicate that a moderate success has been obtained by rattan business in the provision of paid work for the community members.

Finally, the level of success of rattan business in the improvement of conservation of forest resource is also obtained. The data obtained which is presented in Table 4.3 show that Kumasi and Accra record a success in the conservation of forest resource. The average mean for both cities is 3.22. This indicates that a moderate success has been achieved by rattan business in conserving forest resources.

The above analysis suggests that rattan business have obtained an average success in both Kumasi and Accra. However, it can be observed that the level of success of rattan business in Accra is relatively higher than that of Kumasi in all the indicators except the conservation of forest and the increase in value added locally. This is not surprising because Accra, which is the capital of Ghana is economically vibrant than Kumasi. Most tourists, managing directors, foreign nationals, board of directors, celebrities and the richest people in Ghana stay in Accra. It is therefore expected that the patronage of these rattan products would be higher in Accra than Kumasi. Because of this, the rattan business operators in Accra shall obtain more income and create more employment than pertains in Kumasi. This makes the Accra rattan businesses to contribute more by way of tax to the government of Ghana than the Kumasi businesses.

At this point, it is important to ascertain the actual responses provided by the respondents in Kumasi and Accra. Table 4.4 presents the responses provided by the rattan businesses in both cities.

Table 4.4 shows the responses given by the respondents which depict the success of rattan business for them and the as a whole. In all, 12 items are constructed for which were provided. Item 1 was the assumption that there had been a success in the rattan

businesses as far as income generation to the government was concerned. It was revealed that 90% and 99% of the respondents in Accra and Kumasi respectively agreed that generation of income to the government by rattan businesses had been a total success.

Table 4.4: Detailed Responses on Success of Rattan and cane Furniture Businesses in Kumasi and Accra

	Cities	Percentage (%)			Total Success
		Total Failure	Moderate Failure	Moderate success	
Increased in income generated to government	KSI	-	-	10.0	90.0
	ACC	-	-	1.0	99.0
This business has increased my income	KSI	1.0	1.0	27.0	71.0
	ACC	2.0	1.0	7.1	89.8
This business has strengthened local culture	KSI	1.0	1.0	31.0	67.0
	ACC	2.0	1.0	19.0	78.0
Improvement of consumer well being	KSI	-	-	70.0	30.0
	ACC	-	-	86.0	14.0
Improvement of economic status of members	KSI	-	-	48.0	52.0
	ACC	-	-	41.0	59.0
Improvements of economic status of poorest members of the community	KSI	-	-	58.0	42.0
	ACC	-	-	55.0	45.0
This business has improved my market strategies	KSI	-	-	57.0	43.0
	ACC	-	1.0	54.0	45.0
Strengthened of community organizations	KSI	-	2.0	61.6	36.4
	ACC	-	-	54.0	46.0
Improvement of local capacity	KSI	-	2.0	64.0	34.0
	ACC	-	-	52.5	47.5
Increased in value added locally	KSI	-	-	73.0	27.0
	ACC	-	-	74.0	26.0
Increase of proportion of community members with paid work	KSI	-	-	77.0	23.0
	ACC	-	-	74.0	26.0
Improvement of conservation of forest resource	KSI	-	-	70.0	30.0
	ACC	-	-	86.0	14.0

Source: Field Study, 2015; N= 200

As regards the business increasing the income of the manufacturers, 71% and 89.8% in Kumasi and Accra respectively agreed that it was a total success. Again, this item recorded a moderate success of 27% and 7.1% in Kumasi and Accra respectively.

Table 4.4 also indicates that 67% and 78% of the respondents in Kumasi and Accra respectively agreed that a total success had been achieved by the rattan business in strengthening local culture. Table 4.4 further showed that 70% and 86% of the

respondents in Kumasi and Accra respectively indicated that a moderate success had been achieved by the rattan business in improving the well-being of the consumers. This means that almost three-quarters of the respondents are of the opinion that rattan business has improved the well-being of the consumers.

Table 4.4 further showed that 52% and 59% of the respondents in Kumasi and Accra respectively indicated that a total success had been achieved by the rattan business in the improvement of the economic status of members. However, the item 48% and 41% moderate success in the improvement of economic status of members. With regard to improvement of the economic status of poorest members of the community, 58% and 55% of the respondents in Kumasi and Accra respectively indicated that a moderate success had been achieved. Again, 42% and 45% of the respondents in Kumasi and Accra respectively indicate that the rattan industry has achieved a total success in the improvements of the economic status of poorest members of the community.

On the other hand, 57% and 54% of the respondents in Kumasi and Accra respectively assert that the rattan processing industry has achieved a moderate success in the improvement of market strategy whilst 43% and 45% respectively provide that the rattan processing industry has achieved a moderate success in the improvement of market strategy. On the issue of strengthening of community organizations, 66.1% and 54% of the rattan processors in Kumasi and Accra respectively indicate that a moderate success has been achieved while 36.4% and 46% of the respective respondents in Kumasi and Accra respectively assert that the rattan industry has achieved a total success in strengthening community organization.

It can also be ascertained from Table 4.4 that 64% and 52.5% of the respondents in Kumasi and Accra respectively assert that the rattan industry has achieved a moderate success in the improvement of local capacity. Table 4.4 also indicate that 73% and 74% of the respondents in Kumasi and Accra respectively agree that a moderate success has been achieved by the rattan business in adding value to the locality. Table 4.4 further show that 27% and 26% of the respondents in Kumasi and Accra respectively indicate that a total success had been achieved by the rattan business in adding value to the locality they operate in.

Table 4.4 further show that 52% and 59% of the respondents in Kumasi and Accra respectively indicate that a total success has been achieved by the rattan business in the improvement of the economic status of members. However, the item 48% and 41% moderate success in the improvement of economic status of members. As regard improvement of the economic status of poorest members of the community, 58% and 55% of the respondents in Kumasi and Accra respectively indicate that a moderate success had been achieved. Again, 42% and 45% of the respondents in Kumasi and Accra respectively indicate that the rattan industry has achieved a total success in the improvement of economic status of the poorest members of the community members with paid work.

Table 4.4 further shows that 77% and 74% of the respondents in Kumasi and Accra respectively indicated that a moderate success has been achieved by the rattan business in the improvement of proportion of community members with paid work. The item also recorded 23% and 26% total success in the improvement of proportion of community members with paid work.

Finally, 70% and 80% of the respective respondents in Kumasi and Accra assert that a moderate success has been achieved by the rattan business in the improvement of conservation of forest resource. Again, 30% and 14% of the respondents in Kumasi and Accra respectively indicate that the rattan industry has achieved a total success in the improvement of conservation of forest resource.

This analysis demonstrates that the rattan industry has chalked some success. It demonstrates that the individual producers and the country have benefitted immensely from rattan processing. It is however evidenced that the rattan businesses in Accra has achieved more successes than the rattan businesses in Kumasi. It will therefore be interesting to note which city face challenges in their rattan processing businesses. The next section presents and discusses challenges faced by the rattan processing industry in Kumasi and Accra.

4.2 Factors limiting success of Rattan and cane Furniture Business

Every business has some factors or challenges that work against or affect the achievement of the objectives of the business. Such factors are called limiting factors of success. After obtaining the level of success of the rattan business, the study explores factors that limit the success of rattan business. This section presents factors that limit or affect the success of rattan business. Table 4.5 shows the various factors that limited success in the production of rattan. It could be observed that lack of technical support is a major constraint in Accra. On the scale of constraints, 80% of the respondents choose high constraints whilst 7% indicate that lack of technical services is a constraint in Accra.

Table 4.5: Factors limiting success of rattan and cane furniture production

Process: Production	TOWN	Percentage (%)			
		Not a constraint	A constraint	A Moderate Constraint	High Constraint
Lack of technical support	KSI	-	17.0	17.0	66.0
	ACC	-	13.0	7.0	80.0
Lack of financial support	KSI	-	6.0	18.0	76.0
	ACC	-	1.0	9.0	90.0
High cost of production	KSI	-	8.0	35.0	57.0
	ACC	-	1.0	20.2	78.8
Lack of adequate quality control	KSI	-	4.0	80.0	16.0
	ACC	-	1.0	88.0	11.6

Source: Field Study, 2015: N = 200

On the other hand, 66% of the respondents indicate that lack of technical services is ‘high constraint’ whilst the respondents that choose constraints in Kumasi is 17%. It can be ascertained that both Kumasi and Accra record high percentages of ‘high constraint’ which is an indication that lack of limited technical services is a factor that limits success in rattan processing and production. This is however not surprising, judging from the fact that the respondents have earlier indicated unavailability of training programmes to boost their skills and knowledge.

Again, the respondents are asked to indicate the degree at which lack of financial support is a constraint to the success of their business. The respondents who indicate that lack of financial support is a high constraint to the success of their business are 76% and 90% in Kumasi and Accra respectively. On the other hand, Kumasi and Accra respectively record 18% and 9% in the moderate constraint option. This clearly indicates that majority

of the rattan production businesses are facing financial challenges. These financial challenges obviously would have a negative effect on their successes.

The study further asked the respondents to indicate the degree at which cost of production is affecting the success of their business. Kumasi records 57% in the 'high constraint' option whilst Accra records 78% in the 'high constraints' option. Again, the respondents that record moderate constraints for cost of production as a constraint to their success are 35% and 20.2% in Kumasi and Accra respectively. This is also an indication that high cost of production is a limiting factor to the success of rattan production.

Finally, lack of adequate quality control as a factor limiting the success of a rattan production is also ascertained. The rattan producers that recorded 'high constraints' in the lack of adequate quality control as a factor limiting the success of a rattan production in Kumasi were 16% whilst those in Accra recorded 11%. Again, 80% and 88% record a moderate constraint in Kumasi and Accra respectively. Clearly, this shows that lack of adequate quality control as a factor limiting the success of a rattan production.

The above analysis has indicated that the production process of rattan is a major constraint to the success of the rattan business. It is however surprising to note that Accra recorded higher constraints to the success of rattan production than Kumasi, even though earlier analysis proves that the level of success in rattan business is higher in Accra than in Kumasi. Perhaps, this could be attributed to the high demand of the rattan product in Accra as compared to Kumasi.

Table 4.6: Factors limiting success in Collection of Rattan and cane Furniture Materials

PROCESS: COLLECTION	TOWN	Percentage (%)			
		Not a constraint	A constraint	A Moderate Constraint	High Constraint
Lack of technical Support	KSI	-	3.0	19.0	78.0
	ACC	1.0	1.0	6.0	92.0
Lack of community	KSI	-	9.1	19.2	71.7
	ACC	-	1.0	5.1	90.0
Lack of financial support	KSI	-	3.0	34.0	63.0
	ACC	2.0	1.0	18.0	79.0

Source: Field Study, 2015: N = 200

The respondents were further asked to indicate the factors limiting the success of the collection of rattan products. The respondents indicated that there was a high level of constraint due to lack of technical support. This factor limited the success of collection of rattan products which were removed as 78% and 92% in Kumasi and Accra respectively. Again, lack of technical support recorded 19% and 6% respectively in Kumasi and Accra for a 'moderate constraint' option.

Table 4.6 also shows that lack of community support is a major constraint to the success of the rattan business. The respondents record that, lack of community support is a high constraint to the rattan business are 71.7% and 90% in Kumasi and Accra respectively whilst the respondents that record 'a moderate constraint' in Kumasi and Accra are 19.2% and 5.1% respectively. Again, table 4.6 also shows that 9.1% and 1.0% record 'a constraint' in the lack of community support as a factor limiting success of the rattan business. This also showed that lack of community support affected the success of the rattan business.

The respondents further indicate that lack of financial support affect the collection of the rattan products. The respondents who indicate that lack of financial service is a ‘high constraint’ in Kumasi are 63% whilst those in Accra recorded 79%. It can also be seen from Table 4.6 that 34% recorded moderate constraints in Kumasi and 18% moderate constraint in Accra with ‘lack of financial support’ as a constraint to the success of rattan collection.

The above analysis has shown that collection of rattan products is affected by many factors. Among them are lack of technical support, lack of community support and lack of financial support. Accra also record a higher constraint level than that of Kumasi. This once again, can be attributed the geographical location and the demand for the product in Accra.

Table 4.7: Factors limiting success in rattan and cane furniture production

PROCESS: PROCESSING	TOWN	Percentage (%)			
		Not a constraint	A constraint	A Moderate Constraint	High Constraint
Lack of financial support	KSI	-	-	23.0	77.0
	ACC	-	-	3.0	97.0
Lack of access to information and exchange of experiences	KSI	-	-	28.0	72.0
	ACC	-	4.0	4.0	96.0
Lack of appropriate adequate technology	KSI	-	8.1	21.2	70.2
	ACC	-	2.0	7.0	91.0
Lack of infrastructure and equipment (for processing)	KSI	-	7.0	39.0	54.0
	ACC	1.0	-	52.0	47.0
Lack of technical support	KSI	-	-	51.0	49.0
	ACC	-	-	36.0	64.0
Lack of processing skills	KSI	6.0	7.0	56.0	31.0
	ACC	1.0	-	52.0	47.0

Source: Field Study, 2015: N = 200

From Table 4.7 the factors limiting the success in processing of rattan. The table shows that 77% of the respondents in Kumasi indicate that lack of financial support is a big constraint to the success of processing the rattan whilst 97% in Accra also asserts that lack of financial support is a big limiting factor to the success of their business. On the other hand, 23% and 3.0% indicate that lack of financial support is a moderate constraint to the success in processing of the rattan.

It can further be ascertained from Table 4.7 that lack of information and exchange of experience are major factors limiting the success of the processing of the rattan. The respondents who indicate 'a moderate constraint' are 28% and 48% in Kumasi and Accra respectively. The respondents who indicate that lack of access to information and exchange of experience are high constraints in the processing of raffia were 72% and 96% in Kumasi and Accra respectively. This clearly indicates that the level of constraint in Accra is higher than the level of constraint in Kumasi. This however is not surprising since the respondents have earlier indicated that there are no training programmes available to them. However, it can be inferred that the rattan association has not been proactive in their administration.

Lack of appropriate and adequate technology is also ascertained to be one of the factors limiting the success of the processing of rattan. As presented in Table 4.7, it can be seen that, 70.2% of the respondents in Kumasi indicated that that lack of appropriate and adequate technology is a very high constraint. About 91% of the respondents in Accra also indicate that, lack of appropriate and adequate technology is a very high constraint affecting the processing of rattan product. It is further ascertained that 8.1% and 2% of the respondents in Kumasi and Accra respectively indicated a moderate constraint for the

lack of appropriate and adequate technology. This can be seen as a major factor affecting the success of the rattan business since the modern world is driven by technology. If more than 70% of the respondents lack appropriate and adequate technology in their rattan business, then it is a major cause for concern.

Lack of infrastructure and equipment for processing is also ascertained as one of the factors limiting the success in the transport of rattan businesses in Kumasi and Accra. The data obtained shows that 54% and 47% of the respondents in Kumasi and Accra respectively indicate that lack of infrastructure and equipment support is a high constraint to their businesses. On the other hand, 39% of the respondents in Kumasi indicate that lack of infrastructure and equipment for processing is a moderate constraint whilst 7% indicate that it is a constraint to their business. It is further realized that 52% of the respondents in Accra indicate that lack of infrastructure and equipment for processing is a moderate constraint affecting the success of their businesses. This revelation is not surprising since most businesses in Ghana faces the same infrastructure and equipment challenges.

The study further reveals that lack of technical support in processing is a limiting factor affecting the success of rattan businesses in Kumasi and Accra. Table 4.7 depicts that 49% of the respondents in Kumasi assert that lack of technical support for processing is a high constraint whilst 64% of the respondents in Accra also indicate that lack of technical support for processing is a high constraint affecting the success of their businesses. Table 4.6 further shows that 51% and 36% of the respondents in Kumasi and Accra respectively indicate that lack of technical support for processing is a major constraint affecting their business.

Lack of processing skills for processing is ascertained to be the least constraints affecting the success of the rattan business. It can be seen from Table 4.7 that the respondents in Kumasi and Accra recorded a ‘high constraint’ of 31% and 47% respectively as a factor limiting the success of the rattan business. It is also realized that the respondents in Kumasi and Accra respectively record a moderate constraint of 56% and 52% as lack of skills limiting the success in the processing of rattan. It is still obvious from the analysis that the respondents in Accra record high levels of constraints in their businesses than their counterparts in Kumasi.

Furthermore, Table 4.8 presents the factors that limit the success of effective transportation in the rattan business. It can be seen from Table 4.8 that the success of effective transportation for the rattan business is affected by lack of financial support.

Table 4.8: Factors limiting Success in Transporting the Rattan raw materials and Products

Process: Transport	TOWN	Percentage (%)			
		Not a constraint	A constraint	A Moderate Constraint	Very constraint
Lack of financial support	KSI	2.0	1.0	37.0	60.0
	ACC	3.0	-	15.0	82.0
Long distance from point of sales of raw material	KSI	2.0	10.0	28.0	60.0
	ACC	-	-	16.0	84.0
Lack of road and transport infrastructure	KSI	-	6.0	50.0	44.0
	ACC	-	-	49.0	51.0
High cost of Transport	KSI	11.1	10.1	40.4	38.4
	ACC	11.0	-	35.0	54.0

Source: Field Study, 2015; N = 200

The data (Table 4.8) suggested that 60% and 80% of the respondents in Kumasi and Accra respectively indicated that lack of financial support affected (high constraint)

transportation in the rattan business. The data further shows that lack of financial support was a moderate constraint for 37% and 15% of the respondents in Kumasi and Accra respectively.

Again, the distance between the market where the raw materials were obtained and the processing point was ascertained to be a major factor limiting the success of effective transportation of the rattan businesses in Kumasi and Accra. Table 4.8 indicated that 60% and 84% of the respondents in Kumasi and Accra respectively indicate that the long distance between the point of sale of raw material and the point of production is ‘a high constraint’ to the success of their business. Further, 28% and 16% of the rattan businesses in Kumasi and Accra respectively indicate that the long distance between the point of sale of raw materials and the point of production is a ‘moderate constraint’ affecting the success of their business.

From the study, it is ascertained that lack of road and transportation infrastructure is another constraint limiting effective transport system for the rattan business. The respondents in Kumasi indicate that lack of road and transport infrastructure is a ‘high constraint’ formed 44% whilst the respondents who indicate that lack of road and transport infrastructure is ‘a moderate constraint’ formed 50%. On the other hand, 51% of the respondents in Accra indicate that lack of road and transport infrastructure is a ‘high constraint’ whilst 49% indicate that lack of road and other road infrastructure was a ‘moderate constraint’.

Finally, high cost of transport is another factor that limits the success of effective transportation of raw materials and finished products in the rattan business. The data

obtained show that 38.4% of the respondents in Kumasi assert that high cost of transport is a 'high constraint' whilst 40.4% indicate a 'moderate constraint' for high cost of transport. It is further ascertained that 54% of the respondents in Accra indicate that the high cost of transport is a 'high constraint' that limits the success of their business whilst 35% indicates a 'moderate constraint'. Here, the trend still holds that Accra has a higher constraint level for transportation than Kumasi. This is particularly startling because it is believed that the transportation system and road networks in Accra is better than the transportation and road network in the other parts of the country. It is however realized that the rattan businesses in Accra do not obtain the raw materials in Accra. They therefore transport them from other places, especially forest areas, which are far from Accra. If this is true, then the higher level of constraints for the rattan businesses in Accra than that of Kumasi is understandable.

4.3: Marketing Constraints Facing Rattan and cane Furniture Business in Ghana

About 77.8% and 95% of the respondents in Kumasi and Accra respectively indicated that lack of technical support is a 'high marketing constraint' that limits the marketing of rattan products (Table 4.9). It was also realized that 22.2% and % of the respondents in Kumasi and Accra respectively asserted that lack of technical support is a 'moderate constraint' affecting the marketing of rattan products. Again, 60% and 84% of the respondents in Kumasi and Accra respectively rated the constraint associated with finance that limits the marketing of rattan products as high. On the other hand, 28% of the respondents in Kumasi rated lack of financial support 'moderate' whilst 16% in Accra

also rated lack of financial support constraint, ‘moderate’. This obviously suggests that finance is needed by the rattan producers in all aspects of their operations.

Table 4.9: Factors limiting success in Marketing Rattan and cane Furniture

Process: Marketing	TOWN	Percentage (%)			
		Not a constraint	A constraint	A Moderate Constraint	Very constraint
Lack of Technical support	KSI	-	-	22.2	77.8
	ACC	-	-	5.0	95.0
Lack of financial support	KSI	1.0	10.0	28.0	60.0
	ACC	-	-	16.0	84.0
Lack of contact with final consumers	KSI	1.0	2.0	20.2	76.8
	ACC	-	-	3.0	98.0
Lack of management capacity	KSI	-	2.0	48.5	49.5
	ACC	-	-	38.0	62.0
Lack of knowledge pertaining to consumer demand and need	KSI	-	7.1	53.5	39.4
	ACC	-	-	51.0	49.0
Lack of access to market information	KSI	-	6.0	66.0	28.0
	ACC	-	-	69.0	31.0
High Availability of substitutes	KSI	-	49.0	24.0	27.0
	ACC	-	67.0	4.0	29.0
High cost of production promotion	KSI	23.0	26.0	26.0	25.0
	ACC	30.0	40.0	1.0	29.0

Source: Field Study, 2015; N = 200

This study further finds out that lack of final contact with consumers also limits the success of marketing the rattan products. Majority (76.8%) of the respondents in Kumasi indicate that establishing contacts with the final consumers is a major constraint (Table 4.9). Again, 20.2% of the respondents in Kumasi also indicate that establishing contact with the final consumers is a ‘moderate constraint’ that limits the success in marketing of rattan products. On the other hand, 98% of the respondents in Accra indicate that establishing contacts with the final consumers is a major (high) constraint that affects success in the marketing of the rattan products.

Lack of management capacity is also realized to be one of the constraints that limit the success in the marketing of rattan products. From Table 4.9, it can be realized that 49.5% and 62% of the respondents in Kumasi and Accra respectively indicate that there is a high constraint in management capacity that affects success in the marketing of rattan products. On the other hand, a moderate constraint records 48.5% and 38% in Kumasi and Accra respectively for lack of management capacity as a factor that limits the success in marketing of rattan products.

The study further reveals that lack of knowledge pertaining to consumer demand and need is another factor that limits the success in the marketing of rattan products. Table 4.9 shows that lack of knowledge pertaining to consumer demand and need record a 'high constraint' of 39.4% and 49% in Kumasi and Accra respectively. Table 4.9 also shows that 53.5% and 51% of the respondents in Kumasi and Accra respectively indicate that lack of knowledge pertaining to consumer demand and need is a moderate constraint that limits the success of marketing of rattan products.

Lack of access to marketing information is another constraint that limits the success in the marketing of rattan products. From Table 4.9, it can be ascertained that majority of the respondents (66%) in Kumasi recorded that lack of access to market is a 'moderate constraint' that affect the success of the marketing of rattan products. Another 69% in Accra indicates that lack of access to market information is a moderate constraint that limits the success of the marketing of rattan produces. On the other hand, 28% and 31% of the respondents in Kumasi and Accra respectively indicate that lack of access to market information is a 'high constraint' that affect the marketing of rattan product.

From Table 4.9, it can be ascertained that high availability of substitutes also affects the marketing of rattan products. It can be realized that 27% and 29% of the respondents in Kumasi and Accra respectively indicate that the high availability of substitutes heavily (high constraint) affects the marketing of rattan products. On the other hand, 24% and 4% of the respondents in Kumasi and Accra respectively indicate that high availability of substitutes moderately (moderate constraint) affects the marketing of their products. Surprisingly, majority of the respondents (49% in Kumasi and 67% in Accra) responded that the high availability of substitutes did not heavily affect the success of marketing the rattan products.

It is also ascertained that cost of production does not heavily affect the success of marketing the rattan products. The respondents who indicate that cost of production is not a constraint to the success of the marketing of their products are 23% and 30% in Kumasi and Accra respectively. However, 26% and 40% of the respondents in Kumasi and Accra respectively indicate that cost of production have a little effect on the success of marketing their products. On the other hand, 25% and 29% of the respondents in Accra and Kumasi respectively indicate that cost of production has a major effect (high constraint) on the success of marketing their products.

The above analysis suggests that the rattan businesses in both Kumasi and Accra have a lot of factors that limit the success of marketing their products. However, it is realized that the rattan businesses in Accra have more constraints in marketing their products than the rattan businesses in Kumasi. This is also surprising because, it has earlier been realized that the level of success of the rattan business in Accra is higher than the level of success of the rattan businesses in Kumasi. From that revelation, it is expected that the

rattan businesses in Accra would have less challenges (especially in marketing of products) compared with the rattan businesses in Kumasi.

4.4: Limitations against Large Scale Rattan and cane Furniture products business

Findings indicated that low product prices are the major constraints in Accra (Table 4.10). On the scale of constraints, 80% of the respondents choose ‘high constraints’ whilst 18% indicate that low product price is a constraint affecting large scale production in Accra. On the other hand, 57.6% of the respondents indicate that low product price is ‘high constraint’ to large scale production whilst the respondents that choose ‘moderate constraint’ in Kumasi is 33.3%. It can be ascertained that both Kumasi and Accra record high percentages of ‘high constraint’ which is an indication that low product price is a factor that limits success in large scale production.

Table 4.10: Factor Limiting Success in Large Scale Production of Rattan and cane Furniture

Process: Scale	TOWN	Percentage (%)			
		Not a constraint	A constraint	A Moderate Constraint	Very constraint
Low product price	KSI	-	9.1	33.3	57.6
	ACC	-	-	18.0	82.0
Lack of financial support	KSI	-	7.1	57.6	35.6
	ACC	-	2.0	46.0	52.0
High producer depending on market intermediaries	KSI	-	11.1	42.4	46.5
	ACC	-	2.0	40.0	58.0
Low returns of producers	KSI	-	-	43.4	56.6
	ACC	-	1.0	39.0	60.0
Lack of community organization	KSI	-	25.0	25.0	50.0
	ACC	-	22.0	18.0	60.0

Source: Field Study, 2015; N = 200

Again, the respondents are asked to indicate the degree at which lack of financial support is a constraint to the success of large scale production. The respondents who indicate that lack of financial support is a major constraint (high constraint) to large scale production are 35.6% and 52.0% in Kumasi and Accra respectively. On the other hand, Kumasi and Accra respectively record 57.6% and 46% in the 'moderate constraint' option. This clearly indicates that majority of the rattan production businesses are facing financial challenges that affect the success of large scale production.

The study further asked the respondents to indicate the degree at which high producer depending on market intermediaries is affecting the success of large scale production of their businesses. Kumasi records 46.2% in the 'high constraint' option whilst Accra recorded 58% in the 'high constraints' option. Again, the respondents that recorded 'moderate constraints' for high producer depending on market intermediaries as factor limiting the success of large scale production are 42.4% and 40.0% in Kumasi and Accra respectively. This is also an indication that high producer depending on market intermediaries is a limiting factor to the success of large scale of rattan production.

Low return of products is another constraint that limits the success of large scale production of rattan products. From Table 4.10, it can be ascertained that majority of the respondents (56.6%) in Kumasi recorded that low returns of products is a 'moderate constraint' that affects the success in large scale production of rattan products. Another 60% in Accra also indicate that low return of products is a 'high constraint' that limits the success of large scale of rattan products. On the other hand, 43.4% and 39.0% of the respondents in Kumasi and Accra respectively indicated that lack of access to market

information is a 'moderate constraint' that affected large scale production of rattan products.

Finally, lack of community organization as a factor limiting the success of large scale production of a rattan production is also ascertained. The rattan producers who record 'high constraints' in the lack of community organization as a factor limiting the success of large scale of rattan production in Kumasi are 50% whilst those in Accra record 60%. Again, 25% and 18% record a 'moderate constraint' in Kumasi and Accra respectively. However, 25% and 22% of the respondents in Kumasi and Accra respectively indicate that lack of community organization has little (a constraint) effect on the success of large scale rattan production.

Clearly, this shows that lack of community organization is a factor limiting the success of large scale production of rattan. The above analysis has indicated that the production of rattan on a large scale is a major constraint to the success of rattan business. It is however surprising to note that Accra records a higher constraint to the success of large scale rattan production than Kumasi, even though earlier analysis have proven that the level of success in rattan business is higher in Accra than in Kumasi.

Having ascertained the various factors limiting the success of the rattan industry, it is important to obtain their relative strength. The mean values for each of the limiting factors are therefore calculated for each of the cities. This is to enable the comparison of the degree to which the various factors limit the success of the rattan industry to other factors. The statistical analysis of the responses obtained from the respondents from both Kumasi and Accra are presented in Table 4.11.

Table 4.11: Statistical Analysis of Factors Limiting Success of Large Scale Production of Rattan and cane Furniture

No	PROCESSES AND FACTORS	MEANS SCORE				
		Average	Kumasi	Accra	T valve	Sig
<i>Production</i>						
1	Lack of financial support	3.80	3.70	3.89	110.913	.000
2	High cost of production	3.63	3.49	3.78	89.992	.000
3	Lack of technical support	3.58	3.49	3.67	68.497	.000
4	Lack of adequate quality control	3.11	3.12	3.10	114.078	.000
<i>Collection</i>						
1	Lack of technical support	3.82	3.76	3.92	115.521	.000
2	Lack of community support	3.78	3.63	3.93	101.324	.000
3	Lack of financial support	3.67	3.61	3.77	91.363	.000
<i>Processing</i>						
1	Lack of financial support	3.87	3.78	3.97	162.333	.000
2	Lack of access to information and exchange of experiences	3.84	3.73	3.96	147.760	.000
3	Lack of appropriate adequate technology	3.76	3.63	3.89	99.331	.000
4	Lack of infrastructure and equipment (for processing)	3.62	3.47	3.76	87.875	.000
5	Lack of technical support	3.57	3.49	3.64	162.333	.000
6	Lack of processing skills	3.29	3.12	3.45	66.625	.000
<i>Transportation</i>						
1	Lack of financial support	3.66	3.56	3.76	82.992	.000
2	Long distance from point of sales of raw material	3.65	3.47	3.84	82.715	.000
3	Lack of road and transport infrastructure	3.45	3.39	3.51	87.713	.000
4	High cost of transport	3.19	3.06	3.32	46.855	.000
<i>Marketing</i>						
1	Lack of technical support	3.86	3.78	3.95	158.786	.000
4	Lack of financial support	3.83	3.73	3.94	115.358	.000
3	Lack of contact with final consumers	3.83	3.69	3.97	125.663	.000
2	Lack of management capacity	3.55	3.47	3.62	96.463	.000
5	Lack of knowledge pertaining to consumer demand and need	3.41	3.32	3.49	85.869	.000
6	Lack of access to market information	3.27	3.22	3.31	91.250	.000
7	High availability of substitutes	2.70	2.78	2.62	43.406	.000
8	High cost of production promotion	2.41	3.53	2.29	29.682	.000
<i>Scale</i>						
1	Low product price	3.65	3.48	3.82	91.308	.000
2	Lack of financial support	3.58	3.57	3.59	99.898	.000
3	High producer depending on market intermediaries	3.46	3.35	3.56	74.040	.000
4	Low returns of producers	3.39	3.28	3.50	83.240	.000
5	Lack of community organization	2.94	3.04	2.85	31.084	.000

Note: Mean (X): (1.00 = total failure; 2.00 =Moderate Failure; 3.00 = Moderate Success and 4.00–Total Success); N= 200

Table 4.11 shows the responses given by the respondents to the limiting factors of rattan business. Item 1 ascertains the various factors affecting the processing or production of rattan. The average mean mark for both the respondents of Kumasi and Accra is 3.80 for

lack of financial support; 3.63 for high cost of production, 3.58 for lack of technical support and 3.11 for lack of adequate quality control. This clearly indicates that of all the factors that limit the processing or production of rattan, lack of financial support is ranked high.

As regard the factors limiting the collection of rattan materials, three constraints are identified. The constraints are lack of technical support, lack of community support and lack of financial support. The average mean marks for lack of technical support, lack of community support and lack of financial support are 3.872, 3.78 and 3.67 respectively. This also shows that lack of technical support is a major factor limiting the success of the collection of rattan materials.

Table 4.3 also indicates the factors that limit the success of the processing of the rattan products in Kumasi and Accra. The factors identified for this category are lack of financial support, lack of access to information and exchange of experiences, lack of appropriate adequate technology, lack of infrastructure or equipment for processing, lack of technical support and lack of processing skills. Lack of financial support which produces an average mean mark of 3.87 is ranked higher, followed by lack of access to information and exchange of experience which also record an average mean mark of 3.84. Again, lack of appropriate adequate technology, lack of infrastructure or equipment for processing, lack of technical support and lack of processing skills are ranked third, fourth, fifth and sixth in that order with a respective average mean mark of 3.76, 3.62, 3.57 and 3.29. This means that lack of financial support limits the success of the processing of rattan products that the other factors.

Again, the respondents are asked to indicate the factors that limit the success of transportation in the rattan industry. The data obtained indicates that four factors affect the success of transport in the rattan industry. These limiting factors are; lack of financial support, long distance from point of sale of raw materials to production site, lack of road and transport infrastructure and high cost of transport. Lack of financial support and long distance from point of sale of raw materials to production site record an average mean marks of 3.66 and 3.65 respectively whilst lack of road and transport infrastructure and high cost of transport record average mean marks of 3.45 and 3.19 respectively. This indicates that lack of financial support is a major factor limiting the success of transportation in the rattan industry in Kumasi and Accra.

Table 4.11 further shows the various factors that limit the marketing success in the rattan industry. Table 4.11 shows that technical support, lack of financial support and lack of contact with the final consumer are ranked higher with an average mean marks of 3.86, 3.83 and 3.83 respectively. Again, lack of management capacity, lack of knowledge concerning consumer demand and lack of access to market information obtained average mean marks of 3.55, 3.41 and 3.27 respectively. However, it is further realized that high availability of substitutes and high cost of production are not major factors limiting the success of marketing of rattan products. This analysis has revealed that technical support, lack of financial support and lack of contact with the final consumer are the main factors limiting the marketing of rattan products.

It can also be observed from Table 4.11 that various factors limit the ability of the rattan processing businesses to produce on a large scale. The study reveals that low price of the rattan products, lack of financial support, high dependence on market intermediaries; low

returns to producers and lack of community support are the factors that limited the production of the rattan products on large scales. At a level of significance of 0.001, average mean marks of 3.65, 3.58 and 3.46 are obtained by low price of the rattan products, lack of financial support and high dependence on market intermediaries respectively. Again, average mean marks of 3.39 and 2.64 are realized for low returns to producers, lack of community support and organization. It can be recognized that the highest constraint limiting the success of large scale production of rattan industry is low price of the rattan product whilst lack of community support and organization does not have much effect on the success of large scale production of rattan products.

The above analysis suggests that rattan business is faced with constraints that limit its ability to be a successful business venture in Kumasi and Accra. The various factors that limit the success of the rattan businesses include; production challenges, collection challenges, procession challenges and transport challenges. The other challenges are marketing challenges and large scale production challenges. It is further realized that the major constraints facing the rattan business are lack of financial support, lack of technical expertise, lack of information and technology, high cost of transportation, and training. However, it can be observed that the level of constraints of rattan business in Accra is relatively higher than that of Kumasi in all the indicators.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.0 Introduction

The purpose of this study was to assess the successes and constraints of rattan furniture production sector in Ghana with reference to Ashanti and Greater Accra region. This chapter summarizes the findings, brings out the conclusions from the research and makes recommendations that can improve the performance of rattan processing business in Ghana.

5.1 Summary

The following are the summary of the findings that have been ascertained.

It is also revealed that there are no training programmes to boost the skills and knowledge of the rattan producers. The data obtained indicates that only 17% have ever attended training on rattan processing and construction. This means that majority of the respondents (83%) have not received any training on rattan construction and processing.

The rattan industry has chalked some success. It is revealed that the individual rattan and cane furniture producers and the country have benefitted immensely from the rattan processing. These include contribution to the national economy through taxation, employment, strengthening of local culture, local capacity improvement and conservation of the forest. The individuals also benefited from rattan business through increase in income and improvement in the economic status of the producers. It is however evidenced that the rattan businesses in Accra have achieved more successes than the rattan businesses in Kumasi.

The evidence obtained suggests that the rattan businesses are faced with constraints that limit its ability to be a successful industry. The various factors that limited the success of the rattan businesses include; production challenges, collection challenges, procession challenges and transport challenges. The other challenges are marketing challenges and large scale production challenges. It is further realized that the major constraints facing the rattan business are lack of financial support, lack of technical expertise, lack of information and technology, high cost of transportation, and training. However, it can be observed that the level of constraints of rattan business in Accra was relatively higher than that of Kumasi in all the indicators.

5.2 Conclusions

From the data obtained from the research, which has been subsequently analyzed, the following conclusions can be made.

1. The rattan industry appear not to be attractive to the youth as only about 24% of respondents were within the ages of 21 and 39 years with whopping 74% of them within the ages of 40 and 59 years:
2. The rattan industry has contributed immensely to the well-being of individual producers and the nation. The nation has benefited from the rattan industry through; contributions to the national economy through taxation, employment, strengthening of local culture, local capacity improvement and conservation of the forest. Individuals have also benefited from rattan business through increase in income and improvement in the economic status of the producers. The rattan businesses in Accra have achieved more successes than that in Kumasi.

3. The rattan businesses are faced with both production and marketing constraints that limit their ability to be more successful. Some of such constraints identified in this study included; lack of training programmes, production challenges, procession challenges, transport challenges, marketing challenges and large scale production challenges. Other major constraints facing the rattan business are lack of financial support, lack of technical expertise, lack of information and technology, high cost of transportation, and training. However, it was noted that the level of most of the constraints are higher for those in Accra compared to those in Kumasi.

5.3 Recommendations

From the findings obtained from the research, the following recommendations are made;

- i. The government through its agencies like the Forestry Commission, the Ghana Tourist Board and the Ministry of Trade and Industry should organize training programmes for these rattan producers. Again, the rattan association must partner with experts in the rattan industry to organize training programmes for its members.
- ii. The local authorities must offer financial support for these rattan producers so that they can contribute more towards the development of the community and the country as a whole.
- iii. The Forestry Commission of Ghana must provide support for the rattan industry in order to encourage people to patronize rattan products to conserve the already depleted forests.

5.4 Suggestions for Further Research

The study researched into the successes and constraints of rattan production sector in Ghana, with reference to Ashanti and Greater Accra regions. The study is limited to Kumasi and Accra due to resource constraints. This therefore makes the application of the findings limited to only Kumasi and Accra. It is therefore recommended that further research should be conducted on the success and constraints of rattan production sector in other parts of Ghana.



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APPENDIX I

QUESTIONNAIRE

UNIVERSITY OF EDUCATION WINNEBA (KUMASI CAMPUS)

SCHOOL OF RESEARCH AND GRADUATE STUDIES

DEPARTMENT OF TECHNOLOGY EDUCATION

PREAMBLE”

The use of Rattan as an alternative materials to wood could serve as a good raw material for furniture and other related artifacts to the already fast depleting timber resources if the sector is given the desired attention.

This questionnaire seeks to solicit views from the general public with respect to the availability of the raw materials, processing and marketing of such product. The questionnaire is meant purely for academic work in partial fulfillment for the award of Master of Technology Degree (Wood Technology Education) .

Please feel free to pass your comments because your confidentiality is fully assured.

Demographics

Your personal information:

Please tick (✓) the appropriate box made available by each answer provided

1. Gender

Male []

Female []

2. Educational level

No formal Education []

Primary Education []

Secondary Education []

Technical Education []

3. Are you doing this business on part-time or full-time basis

Part time []

Full time []

4. If you are doing this business on part-time basis, please indicate how much does the rattan business contribute to your annual income %

5. If you are doing this rattan business on full-time basis, please indicate your total annual income: ...GH¢.....

6. Age

Under 20 years []

21 -29 years []

30 -39 years []

40 -49 years []

50 -59 years []

60 years above []

Level of knowledge on rattan

7. How long have you been in Rattan business?

0-5 years []]

6-10 years []]

11-15 years []]

16-20 years []]

8. Have you ever attended any training on Rattan processing and construction?

Yes []]

No []]

Please select an option by ticking (✓) the appropriate box made available by each answer provided

9. How many people have you employed in the business

10. a. Do you belong to the Rattan Association?

0 [] No

1 [] Yes

Processing /manufacturing of products

11. Do you design different products to satisfy different types of customers

[] No

1 [] Yes

12. Which group of people or customers do you usually design and manufacture your products for?

0 Low class

1 Middle class

2 High class

3 All classes of customers

13. Do you incorporate some wood based panel products such as plywood, chipboard, particle board etc in your designs?

0 No

1 Yes

14. Do you have agents who supply you with the raw materials

0 No

1 Yes

15. Do you have regular supply of the raw material throughout the year?

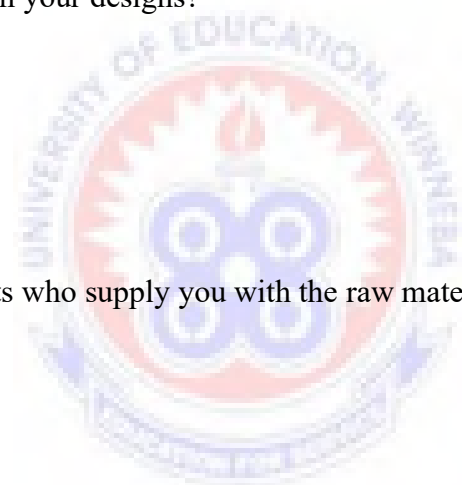
0 No

1 Yes

16. Do you have apprentice (s)

0 No

1 Yes



17. If yes for how long does it take to train an apprentice?

0 three (3) months

1 six (6) months

2 one (1) year

3 Others specify

18. Where did you sell the products

0 Home (door to door delivery)

1 Road side

2 Market

3 At the shop

19. Do you have any marketing agent?

0 No

1 Yes



This questionnaire seeks to solicit views from the people in the rattan business to determine the success or failure of using rattan. Scores were assigned on a scale of 1-4 where 1= Total failure 2 = moderate failure, 3 = moderate success and 4 = total success. Please indicate the level of success or failure to the following statement.

Scale	1	2	3	4
Statement	Total failure	Moderate failure	Moderate success	Total success
1. This business has increased my income				
2. This business has strengthened local culture				
3. Improvement of conservation of forest resource				
4. Improvement of local capacity				
5. Improvement of consumer well being				
6. Increase of proportion of community members with paid work				
7. Strengthened of community organization				
8. Improvement of economic status of poorest members of the community				
9. This business has improved my market strategies				
10. Improvement of economic status of members				
11. Increased in value added locally				
12. Increase in income generated to government				

The table below indicates the factors limiting success. Scores were assigned on a scale of 1-4. Where 1 = Not a constraint 2 = A constraint 3 = A moderate constraint 4 – A very constraint

Process: Production

Statement	1 Not a Constraint	2 A constraint	3 A moderate constraint	4 A very constraint
13. Lack of technical support				
14. Lack of financial support				
15. High cost of production				
16. Lack of adequate quality control				

Process: Collection

17. Lack of financial support				
18. Lack of technical support				
19. Lack of community organization				

Process : Processing

20. Lack of processing skills				
21. Lack of infrastructure and equipment (for processing)				
22. Lack of appropriate adequate technology				
23. Lack of financial support				
24. Lack of access to information and exchange of experiences				
25. Lack of technical support				

Process: Transport

26. High unit cost of transport				
27. Long distances from point of sale of raw material (rattan)				
28. Lack of road and transport infrastructure				
29. Lack of financial support				

Process: Marketing (Identification of the market and promotion)

30. High cost of production promotion				
31. High availability of substitutes				
32. Lack of access to market information				
33. Lack of contact with final consumers				

34. Lack of financial support				
35. Lack of technical support				
36. Lack of management capacity				
37. Lack of knowledge pertaining to consumer demand and needs				

Process : Scale

38. Low product price				
39. Low returns of producers				
40. High producer depending on market intermediaries				
41. Lack of financial support				
42. Lack of community organization				

APPENDIX II

RATTAN AND CANE FURNITURE





